

**ҚОРАҚАЛПОҒИСТОНДА
ФАН ВА ТАЪЛИМ**

**ҚАРАҚАЛПАҚСТАНДА
ИЛИМ ҲӘМ ТӘЛИМ**

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INVESTIGATION OF THERMAL AND STEAM ACTIVATION OF COAL MATERIALS

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Summary: *The mass loss of two samples of coal materials obtained on the basis of a single raw material has different values under the same heat treatment conditions. These differences are mainly related to the constituent components of the coal samples. Probably, a separate release of carbon-containing components, i.e. cellulose and lignin, mainly before carbonation is associated with the destruction of more stable organic compounds in the composition of the feedstock, which, when processed with an alkali and acid solution, undergo changes and are released with the ash part into the composition of silicon dioxide. The highest values of yield and specific surface area for the studied coal samples were obtained during the process at a temperature of 800°C and a flow rate of 75 ml/min for 1.5-2 hours.*

Keywords: *activated carbon, rice husk, activation, steam activation, specific surface area, adsorption.*

1. Introduction. Activated carbon is the oldest adsorbent, which is characterized by large surface values, controlled pore structure, thermal stability and low acid/base reactivity. Activated carbon is an effective material for removing various inorganic [1.759-766] and organic [2.2483-2490] pollutants dissolved in an aqueous medium or from the gas phase.

Adsorption cleaning with activated carbon is recognized as an effective means to reduce organic chemicals, chlorine, heavy metals, liquid waste [3.942-947]. Popular sources of raw materials are used to produce activated carbon, such as coal [4.1809-1811], wood waste [5.25-39], coconut shell [6.8443-8449], peat [7.124-133], petroleum [8.458-463], and polymers [9.1499-1507]. Despite its widespread use in the adsorption process, the biggest problem in using activated carbon on an industrial scale is its high cost and difficulty in regenerating adsorbents. In this regard, there is a need to search for new renewable and inexpensive materials as an alternative to adsorbents in solving the problem of water pollution, utilization of waste gases from various technological processes.

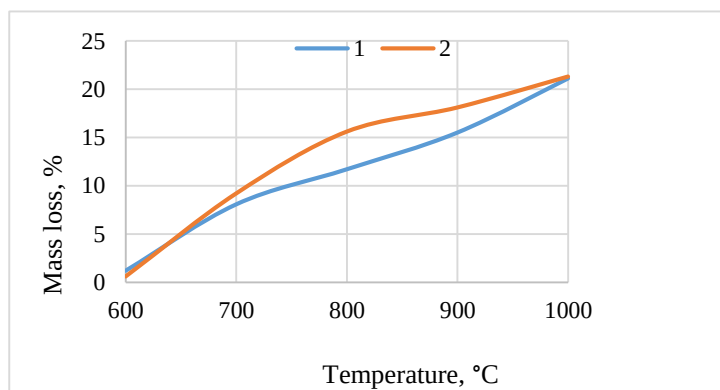
Activated carbons are often used as catalyst carriers. For catalytic applications, carbon must not only have a high specific surface area, but also have a mesoporous structure. Studies confirm that mesopores significantly increase the catalytic activity of materials, allowing macromolecules to penetrate into their structure and quickly adsorb on the catalyst surface [10.157-164].

The aim of the research was to study the influence of the conditions of activation processes on the yield and porous structure of coal materials based on rice husks (RH).

2. Experimental. The preparation of coal materials was carried out by two methods. The first (AU1) of them was based on the carbonization of RH at a temperature above 550°C, followed by treatment of the carbonizate with a 20% KOH solution. The resulting system was filtered to isolate the carbon. According to the second method, the initial RH was first treated with a KOH solution to isolate silicon dioxide, then lignin and cellulose were isolated from the solution and subjected to carbonization (AC2).

Thermal activation of the obtained samples of coals was carried out at temperatures above 600°C. The influence of the activation temperature on the porous structure and yield of coal based on RH was studied. Steam activation was carried out by supplying water at a rate of 75 ml/min for 1 to 3 hours in the temperature range from 600 to 950°C. The specific surface area of the samples was studied on the basis of iodine adsorption according to GOST 33618-2015.

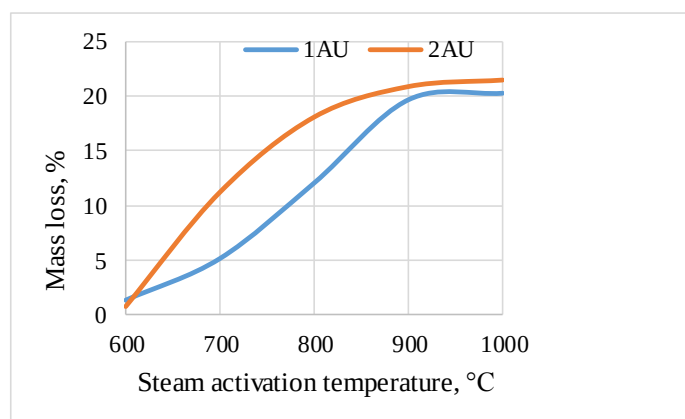
3. Results and its discussion. The results obtained during the heat treatment of coal materials are shown in fig. one.



Rice. 1. Change in the mass of coal during thermal activation in an inert atmosphere: 1) AU1; 2) AU2.

From the curves in Fig. 1, one can observe different thermal behavior of coal materials obtained on the basis of the first (AU1) and second (AU2) methods. Heat treatment of AC1 at a temperature of 600°C slightly affects the change in weight (1.2%). However, for AC2, the mass change has smaller values and amounts to 0.8%. These differences are mainly related to the constituent components of the coal samples. It is likely that a separate isolation of carbon-containing components, i.e. cellulose and lignin, before carbonization, is mainly associated with the destruction of more stable organic compounds in the composition of the original RH, which, when treated with an alkali solution, then with an acid, undergo changes and are released with the ash part into the composition of silicon dioxide. However, with an increase in the calcination temperature to 700°C and more, on the contrary, a large loss of AC2 mass is observed. Consequently, smaller changes in mass at temperatures below 700°C are associated with a high content of lignin-containing substances, which are more stable and at a given temperature form a large amount of resinous substances that are stored in the already formed pores of the coal. A further increase in the processing temperature removes these resinous substances, which are mainly responsible for the weight change. The total amount of mass change at temperatures above 950°C has the same values, since already at a temperature of 850°C the processes associated with the removal of functional surface groups in the composition of the coal material come to an end, and a further change in mass is associated with the combustion of amorphous carbon and the formation of more ordered structure of graphite [11.153].

The effects of activation using water vapor on the yield and structure of coal samples were studied. According to the literature data, it is known that activation with water vapor leads to an increase in the porosity of the coal system under certain conditions, the excess of which negatively affects the adsorption activity and the yield of the coal adsorbent. Therefore, the influence of the duration and temperature of the activation process on the characteristics of coal samples was studied. The obtained data are shown in fig. 2.



Rice. 2. Change in the mass of coal depending on the temperature of steam activation.

The mass loss during steam activation is somewhat greater than without it, which is associated with additional oxidation and reaction with activator molecules of some components of

the carbon material. The difference in weight loss values is especially noticeable at a temperature of 650-900°C. At higher temperatures, the difference in these values is reduced. Consequently, the processes associated with the change under the influence of polar water molecules occur precisely in the temperature range of 650-900°C. At the same time, some authors argue [12.45-49, 13.7224-7231] that in the temperature range of 700–950°C it is possible to obtain higher technological parameters of the process of steam activation of carbon-containing raw materials.

The main criterion in practice is the yield of the carbon product. The results of the study of the effect of the duration of the steam activation process on the yield showed that when using water vapor for activation for 1 hour at a flow rate of 75 ml/min, the porosity (iodine adsorption porosity) of 1AU and 2AU increases by 11 and 13%, respectively. A further activation process over the next 2 hours slightly increases the porosity of the samples under study. And after 4 hours of steam activation, on the contrary, a decrease in porosity is observed. Also, when the temperature rises to 750-800°C, the values of porosity and specific surface area for two coal samples rise sharply. A further increase in temperature also reduces the yield and specific surface area of coal materials. Such a change with increasing duration is associated primarily with the destruction of the already formed porous structure due to a deep reaction with water molecules at high temperature.

Table 1.

Influence of activation conditions on yield and specific surface*						
Sample	Activation temperature, °C	Coal yield*, %	S, m ² /g	Activation temperature, °C	Coal yield*, %	S, m ² /g
	Without water vapor			With water vapor		
1AU	600	1,2	895	600	1,3	1091
	700	8,07	605	700	5,1	989
	800	11,7	886	800	12,0	1101
	900	15,5	912	900	19,6	1206
	1000	21,1	998	1000	20,8	1286
2AU	600	0,6	701	600	0,7	961
	700	9,2	542	700	11,2	716
	800	15,6	756	800	18,1	892
	900	18,1	895	900	20,9	956
	1000	21,3	906	1000	21,5	1108

* - the duration of the process is 3 hours.

As the data in the table show, under the same temperature conditions, the use of water vapor somewhat increases the specific surface area, while the product yield is much lower at temperatures up to 900°C. Thus, the best yield and specific surface values for both samples were obtained when the process was carried out at a temperature of 800°C and a flow rate of 75 ml/min for 1.5–2 h. In this case, the mass loss is 12.0 and 18.1%, respectively, for 1AU and 2AU, and the specific surface area is 1101 and 892 m²/g. Enhanced adsorption characteristics of these samples should be expected in the process of removing various adsorbates from aqueous and other media. Therefore, it is necessary to deepen research in the direction of creating coal adsorbents based on various raw materials, incl. rice husk.

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Rezume: Bitta xom ashyo asosida olingan ko'mir materiallarining ikkita namunasining massa yo'qolishi bir xil issiqlik bilan ishlov berish sharoitida turli qiymatlarga ega. Bu farqlar asosan ko'mir namunalarining tarkibiy qismlari bilan bog'liq. Ehtimol, uglerod saqlovchi komponentlarning tarkibiy qismlarini aloxida ajratish, ya'ni sellyuloza va lignin, karbonizatsiyadan oldin, asosan, ishqor va kislota eritmasi bilan ishlov berilganda, o'zgarishlarga uchraydi va kremniy dioksid tarkibidan qisman kul bilan ajralib chiqadigan xom ashyo tarkibidagi barqarorroq organik birikmalarning yo'q qilinishi bilan bog'liq. O'rganilayotgan ko'mir namunalari uchun eng yuqori rentabellik va o'ziga xos sirt qiymatlari 800°C haroratda va 75 ml/min oqim tezligida 1,5-2 soat davomida olingan.

Резюме: Потеря массы двух образцов угольных материалов, полученных на основе одинокого сырья, имеет различные значения при одинаковых условиях термообработки. Данные различия в основном связаны со составляющими компонентами образцов угля. Вероятно, отдельное выделение углерод содержащих компонентов, т.е. целлюлозы и лигнина в основном, до карбонизации связано с разрушением более устойчивых органических соединений в составе исходного сырья, которые при обработке с раствором щелочи и кислоты претерпевают изменения и выделяются с зольной частью в состав диоксида кремния. Наивысшие значения выхода и удельной поверхности для исследуемых образцов угля были получены при проведении процесса при температуре 800°C и расходе 75 мл/мин в течение 1,5-2 ч.

Kalit so'zlar: faollashtirilgan uglerod, guruch qovuzi, faollashtirish, bug' faollashuv, sirt maydoni, adsorbsiya

Ключевые слова: активированный уголь, рисовая шелуха, активация, пароактивация, удельная поверхность, адсорбция.

UDC 519.24

SEMIPARAMETRIC ESTIMATION OF CONDITIONAL DISTRIBUTION FUNCTION IN REGRESSION MODEL UNDER INFORMATIVE RANDOM CENSORING FROM BOTH SIDES

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Summary: In this paper we study estimator of the conditional distribution function in a fixed design regression model when lifetimes are subjected to informative random censoring from both sides.

Keywords: Nonparametrical regression, power estimator, informative censoring, kernel estimator.

1. Introduction

In survival data analysis, response random variable (r.v.) Z , the survival time of a individual (in medical study) or failure time of a machine (in industrial study) that usually can be influenced by r.v. X , is often called prognostic factor (or covariate). X represents e.g. the dose of a drug for individual or some environmental conditions of a machine (temperature, pressure,...). Moreover, in such practical situations it often occurs that not all of survival times $Z_1, \dots, Z_n$ of n identical objects are complete observed, that they can be censored by other r.v.-s.

In this article we consider a regression model in which the response r.v.-s are subjected to random censoring from both sides. So let $\{(Z_i, Y_{1i}, Y_{2i}, X_i), i = \overline{1, n}\}$ are independent replicas of vector (Z, Y_1, Y_2, X) , where components of vector (Z, Y_1, Y_2) are independent for given covariate X . Our sample will be consist of n vectors $S^{(n)} = \{(\xi_i, \delta_{0i}, \delta_{1i}, \delta_{2i}, X_i), i = \overline{1, n}\}$, where $\xi_i = \max\{Y_{1i}, \min(Z_i, Y_{2i})\}$, $\delta_{0i} = I(\min(Z_i, Y_{2i}) < Y_{1i})$, $\delta_{1i} = I(Y_{1i} \leq Z_i \leq Y_{2i})$, $\delta_{2i} = I(L_i \leq Y_i < Z_i)$ with $I(A)$ - denoting the indicator of event A . In sample $S^{(n)}$ the r.v.-s of interest Z_i are observable when $\delta_{1i} = 1$. We denote by F_x , G_{1x} and G_{2x} the conditional distribution functions (d.f.-s) of r.v.-s Z_x , Y_{1x} and Y_{2x} respectively, given that $X = x$ and suppose that they are continuous. Let H_x is conditional d.f. of r.v. ξ_x for $X = x$. Then easy to see that $H_x(t) = G_{1x}(t)(1 - (1 - F_x(t))(1 - G_{2x}(t)))$, $t \geq 0$. We consider only fixed design covariates. Let $0 \leq x_1 \leq \dots \leq x_n \leq 1$ denote n fixed design points of covariate X . The problem in considered fixed design regression model is consist on estimation the conditional d.f. F_x of lifetimes from the samples $S^{(n)}$ under nuisance d.f.-s G_{1x} and G_{2x} . The first product-limit type estimators for F_x in the case of no censoring from the left proposed by Beran [2] and has been investigated by many authors (see, for example [4,5]). Note also that a class of power type estimators for conditional d.f.-s for several models authors have considered in book [1].

We suppose that the censoring is informative so that the d.f.-s G_{1x} and G_{2x} are expressed from d.f. F_x with following formulas for all $t \geq 0$:

$$\begin{cases} 1 - G_{1x}(t) = (1 - F_x(t))^{\theta_x + 1}, \\ 1 - G_{2x}(t) = (1 - F_x(t))^{\theta_x}, \end{cases} \quad (1)$$

where θ_x positive unknown nuisance parameter, depending on the covariate value x . It is not difficult to verify that from (1) one can obtain following expression of d.f. F_x :

$$F_x(t) = 1 - \left[1 - (H_x(t))^{1/2} \right]^{\gamma_x}, \quad t \geq 0, \quad (2)$$

where $\gamma_x = \frac{1}{1 + \theta_x}$. Using (2) representation, we construct the following estimate for F_x :

$$F_{xh}(t) = 1 - \left[1 - (H_{xh}(t))^{1/2} \right]^{\gamma_{xh}}, \quad t \geq 0, \quad (3)$$

where $\gamma_{xh} = 2p_{1xh}$, $p_{mxh} = \sum_{i=1}^n \omega_{ni}(x; h_n) \delta_{mi}$, $m=1,2$, and $H_{xh}(t) = \sum_{i=1}^n \omega_{ni}(x; h_n) I(\xi_i \leq t)$,

are smoothed estimators of γ_x , $p_{mx} = P(\delta_{mx} = 1)$, $m=1,2$, and $H_x(t)$ used Gausser-Müllers weights [3]:

$$\omega_{ni}(x; h_n) = \int_{x_{i-1}}^{x_i} \frac{1}{h_n} \pi\left(\frac{x-y}{h_n}\right) dy \left(\int_0^{x_n} \frac{1}{h_n} \pi\left(\frac{x-y}{h_n}\right) dy \right)^{-1}.$$

Here $x_0 = 0$, π is a known probability density function (kernel), and $\{h_n\}$ is a sequence of positive constants (bandwidth), tending to 0 as $n \rightarrow \infty$.

