

Proceedings of the Fourth International Conference of European Academy of Science

January 20-30,
2019,
Bonn, Germany

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Publisher:
“EAS”
Heinemannstraße
53 175 Bonn
Germany
Tel: +45 3698 02 01
editor@academeofscience.com

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ISBN 9781095808566



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Bonn, Germany
2019

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THE FORMATION OF CRITICAL ECONOMIC THINKING OF SOCIETY THROUGH DIGITAL TECHNOLOGIES CAPABILITY

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In our contemporary world thinking critically is one of the issues of paramount importance. As the president of our country, Nursultan Nazarbayev said once: “The principal task of the modern education system is training people that can think critically and are capable to steer in the information flows”.

In January 2016 the World Economic Forum issued a report "The Future of Jobs" and there we analyzed the outcomes and consequences in terms of its impact on Kazakhstani society and especially, labour market. Moreover, the 4th Industrial Revolution which includes developments in previously disjointed fields such as artificial intelligence and machine-learning, robotics, nanotechnology, 3-D printing, and genetics and biotechnology, will cause widespread disruption not only to business models but also to labour markets over the next five years, with enormous change predicted in the skill sets needed to thrive in the new landscape. The top three skills that supposed to be most relevant are thinking skills where the most crucial skill that is needed in this revolution is the ability to think critically. Thus, one of the basic forms of preparing to successful activity in digital society of the XXI century is the formation and development of critical thinking in economy domain.

Nowadays people tend to believe everything that is dwelled by society rather than analyzing every sort of information by themselves critically. For instance: if something made in China, people will automatically think that it is poor-quality thing, instead, when we hear the collocation made in Germany or Japan, the first thing that comes into our mind: “the best quality”. Therefore, as we can observe, it is not the one and only example of proving that we are not critical thinkers at all. As we know, school attendees learn a copious amount of transferable skills while pursuing their studies. It should be taken into consideration that the school period is one of the significant and effective periods in forming thinking. Meanwhile, in the age of technology, information changes rapidly and is disseminated extremely fast and some sources of knowledge in the Internet are not reliable; eventually, teaching critical thinking in order to sort the data appropriately is recognized as the valuable skill of distinct advantage.

Critical thinking is the general term given to a wide range of cognitive skills and intellectual dispositions needed to effectively identify, analyze, and evaluate arguments and truth claims; to discover and overcome personal preconceptions and biases; to formulate and present convincing reasons in support of conclusions; and to make reasonable, intelligent decisions about what to believe and what to do.

It may sound strange to refer to critical thinking as a key digital literacy for the 21st century. Critical thinking as a concept has been around since the time of Socrates. However, in a world where access to information is abundant and constantly growing, but authority and reliability are increasingly questionable, critical thinking has become the key digital literacy that society

needs in order to negotiate the complex networked world of user created content and digital information media.

Although many criticize the internet for enabling anyone to ‘pollute our society’ world of information with their unsupported opinion and unsubstantiated facts, the reality is that ‘information’ has always and should always be questioned and questionable. History, which as we know is written by the victors, teaches us this lesson. Any dictatorship wishing to control a population looks first to control its access to news and information and second to recreate that information in the light of what they want people to believe. To claim that there can be any totally unbiased sources of news or information is at best naive and at worst disingenuous and even dangerous. So the internet’s ability to allow anyone, not just unfettered access to information but also the ability to take part in creating and circulating that information has forced institutions to readdress the issue of ‘authority’ and what makes some information sources more reliable than others. Previously educational establishments were able to define authority within the walls of their library and use those walls to insulate young minds from that which could be of questionable authority. In recent years, however, educationalists have been forced to establish new methods of ascertaining the authority of online content which includes a range of techniques and measures to help students judge the veracity of web based content. However effective these techniques may be, none is as effective as a curious, open and critical mind.

To sum up, we mentioned above that the president of Kazakhstan Nursultan Nazarbayev extremely supports teaching thinking critically from school ages, and it is a real argument that “critical thinking” is a vital skill in this innovative world. It should be taken into consideration that the Ministry of Education dictated that critical thinking must be inserted into every single stage of education domain. During the investigation we found that in 2006 Kazakhstan offered and confirmed the 12 years education project which was divided into preparing modules, where teaching critical thinking is required as the advancement in education. We investigated a copious amount of scientific works and articles Kazakh, Russian and foreign scholars and linguists, and what they have in common is everyone emphasized the significance of teaching critical thinking through digital technologies as students must be prepared to the adult life and could analyze every single data without prejudice and soberly evaluate the issues. Furthermore, in terms of economics, the future generation will be highly competitive as they are prepared and motivated to labour market.

MODELING OF INTERACTION OF FACTORS OF CONSUMPTION AND SUPPLY

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A modern world economy generates active introduction of innovations in all spheres of the economy. In our opinion, there are direct and indirect factors of economic growth. These factors include elements of supply and demand, which are the productive components of economic growth. The Keynesian direction of economic theory has favoured demand factors: investing, consuming and saving using the accelerator and multiplier effect. The classical economic theory and its followers considered determinant the following factors of supply: labour, capital, land, knowledge, information, human capital, entrepreneurial

abilities, scientific-technological progress, innovations, creating the corresponding production functions.

Let's start with the supply factors. Definitive active is labour (L), and the determining passive – land, or natural resources (N). The result of their interaction is capital (C):

$$L + N = C \Leftrightarrow g \tag{1}$$

It was from this process that economic growth began (g). Subsequently, the capital actively interacts with labour and land, increasing production volumes and accelerating economic growth. Work is gradually being enhanced by knowledge (K) and information (In), which collectively forms human capital (H).

Accordingly, its qualitative-quantitative parameters influence the degree of use of natural resources and physical capital, and consequently affect the level of scientific and technological progress (e, i):

$$\begin{array}{ccc}
 H + C + N & \rightarrow & H^i + C^i + N^i \rightarrow i_0 < i_1 < i_2 \dots < i_n \dots \\
 \downarrow & & \downarrow \\
 GDP & < & GDP^e \\
 \downarrow & & \downarrow \\
 g & < & g^e \rightarrow e_0 < e_1 < e_2 \dots < e_n \dots
 \end{array} \tag{2}$$

However, the magnitude i shows the degree of efficiency, productivity and impact of production factors due to their modernization. Instead, the indicator e is the proportion of the science-intensive, creativity and innovation of GDP. Having described the relationship between the factors of the supply, let's turn to the factors of demand of economic growth. They originate from the creation of the initial public product:

$$L + N = C \Leftrightarrow g \Leftrightarrow I \tag{3}$$

where I stands for investments.

It is worth noting that the most effective demand factors are consumption (Cn), investment (I) and active savings (S_a), when passive savings (S_p) inhibit economic development until it becomes the active savings or direct investments. In fact, consumption and savings are also transformed into investments through the process of buying and selling goods and services, purchasing securities and bank deposits.

We should add that innovation of supply factors is impossible without investing:

$$(I + S_a + S_p + Cn) \uparrow \rightarrow I^i \uparrow \rightarrow (H^i + C^i + N^i) \uparrow; \quad i \uparrow \rightarrow GDP^e \uparrow; \quad e \uparrow \tag{4}$$

Thus, we have seen that the factors of demand and supply of economic growth do not bring beneficial effect on their own and separately from each other, but only in close interaction and mutual reinforcement.

If $i(t)$ stands for the number of scientific discoveries, creative ideas and intentions at the moment of time t , then $\frac{di}{dt}$ will be the speed of innovations dissemination.

Since the speed of the dissemination of innovation $\frac{dt}{dt}$ is proportional to the number of scientific discoveries, creative ideas and intentions, then appears constant κ such that $\frac{dt}{dt} = \kappa t$. This equation has great number of solutions, and the task of the initial condition identifies single solution from this set: $t = Ce^{\kappa t}$. In practice, this situation arises quite often. It is known that some kind of innovation (for example, long-term investments in large-scale innovation projects during a military conflict, political instability, etc.) under these conditions extends according to the law $t = \iota(t)$ that satisfies this equation, but the coefficient κ is not known. It is necessary to determine the coefficient κ and to find the law of distribution of innovations of this type. In this case, the general solution of the equation has two unknowns C and κ . By the above solution from the initial condition, we find the constant C and we obtain:

$$\iota(t) = \mu_0 e^{\kappa(t-t_0)} \tag{5}$$

Substituting the found value of the coefficient κ in the solution (5), we obtain:

$$\iota(t) = \mu_0 e^{\frac{t-t_0 \ln \frac{\mu_1}{\mu_0}}{t_1-t_0}} \quad \text{or} \quad \iota(t) = \mu_0 \left(\frac{\mu_1}{\mu_0} \right)^{\frac{t-t_0}{t_1-t_0}}.$$

Now let's move on to the modeling of economic growth by supply and demand factors. Let's assume that G is a set of points of the plane M , on which the volumetric coordinate system is introduced, and let x, y, z are the coordinates of the point M . Since between the points of the plane and the pairs of numbers $(x; y; z)$ there is mutually single-valued liability, we assume that G is the set of points $(x; y; z)$.

The conformity f , which for each point $(x; y; z)$ of the set G matches a certain real number $f(x; y; z)$, is called the function of the point $(x; y; z)$, or the function of three variables. In our case, the three-factor production function $GDP^e = f(H^i; C^i; N^i)$ parameters of which x, y, z are defined on the set G – $f : G \rightarrow R$ or $f(x; y; z) \quad (x; y; z) \in G$. We deduce the equation of the curve of this production function, which at each of its points is tangent to the given angular coefficient $f(x; y; z)$. In other words, we need to find the function $y = \varphi(x; z)$ that satisfies the equation $y' = f(x; y; z)$, where y' is the derivative of x and z from the desired function. This equation is called the differential equation, the function $\varphi(x; z)$ is its solution, and the figure given by the equation $y = \varphi(x; z)$ is the integral one.

Thus, economic growth is the ultimate goal of managing the national economy. Actually, its size and steady dynamics guarantees successful social-economic development, full employment and the stable level of welfare of the population.

STRATEGIC ASSESSMENT OF BUSINESS SOCIALIZATION

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Nowadays in Ukraine a national model of corporate governance is being formed. The economic system of Ukraine needs to harmonize the relations between business, society and the state. In business, there is a need for clear rules of management, and the state requires responsible behavior and transparency in business, the society needs support in solving social problems at both micro and macro levels. Therefore, in view of this, there is a need to balance the interests by building a clear system of mutual obligations. Achievement of this equilibrium is possible under the conditions of application of international practice of socially responsible activity.

The urgency of the study increases the need to resolve issues not only the implementation of the principles of corporate social responsibility, but also the methodical tools for evaluating and strategic management of the results of the implementation of CSR in the practice of modern Ukrainian enterprises.

The first in the history of Corporate Social Responsibility Development (CSR) has identified the concept of Kotler F., namely, that it is a free choice of the company in favor of an obligation to increase the welfare of society, implementing appropriate approaches to doing business and highlighting corporate resources.

Domestic scientist Hurochkina V.V. believes that CSR is a balanced activity, the result of which is the combination of a triple effect of economic, social and environmental. It is achieved through transparent and ethical behavior that promotes sustainable development.

An urgent problem for Ukrainian enterprises is the choice and use of strategic analysis tools for the purposes of evaluating the company's responsible activities. One of the techniques that are comprehensive and intended for assessing the situation and the choice of threats is SWOT-analysis and construction of a modified matrix of SPACE-analysis.

Identifying the strengths and weaknesses of the SWOT-analysis, opportunities and threats in CSR management can identify the existing level of outcomes from investing in social projects, assess the risks that arise in the process of implementing socially responsible activities as a significant component of the company's strategy, to understand the threats and opportunities available for carrying out this type of activity. Thus, the SWOT-analysis provides management personnel with a structured system of information that can be used to make managerial decisions about taking measures to improve the effectiveness of social activities, taking into account and regulating the risks and threats that exist.

SPACE-analysis is a matrix method of strategic analysis and allows to select, classify and analyze the most important characteristics of not only the internal, but also external environment of enterprises, the results of which recommend a strategy development strategy, especially when it comes to corporate social responsibility.

The criteria for efficiency include: salary stability, remuneration and motivation, support for socially important wages, professional training and development and staff qualification improvement, labor protection, social programs implemented, additional incentives for staff, etc.

In each group of criteria, a list of quantitative or qualitative indicators has been formed: from wage to volunteer development and medical care, which were assessed on a scale from 1 to 6. Based on the principle of the SPACE-matrix, the indicators are divided into 4 groups:

- factors that ensure the stability of the internal environment;
- factors creating safe working conditions;
- factors providing competitive advantages of the enterprise for employees;
- factors that provide financial attractiveness.

For the completion of the SPACE-analysis, external factors of the CSR of the enterprise are analyzed and the CSR start-up charts are constructed. The external component of CSR of the enterprise causes the greatest number of disputes regarding the formation of business relations on the basis of social responsibility. Some experts believe that the company's activities in the field of external social responsibility, as a rule, are not regulated by the current legislation, but is based on existing traditions in the country.

The next stage of the SPASE-analysis is to systematize the results of weighted criteria assessments and build a timetable for the start of the CSR. The obtained results of the average estimates for each group of criteria are deposited on a rectangular coordinate system X and Y, combining them to determine the strategic state of CSR. To complete the SPACE-analysis, we show the results of weighted criteria estimates in the X and Y coordinate system, in which each half of the X and Y axes represents the corresponding group of criteria.

So, when implementing CSR at Ukrainian enterprises, monitoring of the effectiveness and efficiency of the activities is extremely important. Particularly important is the assessment of the impact of the implementation of CSR on the overall strategic development of the enterprise. The proposed integrated methods SWOT-analysis and modified matrix of SPACE-analysis give an opportunity to orient the leadership on the results of CSR and its impact on the overall strategic development of the enterprise.

THE GRAVITATIONAL MODEL FOREIGN TRADE OF GEORGIA

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Recently, gravity models have been widely used in studies of foreign trade processes. Based on the general gravity model of J. Tinbergen, taking into account the peculiarities of a particular country, gravity models have been developed that describe foreign trade relations between countries. In these models, the parameters of the general model are concretized. In the economic indicators used are systematized in the gravitational models, such as customs tariffs, transport costs, participation in trade unions, the exchange rate, the availability of language barriers, etc.

Most of the developed gravity model of foreign trade are variants of the Tinberger model or other scientists. Any model is common. For use in specific conditions, it is necessary to develop a specific model based on the model chosen or based on the general model - to determine the value of the proportionality coefficients (hereinafter coefficients) of the model.

Any model contains the variables X_{α} ($\alpha = (1..n)$) and the coefficients b_k ($k = (1..m)$). The value of X_{α} is known or calculated on the basis of known data, such as: GDP, the distance between countries, the elasticity coefficient, etc. The definition of b_k is a laborious process. When developing the gravity model of Russia's foreign trade, the

systematized and processed data for 2004-2015 were beaten. Trade with 220 countries and territorial units of the world .

We set a task - to find or develop a method that with the least labor and time costs to allow:

Assess the applicability of the selected or modified general gravity model;

Determine the optimal value of $b_-(k)$ and thereby develop a specific model of the interrelationship between the two countries in the process of foreign trade;

Based on the developed model, to investigate the impact of the change in exports / imports on the runway of Georgia:

We have taken the objects of research on the basis of the model of I. Zard and J. Tinberger developed by us Gravitational models of foreign trade of Georgia SAQ1 and SAQ2b which in logarithmic form have the form:

Model SAQ1:

$$Q_-(i, j) = \ln b_1 + b_2 * \ln (X_1) - b_3 * \ln (X_2) + b_4 * X_3 + b_5 * X_4 + b_6 * X_5 + b_7 * X_6 + b_8 * X_7$$

Model SAQ2:

$$Q_-(i, j) = \ln b_1 + \ln (X_1) * b_2 - \ln (X_3) * b_3 + b_4 * \ln (X_2) + b_5 * X_4 + b_6 * X_5 + b_7 * X_6 + b_8 * X_7$$

In SAQ1 and SAQ2, the notation used has the following meaning:

$Q_-(i, j)$ - The volume of export / import from the country (Georgia) in the j-country during the period t;

$D_-(i, j)$ - Distance between the i-th country (Georgia) and the j-th country in km;

$[X_1] _i$ - GDP of the ith country (Georgia) in the period of time t;

$[X_2] _j$ - GDP of the j-th country of the respondent in the period of time t;

$[X_3] _-(i, j)$ - The presence of a common land border between the i-tch country (Georgia) from the j-th country of the respondent;

$[X_4] _-(i, j)$ - Possibilities of cargo transportation by sea routes between the ith country (Georgia) from the jth country of the respondent;

$[X_5] _-(i, j)$ - Presence of trade preferences between the ith country (Georgia) from the j-th country of the respondent;

$[X_6] _-(i, j)$ - Historical and cultural ties between the i-th country (Georgia) from the j-th country of the respondent;

$[X_7] _-(i, j)$ - Political relations between the i-th country (Georgia) from the j-th country of the respondent;

The distance between countries is the distance between the capitals of these countries. The values of X_1, X_2 are taken from . By analogy [2], X_3, X_4, X_5 take 2 values 1 - availability: boundaries, possibilities of transporting goods along sea routes, trade preferences, 0 - otherwise. X_6, X_7 I accept 3 values: 1 - good attitude; 0,5 - average; 0 is bad.

In the simulation mode, the optimal value of $b_-(j) j = (1..m)$ is determined by solving the non-linear optimization problem.

Given:

the minimum and maximum values of $b_-(k) k = (1..m) \rightarrow \min b_-(k) = 0.0001. \max b_-(k)$ in the simulation mode is advancing expertly. We choose $b_-(k)$ at which the estimated maximum value of $Q_-(i, j)$ is on the average 5 times greater than the actual value of $Q_-(i, j)$;

$$[X_-(i) \geq 0] _i = (1..n) \rightarrow$$

It is necessary:

Search for such $b_-(k) k = (1..m) \rightarrow \min b_-(k) [\leq b] _-(k) \leq \max b_-(k)$ for which $Q_-(i, j) ^ (t, g\>j.) - Q_-(i, j) ^ (t, .) \leq \sigma. \sigma$ calculation error and it is <3%.

The model is developed for all the countries of respondents for export and for import. After the development of a specific gravity model, the applicability of the selected model is assessed elementarily and the effect of changes in the volume of exports / imports on Georgia's GDP is studied.

Obtaining the results of modeling allows to formulate strategies for changing the volume of Georgia's exports / imports.

The development of a specific gravity model, the formation of a set of solutions to determine the strategy for changing the structure and the volume of export / import is carried out using the computer program developed by us - the SAGAREO 1.0 simulator .

Finding the optimal value $b_-(k) \rightarrow (1..m)$ and solving the optimization problem is done using Solver.

The dependence of GDP on the volume of export / import $X1 = f(Q_-(i, j))$ is studied using the program Goal Seek. Visualization of simulation results is carried out in the form of graphs, reports

The simulation results $X1 = f(Q_-(i, j))$ between Georgia and Turkey are shown in simulation mode using the specific gravity model developed. The simulation results are presented in the form of a graph and a table. The program SAGAREO 1.0. Written on VB.NET, the Database is organized on SQL Server. The program is multilingual.

INNOVATIVE DEVELOPMENT AS ONE OF THE COMPETITIVE ADVANTAGES OF THE REPUBLIC OF UZBEKISTAN

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Uzbekistan has established ambitious targets in the way of achieving strong, green and inclusive growth. It aims to become among the 50 most advanced countries in the world by the year 2030, while shifting from a resource-intensive growth model to one that is cleaner, more innovative and more diversified as outlined in the decree of the President of the Republic of Uzbekistan Sh. Mirziyoyev "On approval of the innovative development strategy of the Republic of Uzbekistan for 2019-2021". The decree approved the "road map" for its implementation and the target indicators of the innovative development until 2030.

The main goal of state innovation program is to ensure sustainable economic development and improve the quality of life of population through creating conditions for the growth of innovation and production competitiveness, output of innovative products to the domestic and foreign markets, import substitution in the domestic market.

The Ministry of Innovative Development of the Republic of Uzbekistan implements a unified state policy in the fields of innovation, scientific and technological development of the country, along with the Fund for Support of Innovative Development and Innovative Ideas, a centralized source of funding for innovative ideas and their development, using a transparent reporting system on ongoing research.

The share of high-tech industries is planned to increase to 31% in 2020, and the share of innovative production - up to 22%. The cost of scientific and technical work in relation to GDP should reach 3% by 2020. It is predicted that the share of innovation costs spent by enterprises and organizations will increase to 5% by 2020.

Much attention paid to the establishment of mutually beneficial cooperation between business and government in the innovation sphere. Uzbekistan, of course, has great potential in it, since the country has managed to preserve its scientific potential: the level and amount of research conducted by scientific organizations with government support is quite high (about 400 organizations conducting research). The state budget funds are allocated to state scientific and technical programs, in the implementation of which more than 150 scientific, educational institutions and experimental design organizations participate annually. About 35% of the allocated budgetary funds are accounted for by basic research, about 56% by applied programs, and 9% by innovative developments. A number of new research and innovation structures have been created - the Genomics and Bioinformatics Center, the International Solar Energy Institute, the High Technologies Center with the participation of the University of Cambridge.

In terms of education, Uzbekistan ranks among the developed countries of the world. In the field of personnel training, the republic implements a programmatic approach, as a result of which reforms at all stages of education have been implemented. The annual expenditure on education in Uzbekistan amounts to 10-12% of GDP, which is almost 2 times higher than the UNESCO recommendations (6-7%) in terms of the amount of investment in education necessary to ensure the sustainable development of the country.

As the experience of developed countries shows, not only the state should be involved in financing innovation, but also the industry, enterprises, and representatives of the business environment. First, a clear definition of strategic development priorities on an innovation basis; secondly, the creation of a mechanism for launching and supporting innovatively promising companies, including among small businesses and private entrepreneurship; thirdly, an assessment of the sources of innovation growth in the field of industry on which a country can rely in the near and long term; fourth, the elimination of institutional obstacles to innovation, distorting the conditions of normal competition and free enterprise in the domestic market.

The tools of indirect influence on the volumes and directions of innovation and investment activities can be used more broadly, namely: reducing the taxable base (deducting R & D expenses); privileges on tax rates, regulation of customs payments, exemption from certain payments to the budget of certain types of activities in the knowledge-intensive sphere.

However, so far these measures are not enough. In order to create conditions for structural transformations in the economy and more fully realize its innovative potential, to accelerate the development of knowledge-intensive production, it is necessary to increase the effectiveness of direct budget financing for innovative ideas/projects, which include (a) estimated funding of scientific organizations that are budget institutions, (b) government order for production and the supply of scientific products, (c) increased use of research grants and the publication of research results, (d) budget subsidies of organizations forming the innovation sector and the commercialization of innovations ready.

STRATEGY OF INNOVATIVE DEVELOPMENT OF THE REPUBLIC OF UZBEKISTAN FOR THE YEARS 2019-2021: WHAT THE STRATEGY AIMS

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The quickly developing all spheres of public and state life of the nation require close support of the ongoing reforms on the basis of innovative ideas, developments and innovations that ensure a quick and qualitative breakthrough of the country into the ranks of the leaders of world civilization. However, the analysis showed insufficient work on the innovative development of the processes of modernization, diversification, increase in production volumes and expansion of the product range of influential and authoritative international structures. Specifically, because of the absence of numerous indicators and the ineffective coordination of work, our nation lately has not participated in the positioning of the Global Innovation Index, accumulated by compelling and definitive universal structures. The low level of interaction of economic and social segments with scientific institutions, the absence of legitimate coordination of ministries and departments, as well as local government bodies in the field of innovative development do not allow for the achievement of priority goals and objectives toward this path.

Decree of the President of the Republic of Uzbekistan “On the Strategy of Innovative Development of the Republic of Uzbekistan”, being a document of strategic importance, is aimed at creating conditions and a favorable environment for accelerated innovative development of Uzbekistan in 2019-2021 and developing rational tactics for coordinating the implementation of innovative development methods policies, eliminating progress barriers and ensuring that priority targets are met and determined by the Government of the Republic of Uzbekistan. It should be noted that in 2015, Uzbekistan is ranked 122nd in the Global Innovation Index, but was not included in this rating due to the lack of information in 2016 and 2017.

In order to accelerate the development of the country on the basis of modern achievements of world science, innovative ideas, developments and technologies, as well as the consistent implementation of the tasks identified by the Action Strategy in the five priority areas of development of the Republic of Uzbekistan in 2017 - 2021:

To approve The Strategy for Innovative Development of the Republic of Uzbekistan for 2019–2021 (hereinafter referred to as the Strategy) in accordance with the “*Roadmap*” for the implementation.

Define the *human capital* as main objective of the strategy since it is the main factor determining the level of a country's competitiveness on the world stage and its innovative progress;

The entry of the Republic of Uzbekistan *by 2030 into the 50 leading countries* of the world according to the Global Innovation Index;

Improving the quality and coverage of *education* at all levels, developing the system of continuous education, strengthening the scientific potential and effectiveness of *research and development*, the creation of effective mechanisms for the integration of education, science and entrepreneurship for the widespread introduction of the results of research, developmental and technological works;

Increasing the *investment of public and private funds in innovations*, research, developmental and technological works, the introduction of modern and effective forms of

financing activities in these areas, and the efficiency of state authorities through the introduction of modern methods and management tools;

Ensuring the *protection of property rights*, the creation of competitive markets and equal conditions for doing business, the development of public-private partnerships;
The creation of a sustainable *socio-economic infrastructure*.

To form a Commission for the timely and high-quality implementation of the Strategy for the Innovative Development of the Republic of Uzbekistan for 2019-2021 to ensure the *qualitative development and submission* in the prescribed manner of draft regulations aimed at the implementation of the Strategy;

Establish *personal responsibility of managers*, ministries and departments for the timely and high-quality implementation of activities envisaged by the Strategy and the Road Map, achievement of targets with the broad involvement of representatives of scientific and educational institutions, non-governmental non-profit organizations, independent experts (consultants), including from foreign countries;

The Ministry of Innovation Development, together with the Ministry of Foreign Affairs, the State Statistics Committee of the Republic of Uzbekistan and other interested agencies, will ensure that international organizations *regularly send the necessary data and indicators for the annual inclusion* of the Republic of Uzbekistan in the Global Innovation Index.

Ministries and departments within a month in coordination with the heads of the relevant complexes of the Cabinet of Ministers of the Republic of Uzbekistan approve development programs for 3 years, providing for *interrelated legal, economic, social, organizational and technical measures* to achieve the targets, with the adoption of new development programs for the next 3 of the year.

The National News Agency of Uzbekistan, the National Television and Radio Company of Uzbekistan, the Uzbek Agency for Press and Information *regularly organize mass media publications and thematic programs* to highlight the goals and objectives of this Decree.

The Ministry of Innovation Development together with the interested ministries and departments in two months to submit to the Cabinet of Ministers of the Republic of Uzbekistan *proposals on amendments and additions to the legislation* arising from this Decree.

CONDITION OF THE ACCOUNT AND AUDIT IN ABHAZIA AND PROSPECTS OF ITS DEVELOPMENT

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The modern condition of account and audit are determined in the article. The lag of requirement of acting system given to audit nowadays is noticed. The proper ways of account reforming and audit development in Abkhazia are proposed. The necessity of creating of national account system, coinciding with Russian one and international standards reflecting the specific peculiarities of Abkhazian national economics are demonstrated in the work.

FEATURES OF ACCOUNTING OF INTERNATIONAL CALCULATIONS WITH FOREIGN CONTRACTORS

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In recent years, Ukraine's economy has undergone many positive changes, rapid European integration processes have led to an influx of foreign investment into Ukrainian companies and the establishment of relations with foreign counterparties. Enterprises often conclude agreements with non-residents, supplying goods, raw materials and tangible assets from abroad. This complicates the work of the accounting department due to certain features in the accounting processes, which are different from the account of domestic counterparties. Consider the most significant differences between accounting for settlements with Ukrainian and foreign counterparties.

First, the main feature of settlements with foreign counterparties is the rule of 180 days that came with the entry into force of the Law of Ukraine "On the procedure for making settlements in a foreign currency" and, in accordance with the requirements of this law, residents who carry out export-import transactions, as a rule, settle settlements with non-residents within 180 days.

For example, if a resident makes a prepayment for goods, works, services or intellectual property rights and pays money to a non-resident account in a foreign bank, the supply of such a product, the provision of works or services, or the transfer of intellectual property rights must be carried out in full. (in the amount in which the prepayment was made) within 180 days from the date of payment. Moreover, such supply (provision, transfer) must be confirmed by the relevant documents. Supply of goods - a customs declaration, and the provision of works, services or transfer of intellectual property rights - an act. In case, in accordance with the agreement with a non-resident, payments are made in the order of the next payment, the counting of 180 days begins from the moment of non-resident delivery (provision, transfer), respectively, of goods, works, etc. and ends with the transfer of money to an account of a non-resident in a foreign bank.

To generate the initial value of imported goods in accounting, it is important to know which event was the first: receipt of goods or payment of their value.

1) The first event is the receipt of a TMC. In this case, when determining the hryvnia equivalent of the value of imported goods, it is necessary to follow item 5 of the Accounting Regulation (Standard) 21 "Effect of changes in foreign exchange rates". This paragraph requires foreign currency transactions in the initial recognition to be reflected in the reporting currency by converting the amount in foreign currency using the exchange rate at the beginning of the date of the transaction.

Accounts payable to a foreign supplier arising out of the purchase of a TMC is monetary (since it will be repaid by money). Consequently, it is required to determine the exchange rate differences on the balance sheet date and on the date of the transaction (that is, on the date of repayment of the debt) within such an operation or on the entire item - in accordance with the accounting policy.

The exchange rate differences, depending on whether they are positive or negative, are reflected in the income or expenses of the enterprise.

Optional exchange differences arise if the NBU rate on the balance sheet date or on the date of the transaction is lower than the rate that existed at the date of issue of the TMC. Such differences are reflected in other operating income on sub-account 714 "Revenue from operating surplus".

Negative exchange differences occur if the NBU rate on the balance sheet date or on the date of the transaction has increased in relation to the rate that existed at the date of the issue of the TMC. They are accounted for in other operating expenses on the subaccount 945 "Loss from operating exchange differences".

2) The first event is the payment of the MMC. In this case, the amount of advance payment (prepayment) in foreign currency, given to other persons on account of payments for the purchase of non-monetary assets, is credited to the reporting currency using the exchange rate at the beginning of the day of the date of payment of the advance.

In this case, there is a receivable from the non-resident supplier. Such debt is non-monetary because it will be repaid by obtaining a non-monetary asset. Therefore, neither on the balance sheet date nor on the date of the economic transaction (that is, on the date of repayment of such debt), it is not required to calculate the exchange rate differences for it.

Consequently, it can be concluded that the main points that need to be closely monitored are the sequence of the formation of the original value of imported TMCs, adhere to the timing of settling settlements with non-residents within 180 days, timely detection and correct calculation of exchange differences.

PROBLEMS OF LEGAL CULTURE IN THE WORKS OF ABU NASRA FARABI AND ITS DEVELOPMENT IN MODERN UZBEKISTAN

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Annotation: The article discusses the idea of the development of culture from the most ancient sources of the East, as well as the teachings of Eastern thinkers. The author has analyzed the ideal, fair state in labor of Farabi and we are talking about justice, about fair laws - fair law, which even today is of great importance in educating the young generation in Uzbekistan.

Keywords: fair laws, ideas of a legal state, law, culture.

As we know, today, modern Uzbekistan has chosen the path of progressive development of society, of all spheres of its life, including law, as the idea of the rule of law is supported in the republic.

Also, at present in the Republic, cardinal state-political, socio-economic and legal reforms are being carried out. Building a legal state, forming a civil society requires new approaches to the fundamental problems of legal theory, the development of new moral and legal ideals, and a high legal culture. The formation of the legal basis of modern society requires a revision of the existing system of values, the revival of the moral and legal ideals of the Uzbek people. Today, legal science can develop only based on the spiritual experience of the people, their high legal culture.

The historical development of the legal system of Uzbekistan, as in most Eastern countries, was shaped under the influence of Zoroastrianism and Islamic law. However, it should be noted that the Uzbek legal consciousness is closely related to traditional values, which were transmitted from generation to generation due to the decisive role of the Islamic faith in the life of Uzbek people.

In this regard, this article will analyze the relationship between the Uzbek legal culture and the Muslim value system. As a methodological study of this topic, historical-theoretical approaches are used, which were formed within the framework of the philosophy of law.

Therefore, it is important to pay attention to the fact that it is acceptable and necessary to study the people's historical experience in the field of law;

And also, to realize the practical necessity of reforming modern law, taking into account the best traditions of legal regulation in the history of a people which has the richest heritage.

Thus, the study of the rich experience of legal regulation and the history of legal development provides an opportunity to use the positive experience of previous eras in the formation of a new legal system, in particular the legal system of the Republic of Uzbekistan. Studying and using the legal experience of any nation has a beneficial effect on the reform of the legal system in general, especially if the legal experience is large and the gold reserve of value norms is rich. Uzbeks who have made a worthy contribution to the development of civilization and the rights of the peoples of the Middle East have such a rich experience. The most ancient source is the legal system of Zoroastrianism and the legal ideas set forth in its main source, Avesta. Many norms, institutions, teachings and postulates of Zoroastrianism, which are based on justice, freedom, humanism in relation to man, the animal world and the environment, as human values, have survived to our times.

As we know, that Turan is the ancient name of the territory of Central Asia, Uzbekistan, Afghanistan and other regions adjoining to them. As for the territory of Central Asia and other areas adjoining to it, in which up to V century AD. Uzbeks mostly lived. Zoroastrian law, by the peculiarities of the sources of law, taking into account their religious origin, by the nature of legal norms, meets the requirements of classifiers, which allow to call it an independent legal family. First, the Avesta, as an ancient religious book of Zoroastrians, for the ancient peoples of Central Asia and it was undoubtedly the most ancient and common moral, legal and religious code;

Secondly, when studying the Zoroastrian legal system and the Avesta, legal norms and institutions of various kinds are revealed, which still exist in various modern branches of law;

Thirdly, the Zoroastrian legal system, as an independent religious legal system, has its own characteristics that distinguish it from other religious and non-religious families (systems) of law;

Civil law norms and institutions of Zoroastrianism, according to the nature of the response, are divided into definitive, regulatory and protective;;

- the institutions of marriage, the rights and duties of parents, adoption, raising a child, the privileges of a pregnant woman, the protection of the rights of children and children, the restriction of the rights and powers of spouses to preserve the family and much more, were regulated at a high enough level; and the Zoroastrian law, being one of the varieties of the family law of the Ancient East and the world as a whole, on the one hand, experienced the strong influence of the legal systems of the ancient Eastern states of Egypt, Babylon and India, and on the other, it had a significant impact on the formation and development of the Muslim legal culture of the East.

Under the civil law of Zoroastrianism, we understand the civil law views, civil law relations and civil law norms of Zoroastrianism. Civil law norms generally mean those civil law norms of Avesta and Zoroastrianism, which regulated civil law relations of property and

personal non-property character, arising between Zoroastrians, Zoroastrians and other believers, etc.

Civil law, as one of the most ancient rights, has its own characteristics in any society. Historically, it consists of the customs, morals and mentality of nations. He was considered to be "the right that every nation has established for itself, on the basis of this, it is its own and is called civil law."

What is important is the fact that among the civil and legal norms of Avesta, the legal norms that define the concept and types of contracts occupy a prominent place. For example, the contract of sale, the contract of employment, and so on.

With historical development, we know that, in the era of the Eastern Renaissance, the philosophy of law occupies a special place, as it essentially has a dual dimension. Being a philosophy, it is designed to concentrate in itself the question of the style of thinking. The methodological core of philosophical and legal reflection is formed for the knowledge of a wide range of manifestations of human essence. The second person of the philosophy of law or its second dimension is addressed to the legal space of society, in which the metamorphoses of the interpenetration of all elements of the social system occur: economics, politics, morality, religion, etc.

In the 11th century, Urgench, the capital of Khorezm, was also a fairly well-developed city with a high culture. Khorezmshah Abdul Abbas ibn Ma'mun being a ruler who has a rather keen interest in culture and science, he strongly supported scholars, poets, musicians, sculptors and painters. At the palace of Khorezmshahs in Urgench there were not only such great thinkers of the East as Ibn Sina (Avicenna) and Beruni, but also the historian Ibn Miskawaykh, the mathematician Abu Nasr Arroq, the philosopher Abu Sahl Masih, the doctor Ibn Hammor and others.

The "House of Experts", the so-called "academy", was organized in Urgench, in which the priorities of philosophy, mathematics and medicine were discussed under the leadership of Khorezmshah Mamun. However, this atmosphere in Urgench did not last long, and under the rule of Mahmud Ghaznavi, the "House of Experts" was dissolved. Thus, in the East, in particular in Central Asia, the organization of scientific activity in the form of an academy became a tradition, and thus institutions like academies in Urgench began to open in Marv, Bukhara, Hojent and other cities. Farabi brought wide acclaim to his comments of the works of Aristotle, in connection with which he was given the honorary name "Aristotle of the East", "Second Teacher" during his lifetime.

In his state-legal doctrine, Farabi puts forward his own original concept of the origin of society: "By nature, each person is structured in such a way that for his own existence and attaining the highest perfection he needs many things that he cannot deliver to himself and It needs a certain community of people, delivering to it individually each and every thing from the aggregate of what it needs.

In addition, each person is in exactly the same position in relation to the other. That is why only through the unification of many people helping each other, where each gives the other a certain amount of what is necessary for his existence, a person can attain the perfection to which he is intended by nature. The activity of each member of such a community in its totality gives each of them everything that he needs for the existence and achievement of perfection," Farabi states. -state). Societies Farabi classifies into great (unification of all people, nations inhabiting the land), secondary (society of a certain people) and small (association of people into separate cities). Taking the moral categories of good, evil, and attitudes toward labor as the original, he divides the city-states into virtuous, collective, and ignorant.

In virtuous city-states, social life is built on the principles of high morality of people who, by helping each other, achieve true happiness. Studying the goals and building a

virtuous state, he also drew attention to the social structure of society. A significant place in the political and legal doctrine of Abu Nasr Farabi is the substantiation of the essence of the virtuous city-state, which lies in its legal nature. He emphasizes the nature of laws promulgated in a virtuous state, reflecting and coordinating the interests of various classes and social groups. Therefore, Farabi writes about five layers of the population in a virtuous state: 1) sages and other worthy persons; 2) "people of religion", poets, musicians, scribes; 3) bookkeepers, geometers, doctors, astrologers, etc.; 4) warriors - warriors, guards, etc.; 5) rich people, farmers, herders, merchants, etc. In a virtuous state, all these segments of the population are linked by friendship, mutual interests, and fairness to each other.

The virtuous city is headed by a philosopher-ruler who is able to know the beginnings, who control nature and society, and transfer this knowledge to the population.

Farabi believes that the first chapter is the one over which absolutely no one has power. And, in fact, he is the ruler of all people and in all parts of the well-organized world. The pledge of his superiority over others is 12 features, among which are both natural and spiritual qualities.

They consist of:

Health and lack of physical defects;

The ability to correctly understand reality, as well as the wishes of others;

Beautiful memory; and the presence of intelligence and ingenuity;

Oratorical skills;

Interest in the sciences and the desire for their development;

Denial of vulgar life and indulgence in carnal passions;

Love for truth and truthful people, and enmity with lies and deceitful people;

Love of nobility and honor;

Contempt for wealth and luxury;

Justice and love for her, as well as the fight against injustice and unjust people;

Moderation, but not passivity;

Determination, courage and courage to commit worthy deeds and avoid manifestations of weakness. The thinker emphasizes that an integral and important part of spiritual culture are the formal properties of intellectual and volitional activity, of which the most important role belongs to law. Being a social system, law is the only socially disciplining system. Al-Farabi puts forward the principle of distribution of common goods. All residents of the state should be endowed with well-being, wealth, honor, position and other benefits to which they can be associated. Each of the townspeople should have a share of these benefits equal to his merits. He analyzes the concept of justice as a legal phenomenon. It would be unfair, he believes, if a city dweller receives less or more than he deserves. So the state should monitor the proper distribution of benefits. Therefore, in a virtuous state there are no beggars, poor. But there may be disabled and sick. For their maintenance of funds should be allocated from state supplies. As far as possible, they need to be involved in doing useful work. The state should take care of protecting what its inhabitants receive and have (from theft, capture) [1, p. 88]. These are some of the state-legal views of Al-Farabi. Such an approach to the state allowed the thinker to argue the idea of law: the law not only delimits interests or creates a compromise between them, the law is feasible only under the condition of individual freedom. Only then will the legal order constitute a system of relations in which all persons of a given society have the greatest freedom of activity and self-determination. Understanding this, in our opinion, is a necessary attribute of a developed sense of justice and a high level of legal culture. The great scholars of Maverrannahr in the era of the Eastern Renaissance made a great contribution to the development of the humanities, as they were then called on the basis of Islamic disciplines, in particular fiqh, that is, in the field of law, jurisprudence wrote many works. Worldwide fame in the Islamic world received one.

From the well-known Muslim lawyers of this region, the Marghilan sheikh-ul-Islam Burkhanuddin Marginani, the author of the fundamental work "Al-Khidoyi Sharh Bidoy-al-Mubtadi", or the Kitab al-Khidoya beginner (training) ". Khidoya is devoted to private issues of Islamic law ("wagon al-fiqh") and is a kind of set of basic norms of Sharia. Assessing the influence of Eastern thought on the Uzbek philosophy of law, we pay more attention to studying the works of Eastern thinkers like Farabi, Ibn Sina, Biruni, Nizamumulk, Navoi and other scholars.

As we know, Shavkat Mirziyoyev addressed a message to the participants of the Asian Forum for Human Rights in Samarkand, where he said that "All civilizations, world cultures and religions were created, as history shows, under the influence of humanistic ideas, on the basis of which basic concepts were formed human rights.

For example, in the most ancient written monument "Avesta", created in Asia more than 2700 years ago, the ideas of human rights and freedoms, building inter-ethnic relations based on the principles of mutual respect and trust, occupy an important place, violence and injustice are rejected.

Also one of the eminent jurists of the East, Burkhaniddin Marginani, as early as the 12th century, in his treatise "Hideoy," put forward the idea of the need to respect the rights of every person.

These unshakable values have not lost their relevance and are consonant with the agenda of this Forum. It should be emphasized that the Universal Declaration of Human Rights adopted 70 years ago opened up new opportunities for the adoption of the principles of democracy and humanism throughout the world. "

We also want to remind that after being elected President of Uzbekistan, Shavkat Mirziyoyev at a solemn meeting devoted to the 24th anniversary of the adoption of the Constitution of Uzbekistan, paid special attention to this issue, noted that raising the legal culture in society and educating citizens in the spirit of respect for laws are important in ensuring the rule of law. Speaking about the culture of human rights, it is impossible not to notice that this concept is closely connected with other legal definitions that are closely related both in meaning and in sound: legal culture, culture of law, cultural rights of a person. All of these concepts, although similar in meaning, still have differences. And here it is important to highlight the particular aspect that reveals the conceptual content of legal culture as a certain type of activity. At the same time, if we highlight what is common that unites the theoretical approaches of researchers in the disclosure of the multidimensional content of legal culture, they will undoubtedly claim that its core is not just the sum of certain knowledge, but also strong-willed and ideological attitudes, civic skills, sustainable behavioral stereotypes.

Legal culture characterizes a certain qualitative level of personal development, which includes the ideological level (culture of cognition and thinking, analysis and synthesis of social experience, the ability of creative understanding of new social phenomena based on previously acquired knowledge), emotional and psychological level (conviction in the truth of knowledge) and active behavioral level (readiness and ability to implement political and legal decisions). Thus, in our deep conviction, legal culture should be understood as the standard and nature of legal knowledge, assessment of the legal system, as well as the content and quality of social values, norms, traditions and stereotypes that govern the sphere of legal behavior.

Of course, legal culture must be considered simultaneously in two aspects - subject-value as a phenomenon (methods of assimilation and transfer of these values in the form of a system of stereotypes recognized and approved by society or patterns of behavior for various cultural carriers). This understanding is based on the fact that law is one of the most important

elements of the culture of mankind as a whole, spiritual culture and has an active influence on the worldview of all members of society.

The culture of human rights is also an integral part of spiritual culture. The concept itself first appeared on the pages of UN information materials in 1989. However, it was not the subject of research in science, there is still no definition of this category in legal literature, although the notion "human rights culture" derives from the idea of humanizing law. Therefore, the definition of the content of this concept, the selection of the basic structural elements are of particular scientific interest.

In our opinion, "legal culture" and "culture of human rights" are not identical concepts or constituent parts of each other, but are in complex organic unity as integral parts of the spiritual culture of society. At the same time, a culture of human rights is essential for the formation of a legal culture. Thus, the law itself is an essential factor and method for the realization of human rights and freedoms; therefore, the humanistic nature of legal culture contributes to a more real and effective implementation of human rights. And the culture of human rights is a factor related to the guarantees of human rights. As already mentioned, on the one hand, the culture of human rights is an integral part of the spiritual culture of society, and on the other hand, it penetrates other parts of it, for example, such as "legal culture" and others. Moreover, it is the consideration of legal culture through the prism of rights, freedoms and duties emphasizes the peculiarity of legal culture as one of the ways the person works in the legal sphere. After all, standards of behavior in society, which a person follows, formed in the form of their rights and obligations, that is, legal rights and legal duties serve in society as a system of guidelines regulating the behavior of citizens, their relationships with each other, with the state and society. In order to choose a behavior that meets the inner convictions and interests, as well as the interests and requirements of society, the individual must have sufficient cultural potential. With regard to the legal field, this is a legal culture. A high level of legal culture of the individual is, of course, an indispensable condition for the proper exercise of rights and freedoms. Of course, only an enlightened person can exercise his rights, as well as protect and restore the violated rights and freedoms of others. Possessing a sufficient level of knowledge and practical skills, a person can use the full potential of rights protection mechanisms at the national level, and, if necessary, exhausting domestic remedies, turn to international or European mechanisms. Thus, the culture of human rights is an integral part of spiritual culture, which is a system of knowledge, value orientations and attitudes, psychological feelings based on the recognition and respect for the dignity of a person, his rights and freedoms, as well as practical skills and ability to realize and protect them.

Uzbekistan welcomed the ideas of the UN and created its own system of education in the field of human rights. As is known, on August 29, 1997, the Law "On Education" was adopted and the National Training Program was approved. The Parliament of Uzbekistan adopted a decree "On the national program to improve the legal culture in society" and the Presidential Decree "On June 25, 1997" On improving legal education, raising the level of legal culture of the population, improving the training of lawyers, and improving public opinion research."

So, the constitutional sense of justice, the legal culture and the culture of human rights are interrelated and interdependent categories with common rational components. The basic humanistic principle of the constitutional sense of justice, the legal culture and the culture of human rights is the idea of respecting and truly respecting the rights and freedoms, dignity and values of the human person. Particular attention in educating a culture of human rights should be given to young people. There is growing recognition that young people should be taught human rights not only because it is important for society, but also because the various types of activities associated with this work are very useful for young people themselves, and they value it.

Modern society, and especially young people, is increasingly confronted with various forms of social exclusion, religious, ethnic and national differences, as well as the advantages — and disadvantages — that globalization is gaining momentum with. Teaching a culture of human rights addresses these important issues and helps to reflect on the different attitudes, attitudes, attitudes, and values of a modern multicultural society. It helps people find ways to use these differences with a positive result.

Reading various philosophical and legal concepts cannot occur outside a deep understanding of the foundations of a cultural-historical type, which gave rise to one or another form of legal conscience, as well as the prevailing method of philosophizing. At the same time, the problems of forming a philosophy of law in any society can be considered from the point of view of understanding the legal culture as a value system. Law is an integral part of culture, therefore legal consciousness is a kind of reflection of the processes that form the value frame of a person and society. Equally important is the analysis of external cultural influences and borrowings that contribute to the change of value patterns.

Laws are created in order to regulate the behavior of people in society. But this regulation should be ensured by the correspondence between the legal system and the level of mass sense of justice of citizens.

Compliance can be achieved if the legislation reflects the legal ideas that dominate the society while simultaneously targeting to raise the level of mass justice and law obedience.

In conclusion, I would like to note that the implementation of processes of democratic transformation of society, the effective implementation of the development goals of Uzbekistan enshrined in the Constitution, the formation of a new political and legal system, civil society and a rule of law state implies significant work to increase the level of legal culture of the population of our country. And for this there is the richest spiritual heritage of the people ... In this general cultural process, the sphere of legal culture includes successes and achievements in the development of law and the state, in improving the legal and state legal organization of the life of free people. A high level of legal culture is one of the hallmarks of a legal state.

Chemical & Material Science

- *Analytical Chemistry*
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- *Ceramic Engineering*
- *Chemical & Material Sciences (general)*
- *Chemical Kinetics & Catalysis*
- *Combustion & Propulsion*
- *Composite Materials*
- *Corrosion*
- *Crystallography & Structural Chemistry*
- *Dispersion Chemistry*
- *Electrochemistry*
- *Inorganic Chemistry*
- *Materials Engineering*
- *Medicinal Chemistry*
- *Molecular Modeling*
- *Nanotechnology*
- *Oil, Petroleum & Natural Gas*
- *Organic Chemistry*
- *Polymers & Plastics*

TECHNOLOGY OF RECEIVING AND PRODUCTION OF FIELD TRANSISTORS WITH SHOTTKY'S LOCK ON THE BASIS OF PHOSPHIDE COMPOSITION INDIA

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Development and production of devices on the basis of phosphide india (InP) with high mechanical and operational properties forces to conduct large volume of preliminary technological researches on selection in relation to phosphide india, the modes of carrying out each technological operation of production of devices (field transistors). The researches on development of technology of the field transistors of Shottky (FTS) conducted by us with normally open channel on InP also belong to works of such plan. For production of transistors epitaxial and ion leghirovation layers of phosphide 0,1÷0,2 mcm thick with concentration of free electrons $0,8\div 1\cdot 10^{17} \text{ cm}^{-3}$ were used. Substrates on the basis of InP it is received by Chokhralsk's method [Milne A., Foykht D. "Heterojunctions and transitions metal semiconductor". M. Mir. 1975. 432 p].

The choice and development of optimum methods of cleaning of a surface of materials, formations of necessary structure is one of the most current problems for the electronic and electro technical industry. If to consider manufacturing techniques of field transistors with Shottky's lock, then it is based on three main operations: chemical etching, photolithography and metallization. Operation of a photolithography and the modes of its carrying out practically do not depend on features of composition (metal - an oxide layer - the semiconductor). At the same time chemical etching and the modes of formation of metal coverings substantially are defined by physical and chemical properties of the composition.

Analyzing the results of researches and data of other authors given earlier it is possible to come to conclusion that characteristics of contacts of composition metal - india phosphide (M-InP) depend on physical and chemical properties of a surface of composition on the basis of InP which substantially are defined by the modes of its preliminary processing influencing a surface stekhiometric, thickness and phase composition of own oxides. As chemical treatment belongs in the way of influence having the most expressed impact on a condition of a surface. The right choice of the modes of its carrying out is of particular importance when developing metals of formation of barriers of Shottky with the reproduced parameters.

In ours a research influence of chemical treatment on parameters of composition M-InP was estimated on VAC (volt-ampere characteristic) and VCC (volt - capacitive characteristic) contacts of Au-n-InP (100) ($S=4\cdot 10^{-2} \text{ cm}^2$) created by method thermal dusting gold (Au) on n-InP substrates ($N_a-N_\alpha 10^{18} \text{ cm}^3$) which are at a temperature of 403÷423°K. As chemical reagents which can have an impact on an initial condition of a surface solutions

were used. All substrates before chemical treatment were exposed to deep chemical etching in Br_2CHCOOH solution. After production contacts were exposed artificial aged by their endurance at $T=363\div 373^\circ\text{K}$ within 18 days.

The main results received during the conducted researches on their basis can be concluded:

1. Chemical treatment really is an important factor of management of the superficial InP properties leading to change practically of all parameters of contacts Au-n-InP. Apparently at variation of a type of chemical treatment ideality coefficient VAC, height of Φ_0^{ph} barrier and tension of breakdown can change respectively within $1,06\div 1,8$; $0,35\div 0,68$ eV and $3\div 10$ V [Bakhadirkhanov M.K., Ibragimov Sh.B., Kamalov I.R. "Influence of chemical treatment on superficial states and electro physical characteristics of Au-n-InP of structures". Electronic processing material. Chisinau. 2004. №2. 92-95 pp].

2. Processing in solutions on the basis of inorganic acids gives InP surface with the minimum thickness of own oxide. In our case it is shown in proximity of n_k 1,7 values; $d_{\text{ok}}=0,45\div 0,7$ nm and small difference in the sizes Φ_0^{ph} , determined by straight lines, the return VAC and VFC. At the same time solutions on the basis of alkalis, to $\text{H}_2\text{O}_2\text{-H}_2\text{O}$ and $\text{Br}_2\text{-CH}_2\text{SOON}$ leave on a surface after processing rather thick own InP oxide $d_{\text{ok}}=1,25\div 2,5$ nm. InP composition surface before sedimentation of metal needs to be processed in acid solutions on the basis of HF, HCl, H_2SO_4 , H_3PO_4 . At the same time preference should be given to H_2O H_2SO_4 H_2O_2 solutions giving the minimum dispersion of parameters of contacts on the area of a plate.

3. The technology of formation of own oxides has the big functionality providing it broad prospects for application in the industries of modern electronics.

4. In chemically processed method, the produced field transistor with Shottky's lock has the improved operational and mechanical properties, will also become radiation resistant.

METALLURGICAL COKEMAKING WITH THE IMPROVED PHYSICOCHEMICAL PARAMETERS

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The work presents the results of studies regarding the improvement of the qualitative characteristics of blast furnace coke obtained from modified coal blend in industrial conditions of Avdeevka Coke Plant. The experiments were carried out using metal coke boxes. The box dimensions were as follows: length 200 mm; width 200 mm; height 280 mm. The total mass of the coal batch in the box was 8 kg.

The additives added in the blend are crystalline (α -modification) powders of aluminum oxide (electrocorundum) and silicon carbide (carborundum) with different particle size. These powders were chosen as additives based on the fact that they are mass produced by abrasive combines and have a low cost. Additives were added to the coal blend in the amount of 0.25 wt % by mechanical stirring of the additive with a coal charge for box coking (8 kg). The choice of this range of additives was based on previous studies that showed an optimum level of additives in the blend of 0.25 wt %.

The production blend of the plant from two coal preparation departments was used in this study. To determine the effect of additives on the coke quality, the box coking was

conducted on two different blends, Blend 1 - obtained from coal blend of ordinary quality and Blend 2 – obtained from coal blend with improved quality.

The coke reactivity index (*CRI*) and coke strength after reaction (*CSR*) were determined by the method of the Nippon Steel Corporation (ISO 18894:2018).

Results shows that the most optimal results for improving the coke quality from the Blend 1 were obtained from using the following additives:

- α -Al₂O₃ (0.25 wt %) with a registered 4.1% decrease in *CRI* and a 5.5% increase in *CSR*;

- α -SiC v/g (0.25 wt %) with a recorded 3.7% decrease in *CRI* and a 6.1% increase in *CSR*;

- α -SiC (0.25 wt %) with a registered 5.2% decrease in *CRI* and a 6.2% increase in *CSR*.

In the report (Price J.T. et al. 2-nd International Cokemaking Congress, London 1992), via fluoroscopy of crystalline products in coke, it was found that the addition of aluminum oxide and silicon compounds reduces the content of isotropic textures in the coke and increases the content of fine mosaic textures. Thus, the introduction of inorganic additives in small concentrations affects the structure of the organic mass of coal, since it is assumed that the additives act as crystallization centers at the stage of plastic state of the coal blend.

The influence of each specific additive on the coke properties depends significantly on the rank composition of the blend. Thus, the improvement in the coke quality with the addition of additives was obtained on the Blend 1, and, accordingly, there was no improvement in the quality of the coke obtained from the Blend 2 with the addition of additives. Therefore, it can be concluded that the use of these additives is relevant for batch materials with reduced caking index.

THEORY AND PRACTICE OF OBTAINING COMPOSITE MATERIALS BASED ON POLYMER BLENDS

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The urgency of the problem.

One of the urgent tasks of modern ecology, organic and petroleum chemistry is the creation of technologies for processing oil and petroleum products with the lowest economic and environmental loads. The tightening of environmental standards and requirements, as well as the need to improve the efficiency of the study of oil natural resources makes us think about the possibility of recycling of already existing waste accumulated in large quantities . The constant need for petroleum products such as road bitumen, roofing mastics , coke, etc.with a relatively high cost encourages the search for new ways to obtain the latter, in particular using cheaper raw materials - namely, acid tars. In this regard, studies related to the disposal of large-scale waste of the petrochemical industry in commercial chemical products are very relevant .

In the process of production of commercial petroleum products, including distillate, motor and other oil oils, widely used cleaning methods associated with the use of concentrated sulfuric acid or oleum. This removes unsaturated and aromatic hydrocarbons,

as well as sulfur - and nitrogen-containing compounds, resinous substances that reduce the stability and performance of commercial oil oils. As waste, acid tars are formed, which are stored in storage ponds and are a source of environmental pollution .

Acid tars are a thick, viscous mass with a sharp sour smell, due to the presence in their composition of sulfur compounds, characterized by high corrosion aggressiveness towards metals.

Depending on the cleaning conditions of the used oils, acid tars of the current production can contain from 10 to 50% sulfuric acid, sulfoxide lots and other sulfur-containing compounds, as well as a significant amount of oils and resins .They are capable of oxidation and solidification in air, so their properties can vary significantly during storage.

Pond acid tars long shelf life (more than 10-15 years), the properties are quite stable . Soluble substances (mainly sulfuric acid and sulfonic acid) are gradually washed away by flood and rain waters; other compounds that are part of acid tars, enter into various chemical reactions (desulphation, condensation, compaction, etc.).

The composition of acid tars is complex and not well studied. As already mentioned, it includes a large variety of sulfur-containing compounds .The primary products of the reaction are sulfonic acids, as well as acidic and sulfuric acid esters, which are highly reactive. Therefore, the composition of acid tars may include products of their interaction, both with the original and with the newly formed compounds. As organic fragments they contain aliphatic, naphthenic, aromatic and polycondensated derivatives.

Chemical reactions occurring in acid tars lead to the formation of high molecular weight resinous products containing sulfur and oxygen, for example, petroleum acids (naphthenic and asphaltenic), falling into the tar from oil or formed during oil refining as a result of oxidation of paraffins, naphthenes and alkylarenes . The interaction of these acids with sulfuric acid or oleum leads to the formation of mixed sulfocarboxylic acids .

From typical straight-run tars, pond tars are characterized by a large excess of paraffin-naphthenic oils and alcohol-benzene resins, a high content of bound sulfur (in acid tars is usually present > 5 may. % , while in straight-run tars-0.1-2.0 may. % sulfur and lack of polycyclic aromatic oils and benzene resins . Moreover, most of the tars formed as a result of cleaning of light products have a liquid consistency, and the tars obtained during the cleaning of lubricating oils are heavy resin-like substances .

Disposal of acid tar is difficult because acid tar contains free sulfuric acid, which has to be separated by dilution with water and sedimentation. Relatively simple is the utilization of acid tar after purification of light petroleum products-gasoline and kerosene. The insoluble upper hydrocarbon phase is easily decanted and can be used as a liquid boiler fuel, but semi-solid particles are planted from the acid tars of dark petroleum products purification, which seriously complicate the processing and disposal of acid tar. Another way to dispose of acid tar is pyrolysis of the latter, accompanied by the release of free sulfur dioxide. Sulfur dioxide is then either direct the installation for production of sulphuric acid by contact method or contact with the hydrogen sulfide to elemental sulfur.

In this study we investigated acid tars Baku Neftemaslozavod.

Acid tars of Baku oil refinery can be divided into 2 types: 1) obtained after purification of light oil products (have a liquid consistency); 2) Obtained after purification of transformer and lubricating oils (are heavy resin-like substances). By chemical composition, these tars are a mixture of sulfuric acid (H_2SO_4), hydrocarbons, tar-asphaltene substances, water (H_2O), nitrogenous and sulfurous substances, sulfonic acids, acidic and medium esters of sulfuric acid.

Due to the fact that the acid sludge of different industries are characterized by its individual set of chemical and physical properties, variable structure, changing during the chemical reactions of the organic components of the acid sludge with sulfuric acid and

oxygen of the air, pollution of the environment by pollutants of technogenic nature, climatic fluctuations, requires the adoption of innovative solutions in the process of processing and recycling, as well as carrying out geological surveys of the lakes, chemical laboratory analyses from different depths at different temperatures to determine the actual layers of organic and inorganic substances as well as the chemical composition of each substance.

To achieve these goals, the thickness of each layer of layered - oil, resinous-asphaltene substances, sulfuric acid and water was determined using the geological device 81K-3000 (USA). Lakes in different layers are located differently. Depending on the area and depth of the lake, the average thickness of acid tars is 7-8 m.

Organic weight acid sludge resulting from the treatment of distillate oils, is composed mainly exuded resinous substances (62-65% wt) and sulphonic acids (30-32 wt.%) The content of asphalt-tarry substances and carboxylic acids is insignificant.

Carboxylic acids isolated from acid tar are a mixture of naphthenic and asphaltenic acids, and asphalt-resinous substances of acid tar-a mixture of heavy resins and asphaltenes

ENHANCING THE QUALITY OF RESTORED WORKING SURFACES OF DETAILS

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In the process of operation of parts there is a deterioration of its working surfaces. This requires replacing worn parts with new ones or restoring worn surfaces of the old part. The production of new parts is a complex and fairly expensive process, therefore, more and more parts are being restored using various methods of repairing damaged surfaces. In addition to the restoration of damaged surfaces, they try to increase the quality indices (hardness, durability, wear resistance) of working surfaces of a part by various methods: technologies of doping, thermal and chemical-thermal treatment, application of wear-resistant coatings. For methods of restoration of damaged surfaces with good mechanical properties, which have better wear resistance, use expensive materials that have a complicated manufacturing technology. Therefore, they are looking for such materials for the application of wear-resistant coatings that would have no significant cost and simple manufacturing technology.

Such requirements correspond to the technology of surfacing with the use of a viscose thread as a carbon source, which makes it possible to increase the hardness and wear resistance of the working surfaces of parts. Data technology simplifies the repair of damaged surfaces with specified properties. Therefore, this topic is relevant. The authors of the following research tasks were solved for achieving the goal: studying the issues of creating high-carbon methods of repairing damaged surfaces on steel parts; study of the influence of viscose yarn on the structure and properties of surfaced coatings; the development of surfacing technology to improve the quality of the restoration of the shaft - gears, research of wear resistance of the shaft - gears when the working surfaces are restored.

The research was carried out using optical microscopy methods to investigate the microstructure of the damaged surfaces obtained, the thermal effects zone and the transition zone.

Methods of durometric analysis were used to determine the hardness of coatings and microhardness of structural components. The object of research is a technology for the restoration and strengthening of working surfaces of parts based on the methods of surfacing. Subject of research - the mechanism of influence viscose thread on the structure and properties of damaged surfaces of the shaft part - a gear. During theoretical and experimental researches, the important scientific and technical task was solved during the performance of work - the development of technological principles for increasing wear resistance and the restoration of working surfaces of a shaft-gear.

1. Having considered a number of advantages and disadvantages of the main methods of coating, for the restoration and strengthening of the working surfaces of the gear shaft, a method of surfacing in a carbon dioxide environment using viscose yarn was selected.

2. The structure of the coating which was obtained when surfacing with the combination of the surfacing wire Np-30HGSA + viscose yarn differs from the structure of the coating of the welded wire of Np-30HGSA. The structure of the coating obtained using the infill wire Np-30HGSA consists of ferrite and perlite. The coating structure obtained during surfacing with the combination of Np -30HGSA wire + viscose yarn is the same and fine-grained on the entire plane and consists of granular perlite and cementite mesh.

3. There is no sharp boundary between the welded and the main metal of the coating obtained using the combination of an inflatable wire Np-30HGSA + viscoelastic thread. There is practically no thermal effect on the base metal, as the viscose thread acts as a thermal barrier in the process of surfacing.

4. The hardness of coatings obtained using viscose yarn is 1.5 times higher than that of Np-30HGSA-surfaced overlay.

5. As a result of experimental and numerical calculations, it has been found that, in certain cyclic tests, the restored surfaces showed high wear resistance.

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MODERN TECHNOLOGY OF TRAINING SPECIALISTS FOR PRODUCTION OF CEMENT-RAW MATERIALS

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Annotation. Questions of modern technology of training specialists in the preparation of cement-raw mixtures of a given composition are considered. The basis for this is a computer simulator based on a simulation model of the technological process of preparing cement-raw mixtures. This allows you to work out the motor-reflex skills and reactions of the trained technologists for regular and emergency situations, thereby improving the skills of these specialists.

Therefore, as foreign and domestic experience shows, the task of training and retraining process operators is becoming increasingly relevant, and it must be solved with the help of specialized simulation systems for chemical-technological systems and computer simulators.

And such an accelerated “practical run-in” of operators-production workers on a simulator (or business education) is focused on solving actual practical problems, achieving concrete results “here and now”. If the traditional system of education is characterized by “blurred”, distant goals - mastering, shaping, studying, and training “for the future”, then business education is characterized by an orientation towards the formation of specific skills and abilities necessary to perform clearly defined production tasks. This is the key to its effectiveness.

Therefore, this paper addresses the issues of building a modern technology for teaching the production process of preparing cement-raw mixtures based on a computer simulator.

The basis of the technology of obtaining cement of guaranteed quality is, as is known, the stability of the composition and properties of the cement-raw mix. The preparation of such mixtures is possible only with accurate dosing of the initial components of known chemical composition into the raw material mills. At the same time, in the technological chain of obtaining cement, the very task of obtaining a mixture of a given chemical composition occurs twice or three times, depending on the technological scheme of the quarry and raw material processing.

Therefore, the quality of the finished mixture is provided either by dosing mixtures of an intermediate composition, or previously averaged in warehouses (or slurry basins) of raw materials coming from excavating faces.

We, on the basis of previously performed research, developed the computer program "Correction of the chemical composition of the cement-raw material mixture". This program allows you to stabilize the quality of the prepared mixture and reduce its preparation time. And this, respectively, allows to reduce electricity costs for pumps, compressed air for mixing, the cost of transporting additional corrective additives, optimally plan the work of quarries for the extraction of raw materials, avoiding overproduction or shortage of raw materials, etc.

Of course, to work with such a computer program from a process engineer (or chemical engineer) requires a sufficiently high level of qualification and possession of an appropriate level of computer training and fairly quick motor-reflex responses to changes in a particular production situation.

The theoretical basis of a computer simulator is a mathematical model of the mixing process, which is based on the mass balance equations for raw materials, water, the content of individual chemical oxides, given values, of technological modules (saturation coefficient, silicate and alumina).

The simulator, itself is a set of interconnected programs for an automated workplace for a shift chemical technologist in a raw material workshop, a clinker grinding workshop or a central factory laboratory.

The simulator contains: 1) a dynamic simulation model of technological processes of mixing and averaging cement raw materials, allowing machine experiments to work equipment, taking into account random disturbances and interference; 2) a multi-window interface, which allows the shift chemical technologist on the monitor to visually see the state of the process; 3) a number of emergency scenarios for training interns, demonstrating accidents, showing the correct actions.

Conclusion. It is proposed to introduce an easy-to-use and cheap computer program for adjusting the process of preparing cement-raw mixtures of a given composition in wet and dry production methods (for both in-line and batch technologies). This computer program can be used as an educational simulator for training operator technologists. The undoubted advantage of the simulator is the safety of the training, since the actions of the trainee on real-life technological equipment are sometimes not only undesirable, but also dangerous.

APPROACHES FOR MODERN RHINOMANOMETRY DIAGNOSTICS WITH DATA MINING SUPPORT

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However, according to statistical data, only about 10% of the population around the world suffers from chronic rhinosinusitis, and rhynology is one of the least well-documented means of functional diagnostics of the branches of medicine. This is reflected in the fact that there is no clear correlation between subjective sensations of the patient and characteristics of nasal airflow despite the possibility of modern rhinomatometric equipment and corresponding specialized software tools that allow the determination of aerodynamic indices of nasal breathing with a fairly high accuracy.

Yet, the complexity of the problem as well as different approaches and methods of research complicate considerably the interpretation of diagnostic data, which impedes a wide introduction of equipment for testing of nasal breathing into the medical practice. Therefore, it is advisable to develop devices (rhinomanometers) for nasal breathing testing, based on data mining and specialized methods to support diagnostic decision-making.

The main medical and technical requirements for a modern computer rinomanometer are:

- the possibility of implementing algorithms for statistical data processing to increase the repeatability of survey results by analyzing the dynamic measurement model;
- providing automated processing of diagnostic indicators with the possibility of flexible software changes by the developer to improve diagnostic algorithms, as well as protection against unauthorized access;
- short time, simplicity, non-invasiveness and safety of the examination and sterilization procedures necessary for everyday use of the device in clinical practice;
- ease of calibration procedures of sensors and monitoring of measured values;
- the device must be designed to measure the maximum pressure drop on the nasal passages up to 50 kPa and the maximum air flow during breathing in the inspiratory cycle up to 8 l/s;
- the quantization step of the measured values should not exceed 0.5% of the maximum signal value, when choosing analog sensors,
- sampling frequency of the measured signals must be at least 100 Hz (it's depended from the dynamic parameters of the respiration nasal cycle);

Therefore, at present, there are approaches aimed at improving the methods of the functional diagnostics in the rhinology by studying influence of intraosseous structures on the characteristics of the nasal airflow, especially at a forced nasal breathing, and justification of additional diagnostic indicators. It is also necessary to conduct independent verification of the developed methods and modernization of diagnostic equipment based on the analysis of methodological peculiarities of the nasal breathing testing. Data processing should be carried out on the basis of intelligent technologies, taking into individual physiological and gender variability.

The perspective of the work is the combine in the one device specialized methods for testing of nasal breathing with data mining and their clinical trials to confirm the validity of the proposed approaches.

SHIPBOARD ENGINE NOXIOUS EMISSIONS REDUCTION APPLYING NEW TYPE FUEL OIL CATALYST

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The work reviews problem of noxious emissions reduction associated with shipboard diesel engines operation. Noxious emissions reduction process research applying

fuel oil catalyst manufactured by “Echo-Auto-Titan”, Ukraine, scientific and manufacturing corporation, was the first in worldwide practice.

Selective catalysts commonly applied with worldwide merchant marine are of another concept. All of them in great variety clean shipboard engines waste gases at the end of engine exhaust manifold. Such a system of exhaust gases’ processing fades due to its multiple drawbacks and substandard capacity. Any inclusion of devices or filtering elements to reduce noxious emissions leads to additional resistance to free and smooth gases’ flow from the engine. Scrubbers currently applied at the exhaust side of engines showed good results in NO_x , CO and SO_x ratio reduction, but appeared to be too expensive and too bulky, incapable to fit in available space of engine room. Scrubber’s sales price for an engine of 20.000 kWt amounts to about EUR 3.0 M with EUR 0.5 M annual maintenance cost.

Fuel oil catalysts in questions have been initially developed for road vehicles. Three-years cooperation experience between the Danube Institute, Ukrainian Danube Shipping Co. and catalyst manufacturers enabled to arrange matters with development of newer item capable to operate with shipboard diesel engines of higher output throughout entire navigable period within annual term. Catalyst cost amounts to US\$ 12.000. The catalyst is subject to restoration after its service life expires, thus reducing its initial cost.

The last date catalyst items represent a cylinder casing containing titanium fuel oil filter and a set of filtering elements including various metallic oxides. Such catalyst is installed prior the high pressure fuel oil pump. Catalyst properties enable to restructure fuel oil, i.e. to change its molecular configuration, enabling to reduce substantially noxious emissions with exhaust gases, reduce carbon residues formation in exhaust system, save fuel oil, and to increase engine service life.

Scientific and research project was headed by Prof. P. S. Suvorov, Dr. of Sciences (technical). The work is written by A. G. Danylyan, head of fuel oil catalyst trials program and I. Z. Maslov, deputy head of scientific research project. Fuel oil catalyst has been explored with river-going ships under different sailing conditions along the Danube River. Data obtained in the course of research describes not only environmental effects of emissions from shipboard engines, but also newer technical operation possibilities taking into note river flood conditions, increased hull resistance both of push boat and pushed barges caravan. Engine operation under severe conditions has been simulated using «Diesel –RK» software taking into account high flood levels and shipboard engines’ remaining service life. Basing on results of technical engines’ data review, the shipowners have been recommended to adjust machinery output to 70% to avoid accidents in the course of ships’ operation.

Trials carried on board m/vm/v “Portovyi-22”, “Kapitan Zhidkov”, “Mehanik Sinilov” owned by Ukrainian Danube Shipping Company throughout 2016 – 2018 brought encouraging results. Soot (carbon) emission reduction by up to 50%, carbon monoxide (CO) reduction by up to 40%, NO_x emission reduction by up to 30% have been registered. The research materials formed a basis of over five works published in both Ukrainian and foreign scientific publications. NO_x generation in shipboard engine combustion chamber has been reviewed rather thoroughly. Engine revolutions increase within permissible range at cost-saving operation modes leads to NO_x emissions reduction and, respectively, reduces CO_2 emissions due to miscellaneous increase in fuel supply cycles and fuel oil catalyst effects. NO_x ratio increase is caused by increase in exhaust gases temperature. To the authors’ opinion it may be solved successfully by means of changing in fuel supply advance angle into cylinders. Decrease of advance angle reduces exhaust gases temperature but increases soot emission due to incomplete fuel oil combustion within the expansion zone of engine operation indicator chart. This problem may be successfully dealt with by fuel oil catalyst substantially reducing soot emission with exhaust gases.

The researches carried on with fuel oil catalyst enable to state its priority amongst aids applied currently to reduce noxious emissions in shipboard diesel engines’ exhaust gases with sufficient degree of confidence.

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- Communicable Diseases
- Critical Care
- Dentistry
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- Otolaryngology
- Pain & Pain Management
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- Pediatric Medicine
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- Physical Education & Sports Medicine
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- Public Health
- Pulmonology
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- Reproductive Health
- Rheumatology
- Social Psychology
- Surgery
- Toxicology
- Transplantation
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- Veterinary Medicine
- Virology
- Plastic & Reconstructive Surgery
- Heart & Thoracic Surgery

PATHOPHYSIOLOGICAL PROCESSES IN WOMEN WITH UTERINE LEIOMYOMA ON THE BACKGROUND OF UREAPLASMA INFECTION

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Uterine leiomyoma is among the most common pathologies in women of reproductive age. According to different authors, its frequency reaches 30-50% (V. Krasnopol'sky, G. Savitsky, 2000).

A hypothesis about the possible role of the microbial factor in the disruption of the processes of proliferation and differentiation of myometrium cells is proposed. The trigger of these processes, according to M. Kovalenko et al. (2006), may be the focus of the chronic inflammatory process. A number of studies consider the etiopathogenesis of leiomyomas as a result of disturbances in the intercellular interactions that are controlled by the immune system, mediators of the immune response - cytokines (A. Malyshkina, N. Sotnikova, 2003). This suggests that infection may be one of the trigger mechanisms that lead to dysregulation of cell growth, as there is a relationship between the presence of a chronic infection center, immune responses and cytokine production.

Materials and methods. We examined 60 women with a verified diagnosis of leiomyoma. All patients underwent clinical and laboratory examination, ultrasound, Doppler, and anamnesis. Patients are divided into 2 groups. Group I - 30 women with leiomyoma and the presence of ureaplasma infection. Group II - 30 women with leiomyoma, without concomitant ureaplasma infection. The comparison group consisted of 30 practically healthy women. The age of the surveyed ranged from 25 to 53 years. For the diagnosis of ureaplasmosis used PCR. The state of phagocytic, cellular and humoral immunity was assessed. The number of interleukins -1p, -2, -4, -6, -8, -10, tumor necrosis factor in the peripheral blood of patients with leiomyoma was determined by an ELISA. Statistical processing of the results of the survey produced using standard computer programs.

Research results. A comparative analysis of the data obtained shows that during the examination every third woman with leiomyoma had a menstrual dysfunction. According to ultrasound data, 55% of women with leiomyomas had multiple localization of nodes: submucous 23.3%, subserous 16.7%, intramural 5%. The sizes of the nodes ranged from 20–50 mm. Bacterioscopic examination of smears revealed that the vaginal secretion pattern changed in patients with leiomyoma and acquired an inflammatory character. In women with leiomyoma, there was an increase in the number of leukocytes, mixed infection occurred in 86.7% of cases. There was an increase in the number of patients with abundant microflora, especially with leiomyoma, occurring against the background of ureaplasma infection - 55%. In patients with leiomyoma with ureaplasmosis, 35.4% of isolated strains were aerobes, 64.6% were obligate and facultative anaerobes. In healthy women, the ratio of aerobic and anaerobic microorganisms did not differ significantly (39.5%, 60.5%, respectively). Among aerobes in patients with leiomyoma with ureaplasmosis, *Corynebacterium* was significantly

more frequently detected - in 55.8% in the amount of 31.48 ± 0.63 CFU / ml. In the group of diseased women without ureaplasmosis, 36.3% and 2.04 ± 0.16 CFU / ml. Staphylococci, streptococci and enterococci were less common.

Urogenital ureaplasmosis was observed as monoinfection in 4 patients (13.3%), in the remaining 26 (86.7%) women it was associated with other urogenital infections. In the mixed form, urogenital ureaplasmosis occurred against the background of chlamydia in 14 patients (46.7%), herpes virus infection in 10 women (33.3%) and candidiasis in 3 patients (10%).

Studies have shown that the number of leukocytes in the peripheral blood of patients was increased and amounted to $8.8 \pm 0.35 \times 10^9 / l$, in the comparison group - $6.57 \pm 0.52 \times 10^9 / l$ ($p < 0.001$). Phagocytic indicator: comparison group $56.8\% \pm 2.1$; I group $47.8\% \pm 1.1$; Group II $42.7\% \pm 0.7$. Phagocytic number: comparison group 5.2 ± 0.2 ; Group I 5.3 ± 0.2 ; Group II 4.8 ± 0.9 . Phagocytosis completeness: reference group $39\% \pm 1.1$; I group $29.8\% \pm 0.8$; Group II $36.6\% \pm 0.9$.

Conclusions.

- Urogenital ureaplasmosis is one of the trigger factors for the development of leiomyoma.
- Leiomyoma on the background of urogenital ureaplasmosis was accompanied by a pronounced violation of the vaginal microbiocenosis.
- A change in the cellular component of immunity leads to an imbalance of regulatory immune cells and changes in the cytokine network and increases the risk of infectious-inflammatory and proliferative processes.

The analysis of immunological parameters indicates the involvement of immunopathological reactions in the pathogenesis of uterine leiomyoma and urogenital ureaplasmosis. The described shifts in immunity lead to aggravation of the existing hormonal deviations and closure of the so-called vicious circle, when the infection leads to a deterioration of the immune system, and a decrease in immunity leads to the maintenance of the infectious process.

DARMANAL INFLUENCE ON THE ACTIVITY OF SPECIFIC LIVER ENZYMES, TOXIC HEPATITIS

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The aim Urgency. Research and introduction of new biologically active substances of plant origin is of great importance for improving the working capacity of the population and for the prevention of various pathological conditions. In this regard, of great interest are

supplements derived from wheat. At the Tashkent Pharmaceutical Institute received a new biologically active substance-darmonal sprouted Wheatgrass.

Purpose of research. The aim of this study was to study the effect of darmonal on the activity of specific liver enzymes – alanine aminotransferase (Alat), aspartate aminotransferase (ASAT, alkaline phosphatase (schf) and gammaglutamyltransferase (GGT) in experimental toxic hepatitis.

Materials and methods. Experimental toxic hepatitis was reproduced in male rats weighing 120-140 g by subcutaneous injection of 50% oil solution (sunflower oil) of carbon tetrachloride (CCl₄) in the amount of 0.8 ml per 100 g of animal weight once a day for four days (Levshin, 1972). For prophylactic purposes, simultaneously with hepatotoxin was administered orally via a darmonal probe at doses of 10, 100 mg / kg and hepatoprotector-silibor at a dose of 100 mg/kg for 10 days. The activity of organospecific enzymes in blood serum was determined by the method (V. V. Menshikov, 1987) and using a set of bio-La-Test reagents (Czech Republic, 2000).

Research result. The results of the studies showed that in a series of control experiments with experimental hepatitis caused by carbon tetrachloride on the 10th day of the study, the activity of AlAT increased by 109.8%, AcAT-by 94.7%. There was an increase in the activity of markers of cholestasis Alkaline phosphatase and GGT, respectively, 2 and 3,3 times. These changes indicate the development of hepatocyte cytolysis syndrome with deep disorders in the mitochondria and nuclei of hepatocytes. Increased activity indicators of cholestasis alkaline phosphatase and GGT, which indicates a violation gelling liver function. With the introduction darmanal at a dose of 10mg/kg a significant change of enzymatic activity was not observed, and at a dose of 100 mg/kg, the AlAT activity decreased by 46,97% and AcAT-41,4% compared to the results of animals with hepatitis. Decreased the activity of markers of cholestasis alkaline phosphatase and GGT at 35,6% and a 46,96%. The activity of organospecific enzymes decreased by 53, 46,36 and 46%, respectively, with the introduction of silibor hepatoprotector.

On the basis of the conducted research it is established that darmonal has a positive hepatoprotective effect in poisoning by carbon tetrachloride and by the activity of this effect is not inferior to the hepatoprotector. The effectiveness of the hepatoprotective effect of darmonal apparently due to the content in its composition of biologically active compounds of a wide spectrum of action as trace elements, vitamins, amino acids, enzymes, proteins and carbohydrates.

Conclusions. Thus, a new drug of plant origin – darmonal at a dose of 100 mg / kg, reducing the activity of organospecific liver enzymes has a hepatoprotective effect similar to that of silibor in experimental toxic hepatitis.

AGE AND SEX PROFILE, SOCIAL STATUS OF PATIENTS WITH BRONCHIAL ASTHMA IN CHERKASY REGION

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Relevance of the topic. According to the F.G. Yanovsky National Institute of Phthysiology and Pulmonology of Ukraine, Cherkasy region is included among regions of Ukraine with prevalence of bronchial asthma above average. Finding of the age and sex of patients with asthma will improve preventive measures for patients with asthma and planning of work of medical and preventive institutions of the region.

The purpose of this report is to investigate the age and sex, the social status of patients with asthma in the Cherkasy region, as well as the level and severity of the course of asthma of them on the example of patients of the allergic department of the Cherkasy Regional Hospital.

Materials and methods. The analysis of 458 patient records of stationary patients, the mathematical and statistical analyzes were applied.

Research results. According to sex, among the other patients we examined, they were 163 men (35.51%) and 296 women (63.49%).

Apportionment by age category shows the benefit of middle-aged patients (36-55 years). In general, representatives of this category make up 56.12% of patients. Thus, patients aged 51-55 were 68 (14.85%), aged 41-45 – 65 (14.19%), 46-50 years old – 63 (13.76%), 36-40 years – 61 persons (13.32%). Persons under 20 and after 71 years were very few.

The social status of many patients, according to the information contained in the patient records, could not be identified (126 persons). The largest number of all examined patients were unemployed (85 persons), manual workers (64 persons), intellectuals (47 persons), and medical staff (37 persons).

The vast majority of patients (340 people) had the third level of asthma, much less (65 people) – second level, even less (26 people) – first level. 311 patients were hospitalized with an average course of asthma, 54 patients – with lung, 26 – with severe course. Partially controlled asthma was observed in 200 patients, uncontrolled asthma – in 154, and controlled asthma – in 58 patients.

Conclusions

1. The analysis carried out confirms the literature data that the majority of patients with asthma are women.
2. More than half (56.12%) of patients with bronchial asthma were representatives of middle age from 36 to 55 years.
3. Among patients with bronchial asthma are prevalent unemployed and workers of physical labor.
4. Most inpatients were hospitalized with third level asthma (average controlled course).

INFLUENCE OF PROFESSIONAL ACTIVITY ON THE PHYSIOLOGICAL STATUS OF MEDICAL WORKERS

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The leading elements of the main activity of medical workers of the Medical Diagnostics Centers (MDC) are the implementation of complex diagnostic procedures that take 80-95% of the working time. In order to assess the influence of professional activity on the physiological status of medical workers, a survey was conducted with a definition of the indicators of stability of attention, memory performance, visual-motor speed reaction, indicators of the functional state of the cardiovascular system. These indicators were studied at the beginning and at the end of the working day. It was determined that the stability of attention (the number of letters scanned on the table of Anfimov), the semantic memory (the number of repetitions of a series of words), mechanical memory (memorizing numbers), have a tendency to improve. When viewing the selected letter, before the work began, an error of 1.8 ± 0.05 was made on average, at the end of the work the error was 0.96 ± 0.03 , and the mechanical and semantic memory indicators improved by the end of the working day. Blood pressure, pulse rate, muscle strength, as the right hand and left hand tend to increase performance. So, the muscular strength before the work of the right hand averaged 35.8 ± 0.1 , the left hand 33.7 ± 0.15 , by the end of the working day it was 36.7 ± 0.25 and 34.5 ± 0.15 respectively.

Accordingly, the physiological and hygienic assessment of the professional activity of MDC physicians shows that a prolonged stay in the forced posture and the long-term static stress of individual muscle groups caused by it, the physician's body mobilizes various physiological systems, which causes deep neurohumoral changes in the whole and in the first place, central nervous and cardiovascular system, thereby determining a tendency to fatigue. Unfavorable working conditions of medical workers - the inconsistency of the microclimate, physical and bacterial state of the air environment, lack of space and a set of rooms, accelerate the development of physician fatigue, which has an indirect effect on the quality of diagnostic (medical) care.

CLINICAL CHARACTERISTICS AND ANAMNESIS OF PREGNANT WOMEN WITH PLACENTAL DYSFUNCTION

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Low quality of diagnosis, self-treatment, disregard of perinatal risk, nonoptimal tactics of treatment of pregnant women with placental dysfunction explain the need for an in-depth study of the risk factors, clinical, laboratory and instrumental parameters of placental dysfunction to improve the perinatal state of a pregnant woman. **The aim of the study** is to improve the principles of preclinical predictive diagnosis of placental dysfunction based on the analysis of clinical and paraclinical data. **The materials and methods of the study** were to assess the anamnestic and clinical characteristics of pregnant women in the presence of placental dysfunction. **The results of the study and their discussion** showed that a burdensome medical history was found in 57 women (81.4%), the cardiovascular pathology was determined in 28 pregnant women (40.0%), the pathology of the digestive organs was diagnosed in 38 pregnant women (54.2%), the endocrine disorders were determined in 24 women (34.2%), the chronic diseases of the urinary system took place in 21 cases (30.0%). The artificial abortions were performed in 28 patients (38.5%). It was found that 32 women (45.7%) out of the women of the main group smoked, whereas only 4 people (13.3%) indicated smoking in the control group. 58.5% of the women in the main group and 20.0% of the women in the control group were poor. **The conclusions** show that placental dysfunction develops more often in patients after cardiovascular diseases ($p < 0.05$), the probability of complication of pregnancy of placental dysfunction increases with smoking ($p < 0.0001$). An important place is occupied by a hereditary family anamnesis, namely, the cases of pregnant hypertension in close relatives ($p < 0.02$).

CRITICAL PRESERVATION OF SPERM AND EMBRYOS IN THE TECHNOLOGICAL PROCESS OF ANIMAL REPRODUCTION

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The widespread use of artificial insemination in animal husbandry is largely determined by the effectiveness of cryopreservation of sperm in liquid nitrogen.

Although the issue of cryopreservation of animal sperm has received considerable attention, the main problem remains the reduction of biologically valuable sperm in the process of cryoprocessing. Already at the cooling stage, conformational changes in the

lipoprotein complexes of biomembranes occur, which are further enhanced by crystallization and deconservation, and are manifested by the appearance of transmembrane defects.

They cause a violation of the permeability of membranes, the whole complex of biochemical changes, which leads to a decrease in the biological usefulness of sperm and even their death. In the study of the ultrastructure of thawed sperm cells using electron microscopy, it was found that only 7.3% of the cells do not have signs of cytoplasmic membrane disruption (CMD); 33.7% have minor lesions, which are manifested by swelling and small detachment from the acrosome, without changing their integrity; 37% of spermatozoa have moderate violations of the CPM with an increase in its thickness and signs of granular decay, while 22% are characterized by rupture of the integrity of the CMD and the acrosome with the release of acrosomal content and even complete cell destruction. According to the work, only 28% of thawed sperm also had a holistic acrosome. During storage of thawed sperm in cells with damaged acrosome, there is a loss of acrosomal content, in particular enzymes involved in the fertilization process. Thus, according to research data, if in thawed sperm 27.2% of hyaluronidase was in the released state (22.7% by freezing), then after 4 hours of incubation at 38 ° C, its output from acros was already 56.9%. Thus, after defrosting, sperm cells retain their fertilizing ability for a very short time. One of the reasons for the rapid destruction of membrane structures during storage of thawed sperm cells is the intensification of the chain peroxide processes of their lipids, initiated by freezing, the accumulation of aggressive free radicals, which in turn lead to a violation of membrane permeability and loss of catalytic properties of enzymes. The biological usefulness of thawed sperm depends on the presence of antioxidants in the system, which are able to extinguish these peroxide processes, to bind free radicals.

Along with the improvement of such traditional approaches as the determination for each biological object of cryoprotective environments and cryopreservation modes, the possibilities of using physical factors that have a reversible modifying effect on the cryolable structures of biological systems are being studied. One of these physical factors is low-intensity ultrasound. If the reactions of biological objects to ultrasonic vibrations are well studied at the molecular, cellular and tissue levels, then the possibilities of the influence of ultrasonic waves on biological objects that are in a cryopreserved medium have not been studied sufficiently. The effect of increasing cryoresistivity was obtained on a very limited set of biological objects: germ cells and nuclear-free blood cells. The possibilities of using ultrasound in cryoconservation of farm animal sperm are practically not covered. The mechanisms of ultrasonic action on cryobiological systems have not been studied either.

Given this, it is advisable to investigate the possible mechanisms of action of ultrasonic waves in order to optimize the conditions of low-temperature preservation of such biological objects as sperm of farm animals. This will increase the efficiency of methods for freezing and warming biological objects (sperm cells, embryos, etc.) and identify approaches to the use of ultrasonic waves in cryoconservation of biological objects.

NON-SPECIFIC ADAPTATION AND PHYSICAL PERFORMANCE OF THE ATLETE

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To study the quality of management and stability of the athlete's body functioning, sports physiologists often use functional tests with a dosed load. The determine aerobic and anaerobic power, stability, mobility, efficiency, realization of aerobic potential, capacity and efficiency. However, it should be noted that the study of these parameters does not take into account in general condition of the body, which is an indicator of the optimal state of the levels functioning levels of regulatory mechanisms.

The need for such consideration is also dictated by the fact that non-specific adaptive reactions occurring in the body are the basic for maintaining health or developing pathological processes. Based on the above the following tasks were formulated:

- To establish the relationship between non-specific adaptive reactions of the body and the factors of functional preparedness of athletes;
- To determine the dependence of physical performance on background nonspecific adaptive reactions
- To study the influence of physical activity in the critical power zone on nonspecific adaptive reactions.

To study involved 15 swimmers of high qualification. Physical load was set on the Ergometer "RC7" company "Monark" (Sweden). Determination of morphological composition of blood was carried out using Hematology analyzer XE-5000 SYMEX company (Japan), the blood pH was studied by an automatic analyzer ABL-330 firm "Radiometer" (Denmark). Blood sampling for the study of the above parameters as carried out at rest and after critical work.

The results of the study showed that the amount of physical work performed depends on the nature of the background nonspecific adaptive reaction. In those swimmers who have revealed the greatest efficiency, the background reaction was manifested in the zone of persistent activation and in those athletes who had less efficiency, before the load, the reaction of training was manifested.

The greatest correlation of nonspecific adaptive reactions of the organism was revealed with aerobic power ($r=0,314$, $p\leq 0,05$).

The obtained data indicated that the activation reaction is more favorable for the manifestation of high efficiency, especially in the zone of aerobic power. Apparently, this is due to the fact that the redo processes occurring in the body during this reaction are at an optimal level. As for the reaction of training, during this reaction are at an optimal level.

As for the reaction of training, during this reaction, despite the positive changes, the processes of energy production occur at a relatively low level.

The results of the critical power zone on non-specific adaptive reactions, unfolding after the load, showed that two swimmers (13,3%) primary activation reaction passed into the training reaction. In three athletes (20%) after exercises, instead of the reaction of training, the reaction of primary activation was revealed. The remaining athletes (66,7%) had no significant changes in adaptive reactions (in the zone of primary activation).