For asymptotic properties of estimator (3) we need some notations. For the design points $x_1, \dots, x_n$ and kernel π we denote $\underline{\Delta}_n = \min_{1 \leq i \leq n} (x_i - x_{i-1})$, $\bar{\Delta}_n = \max_{1 \leq i \leq n} (x_i - x_{i-1})$,

$$\|\pi\|_2^2 = \int_{-\infty}^{\infty} \pi^2(y) dy, \quad m_v(\pi) = \int_{-\infty}^{\infty} y^v \pi(y) dy, \quad v=1,2.$$

Let $\tau_{F_x} = \sup\{t \geq 0: F_x(t) = 0\}$ and $T_{F_x} = \inf\{t \geq 0: F_x(t) = 1\}$ are lower and upper bounds of support of d.f. F_x . Then by (1): $\tau_{F_x} = \tau_{G_{1x}} = \tau_{G_{2x}} = \tau_{H_x}$ and $T_{F_x} = T_{G_{1x}} = T_{G_{2x}} = T_{H_x}$.

The following property characterizes the model (1).

Lemma 1. Equalities (1) holds if and only if, when r.v. ξ_x and vector $(\delta_{1x}, \delta_{2x})$ are independent.

This characterization of submodel (1) plays an important role for investigation the properties of estimator (3).

In order to investigate the asymptotic properties of estimators (3) we need the following:

(C1) As $n \rightarrow \infty$, $x_n \rightarrow 1$, $\bar{\Delta}_n = O(n^{-1})$, $\bar{\Delta}_n - \underline{\Delta}_n = o(n^{-1})$;

(C2) π is a probability density function with support $[-M, M]$ for some $M > 0$, $m_1(\pi) = 0$, and π is Lipschitz of order 1;

(C3) $\ddot{H}_x(t) = \frac{\partial^2}{\partial x^2} H_x(t)$, $H_x''(t) = \frac{\partial^2}{\partial t^2} H_x(t)$, $\dot{H}_x'(t) = \frac{\partial^2}{\partial x \partial t} H_x(t)$, exist and are

continuous in $(x, t) \in [0, 1] \times [\tau, T]$, with $\tau_{H_x} < \tau < T < T_{H_x}$

(C4) $\ddot{p}_{mx} = \frac{d^2}{dx^2} p_{mx}$, $m=1,2$, exist and are continuous for $x \in [0, 1]$.

Let's also denote: $r^{-1} = \sup_{\tau \leq t \leq T} [(H_x(t))^{1/2} - H_x(t)]^{-1}$, $\|\dot{H}\| = \sup_{(x;t) \in [0,1] \times [\tau, T]} |\dot{H}_x(t)|$,

$$\|\ddot{H}\| = \sup_{(x;t) \in [0,1] \times [\tau, T]} |\ddot{H}_x(t)|, \|\dot{p}_x^{(m)}\| = \sup_{x \in [0,1]} |\dot{p}_x^{(m)}|, \|\ddot{p}_x^{(m)}\| = \sup_{x \in [0,1]} |\ddot{p}_x^{(m)}|, m=1,2.$$

Note that existence of all these derivatives follows from conditions (C3) and (C4).

2. Asymptotic results

For the estimates (3) we proved the following results:

Theorem 1 (uniform strong consistency with rate). Assume that conditions (C1), (C2) are met and H_x , p_{mx} , $m=1,2$ satisfies (C3), (C4). If $h_n \rightarrow 0$, $\frac{\log n}{nh_n} = o(1)$, $\frac{nh_n^5}{\log n} = O(1)$, as $n \rightarrow \infty$, then

$$\sup_{\tau \leq t \leq T} |F_{xh}(t) - F_x(t)| = O\left(\left(\frac{\log n}{nh_n}\right)^{1/2}\right) \text{ a.s.}$$

Lemma 2 (almost sure asymptotic representation with weighted sums). Under the conditions of theorem 2 with $r > 0$, we have for $t \in [\tau, T]$:

$$F_{xh}(t) - F_x(t) = \sum_{i=1}^n \omega_{ni}(x; h_n) \Psi_{tx}(\xi_i, \delta_{1i}, \delta_{2i}) + r_n(t, x), \quad (4)$$

where

$$\Psi_{tx}(\xi_i, \delta_{1i}, \delta_{2i}) = (1 - F_x(t)) \left\{ \frac{p_{1x}}{(H_x(t))^{1/2} - H_x(t)} (I(\xi_i \leq t) - H_x(t)) - 2 \log \left[1 - (H_x(t))^{1/2} \right] (\delta_{1i} - p_{1x}) \right\},$$

and as $n \rightarrow \infty$,

$$\sup_{\tau \leq t \leq T} |r_n(t, x)| = O\left(\frac{\log n}{nh_n}\right) \text{ a.s.}$$

Theorem 2 (asymptotic normality). Assume that conditions (C1), (C2) are met and H_x , p_{mx} , $m=1,2$, satisfies (C3), (C4) and $r > 0$.

(A) If $nh_n^5 = o(1)$ and $(nh_n)^{-1/2} \log n = o(1)$, then for $t \in [\tau, T]$, as $n \rightarrow \infty$,

$$(nh_n)^{1/2} (F_{xh}(t) - F_x(t)) \xrightarrow{d} N(0, \sigma_x^2(t)).$$

(B) If $h_n = Cn^{-1/5}$ for some $C > 0$, then for $t \in [\tau, T]$, as $n \rightarrow \infty$,

$$(nh_n)^{1/2} (F_{xh}(t) - F_x(t)) \xrightarrow{d} N(a_x(t), \sigma_x^2(t)),$$

where

$$a_x(t) = \frac{1}{2} (1 - F_x(t)) \{A_x(t) \ddot{H}_x(t) - B_x(t) \ddot{p}_{1x}\} m_2(\pi) C^{5/2},$$

$$\sigma_x^2(t) = \|\pi\|_2^2 (1 - F_x(t))^2 \{A_x^2(t) H_x(t) (1 - H_x(t)) + B_x^2(t) p_x^{(1)} (1 - p_x^{(1)})\},$$

with

$$A_x(t) = \frac{p_{1x}}{(H_x(t))^{1/2} - H_x(t)}, \quad B_x(t) = 2 \log \left[1 - (H_x(t))^{1/2} \right].$$

Proof: Let us calculate the mathematical expectation of the main member of the representation (4):

$$\begin{aligned} \sum_{i=1}^n \omega_{ni}(x; h_n) E \Psi_{tx}(\xi_i, \delta_{1i}, \delta_{2i}) &= \\ &= (1 - F_x(t)) \left\{ \frac{p_{1x}}{(H_x(t))^{1/2} - H_x(t)} \sum_{i=1}^n \omega_{ni}(x; h_n) (H_{x_i}(t) - H_x(t)) - \right. \\ &\quad \left. - 2 \log \left[1 - (H_x(t))^{1/2} \right] \sum_{i=1}^n \omega_{ni}(x; h_n) (p_{1x_i} - p_{1x}) \right\}. \end{aligned} \quad (5)$$

According to Lemma A.1 from [4]:

$$\begin{aligned} \sum_{i=1}^n \omega_{ni}(x, h_n) (H_{x_i}(t) - H_x(t)) &= \frac{1}{2} m_2(\pi) \ddot{H}_x(t) h_n^2 + o(h_n^2) + O(n^{-1}), \\ \sum_{i=1}^n \omega_{ni}(x, h_n) (p_{1x_i} - p_{1x}) &= \frac{1}{2} m_2(\pi) \ddot{p}_{1x} h_n^2 + o(h_n^2) + O(n^{-1}). \end{aligned} \quad (6)$$

Substituting (6) into (5), we obtain

$$\begin{aligned} (nh_n)^{1/2} \sum_{i=1}^n \omega_{ni}(x; h_n) E \Psi_{tx}(\xi_i, \delta_{1i}, \delta_{2i}) &= a_x(t) (nh_n^5)^{1/2} + o((nh_n^5)^{1/2}) + \\ &+ O((n^{-1}h_n)^{1/2}) + O((nh_n)^{-1/2} \log n) = \begin{cases} o(1), & \text{under conditions (A),} \\ a_x(t), & \text{under conditions (B).} \end{cases} \end{aligned}$$

Taking into account the independence of the estimates $H_{xh}(t)$ and p_{1xh} and using Lemma 3.1 in [4], we can show that

$$\begin{aligned} D \left\{ \sum_{i=1}^n \omega_{ni}(x; h_n) \Psi_{tx}(\xi_i, \delta_{1i}, \delta_{2i}) \right\} &= \sum_{i=1}^n \omega_{ni}^2(x; h_n) D \Psi_{tx}(\xi_i, \delta_{1i}, \delta_{2i}) = \\ &= \sum_{i=1}^n \omega_{ni}^2(x; h_n) (1 - F_x(t))^2 \left\{ A_x^2(t) H_{x_i}(t) (1 - H_{x_i}(t)) + B_x^2(t) p_{x_i}^{(1)} (1 - p_{x_i}^{(1)}) \right\} = \\ &= (1 - F_x(t))^2 \left\{ A_x^2(t) \left[\frac{\|\pi\|_2^2}{nh_n} H_x(t) (1 - H_x(t)) + o\left(\frac{1}{nh_n}\right) \right] + \right. \\ &\quad \left. + B_x^2(t) \left[\frac{\|\pi\|_2^2}{nh_n} p_x^{(1)} (1 - p_x^{(1)}) + o\left(\frac{1}{nh_n}\right) \right] \right\} = \frac{\sigma_x^2(t)}{nh_n} + o\left(\frac{1}{nh_n}\right). \end{aligned} \quad (7)$$

To establish the asymptotic normality of estimates (3), according to (4), we check the Lyapunov condition, that is, for $n \rightarrow \infty$ the condition

$$\frac{\sum_{i=1}^n \omega_{ni}^3(x, h_n) M |\Psi_{tx}(\cdot) - M \Psi_{tx}(\cdot)|^3}{\left\{ D \left[\sum_{i=1}^n \omega_{ni}(x, h_n) \Psi_{tx}(\cdot) \right] \right\}^{3/2}} = o(1). \quad (8)$$

Since $M|\tilde{\Psi}_{tx}(\cdot) - M\tilde{\Psi}_{tx}(\cdot)|^3 \leq 4\left\{M|\tilde{\Psi}_{tx}(\cdot)|^3 + [M|\tilde{\Psi}_{tx}(\cdot)|]^3\right\}$ and $\tilde{\Psi}_{tx}$ is uniformly bounded at $t \in [\tau, T]$, we see that the numerator in (8) has the order of $O((nh_n)^{-2})$. The denominator (8) according to (7) has an order $O((nh_n)^{-3/2})$ and therefore the fraction (8) has an order $O((nh_n)^{-1/2})$, which under the conditions of the theorem is $o(1)$ at $n \rightarrow \infty$ and this proves the theorem.

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Rezyume: Ushbu maqolada biz umr davomiyligi vaqti ikki tomondan tasodifiy informativ senzurlanganda, fiksirlangan dizaynlik regressiya modelida shartli taqsimot funksiyasini baholashni o'rganamiz.

Резюме: В этой статье мы изучаем оценку условной функции распределения в регрессионной модели с фиксированным дизайном, когда времена жизни подвергается информативной случайной цензурирование с двух сторон.

Kalit so'zlar: Noparametrik regressiya, darajali baho, informativ senzura, yadro bahosi.

Ключевые слова: Непараметрическая регрессия, степенная оценка, информативное цензурирование, ядерная оценка.

THE ROLE OF GRAND AND SMALL GERILLS IN THE CIRCULATION OF NATURAL FOCAL INFECTION PATENTS IN THE KYZYLKUM OF THE REPUBLIC OF KARAKALPAKSTAN

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Summary: In the article, the material for the study was our own field collections (2019). The work also used departmental materials collected by the zoological group of the KK branch of the RCHRC and the OOI MZRuz.

Keywords: Abundance. population, reproduction, morphology, coloration.

At present, despite the epidemiological well-being of plague in our country, the problem of its prevention remains relevant, aimed at annual monitoring of the epizootic process. Plague continues to be registered in neighboring countries (China, Mongolia, Kazakhstan, Azerbaijan), international trade and cultural relations are expanding, including with countries that are unfavorable for plague (Madagascar, Malawi, Mozambique, Tanzania, Zambia, Peru, Indonesia, Myanmar, Vietnam and on the territory of the Russian Federation).

Together with the zoological teams, we investigated the Kyzylkum focus of the natural plague focus in the serviced territory of the KK by the branch of the RCPK and the OOI of the MZRuz (KK филиалом RCPK and OOI MZRuz) in 2019. One of the objectives of our study was to study the current significance of large and small mammals in the circulation of the tularemia pathogen in the region. Kyzylkum focus from the following LERs. (ЛЭРх)

A) Western Aral sands; B) Akchadarya sands; C) Beltau sands; Nukus sands; D) Central Kyzyl Kum; D) Western Kyzyl Kum; In 2019, an epizootological survey of the territory for plague was carried out in Kyzylkum in 6 LERs.

We analyzed departmental materials. The epizootic survey of the territories assigned to the KK by the branch of the RCHRC and the OOI of the MZRuz was carried out in accordance with the work plans for 2019 and the current instructions, methodological guidelines and forecast of the epizootic situation in 2019. When examining the territory, first of all, attention was paid to LERs, places of concentration of the population and temporary pastures of people, occupation by drilling operations, where the risk of infection of people with plague is high, as well as primary areas where there has been a high increase in the number of main carriers and vectors, where sporadic cases of epizootics were predicted to be detected. plague. In the rest of the territories, an epidemiological reconnaissance was carried out with the collection of materials and reconnaissance records.

Thus, the largest proportion of positive reactions to tularemia in the Kyzylkum Autonomous focus of the plague epizootic among rodents was recorded in the Akchadarya massif in sector 2724100344 kol. Bulanda from them of the midday gerbil, 1 culture of the plague microbe was isolated (Fig. 1). Thus, small mammals in the Akchadarya massif kol. Bulands represent a serious epidemic and epizootic danger for humans and animals. During 2019, 467 sectors were examined on the territory of KK by the branch of the Republican Center for Human Rights and Human Rights Protection and the OOI MZRuz for contact with pathogens of natural focal infections, of which 7290 rodents, 39100 fleas, 2543 ticks were harvested and examined.

Fig. 1. Akchadarya massif Bulandy.



The strategy for combating epidemics and preventing the incidence of plague are determined taking into account clinical forms, epidemiological anamnesis, the spread of diseases, the number of cases, the mechanism of infection of people, the seasonality and area of epizootics, the species composition and the number of carriers and vectors of plague. In natural foci, it is necessary to constantly monitor and maintain the number of carriers and vectors at a low level, at which intensive and extensive epizootics do not develop in areas with a high population density. Given the great social threat of the development of plague epidemics, the main tasks are the relief and sanitation of foci in a short time. For this, it is necessary to carry out disinfection measures, the content and volumes of which depend on the specific situation that is developing in each of the natural foci of the plague. They achieve their purpose and are effective only when carried out in combination with other restrictive measures. Monitoring of the state of the conditions for the existence of rodents, seasonal and long-term dynamics of their numbers and reproduction was carried out in accordance with the instructions for the rodent census service (1978) and the "Guidelines for the Prevention of Plague" (1992) of the branch's plan and forecast for 2020.

In 2019, to account for the number of great gerbils, 1705 km of walking registration routes were laid, which amounted to 846.5 thousand hectares upon extrapolation. 34,500 trap nights in the field, 5,800 trap nights in settlements were exposed to small rodents. Based on these collected data, we can give an estimate of the epizootological state of the number of carriers in the territory of the KK branch of the RCHRC and the OOI.

The conditions for the existence of carriers and carriers of the plague - the cold period of 2018-2019 were mild and warm. The cold is insignificant, snowfall and precipitation are within the normal range. Late spring in March, in April the air temperature did not warm up. Despite this, heavy rainfall has fallen since the second half of April. The average temperature regime in April-May was +250 +300C. These abiotic factors contributed to a rich harvest of ephemera, ephemeroidea, shrubs, semi-shrubs on the territory of the Kyzyl Kum. The hot summer was dry. The temperature regime exceeded the norm in June, July and August. In autumn, the temperature regime for rodents was optimally good, with very little precipitation. The weather in the cold period of 2020, if you wake up warm and mild, then the main number of large gerbils and other species may remain until the first generation.

Attempts to improve the foci of plague by exterminating the carriers were unsuccessful. Moreover, it turned out that a decrease in the number of rodents can provoke migration and the attack of hungry plague-infected fleas on humans and lead to epidemic complications.

The number of the great gerbil - Since autumn 2018, the number of the main carrier has been declining. On the West Aral sands, Akchadarya sites and Beltau and Nukus sands. In the West Aral sands, Akchadarya and Nukus sands, in many sectors, the indicators are below 1.0 animals per 1 ha. Winter mortality in large gerbils overwintered in the Western Aral sands was 30.0%, in Akchadarya 37.2%, and in Western Kyzylkum 35.4%. In the Western Kyzyl Kum, the number of great gerbils fell to 1.5 animals per 1 ha by autumn.

Judging by the Kyzylkum focus, the number of great gerbils was 2.4 animals in spring, and 1.7 animals per hectare in autumn. In autumn, the number in many LERs decreased by 2 times, the number of the great gerbil goes everywhere to the depression period. For example: Kostrubinskoe e / o in September-October for the entire season, the number in all sectors per 1 ha was up to one animal. Table No. 1 shows all data on the abundance of the great gerbil by foci.

Midday gerbil - The number of midday gerbils for 2019 is shown in table No. 2. In the spring of 2019, in the Western Kyzylkum, 7.9% of hits per 100 trap nights were noted, in autumn this figure is within 5.3% of hits. Low rates in the Akchadarya section and Central Kyzylkum in spring from 0.0 to autumn 2.7% -1.1% hit per 100 nights from Spring to autumn in many LERs of Kyzylkum the number of midday gerbil did not increase significantly. In the Beltau massif, the number of midday gerbils almost doubled from spring to autumn. In October, in this territory in sectors 2724101534, 2724101532, 2724102612, the percentage of animals hit, ranged from 5.5-6.9-7.5. In some sectors of the Akchadarya section, the percentage of animals hit ranged from 0.0-9.0-

11.0 (wells Kyrantakyr, wells Bulandy). In the Western Kyzyl Kum, the percentage of animals hit ranged from 3.0-1.1.

House mouse - The number of house mice in settlements located in the Oasis was 7.1% hit per 100 trap nights in the spring. In the Northern and Central regions 4.4%, in the Southern regions 8.1%. In the settlements of Kyzylkum in the spring 7.6%, and in the fall 5.3% of hits, (Table No. 3).

The number of house mice in the vicinity of the city of Nukus has remained slightly low in recent years, this is due to the conditions for the existence of synanthropic rodents. In open habitats, house mice in the vicinity of settlements were not observed.

A high number was noted in the month of November. In the southern regions, 7-10 animals hit. The lowest indicator was in the Central Oasis regions and in the settlements of Kyzylkum. (Kostruba, Chukurkak, Sarymai)

The course of reproduction of rodents

Large gerbil. The reproduction of the great gerbil in 2019 began in the first decade of April. In the first three months of the beginning of the year, no pregnant females were found among the examined rodents.

In the Kyzyl Kum, the breeding of the great gerbil began in the first ten days of April and continued until the second ten days of June. Intensive reproduction of the great gerbil can be noted in Kyzylkum in May, the percentage of pregnant women reached 57% of pregnant females, the number of embryos reached 4.5 to 7.1 per pregnant female. The proportion of young was 35.2%, 8.7% of pregnant females according to Kyzylkom (**Table 1**)

Table 1
Breeding progress of the great gerbil in 2019

Month	Decade	Total Opened	Number of young	adults		Number of pregnancies in %	Embr sum	Average number of embers
				male	females			
KYZILKUM								
I	1	28	-	15	13	-	-	-
II	3	7	-	6	1	-	-	-
III	1	30	-	16	14	-	-	-
IV	1	17	-	10	7	7	38	5,4
	2	34	9	11	14	7	50	7,1
	3	38	16	7	15	7	49	7,0
V	1	721	430	125	166	57	408	7,1
	2	554	331	120	103	14	83	5,8
	3	808	415	186	207	13	74	5,6
VI	1	75	42	12	21	2	9	4,5
	2	31	-	15	16	-	-	-
VIII	1	14	-	9	5	-	-	-
	2	3	-	2	1	-	-	-
	3	2	-	1	1	-	-	-
IX	2	44	3	34	7	-	-	-
	3	252	-	117	135	-	-	-
X	1	505	8	238	259	-	-	-
	2	262	11	104	147	-	-	-
	3	99	3	30	66	-	-	-
XI	2	63	-	37	26	-	-	-
total		3587	1268	1095	1224	107	711	6,1
in %			35,2			8,7		

Midday gerbil. This species reproduced relatively not so intensively during the generation season in April and May. The number of pregnant females during the season was 20.8%, with an average of 5.5 embryos. The first pregnant females were noted in early April and late May. The

highest rate of 37.5% and 5.5 embryos was noted in May, the first decade. In the autumn, no generation was noted in midday gerbils, usually the end of September, the beginning of October, they have a case of breeding. The number of young animals in the midday gerbil population during the breeding season was 26.4% of the total number of animals studied. The field ratio of adult males to females in midday gerbils for the season was 44.5% males and 34.5% females. (see: Tab No. 2)

table 2

Breeding course of midday gerbil in 2019

Month	Decade	Всего вскрыто	Number of young	adults		Number of pregnancies in %	Embr sum	Average number of embers
				male	females			
KYZILKUM								
I	1	16	-	9	7	-	-	-
	2	9	-	5	4	-	-	-
	3	12	-	6	6	-	-	-
II	3	34	-	20	14	-	-	-
III	1	13	-	8	5	-	-	-
IV	1	65	-	36	29	11	50	4,5
	2	7	-	4	3	-	-	-
	3	23	5	7	11	5	26	5,2
V	1	96	19	45	32	12	66	5,5
	2	68	37	17	14	-	-	-
	3	45	23	14	8	1	7	7,0
VII	2	9	-	5	4	-	-	-
	3	5	-	3	2	-	-	-
total		402	84	179	139	29	149	5,5
in %			20,8			20,8		

House mouse. During the period of work in 2019 in Kyzylkum, this type of reproduction continued almost all year round. The number of pregnant females was 21.9%, the number of embryos was 4.9 copies (Table 3)

Table 3

The breeding course of the house mouse in 2019

Месяц	Декада	Всего вскрыто	К-во молодн	Взрослые		Число беремен в %	Сумма эмбр	Средн число эмбр
				самец	Самки			
KYZILKUM								
I	1	41	5	18	18	1	4	4
	2	25	3	12	10	4	21	5,2
II	1	10	2	3	5	5	19	3,8
	2	15	-	14	1	-	-	-
III	1	2	1	1	-	-	-	-
IV	1	15	-	10	5	4	17	4,2
	2	8	1	3	4	2	13	6,5
V	1	13	-	6	7	2	12	6,0
	2	2	-	1	1	1	4	4,0
	3	36	22	7	7	-	-	-
VI	1	10	3	4	3	-	-	-
	2	11	1	5	5	-	-	-

VIII	1	9	4	4	1	-	-	-
	2	4	-	2	2	-	-	-
IX	3	24	5	9	10	-	-	-
X	1	2	-	1	1	-	-	-
	2	11	-	7	4	-	-	-
XI	1	21	9	7	5	1	4	4,0
	2	1	-	1	-	-	-	-
Итого		260	56	115	89	19	94	4,7
В %			21,5			21,3		

Parasitological work - Ecological and phenological monitoring of vectors in 2019 in the spring - summer and autumn seasons was carried out in accordance with the general instructions for parasitological work in anti-plague institutions (1978) and the work plan of the QC of the branch of the Republican Center for Human Rights and the Public Health Organization of the Ministry of Health of the Republic of Uzbekistan.

In 2019, the same types of vectors typical for the fauna of the Kyzylkum Autonomous plague foci were registered in the service area of the Karakalpak branch.

Background species of fleas for the entire territory were: *Xenopsylla gerbilli* in the north, *Xenopsylla hirtipes* in the south of the Kyzylkum, *Xenopsylla skrjabini* in the North.

In the reporting year, 16 species of fleas and 3 genera of ticks were registered in the service area, as last year. Of these, 13 species of the Kyzylkum flea (see Table No. 4).

The most widespread for the entire territory, as always, were fleas of the genus *Xenopsylla* in Kyzylkum 77.4% (including *Xenopsylla hirtipes* - 56.0%, *Xenopsylla gerbilli* - 21.4%), *Cortopsylla lamellifer* - 8.5%, *Nosopsylla tersus* - 4.0%, *Echidnophaga oschanini* - 0.8%, *Xenopsylla conformis* - 3.1%, *Stenoponiya vlasovi* - 0.5%, *Nosopsylla turkmenicus* - 0.5%, other species *Cortopsylla olgae*, *Cortopsylla bairamalienses*, *Nosopsylla trispinus*, *Synosternus longispinus*, *Paradoxopsylla teretifrons* - 0.3% and fleas indeterminate amounted to 4.8% of the total number of ectoparasites studied. For example:

1. In the Central Kyzylkum in spring - 51.6 specimens per 1 ha (2018 285.1 specimens per 1 ha) or 5.5 times lower, in autumn 15.5 specimens per 1 ha.

2. In the Western Kyzylkum in spring, 145.9 ind. per 1 ha (2018 265.8 ind. per 1 ha and the estimate was high) or 1.8 times lower, and in autumn 84.6 ind. per 1 ha (2018 in autumn 245.5 specimens per 1 ha and the assessment was very high) or 3.0 times lower than in 2018 (see tab. 4)

Table 4

The number of fleas of the great gerbil in 2019 QC branch

№	Landscape-ecological region	Spring				Autumn			
		abundance index fleas in wool	Stock of fleas in burrows	stock of fleas 1 ha	Grade numbers	Index abundance блох в шерсти	stock of fleas in норax	Stock of fleas per 1 ha	Grade numbers
KYZILKUM									
1	Akchadarya	1,5	17,6	12,3	Highly Low	-	-	-	
2	Central Kyzylkum	0,6	129,0	51,6	Highly Low	3,7	38,8	15,5	Highly Low
3	Nukus sands	1,4	146,8	690,0	High	-	-	-	
4	Beltau sands	-	-	-		-	-	-	

5	Western Kyzyl Kum	0,5	121,6	145,9	Medium	17,0	80,6	84,6	low
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3. In the Nukus sands, the number in the spring is 690.0 ind. per 1 ha (2018 in the spring 91.6 ind. per 1 ha) or 7.5 times higher than in 2018.

4. The most significant decline in the number of fleas was in the Akchadarya site in the spring - 12.3 ind. per 1 ha (2018 in the spring of 297.3 ind. per 1 ha) or 24.2 times lower than in 2018.

The index of the abundance of fleas in wool is not high, even miserable, and it fluctuated in the spring from 0.5 to 1.5 ind.

In 2019, flea breeding is extended and not intensive. Young fleas are few in number, but fleas are plump and have a good supply of fat.

Given the continued depression in the long-term dynamics of the abundance of the great gerbil and fleas of the genus *Xenopsylla* throughout the territory of the Kyzylkum autonomous foci and the deteriorating environmental conditions for the existence of carriers and vectors in the spring-summer season of 2020, an increase in the number of fleas should not be expected.

Conclusion and forecast.

1. The number of the main carrier in some LERs has decreased a lot.

2. It is possible to predict the number of great gerbils during the depression period and we can expect isolated cases of plague epizootic among rodents in 2020 in the Akchadarya, Nukus sands and Central Kyzyl Kum.

3. The dynamics of the number of collected data during the breeding of rodents shows a small percentage, that is, adult females more than adult males, from the main population of rodents. Breeding of midday gerbils ended a decade early in comparison to the great gerbil. This can be explained by the climatic data of the roast and the burnout of the main food of the ephemeroids.

4. The index of the abundance of fleas in wool and in the mouths of burrows of large gerbils in the Kyzylkum desert is scanty and ranged from 0.5 to 1.5.

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Rezyume: Maqolada tadqiqot uchun material bizning shaxsiy dala to'plamlarimiz edi (2019). Ishda, shuningdek, RCHRC QQ filiali va OOI MZRuz zoologiya guruhi tomonidan to'plangan idoraviy materiallardan foydalanilgan.

Резюме. В статье материалом для исследования послужили собственные полевые сборы (2019). В работе также использованы ведомственные материалы, собранные зоологической группой КК филиалом РЦПЧК и ООИ МЗРУз.

Kalit so'zlar: poplyatsiyasi, ko'payishi, morfologiyasi, rangi.

Ключевые слова: численность, популяция, размножения, морфология, окраска.

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Summary: *This article discusses the influence of internal and external environmental factors on human health and its formation. At the same time, there is a decrease in attention, memory and some features of the higher nervous system in school-age children due to the influence of factors of the internal and external environment, hypoxia in the early stages of ontogenesis.*

Keywords: *environment, external and internal factors, mechanisms of assimilation of nutrients, precious metals, lead salts, cells, tissues.*

Introduction. Health is the most basic wealth of mankind. Its formation is influenced by internal and external environmental factors. External and internal factors can have a negative or positive effect on the growth and development of the organism. The study of these opens up a wide range of protective work in maintaining the health of the organism [1].

External environmental factors also affect growing organisms. One of the main reasons for the loss of some features of attention, memory and higher nervous activity in school-age children is that they suffer from hypoxia in the early stages of ontogeny, congenital injuries and infectious diseases [2]. Various environmental factors, including hunger, high temperatures, and others, contribute to growth and developmental delays in the growing organism during lactation, as well as to the formation of nutrient assimilation mechanisms [3].

In the hot climate of the South Aral Sea, water consumption increases 8-10 times during the spring-summer and autumn periods. Recently, high levels of heavy metals and trace elements have been found in groundwater in the Republic of Karakalpakstan. Excess or deficiency of micronutrients in the body can lead to serious diseases. Heavy metals can also play a known role as a leading environmental factor determining the direction and development of agrobiocenoses. They can pollute the environment on a large scale and cause various toxicosis to humans, animals and plants [4].

Object and methodology of research. The experiments were performed on rat-born rats. This allows the lactation period of mammalian representatives to be short, making it easy to study the functions of the digestive process. For the experiments, rats with a body weight of 150–180 g were selected and 6–8 were kept in plastic cages measuring 50x30x28 cm, in a light room with air exchange. The room temperature was 20-26 °C and the relative humidity was 40-60%. After the female rats adapted to the new conditions, three male rats were added to them for mating and separated again three days later.

When the sign of pregnancy became apparent, each female rat was kept separately in a cage measuring 35x28x28 cm. The time of birth of rat babies was written in the cells. The body weight of newborn rats was measured and 8 children were left for each nursing mother. They were used as a control and experiment group at different stages of the experiment. It should be noted that the rat children were with their mother until the experiment.

To all the data obtained, G.B. However, [40] and Origin 6.1 were statistically processed in the U.S. program, and the arithmetic mean (M), mean error (m), and reliability index (R) were studied. An interval of $R < 0.05$ was considered reliable.

Research results. The role of the external environmental factor in the implementation of the genetic program of growth and development of the organism is great. For example, alimentary factors - protein deficiency, malnutrition, chemicals used in agriculture in food, heavy metal salts, etc. - affect the mother's body through milk, leading to a decrease in offspring growth.

It is known that lead salt enters the gastrointestinal tract and also affects its composition and function. Decreased activity of enzymes under the influence of lead leads to insufficient digestion

of nutrients, poor digestion of food. When the nutrients in the food that the body needs do not reach the cells, tissues, and other organs in the right amounts, diseases can occur in the body [5].