It should be noted that two swimmers, whose primary activation reaction passed into the training reaction, had the highest efficiency in the critical work zone, and consequently,

the work performed by them had a weak irritable effect. In three athletes who had the lowest performance, the work performed had an exciting effect and their reaction training passed into reaction of the primary activation.

On the basis of the results obtained, the following conclusions can be drawn:

1. The activation reaction creates more favorable conditions for the manifestation of high performance athlete in the aerobic power zone.

2. The level of physical activity has an impact on non-specific adaptive reactions.

Due to the fact that non-specific adaptive reactions play an important role in maintaining health, is recommended to consider these reactions as a criterion for individual choice of physical activity.

THE STUDY OF BAS CONTENT OF A CORN SILK LIQUID EXTRACT

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Abnormal uterine bleeding is a generalization concept for any deviation of the menstrual cycle from the norm, which includes changes in the regularity and frequency of menstruation, the duration of bleeding or the amount of lost blood.

According to the latest unified clinical protocol, severe menstrual bleeding is defined as "excessive menstrual blood loss that violates the physical condition, social, emotional and/or material conditions of a woman's life."

Abnormal bleeding is the standard of treatment for tranexamic acid in the most cases. According to the analysis of the range of hemostatic drugs in Ukraine, the drugs of tranexamic acid occupy the maximum share of the total range. Hemostatic agents of plant origin, occupy only 12.5% of the total range of B02 Antihemorrhagic drugs. However, according to the volume of sales of drugs, this segment, in natural terms, means of plant origin, occupy the first place.

Therefore, the development and research of herbal drugs with hemostatic action for use in uterine bleeding is an urgent issue. We have developed a technology for obtaining a liquid extract of corn silk, the novelty of which is confirmed by the patent of Ukraine No. 103779. The aim of this work was to conduct a phytochemical study of corn silk liquid extract.

Materials and methods. The phytochemical study of the qualitative composition of the biologically active substances of the liquid extract of corn silk was carried out by qualitative reactions.

The content of the sum of phenolic compounds was determined by the titrimetric method according to the methodology of the USSR SPh XI edition, which is based on the use of solutions of permanganates to determine the content of compounds having reducing

properties. Today, this method is not pharmacopeia for the quantitative determination of tannins in plant material, since it is not selective. But potassium permanganate has the ability to oxidize a wide range of natural organic compounds of phenolic nature (tannins, flavonoids, hydroxycinnamic acids, etc.), thus, the method is used to determine the sum of oxidizing phenols.

The content of tannins was determined by spectrophotometric method as described in SPhU "Methods of Pharmacognosy". It's based on the adsorption of polyphenols extracted from raw material by powder of skin (tannins) and on the determining the sum of polyphenols. Polyphenols are determined by using well known reaction with Folin's reagent (in versions - reagent Folin-Chiokalteu) consisting of salts of phosphotungstic and phosphomolybdic acids. These salts, when interacting with phenols and polyphenols, are reduced to the formation of lower metal oxides, complexes of which are stained in blue. The color intensity for wavelength of 760 nm gives an indication of the amount of phenolic compounds in raw materials. Pyrogallol is used as a standard.

The content of the sum of organic acids was determined by the titrimetric method in terms of malic acid in absolutely dry raw materials.

The content of flavonoids was determined by the absorption spectrophotometry method in terms of luteolin at 410 nm wavelengths by the SPhU method. We have used a unified method based on spectrophotometric determination of flavonoids after reaction with a mixture of boric oxalic acid in a medium of formic-acetic acid. It is used in several monographs of the SPhU to determine the flavonoid compounds of raw material, which are represented predominantly by flavones, which is appropriate in the case of corn silk.

The content of hydroxycinnamic acids was determined by the spectrophotometric method in terms of chlorogenic acid at a wavelength of 525 nm according to a modified method described in SPhU. The method is based on the reaction of complex formation with a solution of sodium salts of molybdate and sodium nitrite. As a result in the alkaline environment formed pink-orange solution. The color of solution depends on the ratio of derivatives of cinnamonic acid in the raw material. The wavelength of measurement depends on the maximum absorption of a complex of a standard substance, in the calculation of which the determination of the quantitative content of hydroxycinnamic acids is carried out.

Results and Discussions. Sugars, glycosides, tannins, flavonoids, coumarins, saponins were identified in the liquid extract of corn silk by known qualitative reactions.

It was determined that the sum of polyphenols in the liquid extract of corn silk is $8.0 \pm 0.51\%$, tannins - $1.4 \pm 0.03\%$, flavonoids - $2.35 \pm 0.07\%$, hydroxycinnamic acids - $3.3 \pm 0.23\%$, organic acids - $3.23 \pm 0.46\%$ by the quantitative methods of investigation.

As a result of prophylactic administration of a liquid extract of corn silk to female rats, the duration of capillary bleeding from the cut cervical wound was significantly reduced. The haemostatic activity of the reference preparation was somewhat lower.

Conclusions. The conducted researches give grounds to assert about the prospects and the need for further research of the hemostatic effect of the liquid extract of corn silk.

EFFICIENCY OF ALLERGIC RHINITIS TREATMENT CAUSED BY ACUTE RESPIRATORY INFECTION

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Allergic rhinitis is a very common disease that is associated with a significant reduction in the patients' quality of life. The prevalence of allergic rhinitis reaches 12-40% and tends to increase; thus development and improvement of efficient treatment schemes of AR are relevant. Irrigation of the nasal cavity with hypertonic solutions can normalize the state of the local immunity by diluting and evacuating the mucus and reducing the swelling of the mucous membrane.

The purpose of the study was to examine the effectiveness of hypertonic solution. The study was done on patients with allergic rhinitis with frequent (more than 4 times a year) episodes of acute respiratory infection while receiving an antihistamine Bilastine (20 mg once daily) and keeping to a hypoallergenic diet (adjusted by us). The criteria for selecting patients were the presence of clinical and laboratory signs of allergic rhinitis of moderate severity with duration of minimum 2 years, confirmed by a specific allergy test.

Treatment results of 80 patients were analyzed. The patients were on outpatient treatment at the Department of Pulmonology and Allergology of the Chernivtsi Regional Clinical Hospital.

Among patients - 30 people with year-round allergic rhinitis and 50 patients with seasonal allergic rhinitis. The patients were examined for general and specific immunoglobulins E (IgE). There was also an examination of the smear's flora composition, the sensitivity of nasal cavity to antibiotics; and acute phase indices of peripheral blood were also analyzed. The number of acute respiratory viral infection episodes during the last year was 2 to 9 times per year, duration of symptoms - up to 3 weeks. 4 weeks after the course of treatment, a reassessment of objective and subjective data was performed.

Hypertonic saline is safe, well tolerated and easily accepted by patients. "Aqua Maris" nose spray is a medication based on water from the Adriatic Sea with natural salts and trace elements. Solutions based on sterile sea water improve the function of the flashing epithelium, which strengthens the resistance of the nasal mucous membrane and paranasal sinuses to the penetration of pathogens; contributes to the dilution of mucus and normalization of its formation by goblet cells of the nasal mucosa, has a local anti-inflammatory effect. Can be used in adults and children over 3 years old up to 6 times a day. Our recommended course of treatment is 2 weeks. The hypoallergenic diet is recommended to be followed on a regular basis.

We propose Bilastine, is a well-tolerated, nonsedating H1 receptor antihistamine. In the fasting state bilastine is quickly absorbed, but the absorption is slowed when it is taken with food or fruit juice. Like other antihistamines bilastine is an H1 receptor inverse agonist. The absence of sedation with Bilastine is an important advantage in terms of patient safety, including for example road safety.

The control group (comparison) consisted of 20 patients with allergic rhinitis who used traditional treatment. The control of the effectiveness of therapy was evaluated in relation to the objective (IgE levels, the results of stroke cultures in nasal cavity's flora, the acute phase indices of the peripheral blood, the severity of edema, the color of the nasal

cavity) and subjective data: the number, duration and heaviness of acute respiratory infections episodes throughout the year; nasal breathing, the nature of discharge from the nasal cavity, general well-being and duration of period with no working capacity. The results of treatment were measured by a patient survey in the form of a questionnaire, where maximum manifestations of symptoms (in the complex) received 100 points. The obtained results demonstrate that the use of the hypertonic solution, antihistaminic drug Bilastine and our modified hypoallergenic diet in the complex treatment of allergic rhinitis improve the well-being of patients, reduces the symptoms of an allergic reaction in the nasal cavity, and helps to reduce the duration of the acute inflammatory reaction.

MODERN APPROACHES TO DIAGNOSTICS AND TREATMENT OF PERIPARTUM CARDIOMYOPATHY

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Introduction. According to ROPAC data the incidence of cardiovascular disease, including peripartum cardiomyopathy (PPCM), has increased in the world over last 20 years. There were five patients diagnosed with PPCM just in 2018, all obtained antenatal care, delivery care and postpartum follow-up, including intensive care and heart failure treatment by multidisciplinary team of obstetricians, cardiac surgeons, cardiologists, neonatologists and anesthesiologists.

Objective. To develop algorithm of diagnostics, principles of treatment, postpartum monitoring for women with PPCM.

Study design. There were five patients, mean age 26,5±2,1 years, diagnosed with PPCM according to requirements of the ESCardio 2018. All women had the left ventricular ejection fraction less than 35%, among them 4 women had – less than 20%. For every woman has been developed and implemented an individual algorithm for treatment, delivery and postpartum care.

Results. Primigravidae were 2 women, one of them was diagnosed with severe preeclampsia which required preterm abdominal delivery. The second primigravidae had uneventful physiologic delivery. The clinic of rapidly worsening heart failure developed within first week postpartum. Among 3 women with their second-third labors, severe preeclampsia had been diagnosed in their first pregnancy in two women, one of them had no hypertensive disorders in her first pregnancy, but was diagnosed with severe preeclampsia in current pregnancy. In two women the PPCM had been diagnosed within the third pregnancy trimester. All women received therapy directed at correction of heart failure, protection of myocardium, with the obligatory inclusion of pathogenetic therapy by bromocriptine, as a

blocker of prolactin 16 kDa. The levosimendan infusion was added in all women with LVEF <20%. The improvement of health state achieved in all women with PPCM, the increase of LVEF was 32-39%.

Conclusion. Taking into consideration the fulminant progression of heart failure in women with PPCM, high mortality risk, possible necessity for heart transplantation or LVAD, the importance of timely diagnosis and appropriate development of an individual plan for pregnancy management, childbirth, the postpartum follow-up of up to 12 months is undoubtful. Our multidisciplinary team elaborated and successfully implemented the algorithm of management of PPCM, which allows to minimize the obstetric and perinatal risks, as well as maternal morbidity and mortality.

MODERN APPROACHES TO CORRECTION OF IMMUNE THROMBOCYTOPENIA AT THE TIME OF GESTATION AND IN THE POSTPARTUM PERIOD

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Introduction. We observe a steady tendency for increase the number of pregnant women with comorbidity, including diseases which manifest with thrombocytopenia (TP). Moreover, TP associated with gestation complicates up to 4% of pregnancies. The importance of timely diagnosis and appropriate therapy in case of severe TP is undoubtful, as well as to work out differential diagnosis of immune thrombocytopenic purpura (ITP), gestational thrombocytopenia, severe preeclampsia, HELLP-syndrome.

Objective. Reduction the incidence of obstetric and perinatal complications in pregnant women with TP by implementation of algorithm of diagnostics, treatment and follow-up.

Materials and methods. The retrospective study revealed 244 pregnant women with thrombocytopenia in 10 years. The diagnosis of ITP was established in 82 women, the causes of TP in other pregnant women were hemoblastosis, thrombotic thrombocytopenic purpura, gestational TP, severe preeclampsia. The multidisciplinary team including obstetricians, hematologists, anesthesiologists developed the algorithm for differential diagnosis of TP in pregnancy, as well as the specific complex.

Results. We analyzed the completion of pregnancy in all 82 women with ITP. A positive response to the 1st line of therapy was found in 73.1% of women, with 21.9% positive response received on the 2nd line of therapy. In 2.6%, combined therapy was implemented. In 2 (2.4%) women, refractory ITP was detected, despite the sequential therapy of the 1st and 2nd lines, the sporadic platelets or absence of them were detected in serial blood smears. The parenteral recombinant thrombopoietin was used in this category of pregnant women. In 5.0% of cases, pre-term delivery occurred. During the abdominal delivery (by the obstetric causes) in women with uncertain results of therapy the methods of “Patient Blood Management” were applied. There were no cases of perinatal mortality, and most newborns did not show thrombocytopenia.

Conclusions. The forehanded diagnosis of ITP allows effective TP correction, which resulted in significant reduction of obstetric and perinatal complications. The implemented algorithm of diagnostics and treatment of ITP included the precise criteria for diagnostics, evaluation of response to treatment, timely change of treatment allowed to achieve the most favorable outcome for the mother and the fetus.

PATHWAYS FOR REDUCTION OF PERINATAL MORBIDITY AND MORTALITY IN THE CASE OF INFECTIOUS INFLAMMATORY FETAL IMPAIRMENT

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The main concern of this study is to improve quality of the perinatal care in the case of fetomaternal infection in order to reduce the rate of perinatal mortality and maternal morbidity, by means of recognition of the truly infection-related mechanism affecting fetus adversely and causing inflammatory fetal impairments (IFI) usually in the form of fetal inflammatory response syndrome, and then on the ground of obtained information prudent amendments of the approach to treatment and prevention of this complication of pregnancy.

In order to achieve this goal the study comprised several tasks: comprehensive examination with testing for bacterial-viral-agent panel and follow-up of 1043 pregnant women recognized as harboring IFI and then their neonates; comprehensive examination of 50 pregnant women with antenatal fetal demise; 423 pregnant women with IFI were enrolled into the study which should have ascertained infectious agent, hormonal profile, state of coagulation and immune balance, endothelial function and apoptosis, oxidative burst.

IFI appeared to be due to bacterial (69%), viral (26.6%) and fungal (13.9%) agents, mixed infection was revealed in 24.4% of cases. Staphylococci caused IFI in 34.8%, Enterobacteria – 6.04%, Chlamydia (5.3%), Streptococci – 4.02%. Among viral agents main contributors were HPS-2 (9.1%) and CMV (8.3%). Most common combinations of mixed infection appeared to be Staphylococci and Candida (30.3%), CMV and HVS-2 (13.4%), Enterobacteria and others (20.1%). High rate of IFI was revealed in pregnant women with sex-transmitted diseases (STD) (43.7%), bacterial vaginosis (30.9%). Comparative analyses

exhibited strong correlation of microbial flora in maternal lower genital tract, fetal placental surface and neonates (80,1% results coincided).

The 68% women with antenatal fetal demise (AFD) harbored bacterial or fungal vaginitis, Chlamydia (14%), Ureaplasma (22%), Mycoplasma (28%), HVS (16%), Trichomonas vaginalis (10%). It was mentioning that patients with AFD exhibited predominantly bacterial (22%), viral (32%), fungal (10%) or mixed (36%) infection. Long persisting infection in endometrium often affects adversely various endometrial receptors that results in derangement of hormonal activity and tissue responsiveness. Thus 90% women with AFD were identified as having low progesterone and estrogen receptor value ($33.8 \pm 4,2$ y.o. and $44.3 \pm 5,6$ y.o respectively) that was the evidence of impaired susceptibility to sex steroids in the case of IFI. Among all fetuses fallen in womb premature ones constituted 61,9%. Lost fetuses succumbed to both-sided pneumonia (72%), meningoencephalitis (64%), necrotic hepatitis (44%), infiltrative myocarditis (36%). Accidental transformation of thymus in the case of AFD was recognized that had resulted in shrinkage of the organ due to infection (twofold loss of weight and volume: 6.2 ± 1.3 gr). Ultrasound examination of patients with bacterial IFI revealed segmented uterine contractions (92%), precocious placenta ageing (88%), hyperechogenic bowel (69%), placenta hyperplasia (64%), polyhydramnios (45%). In the case of viral IFI segmented uterine contractions and precocious placenta ageing were quite common but occurred rarely (62.1% and 41.7%), but oligohydramnios was one of the most prominent sign (68.7%). Fungal infection was often accompanied by threatening preterm labor (60%), precocious placenta ageing and fetal growth retardation (31.9%). Tangible shrinkage of fetal thymus was evident in .2% of IFI cases ($RR=0.36 \pm 0.01$) comparatively to control group ($p < 0.05$), especially in the case of viral invasion ($r=0.67$).

Pathogenesis of IFI involves extensive derangement of immune balance, endothelial dysfunction, oxidative burst, hemostatic alterations and hormonal disorders related to an infectious agent, that might give rise to initiation of preterm labor and lead to perinatal morbidity and mortality.

Complex treatment and prevention of IFI progression by immunocorrection and medical ozone prescription making immune and endothelial homeostasis recover leads to decline of the number of bacterial inflammatory complications in neonates, allows limiting amount of antibiotics, to reduce its possible adverse effect on the patient's organism.

POSTOPERATIVE COMPLICATIONS' ISSUES AFTER APPLICATION OF VARIOUS ABDOMINOPLASTY TECHNIQUES

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The number of patients with deformation of abdominal wall, caused by skin flabbiness in this area, distension of the abdomen, diastasis of rectus muscle and various deforming postoperative scars that need surgical intervention, continues to grow. These changes in abdominal wall, as a rule, are combined and have a common pathogenesis. This is a way of developing the pathological process.

Our research: improving the efficiency and functionality of the results of surgical methods for correction of various types of deformation of abdominal wall through the development and application of optimal diagnostic and treatment algorithms.

The distribution of 213 patients by age showed that the average age was 44.5 ± 9.3 years. 83 (39%) patients with postpartum abdominoptosis, the second subgroup - 59 (27.7%) patients. As a result, local obesity effects occurred, 71 percent (33.3%) of patients with postoperative cicatricle deformity of abdominal wall. Issues related to the functional and aesthetic problems of deformation of abdominal wall, cases involving central or umbilical hernia, are not included in our studies.

Analysis of postoperative complications in the control group showed that they are most often observed after classical abdominoplasty (25.9%) mainly in patients with postoperative (10.5%) and postpartum (11.5%) abdominoptosis. The development of remote local postoperative complications that do not allow to achieve aesthetic or functional effect requires close direct correlation ($R = 0.892$) with the incidence of early postoperative complications resulting from tissue lesions of the skin and fat layer during the formation of the aesthetic contours of the abdomen.

Evaluation of clinical and anthropometric data in patients with various types of deformity of abdominal wall made it possible to determine: body mass index; thickness and mobility of the skin fold; the thickness of the subcutaneous fatty tissue; anatomical and topographic areas of subcutaneous fat deposition; abdominal forms; body type; the presence and prevalence of striae; condition and location of the umbilical ring; the state of the muscular aponeurotic complex and the presence of a scar on abdominal wall.

Based on the conducted multifactor correlation analysis of clinical, anthropometric and instrumental research methods, the most fully and reliably determining the degree of deformation of abdominal wall are used most fully. These criteria were selected around key points of the state of the muscular aponeurotic layer, skin thickness and localization of zones of accumulation of subcutaneous fatty tissue. When choosing the volume of surgical intervention, the obligatory criteria for the level of service 2, the assessment of which created the conditions for predicting the outcome of surgical intervention. In accordance with the

degree of manifestation, each feature is evaluated using integrated and formatted research data combined into a module. Based on this digital program for the IBM Pentium called "Deform". Our preliminary morphological studies have shown that with 10-30 minutes of subcutaneous adipose tissue emitted by a laser beam, intracellular adipocytolysis can be achieved while maintaining stromal fascial structures, vascular and lymphatic capillaries, the damage of which is the main cause of gray and hematomas. This in turn made it possible to use it in extended areas of destruction. In contrast to the known methods of liposuction, the proposed method allows us to avoid abrupt traumatic movements that provoke hematomas, since preliminary laser intracellular adipocytolysis creates conditions for passive aspiration of the resulting emulsified fat mass with subsequent horizontal dermolipectomy in the hypogastric region of abdominal wall. In 4.6% of cases (5 patients), it was performed with postpartum, in 3 (2.7%) patients with nutritional and in 5 (4.6%) patients with postoperative deformation of abdominal wall. The use of this type of combined dermolipectomy in patients with different types of deformation of abdominal wall allowed, compared with the control group, subjected to mini abdominoplasty, to reduce the duration of the operation time by 27.5 ± 1.5 minutes, to increase the frequency of good results by 31.2%, to achieve regression complications in the immediate postoperative period in 7.7% of patients and completely avoid unsatisfactory results of operations.

In general, the use of differentiated methods of surgical correction of various types of deformation of abdominal wall in the main group of patients, which allowed to maintain a normal level of pO₂ in the skin and fat flap after tunnel dermolipectomy, compared with the control, increased the good results of operations from 66.4% to 88, 1%, reduce the number of cases of postoperative complications in the near term from 25.0% to 11.0% and reduce the frequency of unsatisfactory results of aesthetic operations from 20.2% to 0.9%. Improving the technique of combined laser liposuction and tunnel dermolipectomy in the main group of patients reduced the length of time for surgical intervention. This in turn helped to avoid the development of such postoperative complications as phlebitis of the deep veins of the lower extremities and bronchitis, which occurred in the control group of patients.

MEDICAL AND SOCIAL ARGUMENTATION (IMPROVEMENT) OF THE PATHOANATOMICAL SERVICE SYSTEM IN THE NEW SOCIO-ECONOMIC CONDITIONS

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The complex of theoretical and practical questions of the pathoanatomical service system (PAS) of Ukraine argumentation (improvement) in the new socio-economic conditions are considered. It was established (defined) that the main directions of PAS of Ukraine activity improvement (reasoning) are: regulatory and legal basis development with foreign experience and international standards obligated consideration; creation of PAS appropriate bodies and units system with the appropriate management system; improving the financing, material and technical base of the PAS and the modern medical technologies introduction; increase staffing and PAS capacity; new medical and diagnostic work development quality

control system. The historical path of PAS legal regulation development according to normative legal acts implementation dynamics is analyzed.

It was confirmed that in modern conditions, the PAS centralized management model is not able to solve existing problems completely (essential capacity, personnel deficit, underfunding, disorderly normative base, etc.), that basically put back the service development. The accreditation indicators of PAS institutions (units) have been developed in accordance with the standards requirements ISO 9001 / DSTU ISO 9001: 2009 (2015). The actions algorithm for laboratory of the pathologist researches accreditation is developed and recommended. According to the photogrammetric observations results, the necessity of normative legal documents concerning the pathoanatomical service work development, the basic units of measurement of works and the norms of time expenditures definition, calculations of the cost of PGD, taking into account the capacity of the institutions of the pathoanatomical service, material and technical provision of the department, the type and degree of complexity of pathohistological researches.

The model of the SJA of the SAC of the university clinic was developed and implemented, which can be used by institutions and units of the PAS of various organizational and legal types and forms of ownership. The proposed audit system takes into account both the level of assistance, the actual capacity of the institution of the PAS, and assesses the possibilities and quality of conducting pathological studies.

The proposals on improving the quality of diagnosis and treatment of cervical cancer and software cancer have been developed and implemented in the practice of health care institutions.

The emphasis is placed on the fact that the necessary mechanism for the modernization of the PAS in the healthcare system is expressed in attracting private investment through the implementation of PPP projects in Ukraine. It has been established that almost all programs are suitable for modeling the implementation of business processes within the life cycle of a decentralized model implementation of public-private partnership in the PAS, but the obvious advantage is kept by Process Modeler.

According to the axiom, adequate education in the medical sector is no less important than the economic and administrative component of the reforms. Within the framework of the strategy of building a new health care system in Ukraine, proposals are presented: the merging of material and technical resources of the universities and the pathoanatomical service will increase the level of teaching work and will ensure objectivity in the assessment of practical skills of students, close interaction of the department of pathological anatomy with medical institutions allows to eliminate the gap between theory and practice, to provide training of highly qualified staff through primary specialization, internship, residency and postgraduate study; the one-year term of specialization in an internship is clearly insufficient and it would be advisable to extend it to 2 years or more; Due to the lack of funding for practical health care, modern histochemical, immunohistochemical and electron microscopic methods are not widely used; the development of a cross-cutting program should take into account the application of different forms and methods of teaching work, the use of technology learning by case; balanced horizontal interdisciplinary integration is needed.

The attempt to determine the peculiarities of the organizational and functional implementation of the pathoanatomical regional centers (SRCs) was made as a rather promising system based on the principles of decentralization of the PAS of Ukraine, as well as to calculate the effectiveness of its construction, identify the strengths and weaknesses. The scheme of implementation of measures to organize the SRC on the basis of PPP was proposed.

The basic principles of placement and construction of pathoanatomical centers, advantages of the proposed organization of the pathoanatomical center of research and their network at all its hierarchical levels (regional, territorial and local) were determined and formulated. According to the peer review, the practical implementation of the optimistic scenario of a promising system of SRC research will improve the quality of pathologoanatomical services provided and the availability of pathologoanatomical research.

Key words: pathoanatomical service, pathohistological research, pathoanatomical regional center, quality management system, institution accreditation, teaching of pathomorphology.

CLINICAL AND LABORATORY FEATURES OF NON-ALCOHOLIC FATTY LIVER DISEASE IN PATIENTS WITH TYPE 2 DIABETES

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Abstract: In 2016, the global prevalence of diabetes was 422 million people, and by 2035 it is expected to increase to 592 million, of which more than 85% are patients with T2DM. In Kazakhstan in 2017, more than 300 thousand patients with diabetes were registered, of which about 280 thousand are patients with type 2 diabetes. In 43-70% of cases in patients with T2DM, NAFLD is diagnosed. The development of NAFLD in this category of patients is more aggressive, as steatohepatitis according to biopsy is detected more often in patients with T2DM, compared with patients without diabetes (56% vs. 21%).

The aim of the work: To identify the clinical and laboratory manifestations of liver damage in patients with T2DM.

Methods and materials: A retrospective analysis of 56 case histories of patients aged 30–80 years, who are living in Almaty city and Almaty region, and suffering from T2DM, hospitalized in the Clinic of Internal Diseases of the Kazakh National Medical University named after S.D. Asfendiyarov in 2017-2018. In all patients, according to anamnestic data, excessive alcohol consumption was excluded (more than 20 g of ethanol per day for women and 30 g for men), while laboratory testing excluded viral hepatitis (B, C, D) and autoimmune diseases of the liver.

Results: Among patients, more than 80% were in the age group from 44 to 75 years old, 67% were patients of Kazakh nationality, 62.5% of patients are residents of the city, 37.5% are residents of the village. According to anamnestic data, 5% of T2DM was first diagnosed while this hospitalization, 14% suffer from T2DM for the period of 1-3 years, 21% - for the period of 4-6 years, 17% - for the period of 7-9 years, 41% - for more than 10 years. Body mass index (BMI) was normal in 10% of patients, overweight was detected in 39% (BMI = 25-29.9 kg / m²), 1st degree of obesity in 42% (BMI = 30-34.9 kg / m²), 2nd degree of obesity in 10%. In 35% of patients, T2DM had the form of subcompensation of metabolic

processes (HbA1C 7.0-7.5%), in 65% of patients - in the form of decompensation of metabolic processes (HbA1C more than 7.5%). Basically, NAFLD was diagnosed for the first time during the hospital treatment, and in 53% of patients the disease occurring as non-alcoholic steatohepatitis (NASH), and in 19% as a form of cirrhosis. The disease was most often expressed as asteno vegetative syndrome (80% of cases), dyspeptic syndrome was detected in 42% of patients, cholestatic syndrome in 36%, heaviness in the right upper quadrant in 76.7%. In lipidogram the hypercholesterolemia was found in 50% of patients, elevated triglycerides in 48%, and elevated levels of low density lipoproteins in 19%. Moderate biochemical activity was observed in 12% of patients, the most marginal - in 30%. According to the ultrasound examination of the abdominal cavity organs, 46% of patients had diffuse changes in the liver parenchyma, 64% of patients had fatty hepatosis, and 35% of patients had hepatomegaly. According to indirect liver elastometry, the F0 fibrosis stage is determined in 12.5% of patients, F1 – in 30%, F2 – in 32%, F3 - in 5%, F4 – in 19%

Conclusion: More than half of patients with T2DM, proceeding in the form of sub- and decompensation of metabolic processes, the diagnosis of NAFLD first exposed at advanced stages in the form of NASH and cirrhosis of the liver. Late diagnosis of NAFLD is associated with the absence of characteristic clinical symptoms of the disease and poor clinical picture.

VITAMIN D DEFICIENCY AND IT'S PROPHYLAXIS IN THE PREGRAVITY PERIOD IN WOMEN OF REPRODUCTIVE AGE

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The aim of this study: Revealing the vitamin D efficiency in the pregravidity period of women and during the pregnancy.

Key words: Vitamin D, pregnancy, pregravidity training, infertility, ovulatory dysfunction.

Methods: Women of reproductive age with infertility and ovulatory dysfunction in anamnesis.

Recently, considerable attention has been paid to the study of the deficiency and prevention of vitamin D in women of reproductive age. It is assumed that, about one million people around the world suffer from a deficiency of vitamin D. Especially in women completely covering the whole body (geographical, ethnic and religious aspects). Vitamin D deficiency leads to the rickets in children, to the osteomalacia in adults. Besides, Vitamin D deficiency is directly associated with cancer, autoimmune and infectious diseases, insulin resistance and malignancy, hypertensive and cardiovascular chronic and degenerative diseases. The availability of receptors to vitamin D [Heaney R.P, Pilz S, NICE]. In organs related to the reproductive system, such as the uterus, ovaries, pituitary, and also the placenta, confirms the special influence of this vitamin on the fertility of women. It was shown by researchers the effect of vitamin D to the menstrual cycle regulation, namely, its participation in the maturation of follicles, ovulation and the corpus luteum formation [Grundman M]. Among the women undergoing treatment for infertility, the prevalence of vitamin D

deficiency reaches 69% [Dressler N., Holick M.F]. It has also been noted that, vitamin D deficiency is much more common in women with infertility compared with pregnant women [Al-Jaroudi D]. Vitamin D deficiency among the women with polycystic ovarian syndrome (PCOS) reaches 85% . Vitamin D deficiency has been proven to play an important role in the development of insulin resistance as one of the links in the pathogenesis of PCOS [Patra S.K, Tomson R.L]. Paucity or deficiency of vitamin D during pregnancy adversely affects both of the health mother and fetus. For supporting the health of the mother-placenta-fetus system, it is necessary correction vitamin D deficiency with the helping of special diets, sunbathing and taking vitamin D from outside in pregnant women. WHO has a number of recommendations for taking iron, iodine, zinc, folic acid, and vitamin A during the planning of pregnancy, pregnancy, and lactation. Recent years publications have focused on the correction of vitamin D to maintain the health of mother and fetus. [WHO.Making pregnancy safe]. Altogether, it is recommended taking vitamin D from the outside at a dose of 200-1600 IU during pregnancy[Ansary A, Urrutia R.P]. By the WHO and certain American associations, to estimate the saturation of pregnant women's body with vitamin D, it is recommended to routinely determine the plasma concentration of its intermediate metabolite -25-hydroxyvitamin D [25 (OH) D] [ACOG,2011., WHO Press,2006.3]. So, some authors at 25 (OH) D less than 20 ng/ml (50 nmol/l) determine the deficiency, at 25 (OH) D from 21 to 29 ng/ml (51–74 nmol/l) - paucity, and optimally level of 25 (OH) D is thus more than 30 ng/ml (75 nmol/l). Other authors speak of vitamin D deficiency at a serum level of 25 (OH) D <9 ng/ml, and at a level of 25 (OH) D from 10 to 30 ng/ml, of its paucity [Ansary A., Bell DSH., Ergur A.T]. The authors recommend the following schedule applying of vitamin D in women with infertility. During the first 2–3 months of therapy, cholecalciferol is administered in doses of 6000–8000 IU/day (in some cases up to 12000 IU/day), after which a maintenance dose of 3000–6000 IU/day (6–12 months) is used under the control 25 (OH) D in serum . According to the processing literary data of world databases, it was noticed that there are no state programs in the developing and third world countries [First Nations,Inuit and Metis Health Committee, CPS].

The reason of high vitamin D deficiency in Azerbaijan is binded with lifestyle, nutrition and the environment. There is a need for studying, observing women of the reproductive period. Due to the rising of infertility, increasing the necessity for secondary reproductive technologies, there is a need to raise the success percent in the treatment of infertility. Women need to make it plain the necessity of getting vitamin D, acquaint the food rich with vitamin D, how and when take sunbathing, and in what doses vitamin D should be received. In view of the above, there is an obligatoriness to study the condition of women to improve reproductive health in Azerbaijan.

THERAPEUTIC PLASMAPHERESIS AS THE FIRST STEP IN TREATING OF THE FAT HEPATOSIS

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Key Words : therapeutic plasmapheresis, alaninaminotransferrase, protect complex MasterGuard, cellular acidosis, altered membrane potential, altered ion distribution (increased intracellular Ca²⁺/Na⁺ ratio), cellular swelling, fat hepatosis.

The aim of our work is to utilization plasma with pathogenic immune complex which are the mediators of different pathological processes in our organism. So the following is an example of the steps involved in performing therapeutic plasma exchange using centrifugation-based equipment such as the Spectra Auto we are working on the (Plasmacell-C) , Baxter / Fenwal with protect complex MasterGuard and exploring 600ml of plasma to look through the minimizing the laboratory tests of alaninaminotranspherase in the blood. Our Blood Centre had taken almost 4146 procedures of plasmaphereses in a year, as a donors plasmaphereses.

If we look through the pathologic of hepatic function this ferment almost the first have

different referents in different clinic situation.

During this work we look through the two methods of plasmapheresis as the hand one, when we

have taking 450ml blood, centrifuging it and were preformed of 250-270ml of plasma. All

amount red blood cells we were returning the patient. We had compared with the next group healthy donors, whose plasma had taken next to the method. We had seen no one laboratory test deviations which didn't has any much more differs between the first procedure and the next one in therapeutic and in donors one. All that withdrawal plasma, which was performing one person, was 1200-1500ml. Next group of person to exams, were the patients, who had taken (Plasmacell-C) , Baxter / Fenwal . The whole plasma performed by cycle of procedure was - 3600ml of plasma. We look through the donor's plasmaphereses in two weeks intervals to perform and the therapeutic one. When we compared, we had seen that the patients with fat hepatics didn't had any opportunity in returning about reference values during the whole cycle of plasmaphereses unlike the donor's one. That's why the conclusion that we can do— ischemic reactions accompanying the pathological process in organism especially in organs with the large area of the blood circulation enters in reperfusion reaction. The result of this process we can see growth of ferments in a blood circulation, especially, when we exchanging the high blood flow.

If we look through alaninaminotransferrase we have seen the progressive decrease of this

ferments almost in 54%(n+1) then in control group. But some month and a half we had the

control tests in which we saw, that this ferments are increased. This phenomena look like as the

reperfusion syndrome. That can increased leucocyte adhesion molecule expression.

GENDER ANALYSIS OF THE CARIES INTENSITY IN PERSONS WHICH ARE WORKING UNDER THE INFLUENCE OF LOW-FREQUENCY ELECTROMAGNETIC RADIATION

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The dentists have noted various manifestations of the negative effects of electromagnetic fields on the organs and tissues of the oral cavity in recent years. Development of dental disease is characterized by a violation of mineral metabolism in the hard tissues of the teeth, hyperesthesia, the formation of wedge-shaped defects, enamel erosion, the appearance of local demineralization, pathologic process in the mucous membrane of the mouth, gingivitis, hyposalivation. The rapid development of scientific and technical progress, as well as the appearance of various electromagnetic radiations makes the human body is in a certain environment, which, unfortunately, has a negative impact on the state of its systems and organs.

Materials and methods. Investigations was carried out among the workers of the press-welding workshop of the Kharkov tractor plant. Among the surveyed 38.5% were women, 61.5% men. The monitoring of dental morbidity and the study of basic indices which characterize the condition of hard dental tissues , testifies about high incidence of main dental diseases.

Results. The gender analysis of the caries intensity of teeth revealed that the index DMF (decayed, missing and filled teeth) in women is to higher at the expense of extracted teeth and teeth with artificial crowns. The average index of women was 15.2%. Among them 19.1% were extracted teeth, 47.0% - filled, 27.1% teeth with artificial crowns and 6.8% carious teeth.

The average value of the DMF index for men was 13.8%. Among them 31.8% were extracted teeth, 38.0% - filled, 17.4% teeth with artificial crowns and 12.8% carious teeth.

Gender analysis has shown that patients of different sex significantly differ in frequency and type of lesions caries of teeth. Among male patients, pulpitis is more frequency. At the time of examination, 51.9% of male patients had symptoms of pulpitis. The percent of uncomplicated caries at the time of treatment accounted for 39.0%, periodontitis - 9.1%. In women, the distribution of pathology was as follows: 62,1% - uncomplicated caries, pulpitis - 29,6% and periodontitis - 8,3%.

Similarly, non-cariogenic lesions of hard dental tissues such as pathological erosion, wedge-shaped defects, and enamel hypoplasia have been identified.

Pathological severity in the study group of men was 47.8%, in women 43.8%, which is much higher than the control group 17.6%.

Clinical defects were diagnosed in 27.3% of men and 24.4% of women in the main groups, in the control group, this figure was 8.5%.

Hypoplasia of enamel was observed in 12.4% of men and 7.8% of women, in the control group 4.2%.

Gender analysis revealed that in men, the ratio of maintenance of teeth and their extracted corresponds to 1/5, which is lower than that of women 1/3. The obtained data suggest the necessity of organization of active dental care. During the planning and implementation of planned sanitation and medical examination, age and gender factors that determine the high morbidity rate of cariogenic pathology of employees should be taken into account.

HEMORRHAGIC AND THROMBOEMBOLIC COMPLICATIONS IN PATIENTS WITH IMPLANTED LEFT VENTRICULAR ASSIST DEVICES IN EARLY POSTOPERATIVE PERIOD

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Abstract. The work is devoted to study hemorrhagic and thromboembolic complications in early postoperative period after implantation of left ventricular assist devices (LVAD).

We performed retrospective analysis of 10 patients, males aged 55±13.5 years, with a BMI of 30.8±8.3, with a left ventricular ejection fraction ranging from 9% to 28%, which in the period from 11.03.2016 to 22.11.2017 year, in the Silesian center of the Heart Disease (Poland), in conditions of artificial blood circulation, LVAD was implanted.

In the early postoperative period, patients received daily anticoagulant target therapy (ACCT), consisting of the following drugs: heparin (6-11 U/kg/h), aspirin (75-150 mg), Clopidogrel (75-150 mg), warfarin (1.5-7 mg), Nadroparinum Ca (0.3-0.6 ml/twice on day), Fondaparinux Na (2.5-5 mg/twice on day). Two patients received mono-heparin therapy, one patient received monotherapy with warfarin for 14 days. Other patients during the same period received combined heparin therapy in the first three days with a subsequent transition to warfarin, aspirin, Clopidogrel, Fraxiparin, or thrombin blocker.

The mechanical support of the left ventricle was carried out essentially by two different implantable systems, performing one function of support of the left ventricle: POLVAD - programmed controlled pneumatic membrane mechanical circulation of blood to two patients, and LVAD program-controlled electro-centrifugal circulation for eight patients. The duration of support by POLVAD system was from 102 to 156 days. Length of support - LVAD ranged from 20 to 78 days.

A comparison of the analyzed results led to the conclusion that anticoagulant mono-therapy with heparin or warfarin leads to an increase in the percentage of complications and mortality compared with the alternative combination anticoagulant targeted therapy consisting of the following drugs: heparin (6-11 U/kg/h), aspirin 75-150 mg), Clopidogrel (75-150 mg), warfarin (1.5-7 mg), Nadroparinum Ca (0.3-0.6 ml/ twice on day), Fondaparinux Na (2.5- 5 mg/ twice on day), Where survival rates were significantly higher by 60%.

Key words: left ventricular assist device (LVAD), anticoagulant targeted therapy (ACTT), hemorrhagic and thromboembolic complications.

Conflict of Interest: The authors do not foresee conflicts of interest.

THE REAL NUTRITION OF THE PEOPLE OF REPRODUCTIVE AGE WITH METABOLIC SYNDROME

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The aim of the research: To estimate the condition of the real nutrition of Astana people of reproductive age with metabolic syndrome.

Materials and methods of the research: The research included 184 women and 201 men with metabolic syndrome. The amount of calorie needed for a day is determined according to Harris-Benedict formula and the condition of real nutrition is determined by 24 hour recal method. The norms of using micronutrients have been compared with FAO/WHO scales and the adequacy of nutrition has been compared with WHO normative.

Results and analysis of the research: The amount of the calorie needed for a day according to Harris-Benedict formula was 2068,5±15,2 kcal in women, 2521,9±21,6 kcal in men, the real nutrition was 2794,5±84,6 kcal in women, 2990,4±105,0 kcal in men.

It was found out that the amount of protein proposed 23,2 gr/kcal by women and 34,5 gr/kcal by men which are more than it is needed. The protein of animal nature was consumed 21,6 gr/kcal by women and 29,7 gr/kcal by men.

The fats of plant nature made up 30,5% and 39,9% of the overall fat in the ration. Overall amount of fat was used 48,9 gr/kcal by women and 59,9 gr/kcal by men.

The daily amount of saturated fat acids which are proposed is likely to be 10% of the overall calorie of nutrition and in real nutrition it is likely to be 10,8% in women and 13,1% in men.

The using of cholesterol in real nutrition of women (300,8 mgr/per day) and of men (601,7 mgr/per day) was found out to be excessive in comparison with WHO norm (300 mgr/per day). The using of usual carbohydrates was considered to be for 4 times more (women 44,6%, men 40,6%). The proposed amount of food fibers is considered to be 20-25 gr/per day and in real nutrition it was 4,5-6,2 gr/per day.

The insufficiency of the following micronutrients has been found out:

- *the insufficient intake of calcium* – according to norm it must be 1300mgr/per day in women, 1000 mgr/per day in men and in real nutrition it is 618,4±51,0 mgr/per day in women, 676,4±35,8 mgr/per day in men.

- *the insufficient intake of potassium* – according to FAO/WHO normative the amount of intake of potassium is 5000 mgr/per day and in real nutrition it is 2738,2±165,9 mgr/per day in women, ерлер 3737,3±168,2 mgr/per day in men.

- *the insufficient intake of iodine* – the needed amount is 150 mcgr/per day and in real nutrition it is 50,6±3,7 mcgr/per day in women, 67,3±5,7 mcgr/per day in men.

The insufficiency of the following vitamins has been found out:

- *the insufficient intake of folic acid* – the proposed amount is 400 mcgr/per day, and in real intake it was 112,2±7,0 mcgr/per day in women, 182,9±14,9 mcgr/per day in men;

- *the insufficient intake of biotin биотин* – men were found out to consume the needed amount of biotin (26 mgr/per day) but women were found out to consume insufficiently (22,0±2,2 mgr/per day);

- *the insufficient intake of pantothenic acid* – the needed amount is 6 mgr/per day and in real nutrition it was 3,3±0,2 mgr/per day in women, 4,9±0,39 mgr/per day in men;

- *the insufficient intake of vitamin B₁* – men were found out to consume B₁ vitamin in normal amount but women consume 0,2 mgr/per day which is less.

Result:

In accordance with the result of real nutrition it was found out that the people under the research got the energy through the meal in excessive amount as the fat of animal origin and the protein are excessive in meal. In spite of the fact that the usual carbohydrates, fats and proteins are in excessive amount in the organism, as the amount of vegetables and fruits are insufficient, there is an insufficient amount at micro and macro elements in the food ration.

The nutrition which was found out in the people under the research is considered one of the factors which caused the diseases in metabolic processes, obesity, atherosclerosis, diabetes and hypertonia.

ROLE OF TRAB-5B MARKER IN COURSES OF SYSTEMIC RADIONUCLIDE THERAPY OF MULTIPLE BONE METASTASES

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Introduction: indication of bone remodeling markers is an important and objective component of skeletal system examination. Numerous studies prove that exactly serum TRAB- 5b is a sensitive and specific marker of bone resorption, which is important for primary diagnostics of skeletal changes, as well as for their monitoring. Taking into account patients' profiles, who were exposed to systemic radionuclide therapy having multiple skeletal dissemination of different tumors, early and sensitive methods of control over skeletal system state are definitely required. Timely evaluation of efficiency of this treatment method will allow to avoid additional radiation exposure and to save patients' physical reserve.

Objective: to explore fluctuations of marker level during multiple bone metastases treatment with systemic radionuclide therapy and its prognostic role within treatment process.

Materials and methods: cases of thirteen patients with multiple bone metastases have been analyzed: nine cases of males with prostate cancer and four – females with breast cancer. Patients' age: 35- 81 y.o. Normal level of TRAB- 5b marker for males is: 1.5 – 4.7 U\L; for females: in pre-menopause period: 1.03- 4.15 U\L; in post-menopause: 1.49 -4.89 U\L.

Marker level has been indicated prior to the start of systemic radionuclide therapy courses, in-between, and before every next course with 1-2-3 up to 6-month interval. Radionuclide treatment has been performed in mono-regimen, as well as with sequential application of radiopharmaceuticals: Sr ⁸⁹ chloride with therapeutic activity ~150 MBq and Sm ¹⁵³-oksabifor therapeutic activity 37 -80 MBq/kg.

Results and discussion: four patients (2 males and 2 females) out of thirteen had minor over-index of normal marker level (from 4.9 to 5.1 U\L) and three (1 male and 2 females) – significant over-index (7.8, 13.1, 24 U\L) registered prior to the treatment courses. The rest six patients (~46%) had TRAB- 5b marker level before the first courses of radionuclide therapy registered within their gender-age norms. Systemic radionuclide therapy was planned for all patients disregarding their TRAB- 5b marker level due to multiple bone

dissemination (osteoscintigraphy, PET/CT, etc.), and different levels of pain symptomatic. This disconformity with instrumental-clinical data and TRAB-5b level could be caused by previous treatment, and first of all by regular application of bisphosphonates and prolonged hormone therapy. Monitoring of TRAB-5b level (from 6 to 24 months) revealed that marker level fluctuations directly conform not only to a progress of disease, but also to the therapy efficiency (reduction of the marker level up to the normal and slow increase in-between of courses). Marker level fluctuations even within normal range driven by treatment courses reflect the dynamic of bone remodeling. Another important prognostic factor is a rapid growth of the marker level that has been registered in two patients within short period (from 4 to 8 months; from 4.9 to 18.6 U\L and from 5.2 to 23.2 U\L respectively). Instrumental control detected pathologic fractures that caused cancellation of the next treatment courses.

Conclusions: TRAB- 5b marker cannot be used as the only criteria to select patients for planning systemic radionuclide therapy. However, changes of the marker level during courses of systemic radionuclide therapy serve as a prognostic factor and factor of systemic radionuclide therapy efficiency; even fluctuations of marker level within normal range can be used for evaluation of systemic radionuclide therapy efficiency. Rapid and sharp growth of TRAB- 5b marker level could be indicative of pathologic fractures threat and, consequently, could lead to changes of treatment tactics.

METALLOPROTEINASE-2 AS A PREDICTOR OF IMPLEMENTATION OF INTRAUTERINE INFECTION

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Matrix metalloproteinases (MMP) play an important role in embryogenesis, morphogenesis and in the processes of angiogenesis. The main biological functions of MMP are hydrolysis and removal of extracellular matrix components, release of various factors from it, as well as modulation of the activity of growth factors and cytokines. Since MMP is a key enzyme, the remodeling matrix participates in such important processes as proliferation and cell migration, which underlie their broad spectrum of activity.

At the present stage of the development of biomedical science there is an accumulation of information on the effects and mechanism of action of various representatives of the MMP [Yarmolinskaya M.I. et al., 2012, Markelova E.V. et al., 2016]. MMP-2 is synthesized by mesenchymal cells (fibroblasts), neutrophils, macrophages and monocytes. MMP-2 hydrolyzes elastin, fibronectin, laminin, breaks down collagen types V, VII and X, participates in degradation of collagen type IV. In addition, MMP-2 breaks down monocytic chemotactic protein-3, and thus reduces inflammation. MMP-2 affects the permeability of the vascular wall [Amalinei C et al., 2010].

Aim. To study the content of MMP-2 in blood serum of pregnant women with perinatal infections of different etiology, establishing the presence of a statistically significant association of this enzyme with the nature of the infection and the effects of intrauterine infection (IUI) for newborns.

Materials and methods. To fulfil this task, we examined 230 pregnant women after 22 weeks of gestation, who were divided into 3 groups (60 people each): Group I with viral

(CMV, HSV-1, 2, 6 types), Group II with bacterial (Chlamydia, Ureaplasma, Mycoplasma) and Group III with mixed infection. Each of these groups was divided into 2 subgroups: with the subsequent implementation of infection in newborns (1) and without it (0). Group IV was the control one and included 50 pregnant women with physiological pregnancy.

The level of matrix metalloproteinase-2 (MMP-2) in blood serum of the pregnant was assessed by immunoenzyme method with the use of Human MMP-2 reagent kits produced by RD Systems (USA).

The obtained data were statistically processed using STATISTICA software.

Results and discussion. The level of MMP-2 in the blood serum of women in the control group was as follows: median – 12.79 ng / ml, interquartile range – 10.72÷15.67 ng / ml.

Subsequently, the dependence of the content of MMP-2 within defined subgroups was determined using discriminant analysis of the grouping of variables, which demonstrated that this indicator depended on the group at a statistically significant level (Kruskall-Wallis test, $p < 0.01$).

Thus, in clinical Group I-0 median MMP-2 was 33.5 ng / ml, interquartile range was 33.14÷35.71 ng / ml, in clinical Group I-1 median was 38.07 ng / ml, interquartile range was 36.83÷39.02 ng / ml. In clinical Group II-0 median was 31.18 ng / ml, interquartile range was 27.87÷31.23 ng / ml, in clinical Group II-1 median was 35.50 ng / ml, interquartile range was 34.65÷36.98 ng / ml. Patients of clinical Group III, regardless of implementation of the infection, were found to have the highest rates of MMP-2. In the group without implementation of intrauterine infection, the median was 44.06 ng / ml, interquartile range was 41.5÷44.97 ng / ml, with implementation of intrauterine infection the median was 46.54 ng / ml, and interquartile range was 45.03 ÷ 48.00 ng / ml.

The given data show that in all groups of pregnant women with perinatal infections, regardless of their implementation, the level of MMP-2 in the blood was elevated in relation to the control values by approximately 3-4 times (Kruskall-Wallis test, $p < 0,05$).

The minimum index of MMP-2 in clinical Group II was 34 ng / ml, in clinical Group I was 35 ng / ml, in clinical Group III was 45 ng / ml. Considering this we propose to consider the following discriminatory level of MMP-2, associated with the implementation of IUI: the level of 34 ng / ml and above for clinical Group II, for clinical Group I 37 ng / ml and above, for clinical Group III 45 ng / ml and above [Vygivska L.A., 2018].

Conclusion. The level of MMP-2 in pregnant women with perinatal infections is increased, depending on the etiology of the infectious agent. The predictive role of MMP-2 in the implementation of intrauterine infection has been proved.

TREATMENT OF MASSIVE OBSTETRICAL BLEEDING WITH PROTHROMBIN COMPLEX CONCENTRATE

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Background: Massive blood loss in obstetrics is often the cause of the development of coagulopathy and uncontrolled coagulopathic bleeding. These complications in the intersectoral period are one of the main causes of the development of multiple organ failure syndrome and lead to a significant increase in the duration of hospitalization in the intensive care unit (Sohn C.H., 2017). At present, many clinicians consider the prothrombin complex concentrates (PCC) as a serious alternative to the use of fresh frozen plasma (FFP) in coagulopathies due to hepatic insufficiency and bleeding in various etiologies (Peyvandi F. et al. 2013; Collis R.E. et al. 2015).

The use of PCC in cases of severe coagulopathy (not associated with oral anticoagulants) has been described. These agents have been used for some time in some European countries (Klein A.A. et al., 2016). The scientific rationale is that coagulopathy can result from low concentrations of clotting proteins leading to a failure of adequate thrombin production and failure to initiate and maintain coagulation. Agents such as FFP allow the administration of these clotting proteins but only in a dilute form (reflecting normal population concentrations but no greater). As described earlier, FFP may lack efficacy in reversing established coagulation defects. PCC may help to restore thrombin production by providing (as inactive zymogens) those clotting factors most critical to coagulation: principally in restoring prothrombin concentration. This is supported by experimental research and observational studies. European Society of Anaesthesiology (ESA) guidelines on management of massive bleeding support the use of PCC (at a dose of 20–30 IU/kg) in adults (Kozek-Langenecker S.A. et al., 2017).

Obstetrical hemorrhage is the most common cause of maternal mortality worldwide. Together with adequate surgical control and judicious transfusion of blood products, the use of pharmacological agents (e.g., tranexamic acid) and clotting factor concentrates (e.g., fibrinogen concentrates and prothrombin complex concentrates) results in improved hemostasis and decreased bleeding-associated mortality. Guidance in the administration of these agents with the use of viscoelastic testing will likely become standard of care in the near future (Luis D. et al., 2018).

Objective: Evaluate the state of hemodynamics, water sectors, hemostasis, the frequency and severity of clinical manifestations of multiple organ failure (MOF) in the use of PCC in the treatment of massive obstetrical bleeding.

Methods: This was a multicenter, retro-prospective study of PCC, conducted in 5 perinatal centers in the Dnipropetrovsk region over a period from January 2006 to December 2017. After approving the research design, the ethics committee examined 248 women, in which the labor or early postpartum period was complicated by acute severe blood loss with a blood volume deficit of 40-60%. Depending on the characteristics of intensive care patients were divided into 2 groups. In group 1 (n = 150), standard therapy of acute blood loss was performed according to clinical protocols of the Ministry of Health of Ukraine. In the 2nd group (n = 98), the PCC (Octaplex, 1000-1500 IU) was added to the treatment. The groups

were comparable with demographic indicators, the term of delivery, the volume of blood loss. Evaluated: the number of erythrocytes, hemoglobin, hematocrit, prothrombin index, fibrinogen, INR; water sector of the organism (total volume of fluid, volume of extracellular, intracellular and interstitial fluid) non-invasive - integral impedance method; clinical signs of MOF. Control points: 12 hours, 1, 3, 5, 7, 10, 14 and 28 days after delivery.

Clinical effectiveness was assessed by descriptive statistics in keeping with the primary and secondary objectives. The treatment was considered effective when a rating of very good or satisfactory was provided by the investigator. Results are presented as mean and standard deviation for parameters following the normal distribution and median and interquartile range for nonnormal distributions.

Results: With the use of PCC there was a decrease by 24.5% ($p < 0.01$) of the total volume of infusion-transfusion media; a decrease of 22% ($p < 0.01$) of plasma volume and 9.1% ($p < 0.05$) of erythrocyte volume. There was also a decrease in the frequency (in 5.1 times, $p < 0.01$) and the duration of vasopressor support (1.5 days, $p < 0.01$), mechanical ventilation (5.7 times, $p < 0.01$), was reduced as the number of patients requiring substitution renal therapy (2.9 times, $p < 0.01$), and the duration of the latter (1.7 days, $p < 0.01$). The frequency of manifestations of gastrointestinal insufficiency declined more than 2 times. The levels of prothrombin index and fibrinogen corresponded to the norm at the end of 1 day of treatment.

Conclusions: The use of PCC in the transfusion therapy of acute blood loss forms a restrictive type of supplementation of the blood volume deficiency, which provides a reliable decrease in the frequency of clinical manifestations of multiple organ failure. The use PCC prevents the development and progression of coagulopathy in the treatment of massive obstetrical bleeding.

VALUE OF CYTOGENETIC PARAMETERS IN PATIENTS WITH ACUTE ODONTOGENOUS FACIAL INFLAMMATION COMPLICATED BY PROLONGED TREATMENT

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Problems of diagnostics and prognosis of the course of purulent-inflammatory diseases of the maxillofacial area at the moment remain relevant and still far from their final solution. In the last decade there is an increase in the number of patients with complicated atypical and long-term course of purulent-inflammatory process, which leads to loss of ability to work, increase in disability and increase fatal cases.

The course and completion of inflammatory disease, according to domestic and foreign authors, in most cases is related to the age of patients, the presence of concomitant and background diseases, the state of the immune system, as well as the general hereditary background of the organism, which determines the nature of the reaction to one or another internal influence.

At the given moment there is a significant amount of knowledge that can determine the important role in the development of various diseases of the destabilization of the genome. It is known that the "resistance" of the genetic apparatus of cells in infectious patients

decreases and the number of genetic disorders increases: in this case, biological mutagenesis takes place. Infected cells accumulate factors that induce genome impairment.

This factor that genetic control extends to the formation and condition of many structures and functions of the body is extremely important and leads to numerous severe consequences. One of these factors is that changes in the structure and functioning of individual genes can be pathogenetic both in the emergence of a specific form of pathology and in the case of more or less non-specific effects on the development and course of the disease.

The genetic individuality of organisms and the polymorphism of populations based on it extends to the signs that affect human life and the course of the disease. In addition, the basis of the individual features of the body's opposition to the disease can lie any genetically determined features of the metabolism.

THE GOAL OF THE WORK

Detection of destruction of the genome in patients with acute purulent odontogenic inflammatory processes of the maxillofacial area for the evaluation of the influence of the degree of severity of chromosomal aberrations during the hospitalization of patients and the nature of the course of the inflammatory process.

RESEARCH METHODOLOGY

The cytogenetic examination of 78 patients with acute suppurative and inflammatory processes of SCLD aged 21-59 years (49 men and 29 women). During the course of the disease, all patients were divided into 2 groups. In the first group (38 people - 18 flegmon and 20 abscesses), the bed-days duration on the average is $8 + -1,2$; in the second (40 patients - 15 phlegmon and 25 abscesses) - $19 + -2,6$. The control group was 35 practically healthy donors of the same age and article.

The analysis of chromosomal aberrations was carried out by the cytogenetic method of cultivating human peripheral blood lymphocytes by the Murhhd-Hangerford method (1975) in the modification of N.P. Bochkov. To estimate cytogenetic effects, the total number of aberrations and their quantitative spectrum was determined on 100 metaphases analyzed from each patient.

Solutions used in the study: Eagle's Eagle and Glutamine, Vein Embryonic Serum, Phytohemagglutinin, mitotic inhibitor - colchicine, isotonic solution with Erla salts, fixative - acetic acid, dye - azureosin according to Romanovsky. The calculation of chromosomal aberrations on metaphase plates was performed using a microscope Eunoal Sb., 100x12.

To statistically compute the results of the study, STATISTICA 6.0 software package of StatSoft Inc. for a personal computer in Windows system was used.

The research was carried out when the patient was admitted to the hospital and on the day of his discharge to continue the outpatient treatment.

RESULTS OF THE STUDY AND THEIR DISCUSSION

The level of chromosomal aberrations in the subjects who were included in the control group was equal to $(1.97 \pm 0.32)\%$.

In patients with the first group with abscesses, this figure was $(3.5 \pm 1.2\%)$, phlegmons - $(4.4 \pm 1.47)\%$, and did not change significantly at the end of treatment.

Analyzing the cardiological status of cells in patients of the second group, it is important to note that the largest number of cells with damaged karyotype, we found in patients with phlegmon - $(8,6 \pm 1,58)\%$, proceeded by hyperergic type of inflammatory reaction.

In the spectral analysis in patients with acute suppurative odontogenic inflammatory processes, the chondrogenic aberrations dominated in the chronological type in patients of both groups: paired fragments, dicentric fusion of chromosomes, ring chromosomes. In

addition, a significant percentage of chromatic aberrations was noted in the 2nd group of patients with facial abscesses - ($24.8 \pm 4.3\%$).

Increasing the level of chromosomal aberrations to a greater extent corresponded to the severity of the condition of patients. Thus, in patients who were in moderate condition, the percentage of chromosomal aberrations averaged ($4.7 \pm 0.9\%$), in severe condition - ($8.8 \pm 1.4\%$).

It is also worth noting that after the treatment there was a slight tendency to increase the level of chromosomal abnormalities in patients with prolonged (hyperergic) heart disease in ($1.6 \pm 0.7\%$). In patients with normoregia, only a small decrease in cells with an average level of chromosomal aberrations was found to be 1.21%.

CONCLUSIONS:

The results of the cytogenetic study of patients with acute purulent odontogenic inflammatory processes of the maxillofacial area in general reflect the unfavorable cardiological characteristics of these patients. The most pronounced toxicogenetic effects are registered in patients with prolonged bypassing purulent - inflammatory process. The main component of mogenesis in these cases is most likely to be the press of infectious effects associated with a source of local nature.

The study conducted by us revealed the dependence of the duration and nature of the course of the inflammatory process on the degree of chromosomal damage.

The wide variability of defeat of genetic structures has been revealed, that bacterial microflora infections are mutagenic. There is no doubt that one of the main reasons for the severity of the course of suppurative inflammatory diseases is the destabilization of the host genome (patient), determined by the metabolism products of the current infection.

STRUCTURE OF PERIODONTAL DISEASES IN YOUNG PEOPLE WITH MORBID OBESITY

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Topicality. In recent years, according to WHO, more than 1.9 billion people age over then 18 y.o. are overweight, of which more than 650 million are obese, with a yearly increase in these rates. A separate risk is morbid obesity (MO), which leads to a number of medical and social problems, in particular, metabolic disorders (type 2 diabetes, insulin resistance, metabolic syndrome), cardiovascular disease (arterial hypertension, heart failure, stroke), pathology of respiratory system (bronchial asthma), reproductive function disorders. Additionally, obesity is an independent predictor of the risk of death. It has been shown that overweight and obesity are important risk factors for dental health of people of all ages.

The purpose of the study: to investigate the structure of periodontal diseases in young patients with morbid obesity.

Materials and methods: 38 patients with morbid obesity aged 18-34 years were in the main group under observation. For comparative characteristics, a control group of 22 patients of similar age with normal body weight was also formed. To assess the condition of periodontal tissues, standard clinical and radiological methods for the examination and assessment of oral hygiene were used.

Results and discussion:

Generalized periodontal lesions are found in all 38 patients with morbid obesity. In the overwhelming majority, chronic generalized periodontitis of the I-II degree (24 persons, 63.2%) was diagnosed, with the prevalence of an exacerbated course of the disease (22 cases, 91.7%), respectively, only 2 (8.3%) dystrophic -inflammatory process in periodontium can be estimated as chronic.

At the same time, generalized chronic catarrhal gingivitis was diagnosed in other patients (14 patients, 36.8%) with morbid obesity.

It is necessary to emphasize that there is a fact of high frequency of unsatisfactory status of oral hygiene in patients with morbid obesity. Thus, it was found that 34 persons (89.5%) from the number of contingents with morbid obesity, the hygienic status of the oral cavity corresponded to the level "unsatisfactory", and only 4 (10.5%) - to the level "good". In the control group, the incidence of chronic periodontitis was 18.2% (4 persons), chronic catarrhal gingivitis was diagnosed in 16 (72.7%) patients, and the condition of clinically intact periodontal disease was detected in 2 (9.1%) patients.

Conclusions:

In the structure of periodontal diseases in young people with morbid obesity prevailing chronic generalized periodontitis with an acute course.

Development and progress of generalized lesions of periodontal disease in patients with morbid obesity - generalized periodontitis and catarrhal gingivitis occurs on the background of an unsatisfactory status of oral hygiene, which, on the one hand, is an integral part of the clinical course of the disease, but on the other hand, can be considered as an etiological factor of periodontal disease in this category of people is likely due to psycho-emotional predictors of the origin of morbid obesity.

ГЛЮТЕНЧУТЛИВІ УРАЖЕННЯ ПАРОДОНТУ

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Актуальність дослідження. Целиакія (глютеніна ентевропатія) – це важке аутоімунне захворювання, що вражає тонкий кишечник генетично схильних осіб внаслідок споживання протеїну злакових – глютену. Згідно даних статистичних досліджень целиакія вражає 1 із 100 осіб. Глютеніна ентевропатія є мультифакторним захворюванням, в розвитку якого значну роль відіграють як генетичні, так і екзогенні чинники.

Неаутоімунна непереносимість глютену – захворювання яке має клінічно схожу симптоматику з целиакією, проте серологічна діагностика є негативною. Достеменно поширеність даного захворювання є невідомою, проте в різних джерелах поширеність даної патології коливається в межах від 1-2%

В деяких випадках діагностика целиакії та неаутоімунної непереносимості глютену є складною, що найбільшою мірою пов'язана з атипичним перебігом захворювань або переважанням екстраінтестинальної симптоматики. Згідно даних літератури з кожним роком відмічається стрімкий ріст розвитку даних захворювань, що має важливе соціальне значення. Проблематика целиакії та неаутоімунної непереносимості глютену є актуальною проблемою ще й тому, що дані захворювання

можуть стати причиною різноманітних розладів та захворювань інших систем організму. Нерідко в пацієнтів з даними захворюваннями можна виявити патологічні зміни і в порожнині рота: дефекти емалі зуба, пізнє прорізування зубів, афтозний стоматит, ангулярні хейліти, десквамативний глосит тощо. Проте сучасні джерела наукової літератури майже не висвітлюють взаємозв'язок уражень тканин пародонту та захворювань, асоційованих з непереносимістю глютену.

Мета. Оцінка стану пародонта у пацієнтів з целиакією та неаутоімунною непереносимістю глютену.

Матеріали та методи. У дослідженні взяли участь 30 осіб, з яких 20 мали целиакію, 10 - неаутоімунну непереносимість глютену. Діагноз целиакія та неаутоімунна непереносимість глютену було встановлено на основі стандартних клініко-лабораторних обстежень у гастроентеролога. Дослідження стану пародонту було проведено за допомогою загальноприйнятих клінічних та рентгенологічних методів обстеження. Проводилося анкетування пацієнтів, що включало в себе питання щодо дотримання правил гігієни порожнини рота, частоту відвідування стоматолога, тривалість та дотримання безглютенової дієти, наявність шкідливих звичок та наявність інших соматичних захворювань.

Результати. У всіх обстежених було виявлено I-II ступінь генералізованого пародонтиту хронічного перебігу, у більшості обстежених (84%) було діагностовано симптоматичний катаральний гінгівіт, у 16% гіпертрофічний гінгівіт фіброзної форми. При дослідженні стану гігієни порожнини рота за індексною оцінкою виявлено її задовільний рівень. Незадовільного стану гігієни порожнини рота виявлено не було. На основі даних анкетування пацієнтів, включених у дослідження, стало відомо, що дана група досліджуваних осіб є високо вмотивованою та дотримувалися правил гігієни порожнини рота (проводили регулярне професійне чищення зубів, користуються флосами, ополіскувачами тощо).

Висновки. При оцінці результатів обстеження можна зробити висновок що переважна більшість досліджуваних пацієнтів має в'ялотекучий перебіг генералізованого пародонтиту та підвищену кровоточивість ясен на фоні задовільної гігієни порожнини рота. Отже, в порожнині рота існують фактори, що впливають на стан тканин пародонту та можуть бути причиною виникнення генералізованих уражень. В зв'язку з цим дослідження мікробіоценозу порожнини рота у пацієнтів з целиакією та неаутоімунною непереносимістю глютену потребує ретельного вивчення з метою виявлення факторів, що могли би стати причиною генералізованих уражень пародонту на фоні задовільної гігієни порожнини рота.

COMPARATIVE INDEX ASSESSMENT OF THE HYGIENIC STATE OF THE ORAL CAVITY IN PATIENTS WITH GENERALIZED PERIODONTITIS WITH ANOREXIA NERVOSA

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According to native and foreign authors, the prevalence of anorexia nervosa ranges from 0.3% to 5% among both sexes, and the incidence varies from 5 to 5.4 on 100,000 people per year, the mortality rate reaches 18% and tends to increase in young people.

Anorexia nervosa is accompanied by changes in the internal organs and body systems of a person and may be one of the potentiating factors for the occurrence of generalized periodontal diseases, particularly, generalized periodontitis (GP).

Scientific works reflecting the hygienic condition of the oral cavity in patients with HF on the background of anorexia nervosa are not represented.

Aim: to evaluate the features of oral hygiene in patients with generalized periodontitis burdened with anorexia nervosa.

Materials and methods: we examined 86 patients with generalized periodontitis (GP), primary-I degree, chronic course at the age of 19-37 years took part in the survey, among them there were 47 women and 39 men. The main group consisted of 58 patients with GP with anorexia nervosa. The comparative group consisted of 28 patients with GP without anorexia. The control group was the results of a survey of 30 people of similar age and gender without eating disorders and diseases of internal organs and systems, and patients in this group adhered to an adequate and balanced diet.

Standard methods of hygienic assessment of oral hygiene were used (index Fedorov - Volodkina, index OHI-S and interdental hygiene index - API).

Results of the research: in a result of the study, it was found that all patients of the main group had an oral hygiene level of 2.2 ± 0.2 points according for Fedorov -Volodkina index and 1.9 ± 0.3 points according for the OHI-S index. The index of interdental hygiene API was 0.581 ± 0.026 points.

At the same time, patients of the comparative group had the level of hygiene according to Fedorov-Volodkina index 2.0 ± 0.2 points, OHI-S index was 1.6 ± 0.1 points. The index of interdental hygiene API was 0.474 ± 0.029 points.

In the control group, the hygiene index by Fedorov-Volodkina was 1.5 ± 0.04 points, index OHI-S was 1.4 ± 0.09 points. At the same time, the API index was 0.09 ± 0.02 points.

Conclusions:

1. In all examined patients with GP associated with anorexia nervosa, an unsatisfactory level of oral hygiene was revealed. However, index Fedorov - Volodkina was better compared with OHI-S index and API.

2. The unsatisfactory level of oral hygiene in patients with generalized periodontitis on the background of anorexia nervosa can be caused by the low motivation of this category of patients to comply with the compliance of individual oral hygiene and the almost complete lack of chewing due to eating disorders and diet.

3. The results of this fragment of the research encourage in-depth study of the clinical features of generalized periodontitis in patients with anorexia nervosa.

THE STRUCTURE OF PERIODONTAL DISEASES IN CHILDREN WITH ATOPIC DERMATITIS

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Atopic dermatitis (AD) is traditionally considered to be the most common and severe for the clinical course of allergic diseases in children. Thus, its prevalence among children's population of developed countries is from 12 to 37%, which significantly exceeds this rate among adults (0.2-2%). There is a disease, as a rule, in childhood (in 90% of children under 5 years old). One of the leading pathogenetic factors of AD is a cutaneous barrier due to the mutation of the filaggrin gene. Along with changes in the skin in 54% of children there are lesions of the mucous membranes in the form of aphthous stomatitis. There are no data in the periodontal disease in children with AD.

The purpose of the work is to investigate the structure of periodontal diseases in children with atopic dermatitis and the status of oral hygiene.

Materials and methods: 87 patients with atopic dermatitis (AD) aged 12 to 18 years, including 48 girls and 39 boys, participated in the survey. The control group consisted of 30 children with no manifestations of AD and somatic pathology, similar in age and gender.

For an objective assessment of the status of periodontal tissues, the periodontal indices were determined: hygienic (OHI-S), CPI index, PMA (Parma, 1960). The first index reflects the status of hygiene of the oral cavity (intensity of dental calculus and plaque), the second - the status of periodontal tissues, the third - the severity of the inflammatory process in the gums. Orthopantomography "ORTHOPHOS 3" (Germany) was used to evaluate the bone tissue of the jaw and the diagnosis, namely the compact plate and the spongy substance of the interdental alveolar membranes. The degree of destructive changes in jaw bones was determined by generally accepted criteria. If necessary, the orthopantomography was complemented by intra-objective aiming images.

Research results. The average number of sextant with bleeding according to the CPI index per child with AD was $3,31 \pm 0,01$ ($p < 0,01$), which is regarded as a "high" intensity of lesions of periodontal tissues (according to WHO evaluation criteria). In the control group - $2,51 \pm 0,01$ ($p < 0,01$). Indicator of bleeding gums in children with AD - $2,86 \pm 0,02$ ($p < 0,05$), in control - $1,1 \pm 0,03$ ($p < 0,05$). The average value of the PMA index among children with AD was 36.1%, which is believed to exceed its value among practically healthy children (15.2%).

Thus, the results of clinical examination and index assessment of the state of periodontal tissues according to the indices of CP/I, PMA indicate that all children with AD have signs of generalized periodontal disease: prevalent chronic catarrhal gingivitis of moderate severity in the stage of exacerbation (71 children, 81.6%). , in 18.4% (16 children) - generalized periodontitis of the primary - I degree. In the control group of children, chronic catarrhal gingivitis was found in 16.7% (5 people), and the rest - a clinically intact periodontal disease. The state of oral hygiene in children with AD is assessed as "unsatisfactory": the value of the Green-Vermillion index is 2.03 ± 0.03 , in the control - 0.44 ± 0.02 ($p < 0.001$) ("good").

Conclusions. The prevalence of periodontal illnesses in the children with AD is 100 (87 surveyed). The structure is dominated by chronic catarrhal gingivitis with moderate severity (81.6%), the proportion of generalized periodontitis of primary and severity is 18.4%.

Defeat of periodontal tissue in children with AD is accompanied by a poor level of oral hygiene.

NEW ANTIALLERGIC DRUG WITH ANTIHISTAMINE AND ANTISEROTONINE ACTIVITY

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Objective Clinical trial of Dualer-G, a combined preparation consisting of two quinuclidylcarbinol derivatives (quifenadin 10 mg and sequifenadine 10 mg), provides a dual pharmacological-antihistamine and antiserotonin effect. This experimental study is aimed to investigate the effectiveness of antihistamine quifenadine (H1 blocker) and sequifenadine (H1 and 5HT serotonin receptor antagonist) and their combination in rats.

Preclinical study in rats was performed by the method of determining the dextral edema of the paws. Fasting rats (12 animals in each group) were injected with 0.05 mL of 0.6% dextran (right foot) or saline vehicle (left foot) 1 hr after receiving methylcellulose vehicle (control group) quifenadine 30 mg/kg (group 1) sequifenadine 30 mg/kg (group2) or mixture of quifenadine 15 mg and sequifenadine 15 mg. After 30 min, the diameters of paws of rats were measured. The dose that resulted in 50% inhibition of edema (ED50) was calculated, and 95% confidence intervals were determined by the linear least-square dose-response method.

Clinical research was carried out at the Department of Dermato-Venerology of (TSMU) according to the protocol approved by the pharmaceutical agency of the Ministry of Health of Georgia on patients with various types of skin-allergic diseases using the drug of comparison was quifenadine. Clinical research was conducting in the department of skin-venereal diseases on patients with various types of skin-allergic disease. Approbation of the drug was performed in 30 patients, more than 20 of them (the group of patients studied) took new drug and 8 (the comparison group) took the drug fecarol. The study group of patients underwent Doualer-G treatment at a dose of 0.02 g per day. A general blood test was performing before and after treatment in the comparison group, phenecarol was taken at a dose of 0.025 g per day. The excluding criteria for trial were pathology of the cardiovascular system, liver, stomach and duodenal ulcer, pregnancy and personal refusal to participate in the study. Results Twenty-four hours after the administration, a pronounced effect is also observed with the combination of drugs, and sequifenadine whereas the action of quifenadine is completely absent.

According to the results of the treatment in a group of 22 patients (5 cases of neurodermitis, 5-atopic neurodermitis, 5 cases of urticaria, 3 cases of toxodermia, 1 red lichen, 1 eczema, 2 cases of psoriasis). Clinical course of patients treated with Dualler-G tended to be significantly better than the patients treated with drug of comparison "fencarol" (quifenadine). Patients treated with Dualler-G (cases of urticaria, neurodermitis, lichen rubber planus) had superior improvements in their symptoms (elements on skin and itching) compared to controls overall across the 2-week trail, but not in cases of eczema. However, care cases of eczema level of eosinophils was reduced and severity of symptoms as well.

Discussion Our experimental studies indicate the potentiated synergy of the quifenadin and sequifenadine, the effect of the anti-edema action of the combination on the dextran

edema of the paws in rats is superior to the effect of quifenadine or sequifenadine by 280-300%, and also exceeds the duration of action of sequifenadine by 24 hours, which is explained by the specific mechanism of action of quinuclidins associated with lowering the level of histamine in tissues by activation of diaminoxidase Results of clinical trial shows that patients treated with Dualler-G.

Clinical course of patients treated with Dualler-G tended to be significantly better than the patients treated with drug of comparison "fencarol". Taking into account the known role of serotonin in allergic reactions of the skin, it is quite logical that the drug with a complex (antihistamine and antiserotonin) effect is more effective in comparison with the drug that is justly antihistamine. When receiving 100 mg of preparation once, no side effects were observed.

Conclusions Potentiated synergism is observed beetwin two antiallergic substances Quifenadine and Sequifenadine in experiments on rats. Based on our study, we can argue that the treatment with drugs with antihistamine and antiserotonin properties (like Dualler-G) in some cases can be much more effective than treatment with only antihistamine (H-1 blockers) drugs.

ТРАНЗИТОРНО-ИШЕМИЧЕСКАЯ АТАКА У ЖЕНЩИН РАЗНЫХ ВОЗРАСТНЫХ ГРУПП

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Транзиторная ишемическая атака (ТИА) – одна из форм острой ишемии головного мозга, при которой очаговые неврологические симптомы сохраняются от нескольких минут до 24 ч.

Синдром ТИА заслуживает серьезного внимания,так как является наиболее информативным признаком,сигнализирующим об угрозе развития инфаркта головного мозга (ИГМ)

Кроме того, ТИА – фактор риска развития инфаркта миокарда, который в течение 10 лет после острого церебрального сосудистого эпизода диагностируется, по данным литературы, у 25-30% больных (Wegener S., Gottschalk B., Jovanovic V.et al. 2004; Giles M.F., Rothwell P.M.,2007) Летальность больных с ТИА за 5 лет составляет 20–25%, при этом большая часть смертельных исходов связана с инфарктом миокарда, а не мозга.

Факторы риска развития ТИА мужчин и женщин в основном одинаковы (наличие инсульта в семейном анамнезе, повышенное артериальное давление, курение, диабет, заболевания сердечно-сосудистой системы, повышенное содержание эритроцитов в крови), однако есть и специфические "женские" риски.

ТИА у женщин встречается несколько чаще, чем у мужчин.У женщин молодого возраста в группе риска находятся беременные с гестозом второй половины беременности,а также женщины, принимающие гормональные контрацептивы.

Однако большему риску возникновения этого заболевания подвержены женщины климактерического и менопаузально возраста, у которых появляются признаки эстрогенной недостаточности.

Kathryn Rexrode из Женской больницы Бригэма (США) ее команда пришли к выводу, что у женщин существуют следующие специфические признаки, указывающие на повышенный риск инсульта и ТИА:

- начало менструаций до 10 лет;
- начало менопаузы до 45 лет;
- низкий уровень дегидроэпиандростерона;
- прием оральных контрацептивов (с эстрогенами или комбинированных);
- гестационный диабет;
- гипертония во время беременности или сразу после родов;
- преэклампсия.

Основное различие между ТИА и инсультом позволяет определить магнитно-резонансная томография. Тем не менее такой подход к диагностике ТИА разделяют не все исследователи и предварительная, а нередко и окончательная, диагностика этого синдрома остается клинической.

ТИА – это вариант острой ишемии мозга, потому принципы лечения таких больных те же, что и при ИГМ. Как в клинических, так и в экспериментальных исследованиях показано, что наиболее неблагоприятными после развития ТИА являются первые 48–72 ч

Методы вторичной профилактики инсульта после перенесенного ИГМ и ТИА хорошо разработаны и отражены во многих национальных и Европейских рекомендациях по ведению больных инсультом и включают антитромботическую (антиагрегантную либо антикоагулянтную), антигипертензивную и гиполипидемическую терапию. В мировой практике имеются рекомендации по лечению тяжелых когнитивных нарушений, достигающих степени деменции, терапия легких проводится с учетом индивидуальных особенностей пациента, наличия коморбидных заболеваний.

Женщинам, вошедшим в группы риска по перечисленным параметрам, следует внимательно следить за своим артериальным давлением, и знать, что они подвержены более высокому риску развития инсульта. Им особенно нужно придерживаться исключительно здорового образа жизни, чтобы снизить риск развития гипертонии и последующего инсульта.

RISK FACTORS, CLINICAL AND LABORATORY FEATURES AND PREVENTION OF OXALATE NEPHROPATHIA IN CHILDREN

**Tadjiyeva Z.B.,
Khalmatova B.T**

В последние годы увеличивается частота заболеваний почек у детей, в том числе дисметаболической нефропатии, что связано как с улучшением качества диагностики, так и ухудшением экологической ситуации. В связи с этим проблема ранней диагностики, назначение адекватной дието-и медикаментозной терапии является актуальной.

В статье рассматривается проблема этиологии, патогенеза, а также критерии диагностики дисметаболических нефропатий у детей. Уделено внимание клиническим проявлениям этой патологии и основным принципам лечения и профилактики.

Ключевые слова: дети, дисметаболическая нефропатия, кристаллурия, оксалатурия.

In recent years, the frequency of kidney diseases in children, including dysmetabolic nephropathy, has increased, which is associated both with improving the quality of diagnosis and the deterioration of the ecological situation. In this regard, the problem of early diagnosis, the appointment of adequate diet and drug therapy is relevant.

The article deals with the problem of etiology, pathogenesis, as well as criteria for the diagnosis of dysmetabolic nephropathy in children. Attention is paid to the clinical manifestations of this pathology and the basic principles of treatment and prevention.

Key words: children, dysmetabolic nephropathy, crystalluria, oxalaturia.

Введение. Под дисметаболическими нефропатиями (ДН) понимают большую группу нефропатий с различной этиологией и патогенезом, объединенных тем, что их развитие связано с нарушением обмена веществ. ДН являются причиной развития пиелонефрита, интерстициального нефрита и мочекаменной болезни (МКБ). В последние годы ДН рассматривают как почечную мембранопатию: первичную (генетически детерминированная нестабильность почечных мембран) и вторичную на фоне приобретенной генерализованной нестабильности цитомембран (при сахарном диабете, водно-электролитных нарушениях, гиповитаминозах и др.).

Существование начальных стадий ДН (изолированная кристаллурия) без выраженных клинических проявлений диктует необходимость активного выявления групп риска и детей с ранними симптомами болезни.

Цель исследования: определить ранние симптомы и факторы риска развития ДН у детей.

Материалы и методы. Подбор детского населения для медицинского обследования осуществлялся в 2015–2016 гг. с помощью выборочного метода с элементами рандомизации. Из 200 детей в возрасте от 3 до 14 лет были отобраны 50 детей с изменениями в анализе мочи в виде оксалурии. При объективном исследовании дети самостоятельно жалоб не предъявляли и не имели клинической симптоматики заболеваний мочевыводящей системы. У всех детей изучили анамнестические данные, наследственную предрасположенность, образ жизни и питания. Контрольную группу составили относительно здоровые дети соответствующего возраста.

Результаты и обсуждение. При помощи метода условной информационной энтропии были проанализированы некоторые медикобиологические, наследственные, клинико-лабораторные, индивидуальные экзогенные факторы риска развития ДН. На основании анализа нами выделено 6 значимых (приоритетных) факторов риска: нарушение физического развития ниже среднего (30,7%); заболевания почек у родственников (38,6%); патология при УЗИ почек (36,3%); группа крови ребенка 0 (I) или АВ (IV) (15,4%); порядковый номер беременности у матери, 2-я и последующие (44,8%); экссудативнокатаральный диатез (33,8%). Анализ генеалогического анамнеза выявил, что у ближайших родственников детей с ДН и МКБ достоверно преобладала заболеваемость МКБ ($p < 0,001$). Также отмечалось увеличение частоты желчнокаменной болезни (ЖКБ) в генеалогическом анамнезе детей с ДН по сравнению с детьми 2-й групп в 1,9 раза. Инфекционные заболевания и ЭКД встречались достоверно чаще во 2-й группе детей по сравнению с контрольной группой ($p < 0,05$). Данные литературы также свидетельствуют о том, что ДН часто возникают

на фоне различных почечных заболеваний и ведут к развитию МКБ в старшем возрасте. Интересными были данные лабораторных показателей, которые можно отнести к ранним признакам ДН у детей: снижение суточного диуреза, щелочная рН мочи, гиперстенурия.

При УЗИ почек детей с ДН были обнаружены гиперэхогенные включения и анатомические дефекты, которые достоверно чаще встречались по сравнению с детьми контрольной группы.

Выводы. В результате проведенного исследования нами были выявлены некоторые ранние клиничко-лабораторные симптомы болезни у детей: боль в животе; жажда, потливость; головная боль; отеки век по утрам; сухость кожи; отклонение в физическом развитии; щелочная рН мочи, гиперстенурия, кристаллурия, микрогематурия, интермиттирующая лейкоцитурия, незначительная протеинурия, снижение суточного диуреза.

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METHOD AND MEANS OF OPPORTUNITIES OF IMPROVING ROLE OF FOLKLORE WHILE CREATING NATIONAL PRIDE

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Abstract

This article highlights the interconnected and complementary principles in the ability to improve the methods and means of increasing the role of folklore in shaping national pride.

Key words: national pride, folklore, principle of adequacy, principle of conditionality, principle of relative independence, inheritance principle of historical heritage, historical reality

During the era of a new society based on market-based relations in Uzbekistan, the features of national development require the pursuit of specific principles of the solution of socio-political problems of the spiritual heritage and the finding of its constructive-rational means.

In our view, these two basic principles of complementarity and complementarity are:

The principle of adequacy. With the emergence and functional significance of folklore art, it is in line with the historical development and the level of development of national spiritual needs, with the idealized representation of reality in artistic images.

In other words, the principle of artistic adequacy of folklore, on the one hand, is based on the reality of the historical object, which reflects the mentality of the nation as a whole, especially the national pride. On the other hand, its authenticity can also be influenced by the objective reality (the formation of the national pride of personality), which can influence the development of social reality.

Trends of conditionality. While folklore expresses the spiritual needs of a specific nation in specific artistic images, they are somewhat abstract. In the context of the integration of social-political relations and globalization in the common historical development, the characteristic features of folkloric heroes in a genre and genre are conditional and relative. In other words, in the national identity, individual features and artistic adequacy are also observed in other folklore. The diversity of folklore genres in the formation of individual pride of the various peoples conditional differentiation. Because the peoples' "folklore genres do not differ from each other, they are a historically compiled system. Folklore genres, all types of works are complex in this integrated system and enrich one another".

The principle of relative independence. The relative independence of folklore art in the formation of individual national pride, on the one hand, is conditionally conditioned by the fact that the history and the spiritual well-being of the people depend on the political system of the society and the ideology, that is, the people's creativity is always "free" from the official regulating policy of the state and its attitude to it. On the other hand, based on the harmonization of universal and national values, dialectic denial of historical heritage is to create ideals based on the spirit of the times. Indeed, folklore reflects the reality of public life in accordance with the principle of artistic realism of a particular historical age.

Principles of succession to historical heritage. Folklore's ability to shape national pride and effectiveness depend on the creative mastering of its historical heritage.

According to the national pride of the person, the nature of historical characters of folklore is dynamically changing, and the function of solving the socio-political problem of a

specific historical period is not independent of historical processes, but in its genetic dependence.

The principle of historical reality. According to the genesis of folklore, at the earliest stages of its history, there are two interrelated processes involving the formation of pride in its types and social units. The first is the scope of influence of the phenomenon of pride in the historical and evolution of folklore, and the development possibilities have been realized.

The latter is a figurative expression of the historical reality of a particular social space, representing its local, national, regional and universal features, representing the mythology, mythology, legends, fairy tales, and other examples, the historical reality, in particular the person's pride in mythological imagery. Accordingly, the effectiveness of methods and means of influencing the national pride of the folklore depends on the harmonization of the above principles, which requires the integration of propaganda and educational institutions and educational institutions.

The relationship between them is, on the one hand, folklore as a form of art, in a social phenomenon derived from the spiritual need of society; on the other hand, in the methods that promote the harmonization of objective conditions and subjective factors that promote the national pride of the individual. That is why it is not accidental that in the scientific literature on folklore it is put in the basis of art culture. In other words, "in artistic reasoning, ensuring logical development, expanding mythological-artistic thinking, reestablishing and evaluating spiritual-enlightenment values are justified from the basics of folklore". Consequently, when we say that, folklore forms genetic methods and means of literary culture and literary methods and tools that influence the development of society as a whole, in particular the individual national pride. It also leads to a holistic assessment of the functional significance of a differential approach to the dynamic development of artistic methods and tools in the context of the historical period. Because society and the state's cultural policy must be strictly differentiated. In addition, folk art arts should be centered on the spiritual reform agenda of the state, without the sophisticated development of propaganda and propagandistic methods and tools.

ТВАРИННИЦТВО ЯК ВАЖЛИВИЙ ЧИННИК ФОРМУВАННЯ ГОСПОДАРСЬКОГО СВИТОГЛЯДУ

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Колядки та щедрівки – це зразки зимового календарно-обрядового фольклору, які чи не найбільш детально відображають у своїх текстах реалії господарського дійсності, а відтак є важливим джерелом вивчення особливостей господарського світогляду наших предків. Попри те, що деякі аспекти господарських уподобань українців на прикладі зимового фольклору уже висвітлювалися у наукових працях, наприклад, М. Грушевського, С. Килимника, О. Дея, В. Давидюка, З. Марчук, О. Бойчук та ін., тваринництво як чинник формування господарського світогляду дотепер залишався поза увагою дослідників. Отож обрана тема є актуальною та новаторською.

За джерельну базу узято тексти, що ввійшли до академічного видання «Колядки та щедрівки. Зимова обрядова поезія трудового року» (упор., передм. і прим. О.І. Дея; відпов. ред. М.Т. Рильський. – К.: Наукова думка, 1965. – 804 с.).

Завдання дослідження: з'ясувати, яким чином тваринництво вплинуло на формування господарських світоглядних пріоритетів.

Оспівування приплоду худоби є невід'ємною складовою колядок та щедрівок. Утім на домінування тваринницького світогляду вказують фольклорні тексти, в яких назви тварин подаються не узагальнено (як-то «стадо», «турма», «струнка»), а диференційовано (зокрема, із зазначенням назв domestikованих тварин).

Ознакою присадибного тваринництва (відколи домашню худобу тримали з метою оброблення та удобрення орних земель) виступають, поза всяким сумнівом, *корови, телиці, бички*. Ці реалії доволі часто оспівуються у колядках та щедрівках, а відтак постають ознакою достатку українців та відтворюють їх господарські світоглядні особливості, пов'язані з періодом становлення та домінування епохи тваринництва.

Зауважимо, що такі тварини як *свині*, котрі також є ознакою присадибного господарства, лише зрідка потрапляють у тексти колядок та щедрівок. Тому не можуть вважатися архаїчною ознакою українського господарського світогляду.

Ще одну групу утворюють тексти, що містять згадки про таких тварин як *кінь* та *віл*. Проведений аналіз засвідчує, що в контексті господарського світогляду (зокрема мотиву оброблення полів, який за своєю суттю є ознакою хліборобства) у текстах пісень частіше постають воли: «*Ой пішов собі воли впрягати, / Поїхав волами поле орати*» [с. 293]. В той час коли *кінь*, будучи надзвичайно поширеним образом колядок та щедрівок, господарські функції практично не виконує.

В окремих випадках об'єктами оспівування стають не тварини, а продукти тваринництва (наприклад, «*сало*», «*ковбаса*», «*кишка*», «*масло*», «*сир*»). Утім простежено, що останні постають головно у центрі дитячих колядок, які, будучи найпізнішими за часом виникнення, не відтворюють архаїчних реалій дійсності.

Наші пращури, дбаючи про приплід худоби, надзвичайно прискіпливо ставилися до належного догляду за тваринами. А тому звертають увагу на наявність господарських приміщень для їх утримання («*обора*», «*кошара*», «*стайня*»). Вони доволі часто постають у центрі фольклорних текстів як важлива складова тваринницького господарського світогляду.

Присадибне тваринництво передбачало також розведення дрібної домашньої птиці. Ці реалії також відбилися у текстах зимових вітально-величальних пісень. Найбільш поширеною з-поміж них є згадка *про курей* (щоправда у мотиві випрошування, який також вважається новішим нашаруванням у зимовому фольклорі). Окрім того, спорадично у колядках та щедрівках згадується *про качечки, гусочки та індики*. Утім кількісні характеристики та мотиви вказують на нехарактерність зазначених реалій для найдавніших господарств або пізній час уведення їх у контекст фольклорних текстів.