In experiments, changes in body mass, pancreas, and small intestine mass in her offspring were studied when lead nitrate salt was added to the diet of mother rats.

The body weight of the rats was 19.8 ± 1.5 g in the 10-day control group. At the same time, body mass increased in 20-, 30-, 40-, and 90-day-old rats, and in 90-day-old rats, body mass was 160.0 ± 11.7 g (Fig. 1). In the experimental group, the body mass of 10-day-old rats was 14.5 ± 1.1 g ($P < 0.01$), while in 90-day-old rats, the figure was 148.0 ± 10.3 g ($P > 0.5$). It appears that the body mass of the rats in the 90-day experimental group was not significantly different from that of the control group animals. The pancreatic mass of the rats increased from day 10 to day 90 in the control group and increased from 79.7 ± 6.3 to 620.0 ± 49.6 mg. In the experimental group, this process was found to be 480.0 ± 38.4 mg ($P < 0.001$) in 90-day rats when it was 35.3 ± 2.8 mg ($P < 0.001$) in 10-day-old rats. When small bowel mass was measured in the control group, it was 528.0 ± 42.2 mg in 10 days, and small bowel mass increased in the following days.

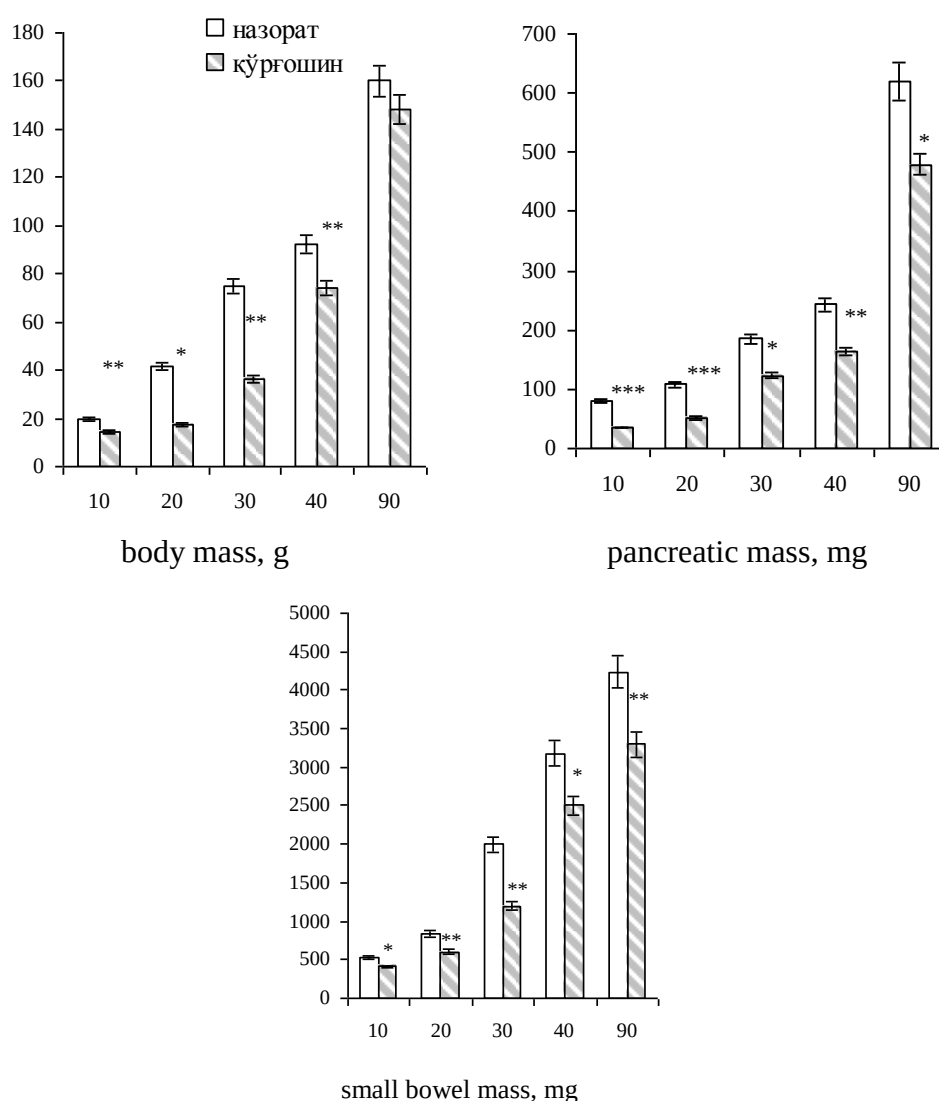


Figure 1. Changes in body weight, pancreas, small intestine mass of rats under the influence of lead salt during lactation of postnatal ontogeny ($M \pm m$, $n = 8$)

Note: on the abscissa axis - the age of the animal, in days, on the ordinate axis - masses, g and mg, reliability index * - $R < 0.05$; ** - $R < 0.01$; *** $R < 0.001$

In the experimental group, it was observed that the small bowel mass was lagging behind compared to the control group.

This means that when lead nitrate salt is added to the diet of mother rats, the body mass, pancreatic and small intestinal masses of their offspring lag behind the control group. This

condition persisted until the 90th day of the rats. In general, as a result of the addition of lead, cadmium and arsenic salts to the diet of mother rats during lactation, the specific and general activity of pancreatic alpha-amylase, as well as enteral maltase and sucrose, which are involved in the digestive process in the cavity, decreased. At this time, the specific activity of the lactase enzyme increased when taking lead and cadmium salts

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Rezyume: *Ushbu maqolada insoniyat salomatligi va uning shakllanishida ichki, tashqi muhit omillarining tasiri haqida gap yuritilgan. Bunda, ichki, tashqi muhit omillarining tasiri sababli maktab yoshidagi bolalarda diqqatning, xotiraning hamda oliy nerv sistemasining ayrim xususiyatlarining yoqalishi, ontogenezning dastlabki davrlarida gipoksiya holatlari bayon etilgan.*

Резюме: *В данной статье решена о влиянии внутренних, внешних факторов окружающей среды на здоровье человека и его формирование. При этом отмечается снижение внимания, памяти и некоторых особенностей высшей нервной системы у детей школьного возраста вследствие влияния факторов внутренней и внешней среды, гипоксия на ранних этапах онтогенеза.*

Kalit soʻzlar: *atrov-muhit, tashqi va ichki omillar, oziq moddalar, assimiliyasialanish mexanizmlari, ogir metallar, qurgʻoshin tuzi, hujayra, tuqima.*

Ключевые слова: *окружающая среда, внешние и внутренние факторы, механизмы усвоения питательных веществ, благородных металлов, соли свинца, клетка, ткани.*

**ARCHITECTURE AND DESIGN FEATURES OF BRIDGES IN CENTRAL ASIA.
(late XIX - early XX centuries).**

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Summary: *The article is devoted to the emergence and development of new building materials and structures in Central Asia in the late XIX - early XX centuries. The purpose of this work is a comprehensive study and analysis of new building materials and structures that appeared in the second half of the XIX century in the Turkestan region.*

The results obtained are the basis and outline vectors for further studies of the industrial architecture of Central Asia in the late XIX – early XX centuries.

Keywords: *Central Asia, Turkestan region, industrial architecture, bridges, farms, structures, hydraulic and railway structures.*

The end of the XIX - the beginning of the XX centuries is characterized by the active construction of bridges, where various building materials were used - wood, metal, concrete and reinforced concrete. The enormous technical and aesthetic potential of metal was clearly manifested in the construction of railway bridges. The emergence of a large number of city, highway and railway bridges has changed the subject environment surrounding a person. The creation of various structural systems of bridge structures, the designer's attention to their volumetric-spatial composition and silhouette (especially in city bridges) influenced the development of architecture and the artistic culture of the XIX - early XX centuries in general.

If we compare metal bridges with stone bridges of previous eras, their differences are clearly visible. It lies in the fact that in a stone structure, the entire structure remains in the form of a monolithic mass of material. The material gives a feeling of strength, stability, weight. The design is not expressed, although the material, of course, experiences some kind of effort. In through bridges, wood or metal, the mass disappears. The bands of the used metal are like "force lines", make visible the forces experienced by the material. The determination of these forces between known points determines the shape of the structure. The design determines the shape. A new plastic is born. There are very few examples of stone bridge construction in the XIX - early XX centuries. Basically, these are small urban and rural bridges over the Salar and Bossu ditches, Kokand-sai.

The peculiarity of the wooden bridge building of the XIX century is the use of almost all the main systemic wooden bridges, various mixed systems.

The first grandiose wooden bridge was the bridge over the Amu Darya. The construction of this bridge dates back to 1888. All four parts of the bridge are wooden on piles of a strut system with spans of 8.7 meters. Each bull is located on five piles, and the spans are covered by three rows of purlins with a triple row of struts. In the deepest place, a draw-off part with trusses of the Gau system was arranged, covering a span of 17.4 meters. The bridge was built by engineer Belinsky.

Also very interesting are two bridges across the Syr Darya built on the initiative of the Grand Duke Nikolai Konstantinovich. The first of these bridges was built in the village of Chinaz in 1895-1899, the bridge length is 390 meters. A strut system bridge with 25 spans out of which 24 are 15 meters long and one span is 23.9 meters. This span is blocked by the American Gau system for the passage of rafts. Structural analysis was done by engineer Esakov (Fig.1).

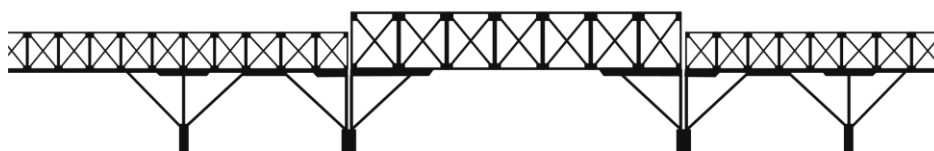


Fig.1. Bridge over the Syrdarya river in Chinaz village

The second bridge across the Syrdarya river was built near Zaporozhye village in 1907 (Fig. 2). The bridge had 12 spans with a total length of 217 meters. The constructed bridge is one-way, all spans are of different sizes, from 26 meters to 13.8 meters. The size of the spans increases gradually, due to which the bridge acquires individual architectural expressiveness. The spans are covered with truss trusses. The construction of the bridge was supervised by engineer G.M. Svarichevsky.



Fig.2. Bridge over the Syrdarya river near the Zaporizhzhya village.

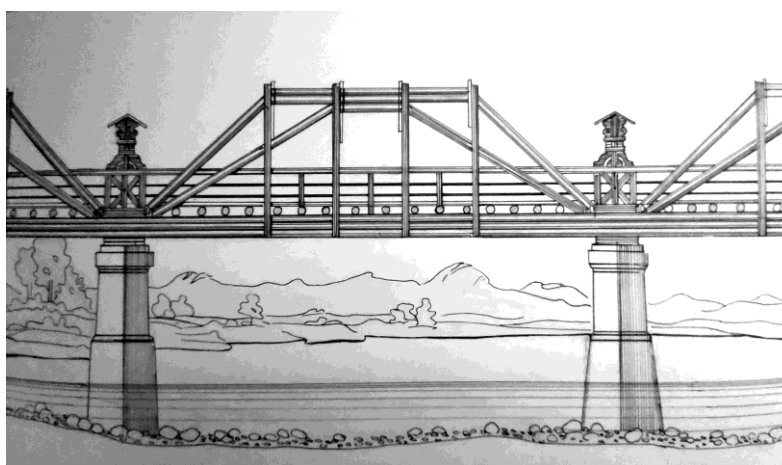


Fig. 3. Bridge over the Chirchik river near Iskander village.

The bridge across the Chirchik River near Iskander village, also built by the Grand Duke Nikolai Konstantinovich, is very interesting in its architectural design and decorative details.

The bridge length is 91 meters. The wooden bridge consists of five spans, four of which are 17.4 meters long and one 22 meters long. Wooden trusses rest on stone abutments, which lend a special beauty to these two building materials combination. This bridge was also designed by engineer G.M. Svarichevsky (Fig. 3).

In 1899, a very original bridge was built across the Salar River. The bridge length is 17.4 meters. The bridge is single-span, wooden with stone supports. The bridge is interesting for its constructive solution. It can be called arched, due to the semicircular truss used here. The bridge also belongs to G.M. Svarichevsky (Fig. 4).

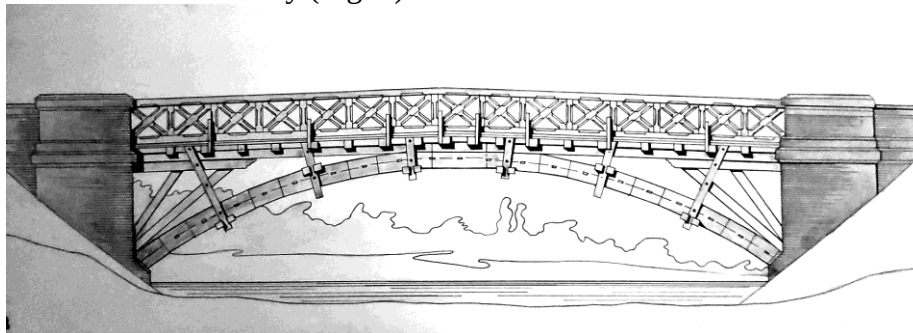


Fig. 4. Bridge over the Salar river

At first, wooden bridges were very much used, but even after the construction of metal and reinforced concrete bridges, they continued to operate for a long time.

Many bridges of the Trans-Caspian and Tashkent railways are examples of metal bridges. One of them is the grandiose bridge over the Amu Darya River, built in 1901. The bridge was built under the supervision of engineer S.I. Olshevsky, designed by engineer S.I. Yanushkovsky. The static calculation and principles of designing metal trusses were proposed by the bridge builder N.A. Belelyubsky.

It was the first longest bridge in Russia - 1627.5 meters (the former Aleksandrovsky Bridge over the Volga had a length of 1462.8 meters). This bridge consists of 25 trusses of a triangular system with beveled ends and a ride on the bottom, each truss span 65 meters. Each span rests with one end on a fixed one, the other on a movable cushion on five steel rollers. The farms bottom is raised 6.5 meters above the highest waters horizon. The elevation was made so that the largest ships of the flotilla on the river could pass. There are 24 river supports located between the two coastal abutments. Building materials that were used in the construction of the bridge: stone, marbled limestone, were brought from a quarry near the Ziadlin station, for facing the abutments, stone was brought from Samarkand, fascines were brought from Tejen, iron parts were delivered by the Bryansk plant and the Mariupol plant. Work on the construction of the bridge began on October 17, 1898, and ended on May 27, 1901. The head of the construction work was the engineer of railways S.I. Olshansky (Fig. 5).

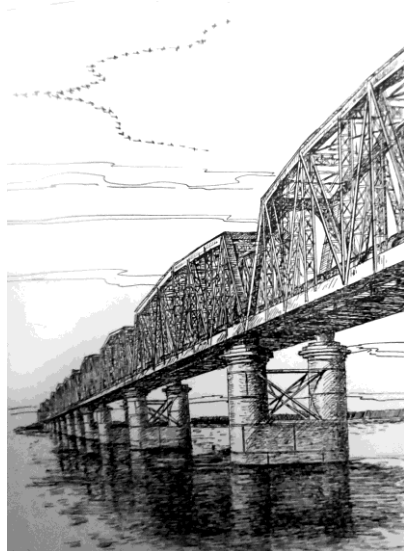


Fig. 5. Bridge over Amu Darya river

The bridge looks like a grandiose light grate, set high above the water. The clear rhythm of the uprights delimited by braces contributes to ease of perception. The lightweight openwork bridge belongs to one of the best examples of its kind, and in terms of the length and courage of the technical solution; it is one of the largest bridges of that time.

Metal bridges were thrown over Zaravshan, Tejen, Murghab, Siab rivers and others.

Almost all metal bridges are light and delicate. Their expressiveness is achieved through the use of new constructive techniques. The construction of these structures speaks of the high-tech courage of those years (Fig. 6).

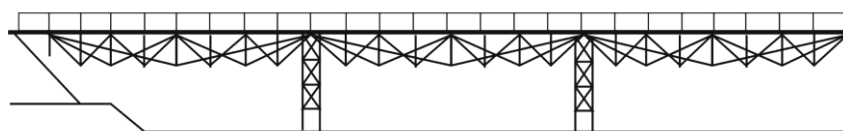


Fig. 6. Project of a bridge over Chirchik river

Already at the beginning of the XX century, projects of reinforced concrete bridges appeared. The first projects and calculations for them were made in 1907-1912. These include projects of a bridge over Chirchik river near Kuylyuk village (Fig. 7), a project of a bridge over Syrdarya river. The projects were drawn up by engineer G.M. Svarichevsky.



Fig. 7. Reinforced concrete bridge project across Chirchik river (1912).

The appearance of reinforced concrete structures once again proved that new materials and structures quickly found application in the Turkestan Territory. This is an expression of the high technical thought of those years. Analyzing the structures that appeared in the late XIX - early XX centuries, one can trace how they influenced this period architecture. With the advent of new types of buildings, both in industrial and civil architecture, new structures were used. In these structures application, a new look of architecture was formed. This period architecture differs from the architecture of previous eras.

The construction of large facilities entailed the construction of new buildings and structures that were completely unknown here before - bridges over large rivers and deep ravines with increased static load, industrial facilities for the repair and operation of steam locomotives, railway cars, depot buildings, warehouse facilities and passenger stations. One of the progressive moments in the most construction objects noted above was the construction complexity and standard construction. All major railway stations are a whole area where industrial, warehouse facilities, passenger stations, overpasses are located, as well as a whole system of residential buildings for service personnel. Large hydraulic structures, as exemplified by the Murgkhab sovereign estate, are a complex of canals, dams, power plants, as well as industrial buildings for the processing of agricultural raw materials, and again, administrative buildings and residential buildings.

The same can be noted for industrial centers, inside the city, be it the buildings of Tashkent tram or Tashkent abattoir. Where, in addition to production workshops for various purposes, there is administrative, warehouse or residential buildings. Moreover, the architects paid equal attention to all buildings, all of them were built, in very high quality, in similar architectural forms and create a kind of ensemble. This is facilitated by the fact that often the architecture of the whole complex belonged to one author. So, the railway buildings in Tashkent and other cities belong to the creation of G.M. Svarichevsky, complexes of the Tashkent tram and slaughterhouses - S.S. Heinzelman.

Studies of the local natural conditions of Central Asia played a very important role in the further development of architectural construction. They touched upon the study of local building materials - binders: ganch, loess, natural limestone, marble, granite, burnt brick; methods of their manufacture and ways to improve their strength characteristics. Of particular importance was the study of the effect of earthquakes on building materials and structures made of them. This work was carried out for the first time in the country, and on its basis the first Rules for construction in seismic regions were developed. Despite all the imperfections of these norms, they played a big role in giving the buildings great strength. High quality brickwork and thoroughness of other construction processes, which was one of the main points of the first rules of seismic resistance, led to the fact that these old capital buildings safely withstood many fairly large shocks, including Tashkent earthquake of 1966.

The need to construct buildings with large-span premises for the purpose of locating workshops with a large undivided interior space has led to the active introduction of metal floor structures. These are farms of the most varied spans and outlines. Farms with parallel belts (the building of a locomotive shop in Tashkent), triangular (the building of the Tashkent tram) and trapezoidal ones with different shapes of lanterns made it possible to create buildings of various compositions and rather large sizes in the plan. Observation of the results of the earthquakes in Andijan in 1901 and the creation of the Rules for anti-seismic construction led to the fact that along the longitudinal walls of industrial workshops began to build buttresses at equal distances, which increased the spatial rigidity of the wall, and outwardly gave it greater plasticity and rhythmic alternation. Soon, this technique was used in civilian buildings (Cadet Corps, Real School, 2nd Women's Gymnasium, etc.). In some cases, the installation of buttresses was caused by the need to

tie the internal metal frame to the metal floor beams. The use of metal structures for large-span rooms has led to the introduction of metal vaults (factory in Bayram-Ali) and domes (Tsintsadze circus in Tashkent) providing a very striking interior with increased interior space, which also contributes to the protection from summer overheating so characteristic of Central Asia.

And if in the West and in Russia the progress of technical and architectural thought was prepared gradually, all with increasing development, then in Central Asia it was a real revolution in the field of monumental construction, caused by a change in the social foundations of life, the active invasion of very progressive capitalist relations and the subsequent development of industry, transport, agriculture, construction of a new type of irrigation facilities, railways and railway structures, industrial buildings, mansions of the new nobility, residential buildings of a new type, etc.

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Rezyume: *Maqola XIX -asr oxiri XX -asr boshlarida O'rta Osiyoda yangi qurilish materiallari va konstruksiyalarining paydo bo'lishi va rivojlanishiga bag'ishlangan. Bu ishning maqsadi 19-asrning ikkinchi yarmida Turkiston o'lkasida paydo bo'lgan yangi qurilish materiallari va inshootlarini har tomonlama o'rganish va tahlil qilishdan iborat. Olingan natijalar 19-asr oxiri — 20-asr boshlarida O'rta Osiyo sanoat me'morchiligi bo'yicha keyingi tadqiqotlarning asosi bo'lib, yo'nalishlarini belgilab beradi*

Резюме: *Статья посвящена возникновению и развитию новых строительных материалов и конструкций в Средней Азии в конце XIX - начале XX веков. Целью данной работы является всестороннее изучение и анализ новых строительных материалов и конструкций, появившихся во второй половине XIX века в Туркестанском крае. Полученные результаты являются основой и намечают направление дальнейших исследований промышленной архитектуры Средней Азии конца XIX - начала XX веков.*

Kalit so'zlar: *O'rta Osiyo, Turkiston o'lkasi, sanoat me'morchiligi, ko'priklar, xo'jaliklar, inshootlar, gidrotexnik va temir yo'l inshootlari.*

Ключевые слова: *Средняя Азия, Туркестанская область, промышленная архитектура, мосты, фермы, сооружения, гидротехнические и железнодорожные сооружения.*

**PATTERNS OF ENSEMBLE CONSTRUCTION IN INDUSTRIAL DESIGN
OBJECTS (TABLEWARE)**

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Summary: *This article discusses the issues of the ensemble in the shaping of industrial products. Examples of ensemble construction and the role of quantitative relations between elements in ensemble construction are considered.*

Keywords: *ensemble, shaping, clausura, aspects, patterns, set, set.*

Any object almost never exists separately, but, as a rule, is always part of a larger whole - a particular set of objects, and it, in turn, is an element of a more complex and high-level system, for example: an element of tableware is part of the table setting; a separate piece of furniture is only part of the furnishing of the room; separate machine, machine - part of a production line, etc., etc.

Each of these aggregates at any level should represent a complete, organic unity, both in functional and compositional-artistic relations, i.e. it should form an ensemble.

For ensemble solutions of some groups of objects, there are their own private designations, such as a set, a service, a set, a set.

The concept of an ensemble is connected with the compositional unity of the totality of individual elements, but any totality is created to solve certain functional tasks. That is, at the heart of any set are the functional relationships between the elements, which determine to a certain extent their mutual arrangement. The mutual position of elements relative to each other in space is of great importance in the organization of not only functional, but also compositional relationships between the elements of the ensemble, in achieving its artistic expressiveness, integrity and unity.

In different cases, the role and significance of the relative location and the space itself in the solution of the ensemble are different: for example, in a set of dishes, the ensemble is to some extent changed during the operation of the objects themselves, in the process of human activity.

Thus, the compositional task in solving the ensemble splits into two interrelated and mutually dependent tasks: to solve the objects themselves and to solve their arrangement in space, and in some cases, to organize the space itself with their help.

In any ensemble, its compositional unity is achieved due to the same laws, due to the same means of achieving them that were established for individual objects: by identifying the main, secondary, due to subordination and harmonious relationship of parts to each other and to the whole, etc.

However, the construction of the ensemble has its own characteristics, its own specific principles and patterns.

Let's look at some of the main ones. From the very definition of the ensemble, it follows that when solving it, it is necessary:

- to take not a single object as a whole, but the whole set of objects included in the ensemble, and each individual object as a part of it, as a detail;
- to build the composition of the ensemble, first of all, between objects, on the relations of their shape, quantity, size, color, material and position;
- when solving individual objects of the ensemble, their shape, size, scale structure, color, etc., proceed from the general compositional plan, taking into account the place, meaning and role of the object in this general plan;
- the more important an element is in its functional significance in an ensemble, the larger it should be in absolute size, more expressive and "richer" in shape and silhouette, more contrasting with the environment;

- in the mutual arrangement of elements (objects) in space, in the intervals between objects, there should be a natural orientation - an increase in rhythm to the main, to the compositional center.

There are also specific features in solving the forms of the objects themselves that make up the ensemble.

If the composition of an individual thing is built "inside" the thing itself, on the relationship of its parts to each other and to the whole, then in an ensemble the composition must be built, first of all, between objects, or groups of objects as parts of the whole, to achieve their interrelation.

At the same time, the following patterns can be identified and established:

- if a separate object can be more complex, rich in form, in combination of materials, colors, etc., then the object included in the group should be simpler, more concise, clearer; complexity and richness - in the combination of objects;

- in a large multi-subject ensemble built on a combination of groups of objects, these groups themselves should be more integral, homogeneous, expressive, correlated to each other in a certain way;

- the more multi-subject groups included in the ensemble, the more complex and multiple connections between the subjects in them, their own subgroups are formed there;

- the objects included in the ensemble should be constructed taking into account the laws of construction of large and small forms.

In order to make sure that the above is true, let's look at a few examples.

Let's look at the example of salad bowls (Fig. 1) the role in building an ensemble of quantitative relationships between elements.

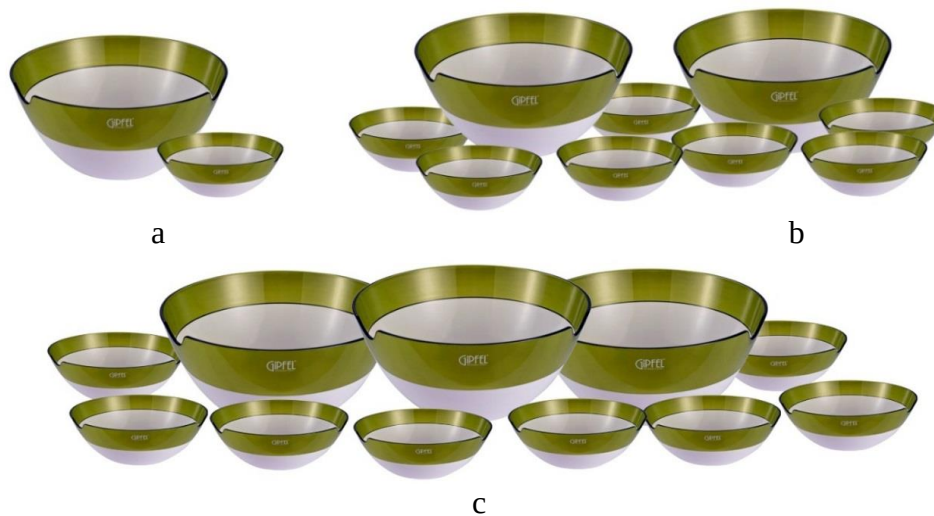


Fig.1. The role in the construction of an ensemble of quantitative relations between elements

Fig. 1 shows sets of one large and one small (Fig. 1, a); of two large and four small salad bowls (Fig. 1, b). In both cases, there is no unity, harmony and consistency of the ensemble.

In the first case, objects equal in number (in number), but absolutely not equal in value, are opposed, while there should be more minor, smaller elements. This emphasizes their secondary importance. There is also no functional logic here, since the volume (capacity) of one common salad bowl should be designed for a large number of small, individual ones. In the second example, the value of a large salad bowl as the main element is also depleted, there is no compositional center as such, since the two main elements do not create a single core, the whole set of objects falls into two groups. Large and small salad bowls are still not proportioned, not logical in size (in volume) and quantity. Small ones must be made either large in size, or their number must be increased.

A completely different picture arises when there are three large containers (Fig. 1.c). This is a three-dimensional group, this is the center, but it requires a much larger

number of small salad bowls, therefore, in the number of elements included in the ensemble, their proportions, their relationships must also be found. Thus, to design an ensemble of objects - a set, a set, a headset, etc., it is necessary to search for its unity and harmony by visually comparing (in drawing, drawing, layout, etc.) all the elements of the ensemble. A very common misconception is that the unity of an ensemble solution is achieved only due to uniformity - similarity of forms, materials, construction, technology, finishes, etc.

The ancient Greeks said that unity is not in monotony, but in diversity. The degree of this diversity in each case should be both functionally and artistically justified, logically and intuitively felt. Recipes in this regard, as always, when it comes to creativity, can not be given. In each case, the designer's flair should prompt.

Figure 1-6 shows examples of ensemble solutions of household products (dishes) based on various combinations and relationships of individual properties of the elements that make up the ensemble: on the nuance (similarity, almost similarity) of shape and contrast (sharp difference, almost contrast) of size and quantity (Figure 2); on the similarity of shapes and difference in proportions, magnitude, quantity, material (Fig. 3); on the similarity of forms and the difference in proportions (Fig. 4); on the contrast of forms between groups, on the contrast of the material of two groups with the third (Fig. 5); on the generality of the material, texture, on the contrast of forms between groups, the proximity of forms, the difference in proportions, the contrast of color within groups (Fig. 6).



Fig. 2. An ensemble built on the nuance of form and the contrast of magnitude and quantity



Fig. 3. An ensemble built on the similarity of shapes and differences in proportions, size, quantity, and material

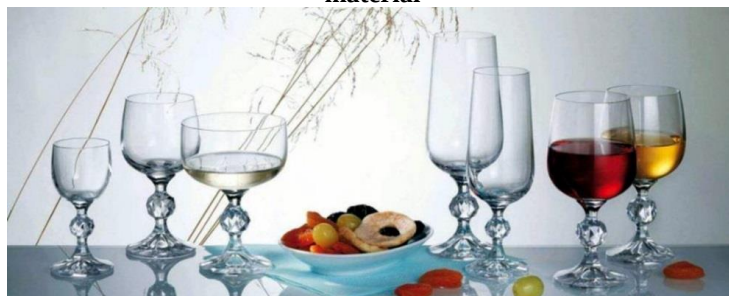


Fig. 4. An ensemble based on similarity of forms and difference of proportions



Fig. 5. An ensemble built on the contrast of forms between groups, on the contrast of the material of two groups with the third



Fig. 6. An ensemble built on the commonality of material, texture, contrast of forms between groups, proximity of forms, difference of proportions, contrast of color within groups

So, an ensemble can be built on nuance or contrast: shapes (configurations), sizes (sizes), proportions, quantity, color, material, texture, finishes in their various combinations and relationships.

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Rezyume: Uchbu maqolada ansamblining sanoat mahsulotlarini shaklantirish masalalari muhokama qilinadi. Ansambl tuzish misollari va ansambini qurishda elementlar orasidagi miqdori munosabatlarning roli ko'rib chiqiladi.

Резюме: В данной статье рассматриваются вопросы ансамбля в формообразования промышленных изделий. Рассматриваются примеры построения ансамбля и роль в построении ансамбля количественных отношений между элементами.

Kalit so'zlar: ansambl, shakllanish, band, jihatlar, naqsh, to'plam, to'plam.

Ключевые слова: ансамбль, формообразование, клаузура, аспекты, закономерности, набор, комплект.

MODERN LIQUID-PHASE METHODS FOR GAS FEED SULFUR PURIFICATION

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Summary: Modern methods of desulphurization of gaseous raw materials, which are best applicable to natural gases, are considered. Special attention is paid to liquid-phase catalytic methods of deep purification, which require less energy consumption compared to other processes.

Keywords: gases, acid components, hydrogen sulfide, carbon monoxide, purification, absorption, adsorption, chemisorption.