Отож, зимовий календарно-обрядовий фольклор зберігає у своєму змісті чимало реалій, котрі відображають особливості господарських уподобань українців. Окрім того, колядки та щедрівки засвідчують, що тваринництво, поряд зі скотарством та рільництвом, є важливим чинником формування господарського світогляду. Відтак на рівні фольклорних текстів збережено чимало інформації про найдавніші господарські пріоритети та цінності наших предків, зокрема таких, що стосуються присадибного тваринництва. Аналізуючи зимові вітально-величальні пісні, доходимо до висновку, що найчастіше реалії тваринництва репрезентують згадування у тексті про таких тварин, як корови, які на території України віддавна використовувались для забезпечення

молочними продуктами. Натомість свині довгий час не користувалися значною популярністю. Колядки та щедрівки фіксують у своєму змісті також інформацію про особливості утримання худоби, найпоширеніших продуктів тваринництва тощо. Фольклорні тексти також відбивають історично обумовлений зв'язок хліборобства і тваринництва (зокрема мотиви волочіння або орання із використанням волів та коней). Специфічною характеристикою господарського світогляду українців вважаємо домінування волів під час оброблення господарських угідь. В той час коли образ коня та його функціональне спрямування потребує, на наш погляд, більш детального вивчення.

CHILDREN'S ARTISTIC CREATIVITY AND IMAGINATION IN THE CONTEXT OF TYPOLOGICAL FORMS OF IMAGINATION

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The proximity between imagination and the thinking process and understanding its significance for the process of cognition allows studying imagination from the point of view of gnoseology and philosophy. The philosophical study of imagination differs from the psychological approach to it the focus laid on the objective contents of imagination. Philosophy is concerned with the phenomenon of imagination as reflection of events in the objective world, the shapes it acquires and features of these shapes.

The philosophico-culturological approach represents imagination as a peculiar characteristic of the social mind rather than an individual quality of a creative person. Namely, the culturological view, firstly, facilitates the study of imagination as a form of social reflection of reality and as a specific feature of the public mind. Secondly, it helps establish the dependence of imagination of a creative person from social imagination and other social and cultural factors. The socio-cultural determination of imagination not only prevents from the reduction of imagination to autonomous (B. Croce), mythological (H. Bergson), subconscious (S. Freud, G. Bachelard) activity but also presents options for a systematic and comprehensive approach to elaborate the general theory of imagination.

The creation of imagination typology is the first step in this direction. It is implied that a certain type of artistic creativity has a specific type of imagination in its basis. Within the framework of the present study, the artistic type of imagination is emphasized, yet, it is correct to speak about constructive, scientific, mythological and religious imagination, or the romantic, postmodern and computer type etc.

The typological approach helps understand that imagination being a universal ability for any type of human activity initially exists in specific and concrete forms. For instance, in the sphere of art, imagination is manifested through artistic images, in the sphere of science – through ideas and notions, in constructive activity - through inventions. Yet, the multitude of forms of imaginations does not contradict to the fact that the content of imagination is uniform - namely, it is the existing reality.

The imagination of a professional artist mainly operates on images and symbols. It is systematically channeled through specific forms defined by a particular branch of art, i.e. the

imagination of a musician is different from that of a poet, playwright, painter etc. The imagination of a child is a prototype of syncretic integrity of a number of imagination types.

Recognition of the fact that despite its universal nature imagination is a complex ability, which has particular typological forms, is quite important from the methodological point of view. The faulty yet widespread projection technique of the imagination of an adult person onto the logic of a child is implied. It is evident that this approach considers children's imagination to be 'the germ,' the lower form of what an adult has fully developed. Accordingly, the creative development of a child is understood through the prism of maturing only. Moreover, the development of imagination is understood as unilateral motion to the cognition of a certain ideal form, which is presumably perceived by and characteristic of an adult. Ignoring the originality of comprehensive world perception of a child leads to considerable distortion in the interpretation of children's imagination, in particular, and artistic achievements, in general. This is the cause of difficulties associated with determination of such criteria as innovativeness, originality, social significance and utility of artistic products as to artistic achievements of a little artist. It is evidence to the specific nature of children's imagination, which is not found in adults' imagination, rather in the peculiarities of children's psyche.

The goal of our investigation is to describe the specific features of children's imagination and demonstrate how it differs from the imagination of an adult person. The peculiarity of children's imagination is found in the particular features of children's psyche and their age-dependent approaches to perception of the existing reality.

The earlier forms of children's creativity are not perceived as such by the child. They are arbitrary, self-evident and available. Small children constantly talk about something, sing, move, draw and imagine. Thus, children express what they feel, know or think about. Children's creativity manifested in various forms activates a wide range of spiritual and physical abilities of children and, thus, positively affects the entire process of personal growth. Children's creativity enhances the elasticity of the psyche, deepens perception and makes it more accurate, develops thinking flexibility, disciplines oneself, imposes self-control and stimulates the ability to analyze own feelings and emotions.

The general philosophical approach and results obtained during psychological and sociological researches based on interpretation of children's artistic creativity are in the methodological basis of this study.

PECULIARITIES OF FORMATION OF REGIONAL COMPOSER SCHOOLS IN UKRAINE IN THE SECOND HALF OF THE XX CENTURY

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In the XX century, the problem of artistic heritage value, which was accumulated during the existence of culture as a social phenomenon, became extremely acute. Peculiarities of coexistence of traditional and innovative, canonical and heuristic were characteristic for the last century. The last decades of society development are characterized by rapid processes of revival of Ukrainian statehood, renewal and enrichment of content of its spiritual life. First of all, there is a transition from the dogmas of "socialist realism", ideological regulation of

cultural life to pluralism, the priority of the universally recognized values of world culture. The basis for the success of this phenomenon is holistic comprehension of the musical life in Ukraine through the prism of cultural regionalism and awareness of the national idea based on historical and cultural identity.

Special role belongs to the study of the socio-cultural stratum of separate regions. In order to form a state cultural policy, it is extremely necessary to take into account the socio-economic, geographical, historical and cultural differences of the regions of Ukraine. The priority of research in the direction of musical regionalism in the general model of cognition is obvious, relevant and corresponds to the dialectical principle: from the individual to the general.

The need and desire to fill the gaps in using creative achievements of composers and performers of the regional level arose in the 80's of the XX century. In particular, R. Shchedrin (1988) pointed out in his report at the X Congress of the Union of Composers at the process of expanding the space of musicological research and "decentralization of musicological forces". He noted that for the first time a number of problems that had been previously on the periphery of musicology attention, became the subject of special studies. I. Dziuba stressed that in modern Ukrainian culture the regional diversity was not used sufficiently and, at the same time, its coherently-holistic image had not been yet defined (1997).

Today in Ukraine there are complex social-cultural processes that require historical recognition of the importance of elite national art for preserving traditions and creating new art based on them, preserving national and cultural identity. In addition, the level of scientific recognition of activities of regional composer schools of instrumental genres (instrumental direction) has changed.

There is no doubt that regional composer schools of the second half of the XX century occupy prominent place in domestic culture development. However, the composer schools had not formed a single, monolithic and holistic artistic phenomenon which would be characterized by unambiguous style preferences of the authors. One can speak of the mosaic, plurality, variety of stylistic directions presented in the chamber-instrumental genre of the composers of this period.

Appeal to symphonic and instrumental music is also not accidental, as in the context of this genre the compositional method of stylistic modeling manifested itself most clearly and conceptually and did not receive sufficient coverage in musicology, especially Kharkiv composer school.

According to I. Drach, Ukrainian music is represented by at least four composer schools: Kyiv, Lviv, Odesa and Kharkiv. Each of them is considered to be close in content by musicians of various aesthetic views, creative directions, and style orientations.

During the XX century, Kharkiv changed its regional status (from the first capital of Soviet Ukraine to the regional center). Probably, this fact influenced formation of composer and performer schools. However, oriented towards European culture, mostly Russian-speaking, Kharkiv has developed as an industrial center of the country, with a special graphic architecture, without poetic landscapes and centuries-old historical monuments. Such were the socioeconomic and cultural backgrounds of emerging Kharkiv composer school of S. S. Bohatyriov, who gave his students a wonderful academic school of real metropolitan level, and in the music of Kharkiv composers the preference of the melodic line over the coloring was always felt. S. S. Bohatyriov brought up the constructive sense of the line, which became the basis of polyphonic thinking. From the class of S. S. Bohatyriov came a whole galaxy of prominent Ukrainian composers – A. Shtoharenko, Yu. Meitus, V. Borysov, D. Klebanov, B. Yarovynskyi, M. Koliada, who had the destiny to create in the period of the second half of the

XX century, at a time when Soviet composers were instructed to use in their works only what was not beyond the limits, conditionally speaking, of S. Rachmaninov's style.

In Ukrainian musical culture of the 50's and 60's of the XX century two artistic systems were distinguished. First, "official music" of the era of socialist realism, in which prevailed works written on the "social order" (A. Shtoharenko, Yu. Meitus, V. Borysov, V. Hubarenko). Second, instrumental non-program music, chamber music even in traditional large musical forms. The followers of this direction were representatives of the Kyiv composer school (V. Hodzetskyi, L. Hrabovskyi, V. Sylvestrov). They sought to exceed the limits of traditionalism in their works.

In the 60's of the XX century, the predominance of Kharkiv composer school over Kyiv was recognized on the basis of the Soviet national cultural tradition, while Kyiv composers favored the western avant-garde. During the years of functioning of Kharkiv branch of the Union of Composers of Ukraine, there was created music that was performed in all corners of the world. However, over the next two decades, differences between composer schools disappeared, which was primarily due to changes in the socio-economic conditions in Ukraine.

From L. Raaben's point of view, it is reasonable to assume that aesthetics of neoclassicism, which developed during its heyday in the 20–30's, after the World War II, had already been exhausted. In this context, neo-classicalism itself has defined "poly-stylistics", which has become almost the main feature of art of the present.

It should be stressed that the most demanded by listeners and performers were the works of chamber-instrumental genre. According to L. Raaben, chamber music is a reflection of musical consciousness of its time, is a kind of indicator sensitive to the smallest mental movements, the subtlest emotional states (1986). In addition, chamber-instrumental music makes it possible to most accurately convey the peculiarities of folk music in composer's creativity and, consequently, is a criterion for the professionalism of musical art with a national specificity. It is no coincidence that in recent years creative interests of composers are connected mainly with chamber music, especially violin performances. This can be explained by several reasons: firstly, chamber music is closest to traditional forms of music (both in the composition of performers, and in terms of performance); secondly, it allows a more democratic style of music presentation (compared to a symphony or opera); thirdly, in chamber music there are very important details, namely, they often display specific national features that connect composer music with traditional folk music; fourthly, works of chamber genres can be performed not only by professional musicians, but also by musicians-amateurs (pupils of children's music schools, students); fifthly, the demand for chamber music is explained by the realities of concert practice, the possibility of performing on small stages, involving a small number of performers, which is important in modern economic conditions. In addition, the advantage of "small forms" is associated with the global trend of the postmodern era, which aspires to "image" art.

Thus, the study of chamber-instrumental genres in violin music takes on special significance in the context of development of the regional Kharkiv composer school of the last century.

TRANSLATION AS ART VS TRANSLATION AS CRAFT

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Nowadays the issue of the consecutive translation discourse has been of great importance in linguistics. The innovations in digital dictionaries and professionally oriented literature are constantly pushing newly qualified individuals towards practicing their competences starting from university. But the educational system is not that developed in order to pay less attention to lots of academic duties (filling in endless papers, reporting about their accomplishments in teaching process) which are not to be priority in teaching at all. One of the suggestions introduced ahead can be renaming a teacher into a coach, whose duties towards training a person seeking for a certificate in translation and interpretation would be more of a practice course than a theory one. The lately experience has proved that having more theoretical material takes time and brings more confusion, than use. The redundancy of theoretical courses, instead much translation practice implementation would lead to more successful students from the first year of study at university.

A poll conducted in three universities which train translators has shown that only 30% of students who have chosen this profession consider themselves as those who have made a right choice. The majority stated that this profession is not prestigious anymore, or requires crucial changes within the course of training.

The time - lapse translators are working affects them much. Today it is not enough to have a good command of both languages- your native and a foreign one to be an interpreter or a translator. One has to be a smart reader and a witty speaker. By smart reader we understand a person who is endlessly trying to broaden their outlook by means of broadening their lexicon. A witty speaker at the same time is a person who, having accumulated everything they have learned from their reading, can deliver a speech using lexicon they have taken from literature or any visual content. This is a universal person able to discuss everything under the sun. Having a rich vocabulary ground, being able to represent themselves on a proper level, this person has a chance to get a well-paid job.

Translation as art. This is an axiom, a starter in translation has to accept. The acceptance also lies in all circumstances which a translator might face ahead. A genuine translation master mobilizes all resources in order to achieve an effect they are striving for. Translation as art cannot exist without Translation as craft, because only a craftsman can see a result of this work as a piece of art. Two living organisms- the original and the text of translation, two people-an author and a translator must be cooperating together in order to give a product with one hundred percent confidence that both people worked as one.

Without practice any theory remains just a theory. This in an answer to a question why yearly translation departments graduate many students, but only a few become professionals. Theory which has nothing to do with practice, because of the ancient curricula dating from the past century leads to disappointment applying for a job in a translation agency, starting from a job interview. Integrated approach to training professionals guarantees applause in the hall where a young professional might share their knowledge in full volume.

Methodology of such coaching must be aimed at a combined lesson with 30% percent of theory and 70% of practice. The consecutive translation course must be taught from the

first year of study. Bilingual students will gladly welcome the idea of training both languages with the same intensity, and identical enthusiasm.

THE ROLE OF MULTILINGUALISM IN THE FORMATION OF LANGUAGE KNOWLEDGE

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Language is not only the main means of communication of human society, but also the highest and most basic form of displaying a true picture of the surrounding world. It is known that the cognitive property of a language is associated with its function in society. The language is not only the keeper of the knowledge of the truth of being collected by humanity, but also the provider, the informer and the recipient of new knowledge, i.e. means constantly developing the process of human thinking. From the point of view of cognitiveness, linguistic knowledge, along with the psychological category, is the most important structural part of the formation of theories of knowledge. According to researchers, language is the most important among the teachings on knowledge, as it is not only the main means of transmitting thought but also the designer and issuer of the entire accumulated human consciousness of the stock of knowledge. Problems of cognitive linguistics, such as the conceptual system, linguistic personality, cognition of the world, the linguistic image of the world, national linguistic image, etc., are closely related to the process of linguistic cognition. Before we talk about the role of multilingualism in the formations of language knowledge, let us try to explain the concept of "multilingualism."

Multilingualism is the use of several languages in a certain social environment (in many respects in the state); speaking, speaking of individuals or groups in several languages in specific communicative conditions. These two phenomena are related to each other. Although in society one language is superior to others, some members of society may speak several languages. Multilingualism on a large scale is typical for multinational states (the USA, former USSR, India, Nigeria, etc.). In the conditions of multilingualism forms of language communication (dialects, social and professional jargons) are used among certain groups of society. In many ways, multilingualism is expressed in the form of bilingualism. The widespread use of three or more languages is rare. The functional status and their typological, kindred affinity of languages used in the conditions of multilingualism. This is written by many scientists. For example, a famous scientist, public figure Mukhtar Ganievich Aryn wrote: "Multilingualism is inherent in every person ... Multilingualism appears only when a person knows several languages". In reality, multilingualism is a requirement of time. Only by comparing the culture of one people with the culture of another, one can feel the peculiarities of the national culture, giving the opportunity to see the picture of the world holistically.

Learning multilingualism is the most important need of today, opening up the opportunity for the younger generation to freely swim in the world of knowledge, helping to scrutinize the magical secret of world science and unleash their talent. In order to live and work in today's rapidly changing times and open up their spiritual world, a young person must be versatile. The knowledge of several languages of educated, intelligent people shows a high

level of spiritual self-consciousness of the people. The current young generation is fluent in three languages, any event, contests, competitions are held in three languages.

Multilingual education is the core of a multicultural personality. Today, learning multilingualism is a necessity that opens up the possibility for the younger generation to freely swim in the world of knowledge, helping to scrutinize the magical secret of world science and unleash their talent. The Kazakh language is the state language, and the knowledge of Russian and one of the foreign languages broadens the horizons, opens the way to the formation of the personality as "perfect man." Any specialist who speaks a foreign language can feel free in a foreign language environment, has the ability to quickly navigate in a new professional and information wave. Each person has different results in achieving different social functions; therefore, the goal of learning foreign languages is not only mastering specific skills and knowledge but also forming a language personality. They need a foreign language in "life circumstances" and in specific situations for communication."

The founder of the Kazakh theoretical linguistics, Professor Kudaibergen Kuanovich Zhubanov in his autobiography indicated that he knows 18 foreign languages. It was the knowledge of several languages that helped the scientist to reach great heights in linguistics. In his article devoted to the works of Abai, K.Zhubanov comparing his works with the poems of poets of the West and East concludes that Abai is a classic of Kazakh poetry. In addition, in his fundamental works on linguistics, he equally embarks on polemics with prominent scholars of his time and convincingly defends his opinion. As early as 1920 – 1930, while receiving a European-level education K.Zhubanov noted the need to study the Kazakh language in conjunction with world problems of linguistics. From the above, we can conclude that a person who speaks several languages has a higher level of world consciousness, and these, in turn, prove the need for multilingualism in our time.

CONCEPTUAL SPATIAL PICTURE of the WORLD

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The question of space and time in a literary text is one of the most studied and debated both in the natural sciences and in linguistics as a whole. The relevance of studying space and time in a work of art lies in finding ways to reflect writer's intentions, in the possibility of synthesizing the picture of the world of the author by analyzing the language means which are usually used by the author in his works.

The article is devoted to the study of spatial organization of science fiction text. The genre specificity of science fiction works determines not only the special organization of the whole text, but also the construction of the world depicted in it. This is manifested in the typological features of the design and image in the text of all three main components of any artistic text: time, place, characters. The *time-place-subject grid* in a science fiction work plays an extremely important role in creating the image of an unreal, alien, world.

The author attempted to demonstrate and prove that the spatial pattern of sci-fi text is mainly represented in two spatial planes: on a cosmic-planetary scale and a shift away from the earth's surface.

SHAKESPEARE'S SONNETS: THE REVERSE ORDER

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In 1865, Francois-Victor Hugo, the son of the famous writer, in the comments of his translation of Shakespeare's sonnets proposed the version that the sonnets were shuffled like cards.

F.-V. Hugo has arranged sonnets according to his own vision. It is important for us that the translator put sonnets with large numbers at the beginning of his translation, and arranged the first sonnets at the end. The idea of regrouping sonnets in the "correct" order was objected to by a 20th-century researcher Hilton Landry. Combinations of the sonnets' order may be endless. H. Landry considered their sequence to be the author's.

We turn to the biographical method and the semantic-and-sense analysis proposed by us.

In the author's collections It would be logical to observe the acquisition of life experience. Life teaches us to look at our experiences more philosophically, to come to the idea of a balance between sorrows and life-affirming values. It is logical to read about fatigue and disappointment in later poems and about riot and hope in poems of the earlier age.

it would be logical to write *How heavy do I journey on the way, when what I seek, my weary travel's end* (50) in adulthood. The themes of autumn and winter, of wilting are at the beginning of the book of sonnets (and winter is earlier than autumn). But it would be logical to put them at the end. Spring is in the middle part (98). *Bears the cross* - (34), *a decrepit father* (37) - these words stand closer to the beginning, and *love is too young* stands at the end (151).

The desire to die is described in two sonnets. But in one of them the poet despaired because of personal problems (147), and in the other because of world evil (66). It is logical to assume that the 147th sonnet was written earlier, and the 66th - later.

In the sonnets with small numbers the state of fatigue and physical exhaustion was reflected (*devouring Time; in me you see'st the twilight of such day as after sunset fadeth in the west*). In the sonnets with large numbers the poet wrote about sexuality. Sexuality needs physical strength. So these sonnets were written when the Author was young.

There are two sonnets about notebooks for records. In one (122) the poet says that he will remember everything that struck him, and he does not need a notebook. In the other (77) he claimed that we need to write everything down, because the memory is not durable. Which one is written later? It is logical to assume that the young man does not need records, and a mature man does not neglect them. So, the sonnet 122 is earlier, and 77th is written later.

The cover of the first edition of the sonnets of 1609 indicates that they were never published ("never before imprinted"). However, two sonnets were published earlier in the 1599 anthology "The Passionate Pilgrim".

What are the numbers of sonnets which were previously published? Are they those that were closer to the beginning or to the end? If the first is true, their numbers should be small. If the opposite is true, they should have big numbers. In the first publication the sonnets with numeric of more than a hundred were included: 138 and 144. We see that sonnets with large numeral were published before sonnets with small numeral. So there is a reverse order of their location in the book of sonnets. We cannot assume, like other

researchers, that sonnets up to the 144th were written before 1599, because this would mean that Shakespeare did not write sonnets from 1599 to 1609.

Sonnet 154 is translated from the Latin poem by Marian. It plays the role of an epigraph. The last line of the first sonnet includes the word *grave*. It looks like an epilogue.

If there is a cipher in the sequence of sonnets, it should be simple. The easiest cipher is to arrange something in reverse order.

We suggested the reverse order of Shakespeare's sonnets on April 2015 (the magazine *Новая литература*).

So we assumed that the reading order of the sonnets should be the opposite of the existing one. Exceptions are some sonnets, standing nearby and closely related by meaning. They require a direct reading order. The author or the publisher has changed their location for readability. These are the sonnets 5 and 6, 44 and 45, 50 and 51, 111 and 112.

БРАТ АЛЬБЕРТ – СВЯТИЙ І ХУДОЖНИК

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Творчість святого брата Альберта – людини духовної, котра своїм життям ілюструє тернисту дорогу становлення та розкриття в собі сили духу, ніколи не розглядалася у сфері аналізу художньо-композиційних характеристик його творчості. Висвітлюються невідомі дотепер матеріали його життя і діяльності, причетність до культурного збагачення мистецької спадщини Поділля. Адам Гіларій Бернад Хмельовський народився 20 серпня 1845 року в польській шляхетній родині Войцеца Хмельовського та Юзефи Божиславської в селищі Іголомія, під Краковом. У 1853 році сім'я Хмельовських оселилася у Варшаві.

Адам навчався в кадетському корпусі в Санкт-Петербургу, де оволодів зброєю і студіював сільське господарство задля керування, в майбутньому, родинним маєтком.

У 1865 році Хмельовський знаходить собі місце у світі мистецтва і навчається у школі образотворчих мистецтв. У 1876-1879 роках він відвідав багато міст, таких як: Краків, Хоростков та Львів, побував у Венеції і написав картини («Перед бурєю», що була виставлена у Товаристві друзів витончених мистецтв в Кракові), «Пейзаж вечірній» і «Вечірній настрій», також створив багато акварелей.

Згодом у художника виробився впізнаваний стиль, атмосферність робіт справляла враження на аудиторію, він вносив в картини містичні та символічні елементи, впроваджував сакральні мотиви. У 1879 році Адам почав працювати над своєю великою духовно-мистецькою роботою – «Ессе Ното». Зображенням Ісуса Христа в терновому вінку і червоному вбранні, яке представляє Ісуса Христа у Понтія Пілата, було прикрашено вітвар капиці сестер-альбертинок у Кракові. Художник, мов з колін, пише змученого стражданнями Христа, схиляючись перед неземним стражданням Бога. Трагічно виглядає темний силует на світлому тлі, а червоний плащ в оточенні темних коричневих тонів сієни і умбри, підкреслює весь трагізм ситуації. Зранене терновим вінком чоло контрастує зі спокійним виразом обличчя, що демонструє надлюдську покірність Ісуса. По силі дії і глибині – це найбільш вражаюча

композиція Адама. У 1876 році Хмельовський видав невеликий трактат «Про суть мистецтва», в якому зазначає, що «...суть мистецтва – це душа, яка проявляє себе в стилі».

Маючи чуйну душу, він відчував покликання допомогти тим, хто мав потребу і, керуючись цим бажанням, 10 жовтня 1880 року став адептом ордена єзуїтів. Але вже наприкінці 1880 року у нього почалась духовна криза, пов'язана з постійним каяттям і нестерпним відчуттям провини, що стала причиною його виключення з ордену.

У період з 1882 по 1884 року Адам Хмельовський проживав в орендованому своїм братом Станіславом Хмельовським на території Поділля маєтку Козибродських. У нього з'явилась своя студія в сімейному маєтку Двірницьких у Заваллі, що у 3 км на південь від Кудринців. В його творчості можна зустріти і краєвиди, і портрети, і сюжетно-тематичні композиції. Ці роботи мають історичні цінності, бо дають змогу відтворити візуальну картину околиць Кам'янець-Подільського району і річки Збруч у середині XIX ст.

Стилістична манера Адама Хмельовського близька до традицій класичного живопису з нотами романтизму і відчутним символічним наповненням. Образи на картинах найчастіше реалістичні, виконані з майстерністю і глибоким знанням законів пропорціювання, композиційних співвідношень і поєднань кольорів. Хмельовський у своїх творах розкривав різноманітні сюжети, починаючи від просторових пейзажних етюдів і до релігійних сцен. Портрети живописця сповнені характером, вигідно виділяються на темному фоні, що посилює передачу психології образу, підкреслює інтимний характер моделі.

Митець використовував для деяких своїх робіт не зовсім звичні, видовжені горизонтальні формати, що дозволяло зобразити панораму з більшим радіусом огляду. Характерною особливістю частини робіт, також, є чітко виражений композиційний центр, прописаний більш світлою плямою по відношенню до навколишнього оточення. Він вміло використовує світлотіньові ефекти для виділення фрагментів картин та акцентування центру. Можна припустити, що кольорові спалахи у деяких творах Хмельовського були пов'язані з явним впливом імпресіонізму на розвиток сучасного польського живопису.

Віртуозно художник володіє створенням колориту твору, який завжди підкреслює основну ідею композиції. Акварелі Адама легкі і чисті, написані переважно в глибоких, темних тонах, з відчутною повітряною перспективою і просторовим наповненням.

25 серпня 1887 року у Кракові Адам Хмельовський приймає нове чернече ім'я – Альберт. 1 листопада 1888 року брат Альберт підписав спеціальну угоду з міською радою Кракова. Місцева влада офіційно передала під опіку брата Альберта два притулки – для чоловіків і для жінок. Послідовники нового руху починають називати себе альбертинцями. Так був заснований орден альбертинок і альбертинців. Ідея альбертинського служіння людям набула дедалі більшого соціального визнання. Приїхавши у Львів, столицю Галичини, брат Альберт запропонував підписати угоди про надання йому дозволу на догляд за декількома притулками. Львівська угода, підписана 1 листопада 1892 року, була більш вигідною для всієї альбертинської громади, ніж у Кракові.

22 червня 1983 року Папа Іван Павло II проголосив брата Альберта Хмельовського блаженним, а 12 листопада 1989 року на Площі Святого Петра у Римі зарахував його до лику святих.

Живописна колекція, намальована Адамом Хмельовським під час його перебуванні на подільських землях, була створена у руслі художньої школи Поділля і зробила свій внесок в розвиток сакрального живопису. У мистецтві Поділля

переплелись відголоски різних шкіл, культур і ментальностей. І частинка свідомості брата Альберта назавжди вплетена у мереживо, що являє собою мистецьку спадщину Поділля.

USING LEARNING MANAGEMENT SYSTEMS FOR FOREIGN LANGUAGE TEACHING

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Nowadays, the modernization of the system of education is increasingly associated with the development of distance learning, which is considered one of the essential factors when it comes to gaining the strong and competitive position on the market of the educational services. This form of training is widely used in countries in Western Europe, the United States and other developed countries. Indeed, the distant learning proved to be effective in mastering various subjects, including foreign languages. Learning based on computer technology has indisputable advantages since it makes it possible:

- to transfer of any information at a distance;
- to store the information for a long time using cloud technologies;
- to edit the assignments;
- to access the various sources of information, including remote databases and libraries;
- to organize telecommunication projects, as well as conferences, computer audio and video conferencing;

Apart from these benefits of the distant learning, it is possible to mention its important characteristics such as mobility (a student can access the necessary materials 24/7), flexibility (a student is able to choose their own path of learning, either slow or fast), adaptation of content (the content can be updated or changed when needed in order to meet the learning goals), interactivity (students can interact not only with a teacher, but also with each other, which is advantageous in terms of solving different problems, working on the same project), etc.

In addition, contrary to the popular belief, distance learning is not necessarily a form of learning which is suitable for part-time (external) students or self-learning activities. Distance learning can be built in accordance with the content and goals of the full-time, also known as internal study mode. The specifics of teaching and the form of interaction between a teacher and students is significantly different, though. This interaction is realized through the opportunities the information environment provides.

Distant form of learning can successfully be used in foreign language learning at any stage, however, unlike other subjects, for effective realization of the learning goals, it is necessary to take into account the following factors:

- effective interaction between a teacher and a student;
- pedagogical and methodological technologies used;
- effectiveness of methodical materials and ways of their delivery;
- feedback efficiency;
- particular importance in learning foreign language is sound and video support.

These factors set certain requirements to the online platforms which provide an opportunity for distance learning. Among many learning management systems (LMS), a software application for the administration, documentation, tracking, reporting and delivery of educational courses, training programs, or learning and development programs, the following appear to be the most suitable ones for foreign language teaching and learning.

Moodle is undoubtedly one of the most popular open source distance learning platforms. Moodle offers the user a variety of toolbars, multimedia support and, the most importantly, the ability to track students' progress. The system makes it possible to create courses adapted for mobile phones, which ensures such important requirement as mobility. Another advantage of Moodle is the user community. In addition, this LMS offers a number of ready-made templates which are possible to use to save time and not create a course from scratch.

ATutor is a LMS which has many useful functions: from email notifications to file storage. One of ATutor's most striking advantages is its customer orientation and easy and intuitive interface, making this system the perfect tool for those who are just beginning to master the world of e-learning.

Another LMS which is worth mentioning, is Opigno. The opportunities offered by the Opigno are numerous - class schedules, forums, customizing e-learning tools, a rating system and a video gallery are just a few of the impressive list of functions available to the user. This distance learning system is written in Drupal, a popular content management system. It enables teacher to manage curriculum, track students' progress, etc. Opigno also offers an opportunity to send instant messages and chat, which makes it possible to quickly provide and receive feedback and effective cooperation.

Although The iSpring Online online learning platform is used by private business coaches and large companies, it can be also suitable for foreign language distance learning as well. It is not necessary to download the program, install it on the server or configure it. To get started, one needs to register on the site, download training materials and invite the students. Technically, one person can manage this LMS. The following features make iSpring Online an efficient tool for educational purposes: unlimited storage, an unlimited number of educational materials such as videos, books, presentations, PowerPoint course editor, tests, interactive games.

Thus, the distant form of foreign language learning has a whole range advantages like access to various sources of information, flexible schedule, mobility, interactivity, etc. However, the creation and use of distance courses directly depend on the level of technical equipment, availability of Internet access, level of computer literacy. The development of distance learning courses is a complex process, which requires the development of a significant theoretical and methodological base the prospect of our further research.

ADVERSATIVE EXPRESSIONS WITH PHRASEOLOGICAL UNITS IN THE GERMAN, ENGLISH AND ABKHAZ LANGUAGES

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Contexts with phraseologisms and phraseological units with conjunctions *aber* in the German, *but* in the English, *aha* in the Abkhaz languages are of a particular interest from the semantic point of view in different language systems.

As a rule, traditions, customs, beliefs, mode of life, religion and history of people are reflected in phraseological units and phraseological expressions.

It is known, that phraseological units and phraseological expressions containing adversative statements in the compared languages enrich the speech, making it rich, lofty and eloquent. Phraseological units containing opposing conjunctions *aber*, *but*, *aha* express a contradiction, opposition. It should be noted that phraseological units containing adversative conjunctions in the compared languages possess both integral and differential features, expressing at the same time a request, distrust, agreement, demand, prohibition, reproach, etc.

Phraseological units and phraseological expressions in various contexts of their functioning are emotionally coloured. However, the investigation showed that phraseological units containing adversative conjunctions in different language systems are the most metosemiotically colored.

Shaaban azh'a ichoup, aha esnag' eipshni ibziani diztsazhadzom, zni-zinla ih'zei lishpazimzazh'ei anirhogi ikoup.

Die Rede beherrschen.

To possess the gift of the word.

Shaaban speaks well, but cannot always speak equally well, sometimes they can say that something happened to him - he cannot make a beautiful speech.

This proverb semantically illustrates the fact that a person who is described as *azh'a ichoup* should systematically, as a rule, possess beautiful speech, his public performances of his daily speech should be flawless. However, his speech is not always perfect. The expected result does not follow the final part of the passage. The lexeme *aha* is of a deliberative nature in the context.

The synonymous equivalent of the Abkhaz *azh'a ichoup* in German is *die Rede beherrschen*. In the literal sense, it means "own the gift of the word", i.e. performs an identical function in comparison with the Abkhaz idiom, while they have integral features.

Man cannot live by bread alone.

Apstazaara mguala irzom.

And he humbled thee, and suffered thee to hunger, and fed thee with manna, which thou knewest not, neither did thy fathers know; that he might make thee know that man doth

not live by bread only, but by every word that proceedeth out of the mouth of the Lord doth man live.

The biblical nature of the concept, isolated from its original context, has become widely used in speech in a transposed form. The phrase *man cannot live by bread alone* is widely used in speech and has an instructive nature (instructive and didactic). However, if we turn to the original phrase, we will see that Biblical has the character of a prohibitive modality. The conjunction *but* emotively strengthens the nature of this prohibition, edification.

Deihssi dtsoit.

Dbeioup, ibziani dinhoit.

Shagu deihssi dtson, , aha ihshaz dihdirtsueit, agutsuhu dikudirtueit.

Rich, lives well.

Shagu leaded a rich life. There was a lot of hive, innumerable cattle, but the children ravaged it.

This proverb describes the rich, secured life of the family with its household *ishtaguara auauyi dzakushomizt, irahu tsuya rimamizt*. However, as time goes on, children grow up and there are big problems in the family. The family goes bankrupt, becomes impoverished, insecure. The financial problems that have arisen in this family can be reflected in the antonymly-organized vocabulary *deihssi dtson, ihshaz dihdirtsueit, agutsuhu dikudirtuei*.

The lexeme *aha* in this case emotionally expresses the opposition of two concepts (wealth, poverty). Antonymously organized vocabulary, at the same time, performs an argumentative - adversary function and is cognitive in nature.

Thus, the phraseological units and phraseological expressions under consideration containing adversative conjunctions *aber* in the German, *but* in the English, *aha* in the Abkhaz languages in contexts of their functioning can perform argumentative, presuppositive, explanatory functions, and are also edifying, didactic and instructive.

Life Sciences & Earth Sciences

- *Agronomy & Crop Science*
- *Animal Behavior & Ethology*
- *Animal Husbandry*
- *Atmospheric Sciences*
- *Biochemistry*
- *Biodiversity & Conservation Biology*
- *Bioinformatics & Computational Biology*
- *Biophysics*
- *Biotechnology*
- *Birds*
- *Botany*
- *Cell Biology*
- *Developmental Biology & Embryology*
- *Environmental & Geological Engineering*
- *Environmental Sciences*
- *Evolutionary Biology*
- *Ecology*
- *Food Science & Technology*
- *Forests & Forestry*
- *Geochemistry & Mineralogy*
- *Geology*
- *Hydrology & Water Resources*
- *Insects & Arthropods*
- *Life Sciences & Earth Sciences (general)*
- *Marine Sciences & Fisheries*
- *Microbiology*
- *Molecular Biology*
- *Mycology*
- *Oceanography*
- *Paleontology*
- *Pest Control & Pesticides*
- *Plant Pathology*
- *Proteomics, Peptides & Aminoacids*
- *Soil Sciences*
- *Sustainable Development*
- *Sustainable Energy*
- *Virology*
- *Wood Science & Technology*
- *Zoology*

DNA PHOTONICS: SPECTROSCOPIC AND THERMODYNAMIC METHODS FOR STUDYING NANOTECHNOLOGICAL ABILITIES OF DNA IN BIOMEDICAL RESEARCH

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DNA is a quantum system in which standard and wrong GC and AT Watson-Crick base pairs (*bp*) co-exist. In wrong *bp* double proton transfer (DPT) takes place, the UV spectroscopic display of which we have detected based on the example of GC *bp*. In normal condition there is one wrong pair on average by 10^4 *bp*. The quantity of wrong pairs increases under environmental changes (H_3O^+ ions, transition metal ions, metal nanoparticles, ethanol, salts, polyethylene glycol, dehydration etc.), which leads to double helix transition from B to C form and further, depending on the sequence of DNA, to Z form, A-form, *psi*-conformation or disordered state. Besides, as a result of mobile adsorption of H_3O^+ ions on the surface of the DNA double helix, the balance between the number of standard and wrong *bp* can be constantly disturbed and the probability of hydrolysis of glycosidic bonds will increase.

Nanomolecular properties of DNA are: 1) DPT in *bp* pairs; 2) mobile adsorption of H_3O^+ ions on the surface of DNA; 3) inner mobility including intercalation; 4) ability of light reradiation.

These properties give DNA double-helix the ability to: a) be a catalyst in oxidation-reduction reactions; b) be a mediator in resonance interaction between metal atoms; c) be a mediator in resonance radiationless electron excitation energy transfer [Förster Th., *Ann. Phys.*, 2, No.p.55-75. (1948)]; d) form inter-strand cross-links; e) perform photo-dynamic effects; f) be mediator in photo-induced conformational transitions of metal nanoparticles [Vasil G. Bregadze, et al. *Advances in Nanoparticles*, V.2 No.2 p.176-181 May (2013)].

Besides, new original methodological approach entails:

1. Representing DNA-ligand interaction in solutions as an approximation to the original thermodynamic adsorption model [V. G. Bregadze, et al. in: *Metal-Complex DNA Interactions*, N. Hajiliadis and E. Sletten (Eds), 31-53 (Blackwell Publishing, Oxford, UK), (2009)];
2. UV spectroscopic display of DPT in GC pairs of DNA;
3. Application of nano-scale (1-10 nm) method of laser induced fluorescence resonance energy transfer (FRET) that gives us the opportunity to determine the concentration of double helix areas capable of poststress intercalation. This is the fast method to determine the quality of DNA;

4. Original method for excitation energy dissipation at photodynamic effect on DNA which proposes water molecules electrolytic dissociation for hydrolysis reactions of phosphodiester and glycoside linkages.

These approaches enable us to detect cell free DNA, to determine defects in blood cell DNA (point defects, hydrolysis of chemical bonds) using optical spectroscopic methods (absorption spectrophotometry, spectrofluorimetry, light scattering, plasma atomic emission spectral analysis) the **novelty** of the research is its **actual** and **modern** great informational capability, quick analysis in real time and early detection of risk factors.

The proposed method can solve **important medical problems**, particularly, for **I. diagnostic** purposes in oncology by:

a) determination of the number of wrong Watson-Crick GC pairs in blood cell DNA by comparing normal and pathological DNA using UV absorption spectrometry [V. Bregadze, I. Khutsishvili, et al. *Inorganic Chemical Acta*, 339, 145-159, (2002)].

b) measuring the concentration of cell-free DNA in blood serum/plasma (quality and quantity). For the purpose our group has specially developed FRET method for intercalated dyes in DNA which can be effectively applied [V. G. Bregadze, et al. *Laser Phys. Lett.*, 13115601 (7pp), (2016)].

c) the efficiency of energy transfers in blood cells DNA using FRET method which allows us to estimate the concentration of double helix areas with high quality stability applicable for intercalation in DNA after its exposure to stress effect. It gives the opportunity to compare various types of DNAs having: different origin, various damage degrees and being in various functional state.

II. simultaneous use of laser and original low-pressure (argon of 1-30 Torr) plasma radiation (line spectrum 700-1500 nm) [Giorgadze TG., ... Bregadze VG., *Advanced Techniques in Biology & Medicine* V.5, Issue 2, (2017)] in **phototherapy** lead to the excitation of the ground state S_0 by strong inelastic Raman scattering of biological macromolecules, on the one hand, and excitation of valence vibrations overtones in water molecules, on the other. The result of this joint action will be the hydrolysis of biological macromolecules, which is the main reason of programmed death of the cells (apoptosis).

THE IMPACT OF REGIONAL CLIMATE CHANGE ON THE IRRIGATION MODE OF FRUIT AND VEGETABLE CROPS IN THE SOUTH OF UKRAINE

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The extraordinary changeability of the quantitative parameters and variants of combining agro-meteorological factors in the years and regions causes considerable fluctuations of yields, and the level of using agro-meteorological resources in production conditions does not exceed 40–60%. R. Williams stated that “climate factors in our country, taken as a whole, are determining in the problem of crop productivity. They are stronger than economy, stronger than machinery”. Under conditions of climate transformations the

importance of irrigation as a stabilizing factor of agrarian production is considerably increasing.

Climate change is objective reality. At present the prevailing majority of outstanding scientific studies and observations prove that the average temperature in Ukraine has increased by almost 1 °C for the past 100 years and only by 0.3 °C for the past 10 years. It considerably affects the irrigation mode of agricultural crops, determined by the rate, number and time of irrigation of the crops grown.

The average air temperature (°C) and annual precipitation (mm) over the periods of 1945–2011 and 2011–2018 were analyzed in order to determine and analyze possible climate change on the research territory in future. Additionally, potential evaporation and moisture coefficient were calculated and analyzed (M.M. Ivanov, 1981).

The analysis of the data for many years show that the average annual air temperature has increased by 1.4 ... 1.8 °C for the past 12 years. The process of temperature changes is followed by a reduction in the total amount of rainfall by 55.5 for the period of 1998–2018 mm per year. Precipitation occurs as heavy showers during the growing season and the coefficient of soil moisture is low.

It should be mentioned that there is a relatively continuous increase of the years with abnormally high amount of rainfall in the South of Ukraine. Such rotation of dry years with the years characterized by abnormally high amount of rainfall, causes considerable and often negative changes in the operation of irrigation systems. An increase in the amount of rainfall, especially during the growing season, may lead to a reduction in irrigation rates or to the refusal to irrigate particular fruit and vegetable crops. The profitability of irrigated agriculture will fall because of these factors.

The analysis of the evaporation dynamics on the research territory showed that for the period of 2011–2018 this index has increased from 1.06 to 1.21 times regarding the average annual indexes for the period of 1945–2011. It will cause an increase in the total evaporation, which is the base for planning the irrigation mode of fruit and vegetable crops.

It is well known that the limiting factor of determining the maximum rate of irrigation is water-holding capacity of soil, its quantitative characteristic for the research territory is the least moisture-holding capacity of soil (LMC).

On the research territory where the basic types of soil are southern black soils and dark chestnut on loess, the LMC is within the range of 22.30–32.05 and 21.70–32.20% of the soil weight respectively. Because of the negative process of soil densification the indexes of the LMC fall to 20.60–31.90 and 21.30–29.50 respectively depending on the genetic soil horizon.

The experiment allowed determining that under such soil properties the net irrigation rate should not exceed the value of 400–420 m³/ha.

However, under the relatively known net irrigation rate, the gross irrigation rate will constantly increase due to the increase in the amount of the total evaporation. Taking into consideration the relative stability of the LMC, the number of irrigations increases as compared to the calculated irrigation mode. For the conditions of the research territory the number of irrigations increases by 1 irrigation at minimum (for fruit crops), and for hygrophilous vegetable crops the number of irrigations may be increased to 2 times. It causes the necessity to correct the calculated irrigation modes of fruit and vegetable crops during the entire growing season.

It should be stated that the research territory refers to semi-deserts with the moisture coefficient within the range of 0.15–0.34 according to M.M. Ivanov's classification, despite the fact that the South of Ukraine geographically belongs to the Southern Steppe. It is confirmed by botanical and zoological studies. At the seaside territory of the South of Ukraine there are populations of wild plants and arachnids, characteristic of semi-desert areas.

Therefore at the current stage, the minimization of reclamation load on soils by means of fixed rational water use and the transition of irrigated agriculture to adaptive landscape environmentally safe farming systems must become a main issue in the restoration of irrigation.

DEVELOPMENT OF METHODS FOR QUALITY CONTROL AND SAFETY OF DAIRY RAW MATERIALS AND FOOD PRODUCTS

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The common strategy for the implementation of microbiological criteria in accordance with the Regulation of the European Parliament and the Council (EC) № 852/2004 on the hygiene of foodstuffs, which includes the definition of microbiological criteria used in the legislation of the Community; principles of the development and application of criteria and proposals for further measures were developed in EU countries (Prylipko, T.M., Honchar, V.I., Ovcharuk). The mentioned microbiological criteria indicate the acceptability of food products and processes for their production. However, the application of microbiological criteria has certain limitations. Due to reasons connected with sample selection, methodology and uneven distribution of microorganisms, only microbiological studies can never guarantee the safety of the food products that are investigated. Thus, the safety of food products can be guaranteed by application of structured preventive approach that provides the proper product and its production process, as well as the use of proper hygienic practice (GHP) and analysis of dangerous factors and critical control points (on the basis of HACCP system) represented in Regulations № 852/2004 on the General sanitary rules and Regulations № 853/2004 on the approval of special hygiene rules for foodstuffs of animal origin.

Microbiological criteria can be used differently depending on the place of its application and the procedure to be taken in case of inadequacy.

The criteria set for end products (food safety criteria) can be applied to food products ready for distribution to the market or already distributed to the market that are applied at the stage of food products sale, delivering them both to the end users and retailers. These criteria are applied at points of foodstuff entry at the territory of the EU in the case of its imports from the third countries.

The defined hygiene criteria for the technological processes are applied to food enterprises that manufacture or produce food. They are set for a food product at certain stages of its manufacturing and are not applied to foodstuffs that are already distributed to the market, which are usually used to test the technological processes of production and manufacture of food products, and, for example, may indicate the observance of proper hygienic practices and help to understand the level of HACCP system functioning.

Microbiological criteria are usually not suitable for monitoring the critical limits defined in HACCP program. Monitoring procedures should be capable of detecting the loss of control in terms of critical points and ensuring the timely provision of such information for the use of correcting activities in order to restore control. Therefore, the measurement of physical and chemical parameters (e.g., acidity, pH, water activity) that can be carried out at

enterprises in real time should be used instead of research on the subject of compliance with the microbiological criteria.