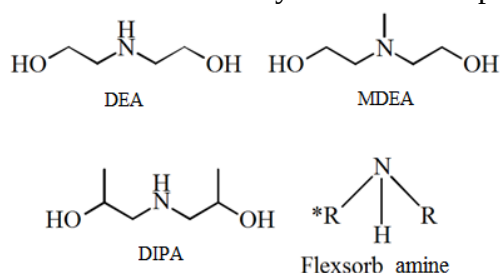
Introduction. The gas raw materials that are supplied to purify natural gas from sulfur are natural and companion gases, liquefied hydrocarbon and Coke – derived gases, combustible gases, biogas, among others.

Sulfur components in hydrocarbon gases are toxic and corrosive – active. Therefore, these gases are purified from sulfur in a forced state before use. This article examines the methods with high efficiency used in the treatment of natural gas and satellite gases [1].

Sorption methods in the desulfurization of gases can be divided into two groups – absorption and adsorption. In them, the composition of each includes the physical absorption processes and chemical dependence of the components to be isolated. Alkanolamine cleaning. The classic method of cleaning gases from H₂S and CO₂s is the ethanolamine purification method. Rege in the process of absorbing H₂S and CO₂s at temperatures of 10-60°C in aqueous solutions of ethanolamines and then heating them at temperatures of 110-130°C.

The process of monoethanolamine purification of gases is considered the oldest method, this method was considered the only one used in the late 1950s to purify gases from toxic sour-component mixtures. The process equalization of the reaction under the influence of a temperature of 20-40°C and high pressure occurs to the right (that is, the absorption of components goes), the regeneration of absorbing substances and the separation of sour gases occurs at a temperature of 105-130°C and when the pressure is close to atmospheric pressure. In practice, 15-20% monoethanolamine (MEA) solution and mono - and diethanolamine (DEA) are used. The MEA process, together with all the advantages, also has a number of disadvantages, of which it is considered that the MEA forms COS, CS₂s and, at high temperatures, irreversible chemical compounds with CO₂. In addition to MEA, other amines are also widely used as "chemisorbents" when cleaning gases from sour components [4].

As selective absorbents for hydrogen sulfide, methyldietanolamine (MDEA), diisopropanolamine (DIPA) and phase-complicated amines in the Flexsorb process are also used. These absorbents, on the other hand, are low-loss sorbents, resistant to the effects of COS, CS₂ and CO₂. Their drawback is their small chemical activity and low absorption capacity [5].



In the process of gas purification, diethanolamine is widely used, which is made free from defects when MEA is involved in its composition. Most often, this process is used in the process of purification of gases from COS and CS₂ contents, with which they form compounds, lightly hydrolyzed by the separation of H₂S and SO₂ at high temperatures.

Diglicolamine (DGA) $\text{HOCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{NH}_2$ solution is mainly used in the form of 50-70% aqueous solution. Due to the problem of corrosion in the joint state of DGA ni MEA – the process does not provide an opportunity to obtain the absorption of sour gases with a absorption rate of more than 0,35 moles of sour gas into a mole of Amine.

When cleaning gas streams with high partial pressure, sour gases can in some cases cause the temperature of the absorber to rise above 93°C . Due to this, the pressure of sour gases above the solution is increased. DGA will have the advantage of the reaction sequence with CO_2 , while with H_2S it is low.

In subsequent years, Amine purification using ternary Methyl-diethanolamine in gas purification in the world occupied a high mobility. In practice, a concentration of 20-50% of MDEA is used. Usually a small concentration of solutions is used in a very low pressure state and the required high selectivity. In return for its small problems with corrosion [2-4], the ratio of the absorbed sour gas to the amount of Amine can be reached at 0.7-0.8 moles/mole when carbon steel equipment is applied.

In the composition of the chemisorption process based on diisopropanolamine, an aqueous solution of 40% DIPA is used [2]. When the dip is applied, the gas H_2S (up to 1.5 mg/m^3) and CO_2 (up to 0.01%) provide a deep level of purification, due to their good solubility in hydrocarbons. In this case, the withdrawal of COS and RSRs by 50% is ensured. DIPA regeneration is easily cleaned in the process, its loss in regeneration is two times less than in MEA, the cost consumption is very small, it does not corrode the apparatus. The disadvantage of DIPA is the high cost, as well as the fact that this method is also widely used in foreign countries and is bought for large funds [5].

Flexsorb technology was developed by Exxon Mobile Corporation, which used phase-improved amines [6-7]. In this they are secondary amines, which do not interact with CO_2 with the formation of carbamates, while its substituent is volumetric, neutralizing the formed carbamate.

Alternatively, such amines are easily combined with a hydrogen sulfide Proton belonging to Brønsted acids. In such a form, H_2S is achieved by a higher absorption selectivity compared to CO_2 .

Flexsorb methods, such as the advances in MDEA methods, also provide advantages: deep gas purification from H_2S ; in existing Amine purification devices, this is an opportunity to be applied in order to reduce energy costs in a large non-equipment modification of the absorber or in its non-modification state.

The widespread use of cleaning with Amine mixtures. One of the main objectives is that a mixture of MDEA and DEA or MEAs is used with MDEA to improve the absorption of CO_2 [8].

Cleaning with a mixture of carbonates. These processes are based on the chemisorption of aqueous solutions of sodium and potassium carbonates mainly by the ratio of sulfur compounds of gas (except mercaptans). The process is improved by introducing various activated additives into the composition of the absorbers to increase its sulfur volume and reduce corrosion activity as well as foam formation [9].

It forms hydrocarbons and hydrosulfides in the contact of solutions with sulfur compounds and carbon oxides of the gas, easily decomposes during the regeneration process. When the temperature is increased, the solubility of salts in water increases, so concentrated solutions can be used in gas purification. In this case, alkaline-the process is most often used. In such a process, when cleaning gas from H_2S , CO_2 , COS and CS_2 , a 25-35% solution of K_2CO_3 is used as a absorber. The sorption process is carried out at a temperature of $110-115^\circ\text{C}$ and a pressure of 2-8 MPa. The regeneration of a saturated solution is carried out practically the same way (at a temperature of $115-120^\circ\text{C}$), at a reduced pressure close to atmospheric pressure (or under vacuum). The boiling alkaline cleaning process is used in the purification of high-content CO_2 gases, and the content of the total concentration of sour gases is 5-8%. CO_2 is an unfavorable component in sulfur purification when it is contained in gases which is a necessary condition for creating the reflectivity of the process of regeneration of the absorber. In the primary gas, on the other hand, the process by the partial pressure of carbonic acid has a limitation which determines the residual content of hydrogen sulfide in the purified gas [5-6].

Physical absorption. Physical absorption is based on the dissolution of hydrogen sulfide, at the expense of strong interaction between molecules, there may also be other sulfur compounds. The desorption process occurs at high temperature and low pressure, so low-volatile absorbents are used according to the regulation.

For physical absorption processes, multi-quantitative compounds of different classes were recommended: aliphatic alcohols, simple and complex ethers, simple and complex ethers, heterocyclic compounds [4].

Cleaning using N-methyl-pyrrolidone (MPT).

This high-pole Proton solvent reacts well with hydrogen sulfide, SO₂, RSH, hydrocarbons. N-Methylpyrrolidone corrosion is inactive, less toxic, decomposes in biological treatment of sewage [4].

N-Methylpyrrolidone is selective among the best solvents. As can be seen, selectivity is achieved at the cost of the formation of hydrogen bonds with donor atoms of H₂S and amide fragment.

This is one of the processes of using a given solvent to absorb H₂S, which is called – Purizol (Purisol).

This process is used in the following situations: 1) coarser purification of sour gas by the regeneration of the absorber; 2) deep purification of gas from hydrogen sulfide; 3) selective removal of mercaptans from gas flows, for example, purification of natural gas from mercaptans in the processes of zeolite during the regeneration phase.

On the basis of cleaning with propylencarbonate, the Fluor (fluorine) process has been developed. This process is designed for coarse cleaning of gases from CO₂ and deep cleaning from H₂S [10].

The initial gas is dried with three-ethylenglicol, quickly cooled to release heavy hydrocarbons (in which it absorbs propylencarbonate, etc.), the gas falls into the absorber. Here the gas comes into contact with propylencarbonate and the sour components are swallowed. Desorption of sour gases is carried out by three-stage drosselling, reducing the pressure at each stage without expending heat.

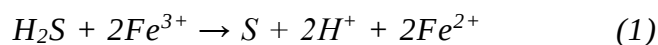
In the process of selexol, a mixture of 280-310 of the average molecular mass of diethylyl ethers of ethylenglicol is used.

There are several options for the process: full withdrawal of H₂S, partial withdrawal of CO₂, complete withdrawal of CO₂. In all these three variants, the initial gas is purified by a CO₂-saturated absorbent in increasing the effective removal of H₂S [3-4].

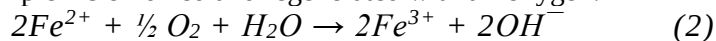
When cleaning a gas with a mixture of amines and organic solvents, amines strongly bind hydrogen sulfide and partially carbon sour gas, while the solvent binds the remaining sulfur compounds at the expense of physical exposure, a process that may not be carried out by amin. Thus, it is possible to achieve the withdrawal of all or many other unnecessary impurities (processes "Sulfinol", "Ukarsol", "Amizol") in the upper pointer [3].

Catalytic oxidation methods with iron complex. The process of purification of gases from hydrogen sulfide using this method is designed to isolate elemental sulfur. With the help of these methods, purification of natural gases, exhaust gases [10], gases in the Klaus process [3] is carried out.

Oxidation of H₂S is a molten complex of Fe(III) which is restored to a two-valence state:



Then the Fe (III) complex is oxidized and regenerated with air oxygen:



Complexes as ligands are used, that is, polydentate ligands covering iron ions.

It uses two complex numbers: four-base ethylendiamintetrauksus acid (EDTU, for anion forms – EDTA, i.e. acetate) and three-base nitriltriuksus acid (NTA). In sulfur

purification, a promising complexon is N-hydroxyethylendiamintriuksus acid (HEDTA), which differs from EDTU in that one acetant fragment is replaced by hydroxyethyl.

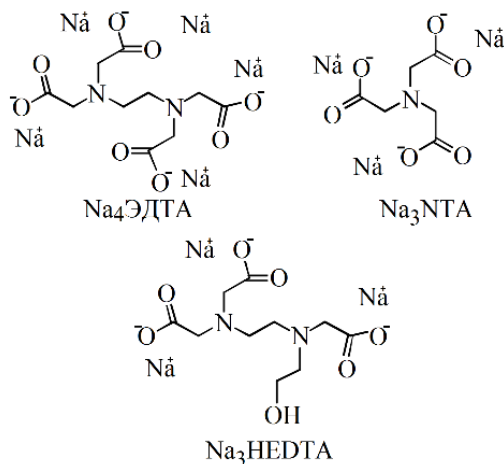
There are oxidation processes of hydrogen sulfide based on iron complexes with EDTA and NTA.

Iron complex-based process with EDTA. This technology was developed in the USA by Gas Technology Products LLC, and its commercial name is called LO-CAT [8]. Its name of similarity in practice is called "Serox-gas" [7].

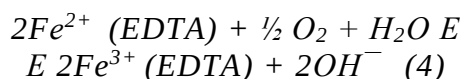
The absorption of hydrogen sulfide and its simultaneous oxidation to sulfur occurs when the following reactions are carried out:



Currently, the acidic properties of this complex have been studied [9-10]. Below are the complex numbers shown in the form of sodium salts:



In the regenerator, the oxidation of the absorption solution occurs due to the course of the reaction with air oxygen:

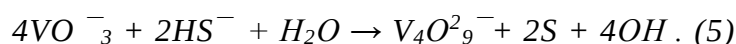


The sulfur element is enriched with air and brought to the filtration in the upper part of the regenerator. In the conduct of the reaction (3), water is formed, a solution of "chemisorption" is added, part of which is removed from the system. In doing so, in return, it will be necessary to introduce a new mixture of "chemisorption" into the system.

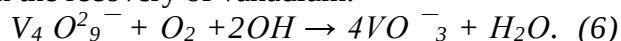
In an approximate case, half of the light mercaptans (methyl and ethyl) remain in the purified gas. The rest is expelled from the system by spraying air, while the other part turns into disulfides and leaves with sulfur. COS and CS₂s, on the other hand, leave the cleaning device without any reaction. The process of catalytic purification with the Fe(EDTA) complex sulfur formation volume is 200 kg in one day. it is economically effective to use when it constitutes a volume range from 20 tons [10].

Iron complex-based process with NTA. This process is known by the commercial name Sulferox, which, together with Shell Oil and Dow Chemical, is licensed [2-5]. In this process, H₂S oxidizes from pH 3,5 to 4,5 nitrilotriuksus acid in aqueous solution to elemental sulfur with Iron (III) complex. The Iron (II) complex formed in this reaction is oxidized by air, similar to the process in the iron complex Osos with EDTA as above [1]. The processes carried out here at low pH values are necessary to prevent the formation of iron hydroxide as we look at it.

Catalytic oxidation method with vanadium complex. In the process of Stretford, carbonate is swallowed with a weak alkaline solution of hydrogen sulfide and dissociates hydrosulfide-anion. And then with HS⁻ vanadium (V) is oxidized to elemental sulfur which, in turn, is restored to vanadium (IV):



In the regeneration phase of the Stretford process, anthracinondisulfonol acid is used in the transfer of oxygen catalysis in the recovery of vanadium.

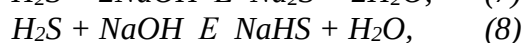
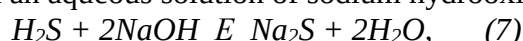


This is the commercial name for similar processes: Stretford, Unicolf and Sulfolin [9-10].

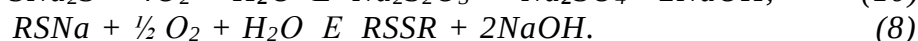
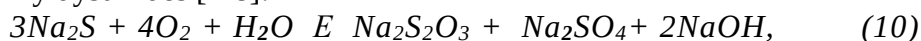
Biotechnological processes called Thiopaq are used in the desulfurization of gas flows, solutions or light hydrocarbons. Two process options are practically available: H_2S and SO_2 serve to intercept. The process of purification from hydrogen sulfide and light mercaptans is carried out in situations close to environmental conditions, safe as Catalysts, using Thiobacilli, which are found in living organisms in nature [10].

It is usually oxidized from 3,5% to small sulfide sulfate [6]. And the content of H_2S is from a few percent to 10-100 volumetric m.d. and a few volumes of gas that decreases to m.d. up to sulfur can be decontaminated.

Alkaline-catalytic cleaning method. Along the path of alkaline purification, hydrogen sulfide and mercaptans are swallowed in an aqueous solution of sodium hydroxide:



And then sulfides, hydrosulfides and mercaptans are oxidized by catalytic methods to sulfates and to dialkyldisulfides [7-8]:



Such a traditional method is used in the demercaptanization of saturated and unsaturated liquefied gases, EUKF, gasoline fractions boiling at low temperatures (processes "Metox" company UOP, "Sulfrex" company IFP, "DMD-2" OAO "VNIIS"). Currently, such processes are used to carry out relative purification of natural and oil satellite gases of a large volume.

Conclusion. One or another area of application of the sulfur purification process depends on the composition and volume of the gas to be purified. Large volumes of gas require Amine purification with the disposal of hydrogen sulfide in the Klaus device. The average volume of gas raw materials is 100-200 kg per day in the amount of sulfur removed. from 5-20 t. when up to the cleaning process can be carried out in catalytic oxidation methods with an iron complex. When sulfur is produced in a volume that is not large (50-100 kg, it is preferable to carry out processes with a non-regenerating absorber or adsorbent in a solid and liquid phase (up to one day).

As you can see, in the most recent cases, problems with the disposal of processed swallows are emerging: swallowed products are considered environmentally hazardous, and its neutralization requires additional costs. Accordingly, it is seen that the development of new processes is a necessary condition, for example, the possibility of using the above-mentioned non-regenerative processes is limited or impossible for other reasons when petroleum products remove H_2S from the tachrib of satellite gases, torch gas of not large volumes and other sources. In this, similar processes provide cleaning from sulfur compounds to the required depth, producing toxic currents and discharges in minimal quantities.