Committee Regulations № 2073/2005 define the microbiological criteria for certain pathogens in certain foodstuffs, but also establish criteria for *Listeria monocytogenes* to all ready-to-consume food. So, the food safety criteria are defined in mince and semi-finished raw products (*Salmonella*); gelatin and collagen (*Salmonella*); cheese, butter and sour cream, made from raw milk (*Salmonella*, *Staphylococcus – enterotoxin*); dry milk and dry whey (*Salmonella*); ice cream, made of milk (*Salmonella*); egg products (raw) (*Salmonella*); boiled crayfish and shellfish (*Salmonella*); live bivalve shellfish and living echinoderms (*Salmonella*, *E. coli*); the seedlings seeds (*Salmonella*); dry mixtures for babies and dry dietary foods for special health care needs (for babies under 6 months) (*Salmonella*, *Cromobacter*); dry mixtures for babies over the age of 4 months (*Salmonella*).

Criteria of hygiene processes are determined in mince (number of aerobic colonies) pasteurized milk and pasteurized liquid dairy products (enterobacteria) cheese made from milk or whey that has undergone heat treatment (*E. coli*); cheese made from raw milk or milk treated thermally at temperatures below the temperature of pasteurization (coagulase-positive staphylococci); butter and sour cream (*E. coli*); dry milk and dry whey enterobacteria and coagulase-positive staphylococci); ice cream and frozen dairy desserts (enterobacteria); dry mixtures for babies over the age of 6 months and dry mixtures for babies over the age of 4 months supply (enterobacteria and probable *Bacillus cereus*); egg products (enterobacteria); chopped fruits and vegetables (ready-to-consume) (*E. coli*); not a pasteurized fruit and vegetable juices (ready-to-consume) (*E. coli*).

For the most of the criteria a certain type of food is specified. This does not concern *Listeria monocytogenes* that can be connected with almost all ready-to-serve products. *Listeria monocytogenes* is a pathogen that is well tolerated with food and can cause human diseases. *Listeria monocytogenes* is often met in the environment such as soil, vegetation and animal excrements. The widespread distribution and increased in comparison with other organisms ability to grow or survive in refrigerated environments does *Listeria monocytogenes* a significant risk factor in the production of food products, especially it concerns ready-to-use food that is not treated in the process of production, as well as food that may be contaminated through the environment, including the production environment, in the process of its producing.

The product date of expiry determines its durability and is expressed by «best before» that is labeled to the food product in accordance with purviews number 9 and 10 of the guideline 2000/13/EC .

If necessary, the food market operators, responsible for food production, are obliged to monitor the criteria of safety during the product shelf life. In particular, it concerns ready-made meals that are able to maintain the growth of *Listeria monocytogenes*, which, in its turn, may become peril to the public health. The following guidance were developed to help the representatives of food industry to make researchers on the ability to maintain the growth of the pathogen.

The central referent laboratory for research of *Listeria* has developed guidelines for the investigation of finished food products on their contents for food products, able to support the growth of *Listeria monocytogenes*. The quantity of *Listeria monocytogenes* should not exceed 100 cfu/g by date of the expire.

Committee Regulation (EU) number 2073/2005 indicates the frequency of sample selection of beef, pig, sheep, goat, horse carcasses and poultry with the help of facilities that produce mince and meat semi-finished products. These food products are in danger of being contaminated by microorganismus. Other food products have an average degree of risk.

Carcasses, fresh meat, meat semi-finished products, ready-made products of certain risk groups (infant formulae) belong to the category of high risk. The rest of the products belong to the average degree of risk include. There is the possibility to reduce sample selection in terms of satisfactory results over a long time (30 weeks or 15 months). Low degree of risk, which includes all other foodstuff, eliminates the requirements of sample selection.

Laboratories that make researchers for food market operators, as well as research methods establishment of microbiological criteria and matrix for the study were accredited (standard of *ISO 17025*) (Prylipko, T.M., Honchar, V.I., Ovcharuk) by National Council for accreditation, or, the equivalent organization, recognized by the European Agency for accreditation or International Association of laboratory accreditation.

The basis of the horizontal method for the *Listeria monocytogenes* detection in milk and dairy is developing the strategies for improving the horizontal method of *Listeria monocytogenes* detection in milk and dairy products with the help of research suspension, prepared in the ratio of 1:5 (samples of milk and dairy products in the amount of 10–11 cm³ (*d*) and 50–55 cm³ of initial selective enriched medium (half of Fraser broth), and further incubation of the suspension for 21–23 hours at temperature of 31±1 °C and secondary enrichment. After the first initial enrichment the received culture in the amount of 0.05–0.06 cm³ is transferred into the test tube that contains 5–6 cm³ of second time enriched medium (Fraser broth). Then the environment with crops is incubated for 46–48 hours at the temperature of 37 °C. After that the primary (5–6 cm³) and the secondary (2,5–30 cm³) enriched culture in terms of selective environment *PALKAM*-agaris in oculatedandis carried out to get clearly separated colonies of *Listeria monocytogenes* for 24±2 hours at the temperature of 37±1 °C in the form of small green grey or olive green colonies, 1.5–2 mm in diameter, sometimes with a black halo, in 48 hours they are in the form of green colonies, 1.5–2 mm in diameter with deeply sunk center and a black halo around.

The results of our research showed that *Listeria monocytogenes* colonies were found in 24±2 hours. They were of small size about 1.5–2.0 mm in diameter of grey-green or olive-green color, sometimes with a black halo. In 46±2 hours they were of green color with deeply sunk centre and a black halo in the following samples of milk and dairy products (3 samples of raw milk and melted cheese; in 2 samples of cream, melted cheese and butter cream; 1 sample of cheese and spread). Specific colonies of *Listeria monocytogenes* were not founding samples of milk and pasteurized cream. The facts were steady and reliable, therefore, these indicators can be used in evaluating the safety of milk and dairy products. In addition, it should be noted that the method is economic, simple in execution, but its results give specific quality indicators in terms of color and size of *Listeria monocytogenes* colonies.

A method we propose is a qualitative technique of improving the horizontal method of *Listeria monocytogenes* detection in milk and dairy products along with other methods of determining dairy products safety (determination of the total number of microorganisms) and determining the bacteria of intestinal stick group, salmonella and staphylococci) (Bogatko, N.M., Bukalova, N.V). The advantage of this method among existing qualitative techniques is determining the safety of milk and dairy products on the basis of reliable coloring and size indicators of *Listeria monocytogenes* colonies.

The basis of *Salmonella* detection method in milk and dairy products is developing a strategy of improving the horizontal method of *Salmonella* detection in milk and dairy products by changing the quantity of research suspension, which is prepared in the ratio of 1:5 (samples of milk and dairy products in the amount of 10–11 cm³ (*d*) and 50–55 cm³ of preview concentration medium (buffered peptone water), and further incubation of received suspension for 16±2 hours at the temperature of 35±1 °C and subsequent selective concentration. The received culture in the quantity of 0.06 – 0.07 cm³ is transferred into test

tube that contains 5.0–5.1 cm³ RV medium (chloride of malachite medium of green Rappaport-Vassiliadis) and 5–6 cm³ of this culture are also put in a flask containing 50–51 cm³ of selenidecystine medium. These two sawing mediums are kept in the thermostat at the temperature of 41±1 °C for about 23±1 hours and at the temperature of 35±1 °C for about 23±1 hours. After that the culture received with the help of two mediums is inoculated with the help of electronic circuit on the surface of Petri cup in the quantity of 2.0–2,5 cm³, which contains a solid selective medium (carbolic acid red brilliant green agar-agar). Then we exposure it at the temperature of 35±1 °C for 23±2 hours to get isolated typical *Salmonella* colony of red color in terms of changing the medium from pink to red color.

The results of our research identified the isolated typical colonies of red color *Salmonella* in 23±2 hours at the temperature of 35±1 °C in the following samples of milk and dairy products: 7 samples of raw milk; 4 samples of cream and butter; 3 samples of melted cheese; 2 samples of curd and cheese and 1 sample of pasteurized milk. The peculiar red *Salmonella* colonies were not detected in pasteurized cream.

The obtained results were steady and reliable, so these figures can be used in evaluating the safety of milk and dairy products. In addition, it should be noted that the method is economical, simple in execution. Moreover, its results give specific qualitative indicators in terms of red color isolated typical colonies of *Salmonella*.

We consider this method to be the productive strategy for improving the horizontal method of *Salmonella* detection in milk and dairy products alongside with other methods of safety determination (determination of the total number of microorganisms, determination of coliform bacteria, *Listeria*, *Staphylococcus*) (Bukalova, N.V., Prylipko, T.M.)

The advantage of this method is reliable red color indicator soisolated and typical *Salmonella* colonies. Such strategy of improving the horizontal method of *Salmonella* detection in milk and dairy products differs from other methods by using the research suspension, which is prepared in the ratio of 1:5 (samples of milk and dairy products in the amount of 10–11 cm³ (*d*) and 50–55 cm³ of preview concentration medium (buffered peptone water), and further incubation of received suspension for 16±2 hours at the temperature of 35±1 °C and subsequent selective concentration. The received culture in the quantity of 0.06–0.07 cm³ is transferred into test tube that contains 5.0–5.1 cm³ RV medium (chloride of malachite medium of green Rappaport-Vassiliadis) and 5–6 cm³ of this culture are also put in a flask containing 50–51 cm³ of selenidecystine medium. These two sawing mediums are kept in the thermostat at the temperature of 41±1 °C for about 23±1 hours and at the temperature of 35±1 °C for about 23±1 hours. After that the culture received two mediums is inoculated with the help of electronic circuit on the surface of Petri cup in quantity of 2.0–2.5 cm³, which contains a solid selective medium (carbolic acid red brilliant green agar-agar). And we exposure it at temperature of 35±1 °C for 23±2 hours to get isolated typical *Salmonella* colony of red color in terms of changing the medium from pink to red color.

The method of coagulase-positive staphylococci detection in milk and dairy products is aimed to develop the strategy of improving the horizontal method of coagulase-positive staphylococci detection in milk and dairy products by changing the quantity of research suspension.

The experiment is done with the help of research suspension, which is prepared in the ratio of 1:5 (samples of milk and dairy products in the amount of 10–11 cm³ (*d*) and 50–55 cm³ of selective medium of previous concentration (Giolitti-Cantoni broth and Tween 80), followed by incubation of received suspension for 18±2 hours at the temperature of 35±1 °C. After that the culture of received suspension in the quantity of 1.0–1,1 cm³ is inoculated on the surface of Petri cup, which contains Beard-Parker agar medium, by rubbing with the help of spatula of inoculum on the surface of agar. Agar is dried in a cup with closed lid for 10–12 minutes at room temperature (20±2 °C). Then the process of incubation takes

place: a cup of Petri is put upside down at the thermostat and is left for 24 ± 1 and 48 ± 1 hours at the temperature of 35 ± 1 °C to receive the typical colonies of coagulase-positive staphylococci for 24 ± 1 hours in the form of black or grey, shiny and bulging, 1.0–1.5 mm in diameter (48 ± 1 hours – 1.5–2.5 mm in diameter) and surrounded by clean area and has opalescence rings in 24 ± 1 hours of incubation.

The results of the research showed that the typical coagulase-positive staphylococci were identified in 24 ± 1 and 48 ± 1 hours at the temperature of 35 ± 1 °C in the following samples of milk and dairy products: 3 samples of cream; 2 samples of raw milk, butter, cream and spread; 1 sample of curd, cheese and melted cheese. The typical colonies of coagulase-positive staphylococci were not found in pasteurized cream and pasteurized milk.

These results were steady and reliable, so these indices can be used in determining the safety of milk and dairy products. In addition, it should be noted that the method is economical, simple in execution, but its results give specific quality indicators of typical colonies of coagulase-positive staphylococci of black or grey color, brilliant and bulging, 1.0–1.5 mm in diameter (in 48 ± 1 hours – 1.5–2.5 mm in diameter) and surrounded by clean area, which has opalescence rings in 24 ± 1 hours of incubation.

We consider this method to be a high-quality strategy for improving the horizontal method of coagulase-positive staphylococci detection in milk and dairy products on an equal basis with other methods of safety determination (determination of the total number of microorganisms, the determination of coliform bacteria, *Listeria*, *Salmonella*) (Prylipko, T.M).

The method, which is based on improving the horizontal method of coagulase-positive staphylococci detection in milk and dairy products, which differs by using the research suspension, which is prepared in the ratio of 1:5 (samples of milk and dairy products in quantities of $10\text{--}11 \text{ cm}^3$ (*d*) and $50\text{--}55 \text{ cm}^3$ selective medium of previous concentration (Giolitti-Cantoni broth and Tween 80), followed by incubation of received suspension for 18 ± 2 hours at the temperature of 35 ± 1 °C. After that the culture of received suspension in the quantity of $1.0\text{--}1.1 \text{ cm}^3$ is inoculated on the surface of Petri cup, which contains agar medium of the Beard-Parker. Then it is kept at room temperature (20 ± 2 °C) for 10–15 min and incubated in the thermostat at the temperature of 35 ± 1 °C for 24 ± 1 hours and 48 ± 1 hours to get the typical colonies of coagulase-positive staphylococci for 24 ± 1 hours in the form of black or grey, shiny and bulging, 1.0–1.5 mm in diameter (in 48 ± 1 hours – 1.5–2.5 mm in diameter) and surrounded by clean area, which has opalescence ring in 24 ± 1 hours of incubation.

The obtained results were steady and reliable, so these indices can be used in monitoring the safety of milk and dairy products. In addition, the techniques we applied in our research are simple-to-use, economical and their results give definable quality indicators.

SYNTHESIS OF Co-Mo AND Ni-Mo OF CATALYSTS ON THE HYDRODESULFURIZATION OF FLUID AND GASEOUS HYDROCARBON RAW

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The aggravation of an ecological situation in the modern world demands advancing of purifying processes of hydrocarbon raw from toxic admixtures. The overwhelming majority of oilfields and gas distillate in Uzbekistan are classified as sulphur and high-sulphur. Naturally, it creates fixed difficulties at obtaining of high-quality liquid and gaseous fuel, demands advancing of processing technology, including development of modern domestic catalysts of hydrodesulfurization. Thus, it are necessary to consider an adverse combination of corrosion-active mercaptans in the composition of crude gases and gas condensates with the water saturated with acidic components: O₂, H₂S and CO₂. With the point of view of secure exploitation of plants, this factor seems to influence on the fracture velocity of an internal surface of machinery and transport mainlines. Negative affecting of aggressive substances on catalytic processes consists in an irreversible poisoning of Co-Mo and Ni-Mo of catalysts of hydrofining of fluid hydrocarbon raw products of corrosion. Presence of CO₂ - substances with the cokegene properties, promote the formation of the carbon-bearing depositions and to convertible blocking of active sites of catalysts. Efficiency of purification of gas distillate from mercaptans by means of absorbents of alkali nature decreases, and in certain cases it could be and not profitable. In accordance with, the maintenance of CO₂ in gas distillate of fields in Uzbekistan could reach 4,5 %, and in currents of ethane-bearing gas, refined in the Shurtan Gas-chemical complex to 9,7 % a mol.

We have developed a serial of the molybdenum-bearing catalysts, the promote ions of nickel, cobalt and iron for processes of demercaptanization of gas distillate and the gas condensate, efficiently decomposition C-S bonds in molecules of mercaptans in the presence of carbon dioxide without an essential carburizing of active sites of hydrocracking. The influence of hydroxides of aluminium of various origins on the porous structure and mechanical strength of the alumokaolinborate carriers and phase composition of Ni-Mo and Co-Mo of catalysts, the promotor Fe₂O₃ have been investigated. Catalysts have been synthesized by single dip by combined solutions of inorganic salts of the transitional metals, stabilized by phosphoric acid [2], and also serial drawing on carriers of oxalic acid, oxalate of molybdenum and nitrates of members of group VIII of the Periodic system - «surface assemblage».

It has been shown that the peak dispersity as aluminum oxide, and molybdates of nickel and a cobalt, reaches at the use of deposition pseudoboehmite and drawing of active components by the method of «surface assemblage» by means of oxalic acid. Catalysts on the basis of aluminium hydroxides of alcoholate origin do not correspond to endurance capability criterion. Hydrodesulphat activity of Fe-Ni-Mo, Ni-Mo, Co-Mo, Fe-Co-Mo and Fe-Mo of catalysts in the course of hydro refinement of diesel distillate, gas condensate and gas distillate have been compared.

It has been proved the positive role of modification of Ni-Mo and Co-Mo catalysts of hydrodesulfurization ions of iron from the point of view of regulation of surface acidity and stable activity at mercaptans removal from the gas distillate contain 5 % of CO₂. It has been observed only additive increase of activity at the modification of Fe₂O₃ in the course of sulphur removal from gas condensate (kerosene) and diesel distillate.

НОВЫЕ НЕФТЕГАЗОНОСНЫЕ ОБЪЕКТЫ МЕСТОРОЖДЕНИЯ ЗЫХ, ВЫЯВЛЕННЫЕ ПО ДАНЫМ СЕЙСМОРАЗВЕДКИ 3D

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Месторождение Зых Апшеронского полуострова Азербайджана эксплуатируется с 30-х годов прошлого столетия. Разведанные запасы месторождения можно сказать, что введены в эксплуатацию и они иссякают. С целью расширения ресурсной базы были подготовлены рекомендации на бурение на основе геолого-геофизических материалов с привлечением данных сейсморазведки 3D. При выборе вариантов местоположения глубоких поисковых скважин на восточном склоне месторождения был проанализирован весь объем сейсмического материала, а также кубы сейсмических атрибутов. При анализе волновой картине были использованы такие подходы интерпретации, как сейсмофациальный и секвенс-стратиграфический, с учетом достигнутого при обработке качества сейсмического материала. При выполнении анализа информативности сейсмических атрибутов были выбраны поглощения и спектральной энергии. Получены карты интервальной энергии спектральной в интервале отложений калинской свиты и отложений миоцена. Местоположение данной точки бурения выбиралось с учетом благоприятного гипсометрического положения.

После анализа сейсмических кубов были выбраны 3 точки местоположения проектных поисковых скважин, из которых была выбрана и рекомендована к бурению первоочередная скважина – Зых-2.

Поисковая скважина №2 расположена на восточном тектоническом блоке поднятия Зых (крест crossline 230, Inline 200). Статус скважина – поисковая, проектные глубины вскрытия целевых горизонтов 3100-4300м, проектные горизонты – подкирмакинской и калинской свит, миоцен. Типы ловушек, которые ожидается вскрыть скважиной Зых-2:

- а) стратиграфическая, выклинивания вверх по восстанию (пласты калинской свиты);
- б) стратиграфическая, замещение, экранирование глинистым диапиром (отложения миоцена);
- в) литологическая, кора выветривания.

Рекомендуемая поисковая скважина Зых-2 расположена на восточном крутом склоне поднятия Зых и характеризуется следующими особенностями:

- расположена на участке, где в разрезе достоверно и уверенно выделяются перспективные сейсмофации в интервалах калинской свиты и перспективные объекты в разрезе миоцена.

- наличие хорошо выраженных сейсмических атрибутов, а также сейсмических классов в прогнозируемой части разреза – все это указывает на наличие вероятных ловушек.

Таким образом, проведенные исследования показали, что предпосылками нефтегазоносности на восточном склоне поднятия Зых являются существовавшие благоприятные региональные условия развития нефтяной системы. А также локальные благоприятные условия, которые заключаются в наличии толщи экранирования, вытянутой в субмеридиональном направлении. К отрицательным факторам мы относим наличие крутого восточного склона поднятия Зых. С учетом полученных результатов и аналитических данных поисковая скважина Зых-2 рекомендуется к бурению в проектное место.

Physics & Mathematics

- *Acoustics & Sound*
- *Algebra*
- *Astronomy & Astrophysics*
- *Biophysics*
- *Computational Mathematics*
- *Condensed Matter Physics & Semiconductors*
- *Discrete Mathematics*
- *Electromagnetism*
- *Fluid Mechanics*
- *Geometry*
- *Geophysics*
- *High Energy & Nuclear Physics*
- *Mathematical Analysis*
- *Mathematical Optimization*
- *Mathematical Physics*
- *Nonlinear Science*
- *Optics & Photonics*
- *Physics & Mathematics (general)*
- *Plasma & Fusion*
- *Probability & Statistics with Applications*
- *Pure & Applied Mathematics*
- *Quantum Mechanics*
- *Spectroscopy & Molecular Physics*
- *Thermal Sciences*

FUNCTIONAL CHIP BASED ON SPIRAL-NETWORK CHANNELS AND NANOPOMPS

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A few years ago, a group of French scientists led by Marthelot noticed that cracks in sol-gel coatings have the nature of detachment. Thus, in the usual sense, a crack is not really a “trench”, but a tunnel-like channel between the film and the substrate. Since the channel cross section is of the order of the thickness of the film squared, and the thickness of the film is of the order of microns, we come to the possibility of the following functional chip. Special liquid is fed into the channels using nanopump. The idea of creating a nanopump was developed over twenty years ago. The photo-mechanical effect observed in chalcogenide glasses is suitable for this. For our part, we are able to develop both channel networks, including spiral parts, and elements for the development of a nanopump on the basis of thin films of As-S-Se (+Cd, Bi, Te) chalcogenide glasses. Part of the research has already been completed and published, the other part is in preparation for publication.

Social Sciences

- *Academic & Psychological Testing*
- *African Studies & History*
- *Anthropology*
- *Archaeology*
- *Architecture*
- *Asian Studies & History*
- *Bioethics*
- *Canadian Studies & History*
- *Chinese Studies & History*
- *Cognitive Science*
- *Criminology, Criminal Law & Policing*
- *Development Economics*
- *Diplomacy & International Relations*
- *Early Childhood Education*
- *Economic History*
- *Education*
- *Educational Administration*
- *Educational Psychology & Counseling*
- *Educational Technology*
- *Environmental & Occupational Medicine*
- *Environmental Law & Policy*
- *Epistemology & Scientific History*
- *Ethics*
- *European Law*
- *Family Studies*
- *Feminism & Women's Studies*
- *Forensic Science*
- *Geography & Cartography*
- *Health Policy & Medical Law*
- *Higher Education*
- *History*
- *Human Migration*
- *Human Resources & Organizations*
- *International Law*
- *Law*
- *Library & Information Science*
- *Middle Eastern & Islamic Studies*
- *Military Studies*
- *Paleontology*
- *Political Science*
- *Public Health*
- *Public Policy & Administration*
- *Science & Engineering Education*
- *Sex & Sexuality*
- *Social Sciences (general)*
- *Social Work*
- *Sociology*
- *Special Education*
- *Sustainable Development*
- *Teaching & Teacher Education*
- *Technology Law*
- *Urban Studies & Planning*

SPECIFICITY OF TEACHING A FOREIGN LANGUAGE IN TECHNICAL INSTITUTES

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Modernization processes in educational sphere has made revising the aim, content and result of FLT in technical institute.

ESP is considered as an approach which encompasses teaching English for future vocational aims, in particular, it is related in content to special disciplines, future occupations and activities. The roots of technical English should lie in the analysis of the English language and situations that take place when English is used by specialists in the technical sphere of the vocational activity.

Selection of the content of ELT in the technical institute should be based on discourse approach. According to linguists, discourse can be divided into many distinct genres with their own rules and lexicon (Demet, 2011. p. 121). Without doubt, genre analysis helps to define the specialized language and situations for teaching in the technical institutes. Besides study of genres make language learning and material more relevant to the needs of future specialists in the technical field. Thus, the assessing and selection of the teaching material and design of instructions are built upon the genre research.

From our point of view, students of technical institute may be engaging the followings genres: conversation, interview, instructions, professional talks, academic lectures, negotiations, consultations, letters, applications, articles, reports, proposal, product description, reference material, poster presentation, etc. The presented genre formats also give an opportunity to define the communicative tasks, interaction modalities.

Effectiveness of language teaching in the technical institute, on the one hand, depends on teaching material, and on the other hand, students' motivation.

Practical course of English in the technical institute definitely have some peculiarities that may affect the educational process and become obstacles to successful teaching:

1. The number of the students in the language class.
2. The students' level of language proficiency.
3. The students' motivation to learn the subject.

In many technical institutes the number of students in the language classes is comparatively large. Teachers usually associate large classes with lack of control, lack of student attentiveness, lack of teacher-student interactions leading to lack of in efficiency and effectiveness. Teachers who have to teach large classes often feel tired and exhausted after their lectures and thus, they are losing their zeal, energy and enthusiasm to teach.

It's known that the level of students' language performance is different in the group. So it is very difficult to teacher organize successful work in the classroom. This reason makes foreign language teachers be challenged to find creative ways to simplify their students' learning while taking into consideration their background of knowledge and experience. Moreover most of the students in technical institutes have a limited knowledge of world history, geography, culture and arts, a foreign language teacher should fill the gap and broaden students' world outlook by providing them with plenty of relevant information concerning the country, whose language they are learning, as well as that of the neighboring

countries. Without knowing the realities of the countries the language learners deal with, they cannot adequately perceive the teaching material which complicates the learning process. Creative teachers also concern developing their students' intellectual abilities and raising their overall intellectual level.

While teaching in technical institutes, a foreign language teacher may face some problems. For example, students who sit quietly never ask questions; show no interest in group discussions. It is the fact that the students' motivation to learning their specialized subject in technical institutes is significantly higher than to learning other subjects. As Jeffrey (2006) states, teachers need to convey enthusiasm to minimize the potential psychological distance and the propensity for students to create mental barriers between themselves and target languages as well as its culture. Teachers have to walk a fine line on keeping a class disciplined whilst keeping students motivated and interested in subject enough for consciousness-raising to take hold.

Therefore, motivation will always be an important factor in effectiveness of learning language. Creative teachers may find ways to increase the students' motivation to learn English for further vocation activity.

It is necessary to point out the main characteristics contributed to students' motivation (Sass, 1989):

- Instructor's enthusiasm
- Relevance of material
- Organization of the course
- Appropriate difficulty level of material
- Active involvement of students
- Variety
- Rapport between teacher and student
- Use of appropriate, concrete and understandable results

These characteristics show that motivation is related directly to the relevance and quality of teaching material (language and discourse material) and the methods, techniques, activities for active involvement of students, material organization and interaction in the class. Teachers should select appropriate methods, techniques, tasks and activities to make the English lesson more productive and successful in the technical institutes. At the same time, teachers should realize that selection of teaching means on kind of speech activity (listening, speaking, reading, writing) and genre formats.

LINGUO-CULTURAL COMPETENCE OF FUTURE TEACHERS OF FOREIGN LANGUAGE

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The modern educational situation involves a number of concepts aimed at solving the problems of professional training: student-oriented, contextual approach to the content and forms of organization of educational process, a holistic approach to the organization of the educational process; technological approach, creativity.

The above-mentioned approaches in the educational process of training students of linguistics are interrelated and interdependent. Given the specific linguistic preparation of

students, it is also necessary to distinguish the following approaches: competence, linguistic cultural, linguistic, and communication; socio-cultural approach. Data analysis approaches to training linguists shows that all scientists agree on the presence in foreign language education components such as language and socio-cultural knowledge, speech, sociolinguistic and socio-cultural skills.

Foreign language as a subject will be able to fully perform its functions only if all aspects of the process of learning a foreign language, learning other languages, teaching foreign-language skills, learning to communicate, the definition of professional vocabulary, learning professional vocabulary, the learning of foreign language speech activity with the introduction of professional vocabulary, learning to communicate in professional language will be treated on equal terms, which means their equality in terms of its importance for the formation of the individual student.

In the context of the problem of formation of professional competence of the future specialist- linguist with the new socio-political and economic conditions the ability and willingness to professional foreign language communication acquires a special meaning and becomes an important part of training highly qualified specialists-linguists as the participants of intercultural communication.

According to some researchers, that professional competence is one of the most significant factors that can ensure sustainable factors of the future specialist in all fields of professional activity. Obvious and the fact that it is a necessary condition for successful activity of students of future linguists, including the development of professional knowledge, skills and abilities required to perform professional activities.

The necessity of optimization of professional training of students-linguists, the formation of their professional competence, the need for a pedagogical rationale for new approaches and directions of professional training of future teachers of foreign language in modern conditions, in my opinion, require further research.

In the process of educational activity is the formation of a subject of activity, which is largely due to individual differences and aim at holistic development and improvement of all its essential powers. The researchers concluded that training activities at the University is holistic if it includes the following stages: the emergence of needs, goal setting, planning and specific execution plan, self control and satisfaction of needs by assigning product performance. This educational activity has not only educational, but also socializing functions. This takes professional development and formation of personality of students by means of training activities, namely:

- 1) developing emotional and evaluative attitude to the world, feelings, emotions;
- 2) provides personal and professional self-determination of students, their social adaptation;
- 3) is formed by the active communicative position of the student as the subject of intercultural interaction, as a participant of integration processes in the world community;
- 4) develop such personal qualities as sociability, culture of dialogue, tolerance, commitment, ability to work in cooperation, responsibility, independence, creative activity;

- 5) ensures the development of intellectual and cognitive abilities, in particular abilities and preparedness to continuous learning a foreign language, to further educate ourselves with it;

- 6) improving the experience of productive creative activity, acquired experience in research activities using the target language;

- 7) acquired professional experience in the areas of basic education, obtained in high school by profession.

Thus, language education provides quite ample opportunities for the formation of personality of students-linguists, because originally not only focused on a very specialized area of professional activity.

In addition, the foreign language teacher must have a broad knowledge of the history of the culture of the target language, understand the intricacies of ethnographic and linguistic nature (in particular, know the customs, traditions, feasts, religious ceremonies of native speakers), hold the main paralinguistic margin associated with a specific foreign culture (to understand the peculiarities of facial expressions, gestures of native speakers), to have information about the musical heritage of peoples, speakers of a language (including know and be able to play folk songs).

As a basis for optimizing the content of professional language training in the University we consider the optimal development of the corresponding branch of education in accordance with the principles of functioning of vocational education: continuous and discrete at the same time; standardization and variability; the universalization and autonomy; the humanization and professionalization; diversification and status certainty; the fundamental and pragmatic approach; democratization and sustainability; globalization and regionalization.

KEMALISM IN TURKISH POLITICS

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Since the founding of the Republic of Turkey, the country's leadership in domestic and foreign policy has been guided by the principles of the country's first president, Kemal Atatürk. The current Constitution of Turkey states that the main law of the country was drawn up "in accordance with the concept of nationalism, as well as the forms and principles proclaimed by the founder of the Republic of Turkey, the immortal leader and unsurpassed hero Atatürk". However, although Kemalism is the official ideology of Turkey, in practice, with the coming to power of the Justice and Development Party, its role in shaping domestic and foreign policy has undergone a number of fundamental changes.

Kemalism as a national ideology was formed in the 1920s. with the advent of Atatürk, who in the difficult period of history for the Turks, led the national liberation struggle against the Entente countries, who sought to divide the Turkish land among themselves.

Atatürk laid the foundation for domestic and foreign policy, which determined the country's policy over the years. The basis of the policy of Turkey was "six arrows", reflected in the Constitution in 1937. These are republicanism, nationalism, nationality, laicism, statism and revolutionism.

Republicanism implied the elimination of the Ottoman Empire, the creation and strengthening of the principles of a democratic parliamentary republic, the principle of electoral authority and its accountability to the people. This principle is reflected in Atatürk's slogan "Sovereignty unconditionally belongs to the people."

Nationalism, as understood by Atatürk, is the ideal of a nation-state that educates its citizens in the spirit of devotion to the titular nation. Nationalism is the basis of the indivisibility of the state and the nation, therefore, implied the creation of a unitary state. The nation was thought of by Atatürk as including all citizens, not just ethnic Turks, but on the basis of Turkish ethnic identity; The nets were subject to assimilation. It is also spelled out in the Constitution: "every citizen of Turkey is a Turk". Atatürk's nationalism distanced itself

from racial nationalism and Pan-Turkism, and was understood as the ideology of a political nation within the borders of the Republic of Turkey.

Statism became the principle of building a mixed economy with the leading role of the state. Revolutionary proclaimed loyalty to all the principles of revolution, above all - westernization, progress and enlightenment. Laicism implied the secular nature of the state and the separation of Islam from the state. After coming to power, Atatürk carried out a number of reforms, among which was the elimination of Sharia law and the suspension of religious education, the transfer of most educational institutions under the authority of the Ministry of National Education.

Until recently, all pro-Islamic parties, in accordance with the principle of laicism, were prosecuted by judicial authorities and the military. In most cases, the confrontation between the pro-Islamic parties and the military ended with military coups. As a result, religious elements were removed from power, elections were held again, and political power came to power, supporting Atatürk's ideas.

The transition from the Islamic political tradition to nationalism in Turkey was carried out by force during the national liberation war, which led to the elimination of the institutions of the sultanate and caliphate in the first quarter of the twentieth century. After that, for 30 years, it was the Kemalist slogans that determined the nature of Turkish foreign policy of the state.

The main slogan in foreign policy "Peace in the country is peace in the whole world" meant Turkey's refusal from imperial ambitions, helped to establish good neighborly relations with neighboring states, prevented Turkey being drawn into World War II and thus avoiding human, material and territorial losses, most countries in Europe were subjected to during this period. Even now, in a brief overview of the foreign policy course, the Foreign Ministry of Turkey declares that "since its inception, the Republic of Turkey has consistently followed a peace-loving, realistic and consistent foreign policy based on the principle "Peace in the country is peace in the whole world". Turkey pursues a foreign policy that creates security and stability not only in its own, but also in other regions, which is based on democracy and a secular political system, a dynamic economy and the traditional correspondence between modernity and cultural identity.

The foreign policy of this period was determined by Kemal Atatürk, and after his death in 1938, a fellow soldier, the second president of Turkey, Ismet Inonu, as well as the closest top of the armed forces, which fully shared the ideas of Kemalism and formed the backbone of the ruling in Turkey - Republican party.

EFFECTIVE MODELS OF SOCIAL SERVICES SYSTEM IN THE SOCIAL SPHERE OF KAZAKHSTAN

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At present, in the economically developed countries of the world, supervision has an institutional status and is a significant resource providing personal support, increasing the professional qualification of employees and supporting them throughout their professional activities. In connection with these processes, the role and importance of the social worker of his rights and responsibilities has grown in the framework of the evaluation and definition of the need for special social services, a qualitative assessment and the definition of the need for special social services to the person (family) in a difficult life situation.

In this regard, in the context of Kazakhstan practice, it is important to study the issue of the introduction of supervision (supervisory) as a new institutional formation, whose tasks should be aimed at increasing the effectiveness of public administration in the sphere of social services. From this position, supervision is understood by us as a potentially effective institutional model that coordinates the work of government and social services and institutions in the provision and provision of social services and enhances the effectiveness of public policy in this area, based on adopted and approved state standards. The materials and results studied in the work are interesting for Kazakhstan Science from the view point of scientific, theoretical and applied basis for the modernization of the social service sector. Also, the issue of research and design an innovative model to improve the professionalism and competence of social workers is interesting too.

The Kazakhstan model of professional support to the provision of special social services and assessment of the effectiveness in social work is seen in the creation of the effective institutional model of social work as a Institute of Supervision for the social sphere of Kazakhstan. At the same time, institutionalization should be viewed as the creation of a single integrated system that unites state, social, scientific, educational and moral values of the activities of a socially-oriented society. Nowadays in Kazakhstan, the supervision institute is not implemented yet. There are only training activities as a service used primarily by freelance professionals but not supervisors. This situation of non-regulation is recognized by the public and government. That state has led to a tendency of studying and designing an effective form of social institute in Kazakhstan for increasing a quality of social services and a professionalism of social workers.

In our opinion, in the first place, it is necessary to initiate the issue of introducing a new institutional education - supervision - into the system of organizing and managing social work. The latter is understood by us as: 1) A Tool for improving social work (national level); 2) The Way of harmonization of social interaction (social worker - recipient of social services) (local level); 3) Factor of raising the professional level of workers in social sectors (supervisor - social worker) (local level). Within the framework of the tasks of improving the social policy of Kazakhstan, supervision will be a potentially effective institutional entity that coordinates the work of government agencies and social services and institutions in the provision and provision of social services and enhances the effectiveness of state social policy in this area.

The development and implementation of this provision should include the introduction of a new institution in the system and practice of public administration in three dimensions: a) National, b) Interdepartmental, c) Object-Subject (institution / organization / institution - social worker). From this position, the integration of supervision in the system of government should be carried out in the following segments: regulatory and legislative; institutional; information; socio-economic; structural and branch. It is possible to consider the issue of the organization of supervision on the basis of public-private partnership in order to improve the professionalism and competence of social workers (training centers, advisory services, etc.). Based on the results of the empirical and sociological-statistical studies, the most critical factors of social service work have been identified and substantiated. This study contributes to optimization of the social work system and effectiveness of social services in future.

CAUSES OF THE ORIGINALITY OF THE SOVIET ARCHITECTURE 1955-1985-X YEARS

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The history of the architecture of the USSR and Ukraine in its composition experienced several stages of development during the twentieth century, which are very different from each other in terms of architectural heritage, even in somewhat opposite. The study of the directions of architecture in these periods of historical development showed that there was no evolutionary dynamics between them in the structure and formation of architectural and urban development objects, despite the fact that all these stages took place in one country, where after 1917 the Soviet system of government was established, which throughout its entire existence developed and improved in an economic-political organization.

In order to find out the reasons for the uniqueness of the architectural and urban development practices of Soviet architecture in 1955-1985, when there was a complete abandonment of the magnificent forms and verbose for detailing the pseudo-classical direction of the previous historical stage in the USSR, and the struggle against surplus in the architectural formation¹ was proclaimed, it is advisable to trace the life of the country and society in general and, first of all, changes in the political situation that could show and clarify the relevant transformations in the outlook of the population, the cultural activities, architectural and urban practice. To do this, a comparison was made between the existing at that time and the previous political systems, the search for differences in the political life of the country at both comparable stages, in social problems and attempts to resolve them.

A comparative analysis of the main criteria selected for scientific research showed that the previous period from the end of the 1930s to the early 1950s was different from the system of government, the political situation, depending on which the political and economic

¹ But not only changes took place in the formation. The new interpretation was also given to the planning of cities, ensembles of city centers, and individual structures and, in general, changed the design and construction paradigm.

programs of development of our country and its people were outlined. The head of state - the generalissimos - had unlimited power. The only party on which the power relied - communist - was an instrument of ideological influence on the consciousness of the masses. The dangerous world political situation contributed to the isolation of the state, the fixation of attention in the domestic political life, and in the economy - on the development of weapons and heavy industry. Outwardly, this was manifested in the confrontation of states with a different political and economic system, in the testimonies of aggressiveness, tensions interstate contacts. The system of government in the USSR, including Ukraine, had the features of a totalitarian regime, and from that the state was closed to external influences.

In the ensuing period, from 1955 to 1985, the country experienced a difficult time of reform in political and economic life. It remained Soviet under the system of government and socialist in the economy, but moved to a renewal of the political regime, in which the Communist Party, headed by the Secretary General, who was the first person in the state, became the priority among the branches of power. Other branches of power - executive and especially legislative - did not have a decisive voice in resolving the issues of further fate of the country and the people. The Communist Party turned into a huge, branched hierarchical system that penetrated all spheres of life and activities of people, helped to realize its forecasts of our future, financed production in accordance with its programs, and carried out strict control over the volumes, pace and quality of implementation of these programs.

As a result of the so-called «Khrushchev thaw», the Cold War period was overcome. At the same time, with the preservation of tension in inter-state relations, the principles of the spread of Soviet influence on European countries, the Far East, and then on other countries of the Third World began to emerge. A military alliance of European states - the Warsaw Pact and the Council for Mutual Economic Assistance were formed, and in domestic politics, the country embarked on a series of social programs.

The integration of the Soviet lifestyle not only promoted the advantages of the USSR over the capitalist world, but also facilitated the familiarization of representatives of Soviet power with other living conditions not characteristic of the Soviet Union and the borrowing of their features in culture, technology, architecture and urban development, etc. The imitation of European principles was extended to the technology of building production, urban planning, the embodiment of the industrial style in the architecture of mass housing, the simplicity of the geometry of forms of public buildings, which brought back the rationality of architecture of the 1920-1930's. The USSR, with a delay of 10-15 years, compared with the European powers, hastened to move towards progressive directions in the organization of the architectural and spatial environment, while insisting on the advantages of economic and political life and using the command-based party-state system to carry out new tasks in enormous volumes, defined by the party's power.

BLACK JANUARY: ANALYTICS

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The tragedy that occurred in the capital of Azerbaijan on January 20, 1990 can be characterized as one of the culminating moments in its historiography. Namely, not the culmination, but one of the culminating moments, because the extermination of the Azerbaijani people was a planned, imperial policy of the Kremlin. Especially actively in the second half of the twentieth century, it was conducted by Mikhail Gorbachev. Over the past 29 years, a vast array of supporting facts, documents, and analytical material have been compiled; the causes of the crime committed against the Azerbaijani people guilty of their desire for independence and sovereignty have been identified; defending the right to its territorial integrity, which destroyed expansive Armenia.

However, despite all the stated causes of the bloody terror in Baku on January 20, 1990, it seems that there are quite a few "white spots" that prompted the first president of the USSR and his like-minded people to destroy the nation and the Republic, who oriented their oil artery and their human allegiance to victory in the Great Patriotic War.

Before the collapse of the USSR, a plan was prepared in advance in the Kremlin called "Nagorno-Karabakh".

The plan was aimed at creating the effect of political and economic uncontrollability of Azerbaijan and Armenia, and increasing their dependence on their neighbors - from the north - from Russia, and from the south - from Iran. Western countries were supposed to face a closed door to the Caspian region, while Russia's role there should have increased. Tied up in a protracted conflict, Azerbaijan should have remained a vassal of Russia. The closed road for the United States and other Western countries to the region suited Iran. Armenia, once again undeservedly having received such a "gift" as Nagorno-Karabakh (in the 20s-30s of the twentieth century, the Soviet government had already managed to give her many Azerbaijani territories), was getting into the eternal debtor of Russia.

In anticipation of the next territorial award, Armenia, sacrificing its fellow living in Azerbaijan, with the help of Russian military forces provided to it, modern technology, captured 20 percent of Azerbaijani territory. The Azerbaijani population was expelled from their ancestral lands. Homeless, tortured, undressed refugees and displaced people went to Baku. According to the boomerang law, in the capital began eviction of Armenian residents. R.Chellen in his work "The state as a form of life" wrote: "The state is the home and the heart of citizens. It is looking for or seeks to protect the interests of the people". However, the state betrayed its citizens, the local authorities also did not show much zeal. In the face of external aggression, internal unrest, the government was unable to control the situation.

On January 19, 1990, at a special meeting of the Presidium of the Supreme Soviet of the USSR, it was decided to send troops to Azerbaijan and impose a state of emergency. On the night of January 19-20, at 00:20 hours in 1990, about 26,000 hostile and aggressive Soviet special forces called "Alpha" entered Baku to commit atrocities against the Azerbaijani people, protesting against Soviet policies that warmed up the Armenian aggression on territorial claims to Azerbaijan. On the night of January 19-20, at 00:20 hours in 1990, about 26,000 hostile and aggressive Soviet special forces called "Alpha" entered Baku to commit atrocities against the Azerbaijani people, which the protested against the Soviet policy, which

fueled the Armenian aggression in its territorial claims against Azerbaijan. They stormed and killed hundreds of civilians, and without declaring a state of emergency. In May 1991, the Memorial Society and the Helsinki Clock reported that they had convincing evidence that the introduction of an unannounced state of emergency resulted in an unreasonable violation of civil liberties and that Soviet troops used unjustified force, which led to the death of many people. This includes the use of armored vehicles, bayonets and firing at clearly marked targets. A report by Human Rights Watch, entitled "Black January in Azerbaijan," says: "Indeed, the violence used by the Soviet Army on the night of January 19 to 20 was so disproportionate to the resistance that the Azerbaijanis had provided, what looked like as a punishment of the entire Azerbaijani people. Since Soviet officials publicly stated that the goal of the Soviet intervention was to prevent the nationalist non-communist opposition from overthrowing the Communist-dominated government of the Republic of Azerbaijan, the punishment imposed on Baku by Soviet soldiers was, conceived not only as a punishment of Azerbaijani nationalists, but, and as a warning to nationalists in other Soviet republics.»

Subsequently, M. Gorbachev and D. Yazov argued that they had the military right to thwart the efforts of the Azerbaijani independence movement to overthrow the government of Soviet Azerbaijan. However, what right can we talk about when a crime is committed against humanity? In accordance with the Statute of the International Military Tribunal, the Crime against humanity, regardless of whether the actions violated the domestic law of the country or not, is subject to the jurisdiction of the Tribunal and does not have a statute of limitations. Ironically, or for reasons still unknown in the same year - 1990, Black from mourning in Azerbaijan, October 15, Mikhail Gorbachev won the Nobel Peace Prize. On January 22, 1990, in memory of the dead, who can be called the leaders of the struggle for independence, because they paid with their lives for it, almost half a million Baku residents went through the central streets of the city at gunpoint.

Since then, every year on January 20, the people of Azerbaijan keep mourning, grieving for the victims of the totalitarian regime and understand the great price of the sovereignty and independence of the now flourishing Azerbaijan state.

PHENOMENOLOGICAL RANGE OF INNOVATIVE EDUCATIONAL PARADIGM IN TERMS OF GEOPOLITICAL SINGULARITY

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The system approach to the problem of transformation of the traditional educational university learning paradigm is considered - the live broadcast of the fixed continuum of knowledge to the innovative paradigm of national educational concepts. It was emphasized that the goal of this transformation is connected with the objective need to prepare a highly professional, intellectual, deeply cultural personality, which must meet international requirements for competitiveness of national and global orientation.

It is shown that under the emerging technological singularity, when the potential of the previous system of knowledge and intellectual values becomes insufficient to understand the transformations taking place in the modern world, and the system of new knowledge has

not yet been completely formed, the basic dominant of the innovative content of university education is formed in the form of a phenomenological series:

- innovative content of university education;
- the innovativeness of the learning process and the intellectual technology of knowledge reproduction;
- institutional innovation of university activities; innovativeness of the multidimensional interaction field "teacher - student";
- innovativeness of international university cooperation.

The boundaries and system indicators of the main types of innovation that are organically inherent in the approach under consideration are determined.

The status and authority of a modern university, the attractiveness of its scientific and educational institutions, its intellectual competitiveness in the space of modern society, is largely determined by the principles of innovativeness of the learning process and the creative methodologies of university education. Their task is to form a highly cultured, comprehensively educated, intellectually developed, and professionally competitive personality. The intellectual potential and professional significance of university elites, professors' communities, scientific schools, as well as equally the highest university management and each university student, graduate student and doctoral student, acquire particular importance in this process.

The experience of the leading scientific and educational centers and universities leading world rankings shows that the dominant intellectual knowledge reproduction technology is formed in a multi-vector field of interaction "teacher - student". Transition to innovative models of university education, which is different from the traditional model of live transmission of knowledge and professional skills, requires the implementation of new approaches and interaction mechanisms in the whole multi-vector space of relations "student-teacher-researcher-public moderator of university institutions".

Innovative education with a long-term reliance on the intellectual scientific and educational university environment with the priority of all types of relations with alma mater is the basis for the formation of modern elites of national development of global competitiveness. The concept of type knowledge for all in the modern high-tech world has lost its competitiveness and relevance for students, undergraduates and graduate students. Innovative trends in university education in the youth environment were individual educational trajectories, reliance on world scientific, social and cultural achievements, teaching simultaneously in several foreign languages, personal academic student communities and career orientation forums, organic perception of the concept of national elites for developing global competitiveness.

The dominant innovation "teacher - scientist - student - career" includes a significant national diversity of forms and relations, but it also has a number of common indicators of highly correlated interaction. They include a multidimensional acmeological principle of interdisciplinary personality formation and its competitive professionalism in a new university learning environment, as a systemic creative community of intellectualizing social consciousness and relations, a civic stance of national identity, and a new quality of mutual responsibility in the personality – state chain. This approach is a systemic creative function of each innovative university, which should be based on national development priorities, national values and intellectual cultural traditions, as well as features of national institutional approaches to the system of reproduction of knowledge, scientific and technological achievements, socio-economic and cultural foundations and demands of society. An approach is formulated to assess the strategy of innovativeness of higher education as a current multidimensional mutually correlated across goals and objectives of a process aimed at:

- targeted systemic activities on the intellectualization of university top management, scientific schools and institutions, university professorial communities and councils, professional teaching and research unions of teachers of students, undergraduates, graduate students, doctoral students on institutional and phenomenological improvement of university education, on building an innovative society, on designing , the synthesis and advancement of humanistic, social, as well as scientific and educational (knowledge) smart investment in all types of sustainable development of society, public administration, the national economy, science, the national engineering and all aspects of defining the social, moral, scientific and technological progress of society, the synthesis of national innovative smart technologies and the training of national elite of global competitiveness;

- formation of competitive national elites of social development based on the deep integration of science, culture and education and intellectual university values, based on the primacy of knowledge reproduction and advancing science achievements in national technologies competitive in the world market, as well as ensuring national technological security, improving the viability of society, focused on the implementation of national strategic priorities that are adequate to the challenges of the modern world and the growth of life keeping standards.

THE SEMIOTIC APPROACH IN MATHEMATICS EDUCATION

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The content of school mathematics education acquires a special form of existence in a variety of shells, verbal and non-verbal, which are created with the help of sign-symbolic means of a different nature. The leading means is language. In the course of training, symbolic means perform substitution, cognitive and communicative functions, create an informational basis for the activities of students. In the process of mastering the content of education, they are both the subject of study and the tool of knowledge. The operation of symbolic-symbolic means is a necessary component of students' learning activities, which is directly related to semiosis in the learning activities of schoolchildren, with the enrichment of their conceptual structures. The mastering by different means of fixing the content of educational material and each type of symbolic-symbolic activity – substitution, encoding (decoding), schematization and modeling – serves as the basis for the development of information culture of students and a prerequisite for the diversity of the personality of each student.

The selection and application of symbolic-symbolic means should be carried out on the basis of the analysis of conflicts between the logical and the visual. Such conflicts can be not only objective, historically determined character. More often they are generated by subjective reasons - the appearance among schoolchildren of a lack of understanding of the content of educational material and a negative attitude regarding the ability to comprehend this content; inability to put content into different sign-symbolic shells; the presence of adhesions (and not dialectic unity) of content and form, which were formed in the experience of students in previous studies, etc.

Adequate conditions for learning and development of all students in the study of mathematics in primary school are created under conditions of a comprehensive, systemic and activity approach to the use of verbal and non-verbal sign-symbolic means. At the same time, the task of teaching mathematics in primary school is the formation of knowledge, skills, abilities and experience of independent subject and symbolic activities, the formation and development of students' visual thinking, enrichment of their visual-operational experience, which serve as the basis and prerequisite for harmonious learning. development of logical thinking of students and productive study of mathematics in grades 5–9.

Of particular importance in the process of teaching mathematics in grades 5–9 is the organization of the coding activity in its target and situational purpose, as well as the training of decoding and transcoding activities. On their basis, students will be able to correctly and more freely implement the substantive and sign-symbolic reorganization of the educational mathematical content. The use of schemes of activity known to students, their independent creation and application in the study of new material and in the process of solving problems makes it possible to introduce a certain order in the activities of students in the study of mathematics, to reveal dialectics and logic of knowledge on an intuitive or conscious level, to create systems guidelines for independent activities of students. It is important for students to learn how to structure the content, identify meaningful and symbolic analogies in it, configure texts and write language and non-language material. It is also advisable to use special systems of exercises and tasks built on a differentiated basis in teaching pupils to perform modeling activities.

During propaedeutics and indirect learning, powerful resources are involved in the sphere of unconscious students — the experience of visual recognition is enriched, certain intuitive “pre-knowledge” is accumulated, and experience is gained in performing specific subject-practical actions. The corresponding expansion of the system of influences on the process of the formation of knowledge, skills and skills of schoolchildren becomes possible through a specially constructed visual training series and an exercise system aimed at anticipating the formation of schoolchildren skills to perform certain types of activities. It is here that the role of visual exercises and tasks becomes non-existent.

DISTRIBUTION OF NURSING PERSONNEL IN WORLD PRACTICE AND THEIR SATISFACTION (LITERARY REVIEW)

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Relevance: In many foreign and European countries, nursing staff form the basis of primary health care. For example, in the Swedish health care system, nurses play an increasing role, providing highly skilled care to patients with chronic and complex conditions (such as diabetes, bronchial asthma, heart failure, mental illness); they are also granted a limited right to prescribe medicines. In Swedish medical centers, a patient is first examined by a nurse with a higher education who can then refer the patient to a general practitioner or hospital.

For all the importance of the work of nurses in health care and in the hospital, especially nursing specialists, their wages remain very low. Thus, the prestige of the nursing profession with a higher education in a difficult and responsible work at low wages decreases. Since the beginning of the two thousand years of health care reform, quite insufficient attention has been paid to the issues of training and placement of nurses. The basis of health care reform is improving the quality and accessibility of medical care for the population, largely determined by the quality of training of doctors and nurses with higher education, for the necessary accessibility of medical services in remote villages, such as nursing specialists with higher education.

Depending on the demographic needs in the field of health, the health care system has modernized the provision of primary health care services by representing medical institutions at the international level [WHO, 2008].

A key factor in ensuring the continued and high-quality provision of these services is a stable, qualified health workforce, capable of providing quality health services to the population, both in the city and in the villages. This approach is used in many countries and it involves the involvement of health workers from emergency centers to fill the shortages in the primary health care workforce and in the hospital [Primary Health Care Advisory Group, 2015, WHO, 2016 .].

As in many developed and developing countries, nurses are the largest group of health professionals in Australia and in other countries, where about 9% of the total number of nurses work in the field of primary health care. Over the past decade, staffing in some areas of primary health care and hospital has increased the exhibitor. To facilitate this exponential increase in the workforce, experienced emergency nurses from emergency care centers are hired to work in primary health care and in the hospital (Australian Nursing Primary Care Association).

The reform process and the transition process leads to an imbalance in the career and requires nurses to adapt to the new role and acquire new professional qualities [8]. According to past experience, the transition between employment and employment conditions is known to affect job satisfaction and can affect staff turnover [1]. In order to increase satisfaction and optimize human resources in health care and in-patient careers, employers and managers should be aware of the impact that the experience of transition to future sustainability and turnover of staff can have. Armed with this knowledge, appropriate guidance and professional support systems can be developed and implemented to meet the needs of these nurses.

In Finland, 70–80% of patients go to nurses with higher education, and then, if necessary, to doctors, and only 20–30% of patients go directly to doctors. Health centers are common throughout the Scandinavian countries, both in the cities and in the villages, which have the leading role of nurses. In the Netherlands, the decision on assisting patients by doctors during non-working hours is taken by a nurse on the basis of established criteria. In their work, nurses rely on clinical protocols and recommendations and have the right to change the mode of drug therapy within these protocols and recommendations. In England, nurses with higher education specializing in helping people with common illnesses (diabetes or asthma) in their daily activities are replaced by general practitioners — they have an outpatient reception for observation and training in patients's health, or aimed at improving the skills of other medical and social workers.

Structured disease management programs for some states (case management) have been introduced in the USA and Germany, this approach is due to the fact that physicians in these countries most often have individual practice, and the outpatient and hospital sectors are separated from each other. Nurses in many cases carry out the first examination and direct the consumer to the relevant resources of medical care. In developed foreign and European

countries, general practitioners usually do not visit patients for home, except in rare cases, as it is the prerogative of trained nurses with higher education.

Opportunities to expand the role of nurses are also being studied at the hospital level of health care. For example, in Scandinavia, anesthesiology nurses play an important role in examining patients with chronic pain and managing patients with postoperative pain.

Several studies and meta-analyses were devoted to the study of the interchangeability of doctors and nurses in the provision of medical care. The results of several systematic reviews showed that “primary care nurses and in hospitals with an extended functional range are able to provide the same range of services that family doctors and emergency doctors usually provide, with the proviso that in most studies the sample of medical workers is usually small, and long-term results were rarely considered”.

According to the above data (mainly based on the US material), “the role of the nurse can be expanded while maintaining or reducing the level of costs and maintaining or improving the effectiveness of treatment.” It is alleged that “from 25 to 70% of the work of doctors, depending on the specific task, is quite within the power of nurses or other professionals”. It is the nurse who, working with the doctor, should release him from work that is not inherent to medical qualifications, which will increase the efficiency and rationality of the use of medical personnel.

On the other hand, qualified nurses who can replace a doctor with a variety of procedures and procedures can reduce the need for a number of doctors. Training of doctors is currently a very costly and lengthy process, which explains the need for the rational use of medical work.

Thus, “the redistribution of the roles or areas of practice of specific health workers is a strategy that makes it possible to better utilize increasingly diverse human resources and achieve the necessary number of necessary types of workers and their proper combination”. These changes in professional boundaries can be divided into four categories: improvement, replacement, delegation of authority, and innovation. To the greatest extent, these changes concern nurses, as more and more data indicate that such a “redistribution of roles can improve the results of treating patients, especially those with chronic diseases, and reduce their use of health services”.

The foreign and domestic articles reflect the results of large-scale studies of mixed methods, studying transitional experience after nursing reform, transferred from emergency care to the occupational health and hospital care. The purpose of this article is to report on the satisfaction of respondents with their new roles, personal reflections and future career intentions. Other aspects of the study, namely the reasons for the non-sustainability of nurses in health care and in hospital and their transitional experience, are given elsewhere.

The employment and turnover of nurses worldwide is a hot issue. There is an uneven distribution of medical personnel to protect public health and a shortage of qualified nurses. Satisfaction with the work of nurses was identified as an important factor contributing to the turnover of nurses and as a precursor to employment and shortage of nurses. Therefore, understanding the factors that affect job satisfaction is important in order to inform hiring and retention strategies for nurses.

The concept of job satisfaction is multifaceted and complex. Job satisfaction has been the focus of many studies around organizational behavior. Define job satisfaction as not only how a person feels his work, but also the nature of the work and the expectations of individuals about what their task is to ensure. To this end, job satisfaction consists of various components, including: working conditions, communication, nature of work, organizational policies and procedures, remuneration and conditions, promotion/promotion opportunities, recognition/appreciation, safety and control/relationships. Despite the fact that the level of job satisfaction varies, in studies with common factors. These include working conditions and

organization of working conditions, stress levels, conflict of interest and ambiguity, perception of the role and content, as well as organizational and professional commitment.

Given these factors, it becomes clear that research on job satisfaction cannot be undertaken for all nursing professions in general, but rather different parameters and organization of working conditions should be taken into account in order to understand the problem faced by different nursing areas.

Career stagnation can be described as the intention to voluntarily quit his job due to low wages. This process can begin with a psychological response to negative situations in the workplace or to undesirable aspects of work. Subsequently, the application of a cognitive solution can help to correct their behavior and position during dismissal from work. As job satisfaction was determined, a number of common determinants promote career growth. These include organizational factors, management style, workload and stress, role perception, empowerment, remuneration and working conditions and opportunities for advancement. In a few studies have shown that job satisfaction affects how you want to grow in your career.

Despite the common themes in this workforce literature, much of the research on job satisfaction and career intentions has so far focused on nurses with emergency medical care. Given the influence of organizational factors, roles and conditions of employment, it is important to consider different groups of nurses, for example, working in primary health care who work in the field, different from those who provide emergency care. The practice of primary care nurses and hospitals in various settings includes general practitioners, schools, health services, correctional institutions, nongovernmental organizations, and community health centers. Thus, the conditions of employment of primary health care nurses and hospitals and their working conditions differ from the conditions of work of nurses in emergency medical care, which are hired by large health care providers or public health services. The small business associated with primary health care in many countries, the prevailing charitable organizations and non-state medical service providers make work in the primary health care setting unique. Lorenz and De Brito Girardello describe the working environment of primary health care and hospital as “not always conducive to the professional practice of the nurse”, citing lack of equipment, inappropriate physical environment and occupational hazards as key factors dissatisfaction. In addition, there is a significant difference between the roles, responsibilities and working conditions of nurses in their workplaces. These differences and the influence of these factors affect job satisfaction and the goal of hanging up the career ladder means that emergency care research cannot simply be generalized in primary health care settings or in the hospital. With the increase in the number of nurses and the need for an acute shortage of labor, it is necessary to investigate in a timely manner job satisfaction and the career growth of nurses in general. Therefore, this review sought to critically synthesize the literature around job satisfaction and career growth among working nurses.

Therefore, expanding the boundaries of nursing practice contributes to: increasing the availability of medical care; improving the quality of care and patient satisfaction; to regulate the workload of the physician and free his time to counsel and treat patients; raising the professional status of nurses; increased patient responsibility.

Currently, the health systems of all countries are experiencing a personnel crisis. According to WHO, there are 4.3 million health workers in the world [World Health Report 2006.<http://www.un.org/ru>].

In the modern world, the failure of the world health nursing staff is a problem in the effective provision of medical services for the majority of low and middle income. This failure is usually associated with the number of health workers, the quality and distribution of labor in the system. Job satisfaction of nurses with their work is a key issue in determining organizational effectiveness. It reflects individual feelings towards work that affect both

individual and organizational performance. According to statistics from the world community, nurses are mostly concentrated in cities, including private clinics. In this regard, it is necessary to develop methods for the retention of nurses in rural areas and in the public sector. The Job Satisfaction Survey (JSS) was developed by Paul Spector to measure job satisfaction in government and non-profit sectors. This survey covers 9 indicators of satisfaction: remuneration, growth on the career ladder, supervision, benefits, remuneration, operational procedures, the relationship between employees, the nature of work. This survey was tested in high- and middle-income countries, including the United States, Singapore, Turkey, Pakistan, Taiwan, and Iran.

The education of certified medical nurses (DM) over the past two decades takes place to be diverse. For example, certified nurses engaged in directly caring for the patients' health in 2017 amounted to 67.2%, which showed a steady increase from 28.8% in 2001.

A NEW APPROACH TO THE DEFINITION AND CLASSIFICATION OF ENVIRONMENTAL CONSCIOUSNESS

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Environmental consciousness can be defined as “the existing perceptions of the natural world along with corresponding strategies and technologies for interaction between humans and nature” (Deriabo, Yasvin). There are four basic types of environmental consciousness, which have been formed during evolution of the system “human — nature”. The syncretic type embraces understanding of human beings as small but inseparable parts of nature; biocentric or nature-centred one regards nature as being of the greatest value and motivates humans to subordinate themselves to the natural world. The anthropocentric type takes a human being as dominating all other living creatures, so the natural world is supposed to serve various human needs. Ecocentric consciousness brings to the forefront humans' living and developing in harmony with nature (Deriabo, Yasvin, Liovichkina). This classification has served as a basis for a more detailed typology of the environmental consciousness phenomenon. The author has also taken into consideration a person's attitude towards nature, their activity in the natural environment (environmentally appropriate/expedient/deviant, overtly consumerist, etc.) and needs that the person meets while interacting with nature (material, utilitarian, cognitive, ethical, etc.). In sum, the ten following subtypes can be distinguished: *anthropocentric-contemplative*, *antropocentric-pragmatic*, *anthropocentric-destructive*, *anthropocentric-preserving*, *biocentric-altruistic*, *biocentric-syncretic*, *biocentric-aggressive*, *ecocentric-rational*, *ecocentric-constructive* and *ecocentric-oppositional*. The current environmental crisis is caused by domination of anthropocentric type of environmental consciousness, in particular anthropocentric-pragmatic and anthropocentric-destructive subtypes. Surviving in today's world and preventing further expansion of the environmental crisis is possible by developing the ecocentric type of environmental consciousness, which, in its turn, implies reinterpretation of the place and role of humans in nature, as well as reconsideration of relationships between society and nature. The ways to form an environmentally conscious person include arranging environmental classes and workshops in schools and universities, encouraging students to participate regularly in various environmental activities and cooperate with environmentalists, etc.

ELECTRONIC TEXTBOOK AS AN ELEMENT OF A FOREIGN LANGUAGE LEARNING ENVIRONMENT IN THE CONTEXT OF SMART EDUCATION

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The rapid development of new information and communication technologies promotes the development of smart education, the task of which is to prepare students to plan their learning path independently and work effectively in the new conditions.

Smart education also offers new opportunities for teachers, provides an opportunity to share experiences, improve their professional level, etc. The main features of smart education are flexibility, integration, individual trajectory, mobility, autonomy, and so on. These characteristics will correspond to the electronic course, as well as the electronic textbook.

Under the electronic textbook O. Balalaeva understands electronic publication placed on the electronic media or in the computer network. Its purpose is to assist in the practical activity or in the grasping of the discipline, which 'provides the implementation of the certain parts of the didactic cycle (presentation of theoretical material, organization of the use of knowledge, formation of abilities and skills, control) by means of information technology and it can not be changed into a paper equivalent without loss of didactic characteristics'.

Precisely multi-level presentation of information that is going learned, and the combination of the information blocks of various types into a single semantic whole in electronic educational editions ensures the innovativeness of the principle of constructing the educational material. The use of electronic educational editions in the process of preparing of future foreign language promotes the formation of students' own system of essential links between types of knowledge, which assures learning not only of the factual information, but also causal relationships between the relevant information units; provides an opportunity to study based on the individual characteristics of each student and at the most convenient pace (Hryzun 2002).

Other advantages of the electronic textbook, in comparison with the textbook on a printed basis, can be attributed to its ability to implement an activity approach to learning a foreign language. This is evidenced by the hypermedia capabilities of modern computer technologies, with the help of which the textbook includes such structural elements that allow the use of traditional and innovative types of educational activities in the complex (working out theoretical material on dynamic models, carrying out a telecommunication project, solving situational tasks in interactive mode, etc.).

For the modern multimedia textbooks the presence of high-quality illustrative material in the form of two-dimensional, volumetric, static and dynamic images is also characteristic, which ensures the implementation of the principle of visibility in the learning process. In addition, electronic textbooks have the function of audio accompaniment of screened material and students' actions, which promotes more effective formation of phonetic abilities and skills of students. On the basis of the above characteristics of the electronic textbook, we can determine one more advantage of this that the audiovisual presentation of

the material stimulates imagery and emotional memory and thus significantly influences on the formation of notions that are leading in figurative and verbal-logical thinking. .

Thanks to interactive interaction of a student with the environment of electronic textbook and the availability of an automated system for diagnose of knowledge, this learning tool helps to ensure quality feedback with students. The possibilities of electronic textbook allow to create conditions for effective self-study, self-control, self-correction for a student, which also stimulates the increase of his cognitive activity in the process of learning. On the basis of statistical data accumulated by the diagnostic system in the students' process of learning, teachers perform analysis, correction and forecasting of educational process.

The learning material presented in a textbook can be quickly renewed and modified, enriched with new content, improved, adjusted according to the level of development of scientific achievements.

In modern electronic textbooks the branched hyperlink structure is also provided, which allows to obtain additional information quickly in the process of grasping new material and not to lose contact with the main text (Nelson 2008).

So, in conclusion, the above-mentioned suggests that the electronic textbook is an important element of foreign language learning environment in conditions of smart education. Implementation of electronic textbooks in the process of teaching a foreign language promotes the intensification of the process of its study, the formation of professional competences for future specialists, timely correction of the learning environment, high degree of interactivity.

PROBLEMS OF ANCIENT MONASTERIES IN KYIV

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Kyiv began its development in the 5th century. Byzantine Orthodoxy came to Kyiv in the 9th century. The first churches and monasteries in the city were founded by Orthodox Christians. Monasteries were an important part of Kyiv. They were centers of culture, religion, relics for the Orthodox population. Goods were produced and books were printed in monasteries.

Monasteries were in the city. Part of the monasteries was located on the outskirts of the city on the high right bank of the Dnipro. They played the role of defensive fortresses. The city developed and expanded its territory. Ancient monasteries entered the city building over time. Monasteries were rebuilt, their buildings changed.

Monasteries existed in Kyiv until 1917. The socialist revolution took place in 1917. Socialism did not recognize the existence of God. The new socialist government decided that churches and monasteries are no longer needed. Most of the monasteries in Kyiv were destroyed.

The USSR broke up in 1991. Socialism no longer dominated society. The population of Ukraine and Kyiv received freedom of religion. People started coming to church services. New churches began to build in Kyiv.

Monasteries in Kyiv were sacred centers and important elements in the city. One of the monasteries became a town-planning center along with the most central districts of Kyiv. Residential areas developed around the Kyiv-Pechersk Lavra. It became the center of a

residential area from which the active development of urban areas began. Kyiv and Kyiv-Pechersk Lavra developed simultaneously towards each other. Then residential areas of Kyiv and around the monastery united. Other monasteries were important urban planning centers for residential areas.

Many monasteries were destroyed during the socialist period. Some monastic complexes are preserved. Churches and other buildings in monasteries are often very ancient and need protection. Therefore, at the moment, the ancient preserved monasteries are under state protection. They function as a museum. Churches in such monasteries were given to monks and priests for worship. The functions of the museum and the monastery are combined in the old monastic complexes. The state monitors the state of the buildings and the preservation of the ancient monument, and makes restoration work. Liturgical activities continue in the monastery, as a thousand years ago. Visitors have the opportunity to see the treasures of the museum and get to the liturgy in the temple.

Some monasteries were handed over to the monks. Now the monks live in an ancient complex, perform a liturgy in its churches. And the state monitors the state of buildings so that they do not collapse.

St. Michael's Golden-domed monastery is an ancient and important sacral complex. His story shows the fate of many monasteries in Kyiv. The monastery was located in the historical center of Kyiv and was founded in the 12th century. It was located in the ancient city and was one of the main monasteries of ancient Kyiv. For eight centuries the monastery acted as a religious center. It was completely destroyed by explosions in the 20th century. Its territory was undeveloped, despite the fact that it was located in the center of the city and was very valuable for building. This complex was restored after the socialist period.

Parts of old buildings were found during the restoration of the monastery. When archaeologists were preparing the site of the monastery for construction, they removed the layer of earth. The foundations of the church of different construction times were found on the site where the cathedral stood. The main temple was restored in its historical form. The foundations of the older church were left open in the cathedral. They are located in the basement and are visible from above through a hole in the ceiling. Now priests can hold liturgy on these foundations.

The monastery complex was rebuilt. For this, the builders dismantled several small houses. The houses were built in the 20th century; therefore they were not an architectural value. When the workers dismantled one house, they found a fragment of the wall of the monastery bell tower in it. In the 20th century, socialist power blew up the monastery. Workers tried to blow up the bell tower several times. But a fragment of the wall remained standing. Therefore, the builders built a new house on the site of the monastery in which they hid the wall of the bell tower. Now the wall of the bell tower is a relic preserved from antiquity. A fragment of the ancient wall can be seen in the modern bell tower.

St. Michael's Golden-domed monastery was rebuilt because its place remained free. Monks live in it and serve God in the temple. Sites of other destroyed monasteries in Kyiv were built up with residential and public buildings in the 20th century. This is a big problem that needs to be studied.

RELIGIOUS DIMENSIONS OF MODERN UKRAINIAN WORLDVIEW

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In the collapse of the former USSR, the more erosion the old values were subjected to, the further the process of disintegration of the post-Soviet space deepened, the greater the attractiveness of religion and religious institutions in the eyes of representatives of the elites and counter-revolutionaries, aimed at seeking (changing) sources of legitimacy. Worldview becomes more and more distinct religious dimension, while forms of religiosity take a different, sometimes quite exotic form.

It is known that the USSR was one of the first in the USSR in terms of religiousness of the population, even for distorted Soviet statistics. Thus, in January 1947, that is, after the disgraceful Lviv pseudo-council, which actually eliminated the UGCC, there were almost three times more in the Ukrainian SSR than in the RSFSR the prayer buildings and monasteries (USSR – 8815, RSFSR - 3082), despite the fact that the population of these Soviet republics was approximately in reverse proportions. The official number of believers in the Ukrainian SSR at 15-20%, which was called by Soviet researchers in the late 1960s – in the 80's, was also significantly underestimated.

The 1000th anniversary of the Baptism of Rus (1988) marked a radical change in the situation of religion and religious institutions throughout the USSR, but in Ukraine next year, a significant event – the legalization of the UGCC. Along with this there is a violent revival of all religious institutions – Orthodox, Catholic, Protestant, Judaism, etc. Among them "Great White Brotherhood of Yusmalos" was registered, which some researchers consider to be almost a classic textbook example of the new religious movement, the doctrine and activity of which illuminates all the paradoxes and contradictions of the revival of the religious outlook in Ukraine and on all post-Soviet space.

The White Brotherhood is the most vivid and extreme embodiment of the syncretic "esoteric" worldview prevailing in the underground cultural environment of the late USSR. The emergence of Marina Zvignun, who soon became Mariya Devi Christ, that is, the "living goddess", became the key event in the transformation of the brotherhood into one of the most influential religious movements in Ukraine and throughout the post-Soviet space. The appearance of this extreme religious outlook that "adored" ordinary people was a consequence of the distortion of the Soviet ideology, which "deification" of Lenin and Stalin psychologically prepared people for the possibility of perceiving a "living God", which was not too late to appear. The collapse of the communist regimes has caused many people to suffer from socio-psychological stress of uncertainty and disorientation of life, and following the "Living God" made it possible to compensate for the need for a holistic totalitarian outlook. Attempting to seize on November 10, 1993, the St. Sophia Cathedral a group of members of the Brotherhood and the imprisonment of leaders put a certain point in the

implementation of this "ideological experiment", but did not complete the worldviews of Ukrainian society.

The religious component of these searches, however, remains unchanged, gaining a different denominational color. Orthodoxy remains the main axis around which these searches turn out, which for the majority of our compatriots is the spiritual foundation (in some cases, a symbol) of the identity of Ukraine. With the proclamation of independence, the new rulers tried to turn the Ukrainian Orthodoxy into a major driving force in the development of the Ukrainian statehood. However, this attempt was unsuccessful: instead of the factor of nationwide unification, Orthodoxy became the source of ideological confessional confrontation. The split of Ukrainian Orthodoxy has led to the emergence of three major Orthodox denominations that are most influential in modern Ukraine, namely: UOC-MP, UOC-KP and UAOC. The origin of the split is known to be due to a number of factors, including the interference of the Russian Orthodox Church and the politicization of church life, certain pride of the leaders of the newly formed churches, and the regional features of the confessional orientation of the believers. Some analysts see in the church split of the 90s the forerunner of the future "ideological" split of Ukraine, which led to confrontation on the Maidan, the reaction of the pro-Russian forces, which led to the annexation of the Crimea and armed conflict in the Donbass.

Obtaining the Tomos Ecumenical Patriarchate of Autocephaly to the Orthodox Church of Ukraine in December 2018 - January 2019 provided new dimensions to the ideological confrontation in the Ukrainian Orthodox Church. The UOC (MP) becomes the personification of the pro-Russian Orthodoxy, and united into a single OCU, Ukrainian churches acquire a distinctly Ukrainian-pro-European orientation. However, the last process is incomplete and requires some time.

Thus, in our time, ideological religious discussions in Ukraine are increasingly gaining ground in an aggressive and binary confrontation between two geopolitical identities: pro-Russian and European.

SOME MATTERS OF THE PROCEEDINGS AT THE CONSTITUTIONAL COURT

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Abstract: This article highlights the modern approaches to the concept of constitutional proceeding, its content and theoretical aspects. Also given an analysis of the opinions of foreign scientists, and presented recommendations and proposals for enriching the doctrine of constitutional proceeding.

Key words: constitutional justice, constitutional proceeding, Constitutional court, rules of procedure, the principles of constitutional proceeding.

The analysis of contemporary legal literatures shows that there are various concepts and categories in the description of the procedural forms of the functioning of the constitutional court. In particular, "the constitutional proceedings", "constitutional judiciary" "constitutional justice", "constitutional trials", and so on. The lack of unity among the authors to highlight the above mentioned concepts complicates the understanding of the constitutional proceedings in practice.

At present, the constitutional proceeding is described by scholars in terms of its formal legal position. In particular, M.W.Baglay and B.N.Gabrichidze mean the constitutional court proceedings as the order and procedure for reviewing and resolving issues related to the constitutional court jurisdiction as established by the constitution, constitutional laws and Rule of procedures of Constitutional Court [1, p. 418]. B.Evdokimov describes the constitutional proceeding as a judicial review of compliance of Constitution laws and the legal acts [2, p. 3]. It should be noted that the author hereby interprets the only in terms of function of constitutional review of Constitutional court. Apart from the review function of the institutes of the constitutional courts, there are functions such as interpretation (comment), maintaining the balance between authorities and the application of constitutional liability. From that point of view the constitutional court proceedings should be interpreted as a system of procedural actions for the consideration and resolution of cases by the constitutional courts within his competence.

According to the definitions, it can be concluded that constitutional proceeding is a procedure of the consideration and resolving the cases and issues within the competence of the Constitutional court established by the constitution, laws and Constitutional court regulation:

It should be noted that constitutional proceeding is the procedure of exercising the constitutional supervision. According to the chapter 3 of the Constitutional Law of the Republic of Uzbekistan “On the Constitutional Court of the Republic of Uzbekistan” used the term “constitutional proceeding”.

Constitutional proceeding and its order in the Republic of Uzbekistan are regulated by the Constitution of the Republic of Uzbekistan, Constitutional Law of the Republic of Uzbekistan “On the Constitutional Court of the Republic of Uzbekistan” and the Rule of Procedure of Constitutional Court.

In order to further improve the institute of the Constitutional Court, a number of scholars in Uzbekistan have consider that the procedure of the Constitutional Court specified by the Rule of procedures of the Constitutional Court and in the contemporary trends it is necessary to adopt a law on Proceedings of Constitutional Court which determines the procedure and forms of proceedings [3, p. 92]. This idea is acceptable. In the period of democratic reforms in Uzbekistan it is necessary to develop and adopt the normative-legal act called “on Proceedings of Constitutional Court” that regulates the procedural issues of the constitutional court proceedings. The issues of constitutional regulation should be clarified in this regard: in the law “on Proceedings of Constitutional Court” should be reflected the procedural forms and other aspects of proceeding, in the Rule of Procedure of Constitutional Court should be fixed the internal organizational issues of the Constitutional Court. The existence of a procedural form will strengthen the independence of the court. The law “On Proceedings of Constitutional Court” was adopted in Georgia on March 21, 1996 [4], in Belarus on January 8, 2014, and in Moldova on June 16, 1995 [5].

When it comes to the constitutional proceedings, principles are the first and most important factor. In legal literatures the principles of the proceedings of Constitutional Court classified: general and special according to the degree of their influence on the regulation of social relations [6, p.416]. General principles reflect the general, organizational status and functions of the constitutional justice. For example, the justice of the judiciary, the independence of court and judges, publicity, transparency, the right of parties to dispute and so on. According to the current legislation, the supremacy of Constitution, the independence, collegiality, transparency, the right to dispute and equality of parties, the presumption of constitutionality of normative and legal documents are defined as the fundamental principles of the Constitutional Court.

The Constitutional Court, with all its activities, is intended to ensure the supremacy of the Constitution of the Republic of Uzbekistan, the implementation of the constitutional principle of the priority of human rights and freedom and other norms of the Constitution of the Republic of Uzbekistan. Judges of the Constitutional Court, making decisions, express their legal position, free from considerations of practical expediency, political inclinations and other extraneous influences.

The full and practical implementation of the principle of publicity guarantees that the effective activity of the Constitutional Court. In order to implement the principle of transparency, a number of developed European countries use different methods. In particular, in accordance with Article 46 of the Spanish Organic Law on the Constitutional Court, if the *amparo* [7], is applied by a public defender or a prosecutor, the Tribunal Chamber shall issue a complaint in the Official Bulletin. Moreover, there is also a prevalent practice of posting judges' opinions in foreign countries. Article 164 of the Spanish constitution fixed that the decisions of the Constitutional Court, and the dissenting opinions of the judges published in the official bulletin (*Le Bolet's official de Estado*). The search for information related to the functioning of the constitutional courts, achieving freedom of expression allows the impartial assessment of the activities of these bodies.

Based on the above, it is proposed that Article 33 of the Law of the Republic of Uzbekistan "On the Constitutional Court of the Republic of Uzbekistan" to state as follows:

Resolutions, conclusions and other acts of the Constitutional Court *as well as the dissenting opinions of judges about resolutions and conclusions* are published in the mass media and on the official website of the Constitutional Court.

In addition, to ensure the publicity and transparency of the activity of Constitutional court broadcasting of sessions plays important role. The Government is committed to increasing transparency and providing the public with information on the operation of public services – the justice system is no exception. Public understanding of how the courts work, is critical to confidence in the system and to its effectiveness in ensuring that justice is done. These measures will help promote that understanding. The opportunity of watching broadcasting and the records should be available to every person. This practise is widespread in Germany and Russia. The introduction of this practise in our national legislation enables to ensure the publicity. So it's proposed to introduce the following changes to the article 40 of Rules of Procedure of Republic of Uzbekistan.

Broadcast the sessions of Constitutional court in the information and telecommunication network – The Internet is allowed on the initiative of the Constitutional Court of Republic of Uzbekistan or with the permission of the Constitutional Court of the Republic of Uzbekistan at the request of the persons involved in the case present at the meeting.

To conclude, the improvement of the proceedings at the constitutional court enables to strengthen the independence of Constitutional Court and enhance the guarantees for the protection of the rights and freedoms of citizens.

THE CURRENT STATE AND PROSPECTS OF FUNCTIONING OF THE SOUTHERN BUH ECOLOGICAL CORRIDOR

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In our country, there has been an increase in the area of the territories and objects of nature reserve fund, but compared to the countries of Central and Western Europe, where this percentage reaches 10 % or more, it can be stated that the achieved level of the territory's conservation is not satisfactory. Therefore, one of the steps for further development of ecological network is to increase the territory and objects of nature reserve fund of Ukraine.

As of 01.01.2017, the nature reserve fund of Ukraine has 8245 objects with the total area of 4.3 million hectares (actual area - 3.9 million hectares), which makes up 6.5 % of the territory of Ukraine. Of the total number of objects of the nature reserve fund, 663 objects are of national importance. During 1992-2016, the number of objects of the nature reserve fund increased by 47 %, of which 24 objects were created since 2000 (A. B. Kachynskyi, 2001).

Development of conservation areas, in particular those with a conservation status, is uneven across the regions. The largest group is the area in which the percentage of the reserve is the smallest and varies between zero and 5 %. Logically, it is necessary to increase the area and the number of objects by creating new objects or extending existing protected areas in these areas, in particular, in Vinnytsia, Mykolaiv, Cherkasy, Kirovohrad, and Odesa.

In the forest-steppe part of the ecocorridor landscapes with fragments of natural vegetation cover, which inferior to the place of cultivated lands dominate. Steppe landscapes are almost completely cultivated and used in agriculture, which causes their rapid degradation. The processes of self-rehabilitation are carried out only on territories withdrawn from economic use, and in conservation areas.

The endangered natural complexes are the most vulnerable complexes, representing the remnants of primary natural forests, meadows and steppes among entirely cultivated lands, which is threatened by the reduction of their areas and death as a result of further anthropogenic impacts due to the expansion of agricultural land.

A serious obstacle to the further functioning of the Southern Buh ecocorridor is the lack of water protection strips, massive building of promising for the ecological network territories with elite cottage housing and country complexes, fragmentation of vegetation cover, etc.

The river itself is split by dams and almost turned into a number of artificial water reservoirs.

To ensure the integrity of the Southern Buh ecocorridor, it is necessary to form parallel ecocorridors in the water protection zones of the Southern Buh tributaries. Almost all small rivers, the tributaries of the Southern Buh, can more or less function as ecocorridors in the ecological network, linking the Southern Buh ecocorridor with the surrounding forest areas or intra-ecological centers, provided that they are optimized, and sometimes also by establishing protection regime (A. V. Hudzevych, 2004).

It is also necessary to accelerate the establishment in-kind (on locality) between the coastal protective strips along the rivers and around water reservoirs, which serve as ecocorridors.

To ensure the integrity of the Southern Buh ecocorridor, issues of optimization of elements of a promising local econet require further detailed research.

For the effective functioning of the Southern Buh meridional ecocorridor, it is necessary to carry out a set of measures: 1) optimization of land use, introduction of environmentally safe production of agricultural products, stopping the extraction of minerals within conservation objects; 2) to propose a set of measures for preservation and reproduction of rare biodiversity, representative and unique landscape complexes, to carry out renaturalization of the fragmented biogeocoenotic cover (especially for the recreational territories of the ecological network); 3) to develop ecological tracks in order to preserve biodiversity, develop recreational activities; 4) to allocate water protection zones and PSB's, to organize zones for mass recreation, determining the level of recreational load in order to reduce "tourist erosion", promote the development of ecological tourism; 5) to select favorable zones for the development of ecotourism; 6) to reserve areas with significant biologic diversity for the creation and expansion of existing NRF objects (buffer zones around them) and regional ecological networks; 7) to provide CP within the limits of the REN, to restore national crafts.

Issues of clarification of the structure of the elements of the national econet, the development of a list of structural elements of regional schemes for the formation of eco networks, the determination of the size of environmental corridors and the modes of their functioning, ensuring the unity of approaches to the formation of ecological networks on the basis of GIS technologies require further scientific research.

IMPACT OF VENTURE CAPITAL ON INNOVATIVE ACTIVITIES IN UKRAINE

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The formation and effective functioning of national innovative system involves the creation of an appropriate innovative infrastructure. Venture capital is best suited for risky investment provision of innovations. The relevance of this topic is the fact that venture industry in Ukraine, despite its efficiency in the field of innovative activities, is almost not oriented to innovations. S. Moskvina, T. Tsykhan, O. Denysenko, V. Zykina and other scholars studied the essence of venture capital and its impact on innovative activity.

The Article 1 of the Law of Ukraine "On Innovative Activity" dated from July 4, 2002 defines innovative activity as activity aimed at the use and commercialization of the results of scientific research and development, it promotes the launch of new competitive products and services on the market.

The development of the industry of venture capital and direct investment in Ukraine is now one of the priority directions of state innovative policy and a prerequisite for intensifying innovative activity and increasing the competitiveness of domestic industry.

Venture capital (from Eng. venture – risky enterprise) according to the definition of the Ukrainian Association of Investment Business, is a long-term, risk capital invested in shares of new and fast-growing companies in order to generate large profits after the registration of shares of these companies on securities exchange. As for the essence of venture investment, it is when a venture investor provides the company with the necessary means by investing them in authorized capital or providing a loan, and getting a certain share in the company's charter fund, which he retains until he or she decides it necessary to "get out" from the company, i.e., to sell own share and obtain the appropriate profit.

While venture capital, as an alternative source of financing private innovation business, appeared in Europe in the late 1970s, then the venture industry in Ukraine began to develop relatively recently, mainly with the support of international financial institutions. Moreover, the first steps to use the principles of venture business in Ukraine were made not in the field of financing innovative projects, but in order to overcome the crisis and to increase the efficiency of privatized enterprises (S. Moskvina).

The procedure for the establishment and operation of venture funds in Ukraine is established by the Law of Ukraine "On Mutual Investment Institutions (share and corporate investment funds)" dated from March 15, 2001. The Regulations on the procedure for registration of issuing shares of corporate investment fund was approved by the decision of the State Commission on Securities dated from December 21, 2006 No. 1585.

The main investor of Ukrainian venture funds is the European Bank for Reconstruction and Development (EBRD). Ukraine has regional venture funds and direct investment funds for small businesses, where the EBRD is almost 100% investor, as well as some direct financing funds, where the EBRD acts as a co-investor. The second important venture fund investor is foreign state structures. In accordance with the agreements between Ukrainian and foreign governments most of foreign investment in venture funds was focused on the conversion of defense industry (reduction of defense industry and its reorientation to the production of consumer goods).

The authors have analyzed the possibilities of venture investment of such potential investors as banks, pension funds and insurance companies. The investment policy of banks was determined for a long time by such negative factors as high inflation, instability of the national currency rate, etc. As a result, banks were not prepared for long-term investments. Nowadays they offer expensive, short-term, low-risk loans and so far do not show interest in venture investment. Pension funds according to Ukrainian legislation can participate in investing a very limited range of financial instruments: 1) government securities; 2) bank deposits; 3) real estate; 4) shares of quoted companies (T. Tsykhan). *The insurance market* began to evolve as a result of government actions in the beginning of 90s. The state-owned insurance company – Derzhstrakh existed until that time. Now there are many insurance companies in Ukraine, but the total amount of insurance premiums collected during the year is insignificant. The total share capital of all Ukrainian insurance companies can be identified with the share capital of one respectable insurance company in any developed Western country (V. Zykina). Venture financing in Ukraine, though represented by 50 venture funds, is not oriented to innovations. The most attractive spheres are food industry, retail trade, construction, processing of agricultural products. However, the successful development of venture business requires state support, like in the Netherlands, when the government guarantees the coverage of half of the possible losses related to investing in private companies.

Consequently, the attraction of funds for venture investment from Ukrainian sources is extremely limited. The main reasons for this are the following: 1) *immaturity of the stock market*. The limitation of this factor leads to the fact that venture funds do not have the freedom to leave the investment enterprises and sell their own shares in them on the organized

market; 2) *insufficiently developed and unfavorable legislation*, in particular, a legal ban on investing through venture funds for non-state pension funds; 3) *economic weakness of other components of the financial system of Ukraine* – limited financial resources within the country, short-term bank lending (O.M. Denysenko, O.P. Denysenko); 4) *the lack of commercial interest of potential investors against the background of high risk*.

Thus, the development of the venture industry nowadays in Ukraine is restrained by a weak legislative base, immaturity of the stock market, the lack of guarantees for an investor. Despite the whole spectrum of problems that do not stimulate the activation of this type of business, venture investment technology for Ukraine is perspective. The state should play a significant role in stimulating the development of this sector, acting as a powerful participant and investing in the development of the most interesting technological developments, and thereby stimulating other major institutional investors to engage in such activities.

THE CONCEPT OF DISCRETION IN ADMINISTRATIVE LAW OF GERMANY. GENERAL UNDERSTANDING

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In the very beginning it would be useful to remember an excellent book *Discretionary Justice: A Preliminary Inquiry* by Professor Davis "Where law ends tyranny begins" (K. Davis, *Discretionary Justice: A Preliminary Inquiry* (1969) p.2), which today we can read as "Where law ends, discretion begins". This quotation eloquently describes the uncontrolled exercise of discretion by government authorities. Though, on the other hand, discretion is a tool, indispensable for individualization of justice. Rules alone, untempered by discretion, cannot cope with the complexities of modern government and of modern justice. Discretion is our principal source of creativeness in government and in law (K. Davis, *Discretionary Justice: A Preliminary Inquiry* (1969) p.3).

The notion of discretion is the central point in administrative law. If a provision of law grants the management body discretion or in other words discretionary powers, then we should understand the fact that this body has some extent for independent decision-making, while all these decisions may be checked by the court but to a limited extent. The discretionary powers may refer to any act or non-act by the relevant authority (i.e. the so called right of the management body to act according to its judgment) or refer to the question of reacting to some particular case. The later refers to the right of discretionary choice, when management body can choose the addressee or means from several available to choose from.

Thus, we can notice that the theoretic grounding of implementation of discretionary powers in Germany is the same as that in Ukraine. For the answer to the question whether the provision of law grants the discretionary powers to the management body or not can be found in the very provision. We can easily draw the parallel to the Ukrainian legislature, for as well as in German law the provisions usually contain the necessary answer in the form of the wordings as "*may*", "*has the right*", "*entitled*" or "*must*".

The following provision can be used as an example to the aforementioned. According to the sentence 1 Part 1 Par.7 of the Law on the order of granting the documents from the Administrative Bodies (Germ. *Verwaltungszustellungsgesetz*), the granting documents *may* be forwarded to the entitled person or person partially entitled on specific matters. In this case, the management bodies are granted with the discretionary power within

certain boundaries. Explaining the case, it's worth mentioning that management body must according to its own opinion decide whether it will forward the granting document to the entitled person or specifically to the addressee of the Administrative Act.

However, according to the sentence 2 part 1 paragraph 7 of the Law, the documents are to be forwarded to the entitled person if he presents the Letter of Authority in written form. And proceeding from this statement, the management body is deprived of the discretionary power. If the Letter of Authority is presented, the body must forward the granting document to the entitled person.

If the management body has discretionary power it doesn't mean it can act with absolute freedom. According to the paragraph 40 a the Law on Administrative Procedures (Germ. *Verwaltungsverfahrensgesetz*) the management body is always obliged to use the granted discretionary powers in accordance with the aim stipulated by the law.

If the management body doesn't realize it has discretionary powers there arises the inaccuracy in the law (so called inaccurate non-implementation discretion) that makes the administrative act illegal and can result in its abolishment in the framework of institutional review.

If management body realizes that it has discretionary powers but implements them not in accordance with stipulated aim but in view of consideration strange to the case and doesn't take into consideration important conditions relevant to the case or erroneously evaluates its priority towards each other, then we talk about erroneous implementation of discretion. This mistake makes the administrative act illegal as well, which may result in its abolishment.