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Rezyume: *Tabiiy gazlarni gaz xomashyosini oltingugurtdan tozalashda qo'llaniladigan eng zamonaviy usullar ko'rib chiqilgan. Bunda, asosiy e'tibor gazni chuqur tozalashda boshqa usullarga nisbatan energiya xarajatlarni kam talab qiluvchi suyuq fazali katalitik tozalash usullariga qaratilgan.*

Резюме: *Рассмотрены современные методы сероочистки газового сырья, которые лучшие всего применимы к природным газам. Отдельное внимание уделено жидкофазным каталитическим методам глубокой очистки, требующим меньших, по сравнению с другими процессами, затрат энергии.*

Kalit so'zlar: *gazlar, nordon komponentlar, vodorod sulfid, uglerod oksidi, tozalash, absorbttsiya, xemosorbtsiya.*

Ключевые слова: *газы, кислые компоненты, сероводород, оксид углерода, очистка, абсорбция, адсорбция, хемосорбция.*

УДК 621.316.1

INCREASING THE RELIABILITY OF CITY DISTRIBUTION ELECTRICAL NETWORKS BY BUILDING AN OPTIMAL CONFIGURATION

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Summary: The article provides for a study on the development of methods for ensuring the reliability of consumer power supply by constructing its optimal configuration in ensuring the continuity of power supply of consumers of electricity connected to city distribution power networks.

Keywords: distribution network, Shteyner tree, transformer substation, optimal configuration, power supply reliability.

Introduction. Currently, in developed cities of the world, measures are increasing aimed at improving the technical and economic indicators of the power supply system in order to ensure the continuity of electricity consumption. In this case, the construction of the optimal configuration of urban distribution electrical networks is carried out based on the results of an optimal analysis (developed principles and optimal construction algorithms) in relation to the ideal structure of such a network. For example, the main parameters (cross-section surfaces of medium and network cables with a voltage of up to 1000 V, transformer substation (TS) and the number of outgoing lines from the supply source) are known to us. That is, these parameters are constant for regions where the density of electrical loads is the same. In such conditions, the optimal configuration of the distribution electrical networks must meet the minimum of the total length of the network and each rated voltage. It should also correspond to the minimum of total costs. If the optimal load of each line is approximately the same (at a given voltage), this state also corresponds to the minimum of total costs for networks [1, 2].

Problem statement. First, when constructing the “element” of the configuration, the basic methodological rules (the procedure for connecting fixed N points in a plane) are considered. It is assumed that these points are pre-grouped and separated [3].

The available methods for determining the optimal configuration of city power grids make the minimum trees (minimum cost) with some kind of additional networks look approximate [4].

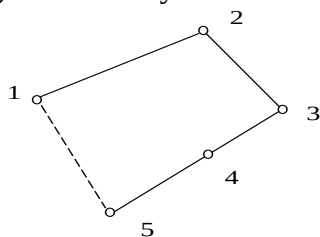
Any issue of determining the optimal configuration can be imagined as one of the above. It is also necessary to take into account:

if the connections have to go from one point to another and any plane only connects two or fewer edges, then this refers to the type of one linear connection issue (see picture 1a);

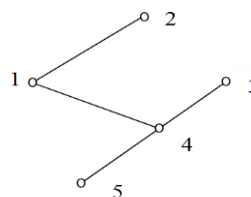
if the arap connections can go from point to point and any peak is capable of connecting two or ribs, this will apply to the minimum tree issue type (see picture 1c);

if the arap is allowed to connect optional ribs at the peaks, it will be a matter of the tree of the shortest distances (see picture 1b);

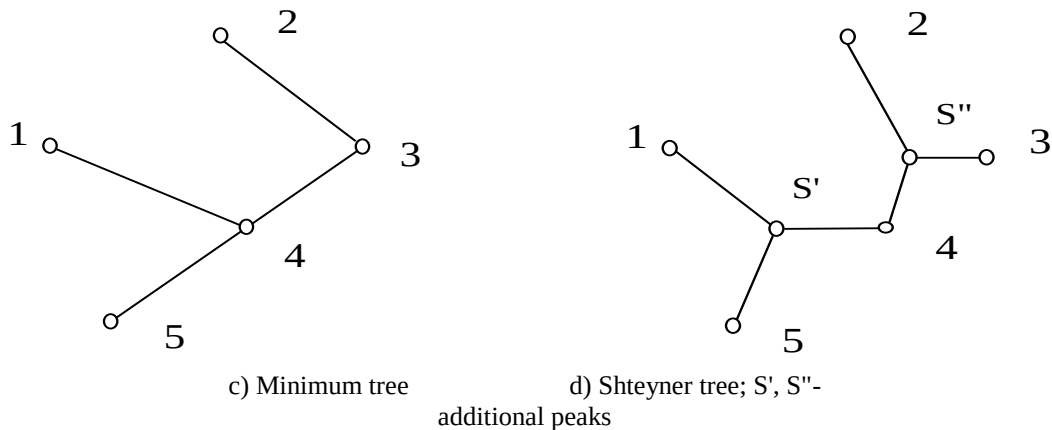
if arap can be added to an additional branched peak on the minimum tree (except N marked points), it will belong to The Shteyner tree construction (see picture 1d).



a) "One-line connection" path
(open)



b) The tree of the shortest distances
compared to the initial peak (1)



Picture 1. Consumption in a possible network configuration location of nodes in the plane

Let's consider the features of the city distribution electric network cable line track and the determination of methods related to the choice of the optimal configuration.

Cable lines up to 1000 V are laid, as a rule, inside the geniuses along hiking trails (although it is possible to lay under the lawn). Medium voltage cables are mainly laid under the sidewalk along the streets.

Analysis of city distribution power grids and projects implemented in such networks shows that when determining the length of a cable line between two points, it would be correct to use a right-angled measurement instead of the usual distance measurement of Euclid. The distance between two points on the plane is measured by the following expression:

$$d = |X_1 - X_2| + |Y_1 - Y_2|, \quad (1)$$

in this case, the coordinate of points X_1, Y_1, X_2, Y_2 - 1 and 2.

Usually, when measuring this distance, the path of the minimum length between two points is not the only one.

As shown above, building a Steiner tree in the best case compared to a minimum tree leads to a significant (2/3 times) reduction in the length of the lines. However, in practice, the application of such a solution is associated with a number of additional difficulties, namely:

- the disadvantage of the additional peaks of the network tree is the lack of additional branching of cable lines, especially at consumer connection points for three or four cables (for economic reasons and for the reliability of the power supply);
- the presence of various types of delimitations on network tracks.

Therefore, this principle cannot be applied in the formation of the configuration of urban distribution electrical network cable lines.

In small cities, Air Lines with a voltage of 0.4, 6, 10 kV are mainly used. The formation of a minimum tree with an additional branching apex of such branches in the above order can sometimes give a number of effects, since:

first, the additional branching of the Air Lines on the supports is economically acceptable, they can be performed quite simply and reliably;

secondly, small cities have a large non-electric charge density. Therefore, the number of consumers connected to a single line is relatively large and with additional branched nodes leads to a significant reduction in the length of the lines [3].

The above expression refers to the construction of a configuration “element” with N points marked on the plane. The complete question of determining the optimal configuration of distribution electrical networks with previously selected optimal parameters (these parameters are

invariant at approximately the same electrical load density in the area under consideration) can be expressed as follows.

N consumption points, their coordinates and calculation loads are given. It is necessary to determine the location of the transformer substation (at optimal power), represent each line up to 1000 V within the framework of all transformer substations and represent each medium voltage network in the considered area. The lines must have optimal bandwidth as well as satisfy all technical and topological (depending on the bandwidth of the track) limitations [5].

The basic procedures for constructing the optimal configuration of the network with a given point N in the plane are described.

Results.

To solve the problem of constructing the optimal configuration of urban distribution electrical networks with previously selected optimal parameters, the execution of the calculation sequence is as follows:

a) separation of Group consumers from each TS of optimal power and determination of the position of TS (each group of centers of electrical loads);

b) build a network of up to 1000 V in each TS range (optimal bandwidth of up to 1000 V with subgroups of the loadings provided by each outgoing line and construction of each line configuration);

c) changing initial grouping conditions and determining TS locations and network configuration up to 1000 V;

d) separation of TS groups and construction of each line configuration, which is provided from each distribution line of the medium voltage network with optimal bandwidth;

e) changing the initial conditions of the grouping starting point and determining the configuration of the medium voltage network that meets the minimum of the total length.

Conclusion.

This work, shown, is an analysis of some private feasibility models of distribution electrical networks and does not provide a based assessment for all parameters of an urban distribution electrical network. It is necessary to take into account the technical and economic indicators of the elements more fully, to introduce all the main optimized parameters into the mathematical model, to take into account technical limitations. In this case, the reliability of the power supply system increases, as a result of which the continuity of electricity is ensured.

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Rezyume: Maqolada shahar taqsimlovchi elektr tarmoqlariga ulangan elektr energiyasi iste'molchilarining elektr ta'minoti uzluksizligini ta'minlashda uning optimal konfiguratsiyasini qurish orqali iste'molchilar elektr ta'minoti ishonchliligini ta'minlash usullarini ishlab chiqish bo'yicha tadqiq qilish ko'zda tutilgan.

Резюме: Статья предусматривает исследование по разработке методов обеспечения надежности электроснабжения потребителей путем построения

оптимальной его конфигурации при обеспечении бесперебойности электроснабжения потребителей электроэнергии, подключенных к городским распределительным сетям.

Kalit so'zlar: taqsimlovchi tarmoq, Shteyner daraxti, transformator podstantsiya, optimal konfiguratsiya, elektr ta'minoti ishonchliligi.

Ключевые слова: распределительная сеть, дерево Штейнера, трансформаторная подстанция, оптимальная конфигурация, надежность электроснабжения.

APPLICATION OF THE FOCAL OBJECT METHOD IN THE CREATION OF DESIGN OBJECTS

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Summary: *This article discusses the method of focal objects. The effectiveness of this method is that it helps to find original, unexpected, and even paradoxical solutions. Using creative methods is the way to create revolutionary design solutions in the future.*

Keywords: *focal object, heuristic method, creative thinking.*

In modern conditions of the development of society, the need for creative people who think outside the box is increasing more and more. The basis of modern education should be not so much academic disciplines as the ways of thinking and activity of students. At the same time, in the learning process, it is important to develop students' abilities such as: creative activity, creative thinking, the ability to evaluate, rationalize, quickly adapt to the changing needs of the market.

Methods of creating ideas can be classified as simple, complex, or scientific. Complex procedures, in general, have work rules that drive the work of thoughts in the appropriate direction. Among these strategies are "synectics," "brainstorming," "brain attack," "morphological box," "control questions," "method of analogies," "method of focal objects," and others.

In this article we shall consider the method of focal objects.

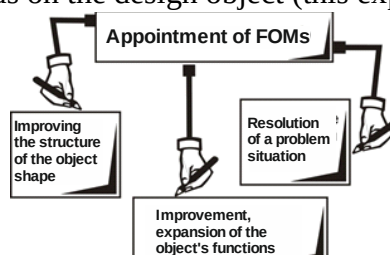
For the first time this method was proposed by Professor F. Kunze of the University of Berlin in 1926, calling it the "catalog method". For some time his idea was forgotten, but in 1953, a scientist from the USA, Ch. Whiting began researching. He improved the method and gave it a new name, which is now familiar to us as the "focal object method".

The FOM was developed in order to overcome the mental stagnation, and increase ability to think associatively and creatively. Simply said, we all usually see two scenarios in front of us. This method suggests finding a third one — unexpected, fresh, thereby stronger than the obvious and well-trodden paths.

The focal object method is a method of searching for new ideas by affixing traits or qualities of random objects on the original entity. It is used in the search for new modifications of well-known devices and methods, in particular TNP, the creation of advertising products, as well as to train the imagination.

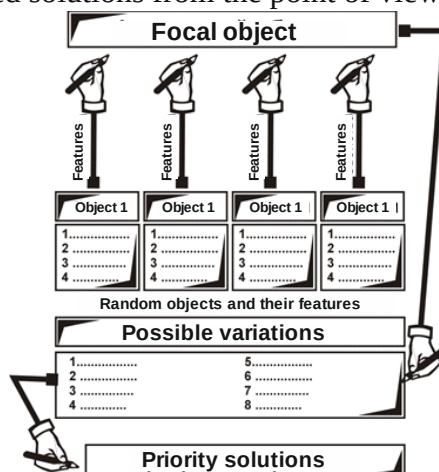
The method of focal objects is a heuristic method of technical creativity. The method is distinguished by simplicity and large (unlimited) possibilities for discovering new points of view on the problem being solved. The method uses associative search and heuristic properties of randomness. The effectiveness of the search using the method of focal objects is largely determined by the "sensitivity" to the constructions of the language, the ability to build original associative chains. The method places high demands on imagination. The method of focal objects is especially effective when searching for new forms of the projected object. Using randomness allows you to get solutions that cannot be obtained in other ways.

The effectiveness of the method is explained by the fact that through special procedures, various knowledge seems to focus on the design object (this explains the name of the method).



The method of focal objects consists of six consecutive actions:

- Choosing a focal object is what we want to improve.
- Select random objects (3-5 concepts, from an encyclopedia, books, newspapers, necessarily existing, of different subjects, different from the original object).
- Record the properties of random objects.
- Attach the found properties to the original object.
- Develop the obtained variants through associations.
- Evaluate the received solutions from the point of view of efficiency, interest and viability.



It is better to use random words from different fields: technology, poetry, science fiction, natural phenomena, living objects. The words should not belong to the same area as the focal object itself.

When choosing properties, it is necessary to avoid banal definitions, such words as: beautiful, yellow, triangular, heavy, reliable, etc. They are suitable for almost any object, therefore, there is a high probability that when associated with a focal object, they will not give an interesting combination. You can choose properties, signs that the object sometimes exhibits.

When choosing a focal object, set the goal of its improvement - this will be the criterion by which ideas will then be selected.

The advantage of this method is that it helps to find original, sometimes even unexpected solutions.

Now let's see how this method can be applied in specific cases.

Example 1.

The object being improved: An electric kettle. The goal is to expand the range of electric kettles produced at enterprises, increase the demand for these products.

Random objects: felt boots, rain, cigarette

Characteristic properties or signs of random objects:

1. Felt boots: warm, soft, rustic.
2. Rain: icy, warm, mushroom, blind, torrential,
3. Cigarette - smoking, harmful, with a filter, crumpled, burning.

New combinations:

1. Electric kettle warm, soft, rustic
2. Electric kettle ice, warm, mushroom, blind, pouring
3. The electric kettle is smoking, harmful, with a filter, crumpled, burning.

New ideas:

1. Electric kettle with elements of rustic decor.
2. Electric kettle with the function of heating and maintaining a specific water temperature.
3. Electric kettle with additional filtration function.

Example 2.

Object being improved: Calendar. The goal is to expand the assortment and create original calendar forms.

Random objects: table, juice, lamp

Characteristic properties or signs of random objects:

1. Table – kitchen, wooden, glass, writing, dining
2. Juice: fruit, vegetable, thick, citrus, clarified
3. Lamp – magic, electric, desktop, broken, lighting, soldering

New combinations:

1. Kitchen calendar, wooden, glass, writing
2. Fruit, vegetable, thick, citrus, clarified calendar
3. Calendar magic, electric, desktop, broken, lighting, soldering

New ideas:

1. Calendar in the form of a wooden kitchen plate.
2. A calendar with an image of fruits and vegetables.
3. Calendar with backlight.

The effectiveness of this method is that it helps to find original, unexpected and even paradoxical solutions.

Using creative methods is the way to create revolutionary design solutions in the future.