Moreover, administrative act is wrongful if management body exceeds the discretionary limits stipulated by law. It always takes place in the cases when the authority implements the provision not containing the measures from which the mentioned authority can choose, i.e. because this measure is outside of the provision (for example, if the law stipulates the range of administrative fine from 100 to 500 euro and management body assigns the fine in the amount of 600 euro). Such issues can be corrected only in the framework of the institutional review.

Discretionary mistakes. If legal grounds allow to administrative body, then its decisions are to be checked on the matter of its correct implementation. According to paragraph 40 of the Law on Administrative Procedures, the administrative body is obliged to implement its discretion in accordance with the aim of granting such discretionary powers and strictly observe the discretionary limits. According to the sentence 3 part 1 paragraph 39 of the Law on Administrative Procedures, the key aspects the administrative body takes into consideration while implementing discretion must be also included within the grounding of the Administrative Act. Correct implementation of the discretionary powers can be checked by the very body or higher administrative authority in case of pre-judicial review.

Non-Implementation of discretion. If the Law grants the administrative body with discretionary powers it means also the obligation of its implementation. Therefore, if administrative body doesn't consider the possibility of implementation of discretionary powers (for example, because the body didn't realize the availability according to the Law of the discretionary powers or even in case of realization thereof, it erroneously considers that it shouldn't implement granted discretion), then there is a discretionary mistake. In disputable case, the administrative body must prove the fact of implementation of discretion (Germ. *Verwaltungsverfahrensgesetz*).

Example. The Law gives to the Administrative body discretion on the matter of action to prevent danger. Non-implementation of the discretion takes places if the administrative body doesn't realize the granted discretion at all and proceeds from the obligatory decision ("when there is a danger, it must act"). Though, we can talk about non-

implementation of discretion, if the administrative body realizes the discretion give to it a priori, but even though erroneously proceeds from the understanding that in this exact case its discretion is reduced to zero and thus he is left with only one legal possibility to act.

Violation of discretionary limits: principle of proportionality. When implementing discretionary powers the administrative body should observe legal limits of discretion (§40, *Verwaltungsverfahrensgesetz*). They are fixed within the German Constitution and basic legal principle among which is the principle of proportionality.

Example. According to the Directive on State Duties [6 в статъе] the State Duty for the particular Act is estimated in 50 euro. If Administrative Body stipulates the Duty in the amount of 60 euro it means the breach of discretionary limits.

Moreover, the violation of discretionary limits takes place when Administrative Body violates the principle of proportionality, i.e. chooses other legal consequence than stipulated by the Law; violates principle of security of confidence or fundamental rights. In all these cases the Administrative Body chooses legal consequence that happens to be illegal and thus cannot be chosen.

The core of the principle of proportionality can be checked according to the following features:

- Legitimate goal;
- Feasibility;
- Relevancy;
- Proportionality of the measure used by the Administrative

Body.

According to these features, the aim the Administrative Body pursuits must be legitimate; i.e. when it corresponds to the essence and aim of granting discretionary powers by the Legislator.

Example. According to the legislative acts on police in the framework of danger prevention, the police officers may verify identity. If during the demonstration any violent actions towards other people take place, the police is obliged to verify identity of the protestants, proceeding from the aim of granting such a discretionary power. The aim thereof is quick, safe and efficient danger prevention.

If a policeman first verifies the identity of a beautiful blond woman that he wants to get to know better in future instead of the less agreeable man that was noticed in violent actions, his actions are wrongful, for the mid aim the policeman pursuits is not connected with the aim of granted to him discretionary powers.

Erroneous implementation of discretion. It takes place when Administrative Body implements its discretionary powers not in the sense of law. It happens when Administrative Body doesn't take into consideration all aspects that correspond to the aim of the granted powers (margin of discretion), but other aspects not corresponding to the aim of the granted powers. It usually happens when Administrative Body improperly studies the case.

Example. If two women have a noisy row at night next to someone's house and residents of the house call the police, then in order to prevent this kind of night public disorder police has the right to use their discretionary powers as in terms of the chosen measures, or in terms of choosing the addressee. If they decide simply separate women and stop the row, this measure will be legal. But if the police chose to take to the station a beautiful blond woman, instead of an old lady, to continue acquaintance then it would be a wrongful act. In this case we can talk about abuse of discretion that absolutely contradicts general criteria of law.

In conclusion we should mention that discretion is an inevitable tool in exercising effective administrative activity. Without discretion there is no state agency that can exercise its activity, because the legislator cannot foresee legislative settlements for all cases.

Although, sometimes it serve as a potent means for corruption, because the legislative gaps can be used by unprincipled officials for their own mercenary purposes.

ANALYSIS OF BASIC INTERNATIONAL DOCUMENTS CONFIRMING THE RIGHTS OF CHILDREN WITH PLO FOR PROVISION OF QUALITY GENERAL EDUCATION

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International legal documents on the social, economic, legal and educational interests of the population of the country recognized the right of all people to life, freedom, dignity, confession of religion, labor, peaceful assembly, protection of material and moral interests of a person.

Among the key freedoms and rights of a citizen of any state recognized the right of adults and children to education. This provision applies to the entire population without exception. No child can be deprived of this right because of physical or mental inadequacy, or becoming a member of a particular religious community.

The child's ability to receive free full secondary education is enshrined in a number of important international instruments and acts. The leading document that guarantees the rights of the child at the international level is the Universal Declaration of Human Rights (1948), namely the clause on "equality of people without exception". Thus, Article 19 of the said document draws attention to the inadmissibility of insulting or humiliating the dignity of the child and encroach on his rights or hinder his education. Article 23 of the same document proclaims that a child with a mental or physical defect has the same rights as all citizens of her country. Paragraph three of Article 23 states that the state must provide the child with special needs "effective access to education services". Article 28 recognizes the right of the child to education "on the basis of equal opportunity" and provides "access to information and materials in the field of education", which explicitly indicates the need to reform the elementary school in accordance with the child's requests.

In the «Declaration on the Rights of the Child», adopted by the United Nations General Assembly (1959), we can note the points concerning the education and upbringing of a child with special needs. The international document emphasizes «the best interests of the child» in the second principle. That is, if you take the pedagogical plane of education adequate selection of methods and methods of training in accordance with the age, mental or physical abilities of the child to study. The fifth principle is provided by the «special regime» of education and child care «in view of its special status».

The Salamanca Declaration, presented at the World Conference on the World of Persons with Special Needs (1994), served as a basis for educational policy of 92 states, including Ukraine. In point «Factors related to school», was emphasis is placed on the expediency of the inclusive classes introduction in urban and rural areas. The document draws attention to «the adoption of more flexible systems ... capable of fully taking into account the various needs of children». It is important for us to think about the importance of a teacher «to provide additional educational support in the context of a regular curriculum» to a child with

SEN. This provision also recognizes the need, if necessary, to interfere in the educational process of narrow specialists in the correction of the child's educational and educational process at school.

In the item «School Management», attention was drawn to the teacher's competence in the given issue and appropriate training for practical activities. Point C «Setting up and training of teaching staff», refers to the necessary qualifications for the training of children with SEN of junior and middle school teachers. Important in this situation are given in addition to the ability to teach skills and knowledge in the education and training of children with SEN.

The analysis of key international documents on the rights of the child makes it possible to confirm the feasibility of acquiring inclusive class teachers of certain specific competencies regarding the individual development of a child from the SEN.

THE TRAINING OF SPECIALISTS IN PROFESSIONAL EDUCATION

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Methodological approach and conceptual framework of the concept of process approach allow developing methods and procedures of a research and management of the process of training of specialists as a specific element of social development. For designation of process aspect of education in pedagogics the term "preparation" is closer [1,263p.]. More than a half of scientific research in the field of didactics put as a methodological task a research training of the pupil, student, expert, etc. We also have to understand accurately that the quality of education is, first of all, compliance of knowledge and personal qualities of the graduate requirements imposed in the real organizations. Ensuring such compliance by means of standards of specialties - an impracticable task. Standards of specialties aren't in time for the development of science and technologies and also can't consider all variety of concrete requirements of employers.

Nobody can force the employer to accept the young specialist whose knowledge and personal qualities don't meet his requirements, but educations conform to state standards. It is the market law. Any state intervention can only do much harm here. Besides the constant growth of the salary of experts forces employers to carry out the more careful selection of applicants.

Speaking about the pedagogical process, it is necessary to remember that he is expensive minimum two-band: students and trainees are involved in him. The personally focused approach inactivity of the teacher has to be subordinated to the orientation of students in cultural, including professional, linguistic values. The personally focused approach inactivity of the student future of the expert is characterized [2,200p.]:

- ✓ awareness of the worthiness by him which is connected with self-updating, the importance of a profession for society;
- ✓ self-affirmation, the aspiration to gain recognition, the status;
- ✓ the existence of installation on the realization of creative potential;
- ✓ development of the reflexive sphere including introspection, a self-assessment, self-correction.

For the developed concept contents and structure of the concept "preparation" has the central value. The category "preparation" is rich with the opportunities. As methodological means in her is put studying various processes as a result of which there are new psychological educations or transition to a new state is carried out. The concept "preparation" forms a very important plane of abstraction allowing to describe features of structure and the movement of the widest class of processes which real function consists that it focuses the subject in the objective world.

CORRUPTION AS ONE OF THE CAUSES AND FACTORS OF CRIMINAL ECONOMIC OFFENCES IN UKRAINE

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Corruption is one of the most pressing social problems in Ukraine. Some researchers generally believe that corruption has become a major political problem at the end of 20th century. Nowadays corruption has become a factor that really threatens the national security and constitutional order of the state.

The word «corruption» derives from the Latin word «corrumpere» that means «to spoil». Corruption is an unlawful activity when officials use their rights and opportunities for personal enrichment, bribery and corruption of public and political figures.

Fighting against corruption is a popular slogan that is repeated frequently. This phenomenon has a negative impact on various aspects of social life: economy, politics, government, social and legal spheres, public awareness, and international relations. In recent years in Ukraine a lot has been done to solve the issue.

A major break-through regarding the anti-corruption institutions was achieved in October 2014, when the Ukrainian parliament adopted two legal acts establishing new anti-corruption bodies in Ukraine – the National Agency for Corruption prevention and the Anti-Corruption Bureau. The National Anti-Corruption Bureau investigates corruption in Ukraine and prepares criminal cases for prosecution.

On 23 October 2014, the President of Ukraine Petro Poroshenko signed a number of laws against corruption, including:

- The Law of Ukraine "On the Fundamentals of Anticorruption Policy in Ukraine (Anti-Corruption Strategy) to Be Effective within 2014-2017";
- The Law of Ukraine "On the National Anticorruption Bureau of Ukraine";
- The Law of Ukraine "On Prevention of Corruption.

Corruption exists in all countries, but its proportions differ at various levels, and its nature differs as well.

Ukraine scored 27 points out of 100 on the 2015 Corruption Perceptions Index reported by Transparency International. Corruption Index in Ukraine averaged 24.33 Points from 1998 until 2015, reaching in all time high of 28 Points in 1998 and a record low of 15 Points in 2000.

In Ukraine, corruption does not just exist, it thrives at all the levels. It would also be logical to consider corruption at several levels. Closely related to power, corruption plays a

significant role in the information field of the country. Moreover, corruption is often understood only at its primary level, and the fight against corruption is performed only against corrupted petty officials. The second and third levels of corruption are not often taken into consideration and are left intact. However, these levels of corruption are more dangerous because they are not of a spontaneous but systematic character. Here the corrupt money is constantly circulating in such a way as to prolong the functioning of the bureaucratic pyramid - from its bottom and upwards. It is on the highest point of the political system in Ukraine where all major corruption schemes of the third level are met.

Classification of criminal offences related to corruption:

- bribery means promising, offering or providing any benefit which affects the final decision of the official. Bribes can take the form of gifts, loans, rewards;
- squandering means theft of resources by people in authority who control the valuables;
- fraud means misrepresentation or deceiving a person intentionally to gain an unfair or illegal benefit for oneself or the third party;
- extortion means forcing a person to pay money or provide other valuables in exchange for certain actions or inactions;
- abuse means use of authority for granting undue privileges, or vice versa discrimination of human rights for personal gain or benefits;
- receiving illegal benefits or values occurs when an official receives something valuable from anyone who would like to receive the state order;
- illegal donations and contributions mean receiving money in exchange for loyalty towards the person who contributes;

Some people say «Corruption gives birth to poverty», and that is right. The other people say «Corruption generates wealth», and they are also right. However the best way to describe corruption is to say «Corruption causes inefficiency».

The destructive role of corruption lies in the fact that the resources gained via corruption are used for political support of certain politicians giving them more chances to be re-elected for the position, and thus maintaining the existing political and economical model.

Today, corruption in Ukraine has features that distinguish it from corruption in the developed countries. Without identifying these features it is not possible to develop adequate measures to suppress or destroy it.

Corruption in Ukraine has the peculiarity which can be considered as corruption of crisis type. This type of corruption means the following.

It is generated by the crisis of the modern Ukrainian society (and not just by the imperfect criminal justice). It can deepen the crisis of the Ukrainian society, having ability to destroy any political, economic, legal, moral reforms in Ukraine.

The analysis of the preventive policy and measures in Ukraine shows that the anti-corruption practices are not based on the correct understanding of the origin of corruption in Ukraine. In particular, the factor of petty corruption (that is corruption acts of citizens) is not usually taken into account. Only the corruption activity of officials is taken into consideration. This means that the strategy and tactics of combating corruption lacks such a component as «the activity, aimed at reducing corruption acts done by citizens». This fact, in our view, is crucial to combating efficiently the corruption of crisis type.

In order to reduce possibilities for officials to violate the law, it is necessary not only to change the legislation. Many innovations, according to the experts who work at the Center for Political and Legal Reforms can be implemented without changing the legislation. The heads of local authorities should show their willingness to change. One of the ways to reduce the possibility of corruption by officials without changing the legislation is by minimizing direct contacts between officials and citizens. That is, the first thing to do is to minimize

personal contacts with public in the process of preparing or making decisions by the officials. This can be achieved through the use of postal services and e-mail correspondence, launching the unified offices (or centres) where citizens can hand in immediately all the necessary documents. Reducing queues can be avoided by longer office hours devoted to public reception, by improving the ways of giving information to citizens through the creation of information services and electronic resources containing the detailed lists of all the services and procedures offered, by implementing the mechanism of fine payments through banks, but not on site. While all of these innovations are being implemented across Ukraine, everyone can considerably reduce corruption risks for themselves, having studied in detail the procedure for providing the desired services from the state.

The best way to fight corruption at the personal level is knowledge. The more people know the law and the mechanisms to resolve a particular issue, the more they are protected from corruption.

MAN AND ENVIRONMENT IN THE PERSPECTIVE OF ISLAM

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Abstract. There are several specific aspects regarding Islam to the problems of ecology and the environment. All aspects and natural substances, such as water, air, land, flora and fauna, in short, the ecosystem surrounding us is created for man, for the sake of its development and reproduction. The basic principles of this theory are set forth in the Qur`an, and in practice, they are reflected in the hadiths.

Keywords: ecosystem, Islam`s attitude to ecology, doctrine of nature.

There are several specific aspects of Islam's attitudes to ecology and environmental issues, each of which has its own theoretical source in the Qur`an, and its practical properties in the hadiths of the Prophet (s). Above all, the universe and the ecosystem that covers us all are for the human being created by God and called the spell of the universe. Man must be able to read this universe as an open book, discover it, and protect its ability to build up its faith in the Creator and to learn to be thankful. «Behold! In the creation of the heavens and the earth; in the alternation of the night and the day; in the sailing of the ships through the ocean for the profit of mankind; in the rain which Allah Sends down from the skies, and the life which He gives therewith to an earth that is dead; in the beasts of all kinds that He scatters through the earth; in the change of the winds, and the clouds which they Trail like their slaves between the sky and the earth;— (Here) indeed are Signs for a people that are wise» (1: 2-164).

Every creature created by God has its own vitality and function of growth, language and communication, and even a unique sense of feeling that all of them are to worship and serve God: «Sees thou not that to Allah bow down in worship all things that are in the heavens and on earth, — the sun, the moon, the stars; the hills, the trees, the animals; and a great number among mankind?» (1: 22-18). Alternatively, "The seven heavens, the earth, and everyone in them, glorifies God. There is nothing worthy of praise and thanks to Allah, but you do not understand their sanctification"(1: 17-44). All of the creatures have pairs (or dualism, dualism) - light and darkness, warm and cold, male and female, male and female, and so on. Is the source of divine creation: "And of everything We have created pairs: That ye

may receive instruction" (1: 51-49). "Glory to Allah, Who created in pairs all things that the earth produces, as well as their own (human) kind and (other) things of which they have no knowledge"(1: 36-36).

The first foundations of all creation in the Qur`an are known -Water is the beginning of life on Earth: " And Allah has created every animal from water: of them there are some that creep on their bellies; some that walk on two legs; and some that walk on four. Allah creates what He wills for verily Allah has power over all things"(1; 24-45)" Do not the Unbelievers see that the heavens and the earth were joined together (as one unit of creation), before we clove them asunder? We made from water every living thing. Will they not then believe? "(1: 21-30).

There is a mystical point in Islam's attitude towards water. Water is both the beginning of life and the bearer of the mystery of life. It is a great mischief to waste it, to exploit it, to pollute it, to pollute it, and to pollute the water basins with technical waste. Because water is sent from God to man as a blessing: "What do you say about the water you drink? Have you sent down it from the cloud, or have We sent it down?

Were it Our Will, We could make it salt (and unpalatable): then why do you not give thanks? "(1, 56, 68-70)" We pour down rain on it, it is stirred (to life), it swells, and it puts forth every kind of beautiful growth (in pairs) "(1: 22, 5).

The Qur`an gives great importance to water as it relates to the events of nature. It is impossible to see the harmony between the Qur`an verses and the concepts of contemporary science and technology, referring to the importance of water in human life. According to contemporary scientific research, the origin of energy source in the formation of first organic matter before the formation of life on the Earth was ultraviolet rays. At the same time, it is believed that the first creatures are unable to use ultraviolet radiation to process organic matter. It was possible to protect these beams from hiding in water. That is precisely why life began first in the water. All living things, including plants, are created from water. It has been proved by today's science that life is evolving from the water, the basis of every living cell is water, and no thirsty life is possible. Contemporary science proves that the oldest living creatures are plants, or, more precisely, algae.

The second important feature is the herbaceous vegetation. It includes not only vegetation covering the Earth's flora, but also agriculture and cultivation. In the Holy Qur`an, the Almighty commands people: "See ye the seed that ye sow in the ground? Is it ye that cause it to grow, or are We the Cause? "(1, 56, 63-64). The book deals with the cultivation of crops and useful plants: "Then let man look at his food, (and how We provide it): For that We pour forth water in abundance, And We split the earth in fragments, And produce therein corn, And Grapes and nutritious plants, And Olives and Dates, And enclosed Gardens, dense with lofty trees, And fruits and fodder,— For use and convenience to you and your cattle"(1, 80, 24-32). "It is He Who sendeth down rain from the skies: with it We produce vegetation of all kinds: from some We produce green (crops), out of which We produce grain, heaped up (at harvest); out of the date—palm and its sheaths (come) clusters of dates hanging low and near: and (then there are) gardens of grapes, and olives, and pomegranates, each similar (in kind) yet different (in variety): when they begin to bear fruit, feast your eyes with the fruit and the ripeness thereof. Behold! In these things there are signs for people who believe"(1: 6: 99).

According to the savants, Hazrat Muhammad (s) said that Allah would give the reward of food for the food and the reward of a person who feeds himself, people, animals and birds. It is also narrated that the Prophet (peace and blessings of Allah be upon him) said: "To plant trees for the sake of shade"; "Whoever destroys a tree in which passengers and animals are shattered, and throws them in an unfair way, Allah will throw him down to hell" (Abu Davud, c. 650). In this sense, the ruthless use of natural resources in the Muslim

mentality, the destruction of forests, pollution of water basins and so on. A criminal offense against divine law.

Third, the land we live on is also divine grace. The spiritual duty of the people before our land of food is to plant it with plant and irrigation. According to the hadith-sharifah, the true owner of the earth is the one who revives it. There is also the reward of that person in the sight of Allah. I would like to highlight one point here. In the Qur'an, 205-206, Surat al-Baqarah says: "When he turns his back, His aim everywhere is to spread mischief through the earth and destroy crops and cattle. But Allah loveth not mischief. When it is said to him, "Fear Allah", He is led by arrogance to (more) crime. Enough for him is Hell; –An evil bed indeed (To lie on)!"

In describing the faces of such destructive people, God speaks of three peculiarities: "terrible destructive forces" (terrorist and extremist), "sowing seeds" (which violates the ecological balance, destroys nature and the environment), and "to spread mischief" (sexually debauchery). These three murders constitute the character of the Qur'an horny society; that is, terrorism, the nature of an enemy and sexually debauchery nature, and the real problem of the society. The first is the community, the second nature, the third, the aggression of the future generations. "Destroying crops" are not just the ones who are bombarded by the mountains, destroying the forests, drowning lakes, changing riverbeds for nuclear power plants, industrial waste and pastures, chemical poisoning, crop rotation, toxic food, and genetically modified products all of them should know that divine justice would manifest one day. From renowned Islamic scholars, ecologist Ibrahim Sediyanı very well states: "First of all, nature is not human but God's. Secondly, the order of nature is at the disposal of a person who can make the desired change within certain rules. That is, nature has been created in nature (able to change - red). Thirdly, a person should be morally responsible for exploiting or using nature. Fourthly, this is what Islam wants from human beings to investigate and observe the laws of nature and the environment".

There is a doctrine of mercy and justice based on Islam in relation to the world of animals and birds. It is stated in the Qur'an that animals are organized and that they live as a community, and that the protection of animal rights is entrusted to people. "There is not an animal (that lives) on the earth, nor a being that flies on its wings, but (forms part of) communities like you. Nothing have we omitted from the Book, and they (all) shall be gathered to their Lord in the end "(1, 6, 38). Anyone who explores the Quraysh may become acquainted with interesting information about animals and birds that make up an important part of the ecosystem. Six Surahs of Qur'ani-al-karim are known as animals: Baqarah (Cow), Anam (Cattle), Nahl (Bee), Naml (Ant), Ankabut (Spider), Fil (Elephant). 17 times dog, 16 times monkey, 15 times bacon, 14 times snake, 13 times sheep, 12 times camels, 11 bulls and cows, 10 times horse, 9 times, 7 times monster, 6 times bee, 5 times ants, 4 times spider, 3 times mosquitoes, 2 flies. It is no coincidence that Richard Foltz, professor of the University of Florida at the University of Florida, said: "The book, which gives the most attention to the environment and animals, is the Quran." (8)

According to Islam, God creates most of the beasts belonging to the animal kingdom for the use of human beings. "And cattle He has created for you (men): from them ye derive warmth, and numerous benefits, and of their (meat) ye eat. And you have a sense of pride and beauty in them as ye drive them home in the evening, and as ye lead them forth to pasture in the morning. And they carry your heavy loads to lands that ye could not (otherwise) reach except with souls distressed: for your Lord is indeed Most Kind, Most Merciful. And (He has created) horses, mules, and donkeys, for you to ride and use for show; and He has created (other) things of which ye have no knowledge"(1, 16, 5-8). On the contrary, a person must act kindly and fairly with God's creation and be able to be grateful for his blessing.

The Prophet Muhammad (s), who is selected with mercy and compassion for animals, is the most vivid example of this subject and an example to everyone. He said, "It is time to give water to every thirsty beast" and cursed those who tortured the animals (Bukhari, zabaih, 25; Ahmed, 4 / 31-33). According to the narration of Abu Dard, the Messenger of Allah (s), who saw the heavily loaded camel, said: "Allah advises you to be kind to these dumb people, so load them as much as they can." It is forbidden to afflict animals: "Let the one who wishes to cut off the animal from you be cured, so that he does not suffer the cattle." The Prophet (s) did not even consider cutting the knife before the eyes of the animal, so he reprimanded such people (Muslim, 57; Tirmizi, 14).

The Prophet (s) said, "By killing a sparrow unjustly, the Almighty will ask for it on the Day of Resurrection." He forbade the destruction of the birds' nests and the breaking of their eggs in the nest. Ashab said, "The people are our neighbors and they have rights over us." (Mustafa al-Sibai, Min Rawai Hadaratina, 113). According to Islamic law, the maintenance of an animal that is known to its owner but remains uninhabited is carried out by the state. At the same time, creation of private foundations and foundations for care and protection of homeless and endangered animals is considered worthy. This once again confirms that Islam has a legal system not only of human beings but also of animals, which protects and supports the rights of animals. Even the cutting of the animals and birds included in the food group is not only a matter of food but also a matter of preserving the ecological balance.

It is no accident that at the 10th session of the Council of the Islamic Academy held in Jeddah (Saudi Arabia) on June 28 - July 3, 1997, a special decision was made on the rules for sacrificing animals and their rules of sharia cutting. According to that decision, the following rules of regulation should be observed when cutting animal or bird:

The animal dealer should be mature, mentally healthy, Muslim or companion (Christian, Jewish).

- God's name must be mentioned before you begin cutting; record player or other technical means is prohibited.

It is not advisable to sharpen the knife before the animal's eyes.

- It can not be cut with a sharp knife.

- it is impossible to peel off the animal before it is completely cut.

- The birds are not cut off.

- It is forbidden to use a drowning method, such as a soothing shock, a bullet, a hammer, and an English method, with a pistol to cut the animal.

- It is strictly forbidden to apply shock needles to the birds as they die from that needle.

- In exceptional cases, it is permitted to use two-oxidized oxygen shock needles or a roller pistol only for cutting big animals.

- Muslims living in non-Muslim countries must strive to obtain permission from the local authorities of their countries to allocate special places for meat under Islamic rules.

- Muslims who come to or stay in non-Muslim countries are permitted to use the companions of the Companions, Christians and Jews, taking into account the sharia. It should be noted that the ingredients forbidden to meat and poultry products should not be added. If it is clear that sharia rules have been violated during meat or poultry cuts, then this permission is unavoidable.

Finally, the last, the sixth substance - air. Air pollution is more environmentally friendly, such as pollution. According to Islam, the weather is God's property, the only God who gives it to us and takes us out of our last breath. Insensitivity to this divine blessing can have painful consequences. "He raised the skies, and He scales them. Because you do not break the balance!" (1; 55, 7-8).

“It is He Who hath created for you all things that are on earth; Moreover His design comprehended the heavens, for He gave order and perfection to the seven firmaments; and of all things He hath perfect knowledge "(1: 2, 29) In the human mind, events in the atmosphere - winds, storms, turbulences, and lightning - are associated as disaster elements. Although partly in the nature of God's wrath are elements of the wrath, Almighty Creator is still merciful and compassionate toward man. "Who guides you through the depths of darkness on land and sea, and Who sends the winds as heralds of glad tidings, going before His Mercy? (Can there be another) god besides Allah?– High is Allah above what they associate with Him!" (1: 27, 63). The Blessed God Wind is also obliged to serve man made. The verse 22 of Surat al-Hijr says: “And We send the fecundating winds, then cause the rain to descend from the sky, therewith providing you with water (in abundance), though ye are not the guardians of its stores”.

According to the legend, Abdullah Ibn Abbas, the translator of Quran during the Companions, said, "Winds are the fecundating of trees and clouds". Although it is said in the verse that the winds blight trees, it does not explain how the fertilization process took place, and this was an issue for Fakhraddin Razi, the well-known scientist of that time.

Today, modern science considers the wind as the most important means of insects and furrows in the fertilization, pollination of plants. In many verses of the Qur`an, including the 3 verses of Surat al-Raad, fermenting the male pairs of the plants in the flowers of the wind by pointing out that God created pairs of all fruits (male-female, bitter-sweet, etc.) it becomes clear. While ecologists protest against air pollution, the winds and air layers have spread deadly infections as a result of hazardous waste, and weather and climatic conditions have dramatically changed over the last few years and that it can have bitter consequences for humanity.

In general, while today's contemplative man looks at the world God has entrusted to him, he has to recall his Lord's «Then We made you heirs in the land after them, to see how ye would behave!» (1, 10, 14). By commenting on Islam's attitude towards ecological problems and its position, we wanted to remind people of their human and human needs before Allah.

ФОРМИРОВАНИЕ ОРИЕНТАЦИЙ МОЛОДЁЖИ В СФЕРЕ ОБРАЗОВАНИЯ СОЦИАЛЬНЫЕ НАУКИ

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Молодёжь как наиболее как наиболее восприимчивая группа общества отражает сложившиеся общественные отношения во всех областях жизни – экономике, политике, культуре. В то же время она является субъектом деятельности и в зависимости от обстоятельств, может проявлять различную степень производственно-трудовой, общественно-политической, культурной и семейной активности. Изучение молодежи всегда увязывалось с поиском ключа к пониманию будущего. Молодежь глубже всех других возрастных групп улавливает «дух времени».

В современных условиях предъявляются новые требования к духовному облику, убеждениям и действиям молодых людей. В стратегии действий по дальнейшему развитию Республики Узбекистан в 2017-2021 годах и формирование гражданского общества в стране, требуют «активного привлечения к научной деятельности молодежи, создания условий для реализации ею своего творческого и интеллектуального потенциала. Стратегия действий Узбекистана – это инструмент строительства будущего нашей нации. Она необходима, чтобы стимулировать постоянное и целенаправленное устойчивое развитие нашей страны и общества. И это одно из приоритетных направлений Стратегии действий, которое направлено на консолидацию усилий государства и общества по ее полной реализации. Это обусловлено тем, что:

- во-первых- в условиях формирования гражданского общества в стране, требуют «активного привлечения к научной деятельности талантливой, одаренной молодежи, создания условий для реализации ею своего творческого и интеллектуального потенциала»;

- во-вторых, чрезвычайная сложность процесса социализации личности требует постоянного совершенствования средств его осуществления;

- в-третьих, для изменений необходима целеустремлённая молодёжи стремящаяся к получению образования.

Проблемы адаптации и социализации молодёжи, образования и воспитания, гражданского и профессионального становления необходимо рассматривать с точки зрения реальных условий жизнедеятельности. При этом направленность и характер различных групп молодёжи, безусловно, различны. Это обусловлено расслоение молодёжи на относительно самостоятельные группы по различным признакам: возрастным, половым, образовательным, профессиональным, материальным, политическим, культурным и др.

Эти положения актуализировали цель нашего исследования, которая заключалась в изучении жизненные ценности, нравственность, социальные ориентиров молодежи. Нам бы хотелось показать один из изучаемых блоков данного исследования о приоритете образования в системе ценностей молодежи

Социологический опрос проведен Центром изучения общественного мнения «Ижтимоий фикр» в г. Ташкенте, Республике Каракалпакстан и во всех вилоятах Республики.

Основными методами было анкетирование. Анализ результатов настоящего социологического опроса осуществлялся в проблемном сопоставлении с проведенными в предыдущие годы. Они рассматривались в тесной связи с процессами и явлениями, происходящими в нашем обществе с учетом всей совокупности факторов – социально-экономических, политических, духовно-нравственных, культурных и других, оказывающих воздействие на современную молодежь.

Осуществляемый мониторинг позволяет не только увидеть новые явления и тенденции в сознании молодежи, обозначить проблемы, с которыми она сталкивается в настоящее время, но и то, как она формирует свои социальные ожидания, вырабатывает систему ценностных ориентаций, интересов, идеалов, становится активными, полноправными членами общества.

Описание выборки. В исследовании участвовали 1100 респондентов, в том числе городского населения – 559 чел. (50,8%) и сельского 541 чел. (49,2 %), мужчин – 556 чел. (50,5%), женщин – 544 чел. (49,5%). Национальный состав опрошенных: узбеки – 91,4%, каракалпаки – 1,4%, национальности Центральной Азии – 6,1%, русские – 0,4%, другие – 0,7%. Возрастная структура опрошенной молодёжи: 14–15 лет

– 11,3%, 16–17 лет – 12,9%, 18–19 лет – 13,8%, 20–24 лет – 31,9%, 25–29 лет – 30,1%. Уровень образования респондентов: неполное среднее – 25,6%, среднее – 11,5%, среднее специальное – 53,8%, незаконченное высшее – 3,4%, высшее – 5,7%. Выбор регионов обоснован темой, целью и задачами исследования, которые, в свою очередь, были обусловлены условиями реализации проекта.

Результаты эмпирического исследования. Чего хотят молодые люди сегодня? Основная установка молодёжи, которая заканчивает обучение в школе, в колледже или лицее – продолжать обучение.

Анализ социального поведения молодежи в сфере образования позволяет выявить уровень образования молодёжи, наиболее привлекательные его виды, устремления молодежи в выборе жизненного пути, самооценку респондентами уровня своей языковой и информационной подготовки.

Исследование выявляет тенденцию роста у молодежи страны целеустремленности, прежде всего, в повышении уровня своего образования. Так, молодые узбекистанцы указывают на свою потребность повышать своё образование в перспективе.

Повысились показатели желания повышения уровня своего образования среди городской молодежи (68,5, в 2017 г. 66,9%). Наблюдается постепенное увеличение данного показателя среди сельских жителей – (2016 г. 59,1%; 58,8% в 2017г.; 62,5% в 2018г.).

В возрастном срезе желание повысить свое образование более свойственно респондентам 14-19 лет, 18-19 лет, чем 20-29-летним (92,1%, 81,6%, и 51,6% соответственно). Другими словами, с возрастом желание повысить свое образование уменьшается. Следует отметить, что по сравнению с 2017 г. среди учащихся школ, лицеев, колледжей (2017 - 91,8%; 2018г. - 89,5%) и студентов вузов (2017 г. – 81,8%; 2018г. - 67,0%) снизилось количество желающих повысить свой уровень образования, чем среди работающих молодых респондентов (2017 г. – 44,7%; 2018г. - 54,1%).

Молодые люди объясняют своё стремление продолжить учёбу главным посылком, наиболее часто отмечаемым молодыми людьми: «Чтобы получить работу, соответствующую интересам и склонностям». «Хочу стать компетентным работником», «Нравится учиться». Реалистичность подхода к жизненно важным решениям (а, может, и прагматизм) выразилась в том, что ответ «Чтобы найти хорошо оплачиваемую работу» оказался вторым по популярности (почему нет?), да и, пожалуй, в вариантах ответов, набравших намного меньше голосов: «Чтобы получить престижную работу», «Чтобы легко найти работу в нашей стране» и «Надо получить «корочки», без этого сегодня никуда», «Чтобы завести необходимые знакомства, связи». Как бы то ни было, все эти данные свидетельствуют о весьма высокой степени мотивации молодёжи к образованию.

Несмотря на выявленную в режиме мониторинговых исследований тенденцию роста социальной ценности высшего образования у молодежи страны, по сравнению с опросом 2017 года снизилось число тех, кто желает получить образование на уровне бакалавриата с 76,5% в 2017г. до 69,8% в 2018 г., а на уровне магистратуры с 20,2% до 14,3%.

Как показали результаты опроса, 66,3% опрошенных молодых людей хотели бы поступить после окончания школы в профессиональный лицей, более четверти (26,6%) – продолжить обучение в академическом лицее. Примечательно, что абсолютное большинство (100,0%) 18-19 летних хотели бы обучаться в профессиональном колледже.

Число респондентов, желающих получить высшее образование и указавших на свое стремление поступать в вуз в ближайшие годы, по сравнению с предыдущими результатами опросов 2016-2017 гг. вновь снизилось (77,7% - в 2016г., 89% в 2017г. и 80,4% в 2018г.). Ниже среднего от общего массива опрошенных данный показатель выявлен среди респондентов Республики Каракалпакстан (58,8%) и Сырдарьинского

(66,6%) виолента. Среди наиболее привлекательных профессий, которые хотели бы получить молодые узбекистанцы в системе высшего образования, первое место занимают наука педагогика (52,1%), бизнес, услуги и производство (22,0%). медицинские специальности (8,6%), военные специальности и спорт получили по 3,7% предпочтений опрошенных. Высшее образование в сфере культуры хотели бы получить 3,4% опрошенных. Фермерству и сельскому хозяйству готовы посвятить себя всего 1,4% молодых людей. 2,9% опрошенных не смогли определиться с ответом на вопрос о своих приоритетах при выборе специальности.

Следует отметить, по-прежнему выявлена недостаточная мотивация молодежи получить образование по техническим специальностям, что ставит на повестку дня проблему усиления профессиональной ориентации молодежи на техническое образование.

Таким образом, исследование показало сохраняющуюся тенденцию у молодежи страны высокой мотивации в повышении уровня своего образования и социальной ценности высшего образования. Однако по сравнению с предыдущим опросом уверенностью в достаточности знаний, полученных молодыми людьми для поступления в вуз снизилась.

На вопрос: «Чем Вас привлекает высшее образование?», 63,3% (69,2% в 2017г. 69,1% в 2016г.) опрошенных указали на возможность приобретения специальности, необходимой для успеха в жизни. Мотивом для получения высшего образования почти каждый третий (30,2%; 19,8% в 2017г.) считает социальную престижность высшего образования. Возможность хорошего заработка привлекает 5,3% молодых узбекистанцев (5,6; в 2017г. 8,7% в 2016г., 4,7% в 2015г.).

Таким образом, социальная ценность высшего образования для молодых узбекистанцев подтверждается осознанием важности приобретения специальности, престижности высшего образования, возможностью хорошего заработка и трудоустройства.

В этой связи приоритет образования в системе ценностей молодых людей позволяет характеризовать молодое поколение как поколение, нацеленное на образование. Представители этого поколения понимают значимость образования в современном мире. Именно образование является тем социальным лифтом, который позволит им лично состояться, построить карьеру, уверенно чувствовать себя в социуме.

ПЕДАГОГИЧЕСКИЙ ДИЗАЙН – ФЕНОМЕН ЦИФРОВОЙ ДИДАКТИКИ

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Педагогический дизайн (Instructional design, ID) — относительно новое понятие в современной системе образования. В связи с массовым созданием информационно-коммуникативного пространства и информатизацией общества, использование цифровых технологий практически стало нормой. Потребность в развитии новых

теорий обучения и формирования знаний цифровых технологий постоянно растет, в связи с этим за последние годы произошел беспрецедентный переход к сетевым технологиям как средству обучения. За последние годы обучение через компьютер, преимущественно сетевое, принято обозначать e-Learning. Одна из важнейших его задач — разработка качественных и эффективных методик электронного обучения на основе современных информационных технологий. В итоге появилось понятие «педагогического дизайна» — дисциплины, которая способствует качественному обучению, а именно: как разработать, как реализовать, как оценивать их качество, как построить учебный процесс.

С целью реализации стратегических задач по использованию цифровых технологий для образования, появилось новое научное направление «цифровая дидактика» и его феномен «педагогический дизайн».

Педагогический дизайн — научная дисциплина, занимающаяся разработкой наиболее эффективных, рациональных и комфортных способов, методов и систем обучения. Педагогический дизайн позволяет сформировать единую систему обучения и учебного материала, инструментов передачи знаний и оценку качества этих знаний. При этом главное внимание уделяется контенту курса, стилю и последовательности изложения, оригинальным методам создания материала. Применение педагогического дизайна в электронном обучении (E-learning) делает процесс обучения максимально прозрачным и помогает студентам последовательно осваивать материалы курса без лишних вопросов. Кроме того, разрабатывает электронные образовательные курсы, использующие эффективные интерактивные компоненты, дающие возможность правильного сочетания методов и инструментов доставки информации. Однако, чтобы создать электронные курсы, недостаточно поместить какую-то информацию на слайды.

Простое представление в электронном формате текстов учебников, справочников или методических материалов, как показывает практика, малоэффективно для обучения. Педагогический дизайн строится согласно следующим важнейшим концепциям: тщательная проработка материала в соответствии с целями обучения; цели обучения должны соответствовать выбранным мультимедиа средствам, для синхронизации дизайна и обучение. Все медиа-компоненты могут обеспечить содержание обучения полностью или частично, иметь ссылки и связи друг с другом. выстраивание системы постоянного анализа результатов обучения, оценки и усовершенствования процесса передачи знаний и учебного материала; разработка спецификаций и регламентов, в которых описаны какие именно требуются образовательные ситуации и условия; На сегодняшний день российскими и зарубежными авторами сформированы модели, критерии, подходы к изучению, классификации и направления педагогического дизайна. Первая педагогическая модель появилась в Америке в центре образовательных технологий при национальном университете Флориды в 1975 году. С тех пор модель совершенствовалась и на её основе были созданы другие. Чаще всего при разработке педагогического дизайна по созданию учебных материалов используется модель ADDIE (Analysis, Design, Development, Implementation, Evaluation), тесно связанная с инженерией знаний, кибернетикой, психологией, дидактикой, программированием, дизайном, прикладной психологией, системным анализом и хорошо зарекомендовавшая себя как логически продуманная структура. Она делит весь образовательный процесс на 5 этапов, каждый из которых взаимосвязаны друг с другом:

1. Анализ - прояснение целей курса и проблемных точек, анализ обучающей среды и потребностей студентов;

2. Проектирование - конкретизация учебных целей с точки зрения слушателя; планирование инструментов оценки, упражнений, выбор контента, технологий и медиа;

3. Разработка - сбор необходимых для создания курса материалов; составление целостного курса;

4. Внедрение - подготовка фасилитаторов (ведущих курса), а также самих слушателей при необходимости, и реализация курса преподавателем.

5. Оценка - формирующая обратная связь на каждом этапе (определение слабых точек и их улучшение); суммарная обратная связь в конце курса. Для разработки педагогического дизайна используется хорошо зарекомендовавшая себя модель ADDIE и другие проектировочные модели вроде SAM, ALD, Dick & Carey Systems Approach Model или Jerrold Kemp Instructional Design Model, SMART, которые призваны модернизировать и совершенствовать создание педагогического дизайна. Появление новых проектировочных моделей легко объяснимо — растет объем информации, что увеличивает сложность линейного планирования, которое постепенно уступает место конструктивистским моделям. Это позволяет упростить процедуры педагогического дизайна и включить в них элементы кооперации и рефлексии, технологии быстрого прототипирования, каскадную модель и прочие методики. Модель SAM (Successive Approximation Model, модель приближения), базирующаяся на последовательном проектировании.

Модель SMART – система проектного управления, базирующаяся на четко сформулированных и измеримых целях. Её суть заложена в самом названии — Specific (Конкретный), Measurable (Измеримый), Attainable (Достижимый), Relevant (Актуальный), Time-bound (Ограниченный во времени), первые буквы данных слов составили название модели — SMART (Умный). То есть цель непременно должна быть конкретной, измеримой, достижимой, значимой и соотноситься с конкретным сроком. А скорость и эффективность выполнения задачи зависит от правильной её формулировки. Педагогический дизайн тесно связанная с инженерией знаний (knowledge engineering).

Педагогический дизайн - это ультрасовременная интегрированная многоступенчатая универсальная модель, являющаяся деятельностью, которая выражается как новый социально-общественный институт, формирующий образование.

Педагогический дизайн – это своего рода «конструкторское бюро цифровой дидактики» по конструированию, проектированию и разработке целой системы грамотного учебно-образовательного процесса. Педагогический дизайн – это логически завершенная образовательная парадигма ("прогрессивная") с приведенной в систему учебным процессом, имеющий свой менталитет, концепцию, логическую структуру, методологическую основу по созданию учебно- электронных и учебно- методических материалов, которая занимается их внедрением, анализом-синтезом, мониторингом для достижения запланированного конкретного результата.

NATIONAL LEGISLATION OF THE REPUBLIC OF KAZAKHSTAN IN THE FIELD OF REGULATION OF PUBLIC PROCUREMENT

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The role of the state in the economy is determined not only by the regulation of economic processes, but also by the fact that the state is a full-fledged economic entity whose behavior affects the entire national economic system. The most important difference in the behavior of the state as a market entity is that its economic interest is based on the achievement of the goals of the whole society.

One of the areas of state participation in the economy is public procurement. The state undertakes not only financing, but also direct organization of the process of production of certain goods and services. Moreover, the state is one of the largest consumers of a significant part of the range of goods and services offered on the market.

MAHR, AS A SPECIAL KIND OF MARRIAGE CONTRACT IN THE UNITED STATES LEGAL SYSTEM

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"A pre-nuptial agreement is one entered into by prospective spouses prior to marriage but in contemplation and in consideration thereof.

"By it, the property rights of one or both of the prospective spouses are determined or are secured to one or both of them or to their children....

"A pre-nuptial agreement freely and intelligently made is generally regarded as conducive to marital tranquility and the avoidance of disputes about property in the future....

"On the other hand, post-nuptial agreements or settlements are made after marriage between couples still married. They take the form of separation agreements; property settlements in contemplation of a separation or divorce; (or) property settlements where there is no intention of the parties to separate."

A marriage contract is a written document that you and your partner can make either:
before you get married if you are planning to marry at the time
after you get married

A marriage contract is sometimes called a prenup or prenuptial agreement. A marriage contract is a type of domestic contract that says how you deal with your issues while you are together or at the end of your relationship.

For example, you can agree on things like how you and your partner will divide your property and debts if you separate. The most common issues that people deal with in a prenup are property issues and spousal support.

If you were in a common-law relationship and have a cohabitation agreement, the law says that your agreement automatically becomes a marriage contract if you later marry your partner.

A cohabitation agreement or a marriage contract cannot say who gets custody or access to any children if you separate. This is because decisions about children must be made at the time you separate or divorce, based on what is in the best interests of the child.

A marriage contract also cannot change each partner's equal right to live in the home after they separate.

Mahr

A mahr is a type of agreement where the husband promises to pay his wife if the marriage ends or if he dies. Muslim marriage contracts usually include a mahr, whether the marriage takes place in Canada or elsewhere. A mahr is also known as mehr, meher, maher, or mahrieh.

To decide if a mahr can be enforced as a marriage contract, Ontario courts look at how the mahr is written and what happened when the partners agreed to the mahr. If the court decides to enforce your mahr as a marriage contract, it means that the court can order you or your partner to do what the mahr says.

A mahr should be clearly written and include details. For example, when it says the husband pays the wife, it should say:

the amount

the timing

any conditions

The mahr should also be signed by both partners, dated, and witnessed by another person.

Family law says a woman who has signed a mahr still has the right to claim spousal support, child support, and a share of family property.

The law says that at the end of a marriage, married couples usually share the value of all their family property equally. Whether the mahr is included or not as part of the calculation of family property depends on the wording of the agreement. For example, the agreement might say that the mahr is excluded from this calculation. Then the woman gets the mahr in addition to her share of family property.

ACADEMIC EDITION

**Proceedings
of the
Fourth International Conference
of European Academy of Science**

January 20-30, 2019
Bonn, Germany

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