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URL:<http://cyberleninka.ru/article/n/metodicheskie-fspekty-podgotovki-abiturientov-k-tvorcheskomu-ekzameni-po-kompozitsii-po-napravleniyu-promyshlenny-dizayn> (дата обращения 14.01.2022)

Rezyume: Ushbu maqola fokal ob'ektlarning usuli bilan tanishadi. Ushbu usulning samaradorligi, asl, kutilmagan va hatto paradoksal echimlarni topishiga yordam beradi. Ijodiy usullardan foydalanish kelajakda inqilobiy dizayn echimlarini yaratishning usulidir.

Резюме: В данной статье рассматривается метод фокальных объектов. Эффективность этого метода состоит в том, что он помогает найти оригинальные, неожиданные и даже парадоксальные решения. Использование креативных методов это путь к созданию в будущем революционных решений в проектировании.

Kalit so'zlar: fokal ob'ekt, evristik usul, ijodiy fikrlash.

Ключевые слова: фокальный объект, эвристический метод, креативное мышление.

УДК 621.313

**PROBLEMS OF MANAGEMENT OF ELECTRIC CONSUMPTION BY ENTERPRISES
WITH CONTINUOUS PRODUCTION AND FEATURES OF THEIR SOLUTION**

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named after Berdakh

Summary: *The article presents the problems of managing electricity consumption at industrial enterprises of a continuous production nature and the features of their solution. In particular, the issues of a scientific approach to solving the obstacles that arise today in the management of electricity consumption were considered, and the main directions were identified. At the same time, the solution of the problems of power consumption management based on the development of energy-efficient modes of forecasting, rationing and modeling of power consumption is shown*

Keywords. *Industrial enterprises, electricity consumption, forecasting, modeling.*

The persistence of the problems of increasing the energy efficiency of industrial enterprises, especially enterprises with a continuous nature of production, is due to the lack of a common methodology and approaches to solving these problems [4-7]. Their development is complicated by the peculiarities of the characteristics of equipment operating in a continuous mode, which is characterized by a complex and multi-level technological process. The tasks that need to be solved to overcome this problem can be conditionally combined into the following groups:

- study of patterns of change and management of energy consumption modes depending on the nature of the technological process;
- determination of the prospects of the enterprise on the basis of normative and predictive indicators calculated using improved rationing and forecasting of electricity consumption;
- development and analysis of energy balances;
- optimization of operating modes of the equipment of the complete technological process according to the criteria of minimum power consumption and maximum efficiency of production.

Solving the problems united in these groups is the key to solving the main problem - increasing the efficiency of using electricity at all types of industrial enterprises, and not only at enterprises with a continuous nature of production [8-12].

In general, as noted above, the technological process at most energy-intensive enterprises is complex and multi-stage in nature. There are a number of internal and external factors, the direct impact on which or their consideration can improve the efficiency of energy use. These factors include the following: production, technological, meteorological, etc. Obviously, when developing mathematical models of these processes, it is necessary to take into account these factors and the patterns of their change.

In a modern market economy, mathematical models and algorithms developed on the basis of one-factor analysis cannot provide sufficient accuracy. At the same time, the change in these factors and the degree of influence on the indicator under consideration are not described using a single-factor mathematical model. It is necessary to develop mathematical models based on multivariate analysis that combine all elements.

The priority energy efficiency measures for industrial plants that are already in use and need to be improved and scaled up are:

- improvement of the system of accounting and control of electricity consumption at industrial enterprises;
- construction of energy characteristics of technological equipment and selection of optimal modes of their operation;

- development of scientifically substantiated mathematical models for rationing and forecasting high-precision electricity consumption based on multivariate analysis and taking into account the nature of the technological process.

It is known that [13-16, 30] analysis of electricity consumption of any industrial enterprise, its efficiency and determination of the intended use is carried out by studying the patterns of its change. It is in the course of these studies that it is possible to determine the level and dynamics of electricity consumption. As mentioned above, the technological process of industrial enterprises with a continuous nature of production has its own characteristics due to its complexity. In this regard, the formation of the laws of electricity consumption is also a rather difficult task. When making certain decisions, these patterns are revealed by analyzing and studying electricity consumption for different periods of time. In the future, these patterns are used not only in the analysis of regulation and forecasting of electricity consumption, but also serve as the main source of information when designing the power supply of such enterprises.

When studying [17-21] of the patterns of power consumption of industrial enterprises, the volume of initial data and the duration of the period to which they refer, as well as the stationarity of the state of the initial data for each stage of the enterprise, are of great importance.

The modes of operation of the equipment of industrial enterprises with a continuous nature of production are varied depending on the production and technological conditions. For most types of electrical equipment, it is not possible to directly measure energy performance [22, 25, 26]. In this case, statistical processing of the primary data is carried out, paying attention to the following:

- in-depth study and analysis of the nature of electricity consumption by equipment that is the object of study, and the formation of laws for a number of time intervals;
- determination of the parameters that affect the consumption of electricity;
- assessment of the accuracy of measuring instruments;
- determination of primary data over an interval of at least three years to obtain reliable results when processing statistical data;
- exclusion from the primary data of rapidly changing and active operating on a short time interval.

Currently, the process of rationing electricity consumption is based on the method of determining standard indicators at each level of consumption, depending on the location of consumers. At the same time, factory-wide standard indicators are determined on the basis of the final generalization of these indicators [1-3].

When improving the methodology for rationing electricity consumption at industrial enterprises with a continuous nature of production, it is important to solve the following problems [31, 32, 35, 36]:

- determination of scientifically based normative indicators of electricity consumption, taking into account the relationship between electricity consumption and the main factors of the production process;
- study of the energy parameters of technological equipment and the corresponding measurements, on the basis of which the normative energy characteristics of energy-intensive equipment will be built;
- determination of standard indicators of specific electricity consumption, taking into account the seasonality of enterprises (autumn-winter and spring-summer);
- taking into account production factors that affect the specific consumption of electricity, such as illumination, temperature and humidity conditions;
- accounting in the calculations of the composition and quality of primary raw materials.

In the process of developing models for predicting electricity consumption, it is necessary to take into account not only the absolute values of indicators, but also the patterns of changes in technological and energy indicators.

Improving the technological process affects not only the performance of the equipment, but also the specific power consumption [23, 24, 27, 28; 33-35].

An analysis of research papers on the problem of increasing the efficiency of electricity consumption at industrial enterprises with a continuous nature of production shows that for workshops, departments, production and technological processes of such enterprises there is no single methodological approach and theoretical foundations for studying the laws of electricity consumption.

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Rezyume: Maqolada uzluksiz ishlab chiqarish xarakteridagi sanoat korxonalarida elektr energiya iste'molini boshqarishdagi muammolar va ularni yechishning o'ziga hos hususiyatlari keltirilgan. Hususan bugungi kunda elektr energiya iste'molini boshqarishda uchrayotgan to'siqlar ularni yechishdagi ilmiy yondashish masalalari ko'rib chiqilgan va asosiy yo'nalishlar belgilap olingan. Shu bilan birgalikda elektr energiya iste'molini bashorat qilish, me'yorlash, modellashtirish energiya tejamkor rejimlarni ishlab shiqarish asosida elektr energiya iste'molini boshqarish masalalarini yechish ko'rsatib o'tilgan.

Резюме: В статье представлены проблемы управления потреблением электроэнергии на промышленных предприятиях непрерывного производственного характера и особенности их решения. В частности, были рассмотрены вопросы научного подхода к решению препятствий, возникающих на сегодняшний день в управлении электропотреблением, и определены основные направления. При этом показано решение задач управления электропотреблением на основе разработки энергоэффективных режимов прогнозирования, нормирования и моделирования электропотребления.

Kalit so'zlar: Sanoat korxonalari, elektr energiya iste'moli, bashorat qilish, modellashtirish.

Ключевые слова: Промышленные предприятия, потребление электроэнергии, прогнозирование, моделирование.

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DEVELOPMENT OF DIGITAL RELAY PROTECTION IN INTELLECTUAL CITY ELECTRICAL NETWORKS

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Summary: *The article examines the current state of relay protection devices used in urban electrical networks and the advantages and disadvantages of modern digital relay protection devices. Currently, the stages of development of the application of relay protection devices in digitized intellectual power networks and their indicators in terms of types, operating modes, reliability are indicated.*

Keywords: *digital protective relays, reliability, mean time between failures, MTBF, gamma-percentage operating time to failure.*

Introduction.

Reliability is defined as the property of an object to maintain over time, within a given range, the value of all parameters characteristic of its ability to perform required functions in predetermined modes of operation and conditions of use, maintenance, repair, storage and transportation. As can be seen from this definition, reliability is a multidimensional property which may include, depending on the purpose of an object and the environment within which it is placed, fail safe, durability, service-ability and storage ability or some combination of any of these.

One of the key reliability indicators is “Mean (operating) Time Between Failures” (*MTBF*), defined as total operation time (or the sum of the operational periods) of a restorable item divided by number of observed failures within this time. That is to say, it is one of reliability indicators of a repairable device or an engineering system characteristic of the average time (in hours) of device operation between failures.

Relay protection is the key to the safe operation of a urban electrical networks. The functions of relay protection have been developed along with enhancements to electrical power systems and the implementation techniques developed with the related areas of science and technology. Ensuring the function of a relay to satisfy the requirements of the development of the smart grid and perform the protection task with high reliability, involves a series of key technical issues. These issues, for example, include among others, the principles, criteria and algorithms for discriminate internal and external faults. In order to remove the faulty component with minimum area of interruption, it requires the setup of multiple protection relays and their technical coordination. In order to meet the above requirements, protection devices based on various hardware platforms, different techniques and the onsite operational management of these devices are adopted. Each stage is instrumental in ensuring that the relay operates correctly. This paper system based on the latest digital protection technology and these developments will greatly influence the type of relays produced in the future.

Problem statement.

For over a century, many protection principles have been developed based on the lumped parameter model and utilizing the differences between the power frequency voltage and current during the normal operation and fault states. The vector and symmetrical component analysis methods have also been developed to constitute the theoretical basis for fault identification. In order to eliminate the non-power frequency components of the fault transient period, many filtering methods have been developed and have become an important component of the protection algorithms. The maturity of these theories and algorithms over

the years enables many power system fault conditions to be correctly and selectively removed very quickly. However, to obtain complete information over a power frequency period (50 Hz) requires at least 20 ms to collect. To remove a fault faster, an approximation technique is adopted that uses the information from $\frac{1}{2}$ or $\frac{1}{4}$ of the period to represent the whole period to reduce the operational zone of the protection but still guarantee the selectivity.

In the 1960's, people started to develop protection using the fault generated transient wave front, which marked the start of using fault transients for protection. Due to the limitation of the available technical means and the complexity in identifying the reflections of the wave front from the fault point, the prototype relays developed at that time do not offer today's desired reliability and speed. However, site records indicate that the fault transients contain an abundant amount of information about the fault location and the type of fault in the fault record. Through the examination and analysis of these characteristics, new protection principles can be developed to solve the problems which cannot be resolved by power frequency based protection principles. This approach can also further increase the response speed of the protection relay to meet the requirements of the UHV/EHV power system, which is in line with the development trends of the technology and today's power systems [1-5].

Although the concept of the smart grid was only raised recently, researchers have already undertaken research into many of the aspects needed to meet the development requirements of the latest power grid technology. This paper will introduce the research work over the past 10 years conducted by the authors' team on: the new ultra high speed protection principle, device implementation and test results obtained by utilizing the transient characteristics of the AC and DC transmission systems. Due to the space limitation, this paper will concentrate on the research results, while the detailed principles, algorithms and development process of the techniques can be found in the references.

Manufacturer's technical manuals generally claim this period for Digital Protective Relays (DPR) to be equivalent to 50 through to 90 years? Does it mean that the time between two DPR failures is really 50 to 90 years? Despite the definition given to this term, common sense suggests that in real life, as opposed to virtual reality, it can't be so. As they say, more is the pity for common sense [6-8]. There are many variations of MTBF, for example "Mean Time Between Unit Replacement" (MTBUR) that is defined as arithmetic mean (average) time to failure (replacement) of a replaceable unit.

It is quite apparent, that given modular design of DPR and non-serviceability of multilayer printed circuit boards (PCB) with electronic Surface Mount Devices (SMD) being the basis of the state-of-the-art DPR "replaceable units" might only mean integral modules (PCB), and DPR repair (restoration) may generally be carried out only by module (PCB) replacement. In this case there is no practical difference between MTBF and MTBUR indicators and the consumers will continue to stare bewilderedly at amusing many digit numbers corresponding to 50 to 90 years and wonder what they can mean and how they correlate to between 15 to 18 years' real service life of DPR [2, 4].

In the case of a variable failure rate (i. e., when $(t) \neq const$) the above example of MTBF calculation is irrelevant and it should be calculated using other, far more complicated formulae.

Second, in actual practice many manufacturers, instead of pilot testing large quantities of their units in field operating conditions (which is both costly and time consuming effort), carry out theoretical calculation of MTBF based merely on failure rate data for basic electronic components contained in DPR and on their number in DPR. This calculation appears as follows. A device is comprised of, say, 10 components having a failure rate 10 h⁻¹ each. Then the device failure rate on the whole would be $10 \cdot 10 \text{ h}^{-1} = 10 \text{ h}^{-1}$ and time to failure would amount to $10 \text{ h} = 1 \text{ million h}$. And this is where many uncertainties arise that cannot be foreseen in any calculations. High-quality electronic components themselves supplied by a renowned and trustworthy manufacturer may safely operate as a part of equipment for dozens of years and have rather low failure rates. But it is only the case in particular operating conditions for which these parts are. It is for these conditions that failure rates are referenced in parts' reference sources. It is these failure rates that are assumed

in calculations carried out by DPR manufacturers. But what's the real state of affairs?

Electrolytic capacitors intended for DPR switched-mode power supplies. Even high-quality general purpose industrial grade electrolytic capacitors produced by well-known Japanese manufacturers fail fairly soon when affected by high frequency currents flowing through them in switched-mode power supplies, see Fig. 1. Leaking electrolyte results in the substantial damage of many other circuit components as well and even conductors, and via interconnections in a printed circuit board [7, 9, 11].

Power supply failure for this reason occurs after some 12 to 15 years of operation in DPRs of various types produced by different manufacturers. The problem is brought about by the wrong choice of electrolytic capacitor types by DPR manufacturers, lack of technology used to protect.

Electrolytic capacitors from high frequency currents in DPR circuits resulting in electrolyte heating and increase of its chemical activity. Has this problem with electrolytic capacitors been taken into account when calculating MTBF? Obviously, not!



Fig. 1. Faulty DPR switched-mode power supplies of different types with damaged electrolytic capacitors. Left figure shows taints in printed circuit boards from electrolyte leakage.

Disk ceramic capacitors encased in a molded plastic shell, see Fig. 2. In DPRs operating in subtropical climates with high air humidity whose capacitors often lead to DPR failure due to the conduction path between the capacitor plates resulting from the migration of silver ions from one ceramic disk surface to another induced by applied voltage in high humidity environment when the capacitor sealing is not really perfect. As a result, ceramic capacitors generally known to be highly reliable components with long life factors result in multiple DPR failures after some 15 years in operation. Has this problem been taken into account when calculating MTBF.



Fig. 2. A part of DPR logic input module of REL316 type with damaged capacitors C and failed opto couplers Opt.

At present DC line protection is mainly provided by manufacturers e.g. ABB and Siemens. The discrimination criterion of the single end protection algorithm is based on the super-imposed voltage, the rate of change of the voltage traveling wave, and the gradient of the change in the current. The voltage rate of change of the traveling wave protection did not operate for a high resistance fault (fault resistance 295 Ω) on the Ge Nan HVDC transmission line. As a result of this it cannot guarantee the reliable operation for

internal fault [2, 6, 9]. The principle diagram of the single ended ultrahigh speed protection principle, utilizing the characteristics of the high frequency signal for a DC transmission line is shown in Fig. 2. From Fig. 2 it follows that:

- The principle and algorithm of the start element: First it detects the change of current and adopts the improved gradient algorithm. Using the sum of the current 3 samples and subtracting this sum from the last 3 samples, protection will start when the change of the current gradient exceeds a certain value. The calculation is simple but provides high sensitivity for high resistance fault.

- Principle and algorithm of boundary element: The characteristic of the boundary frequency for a DC transmission line is shown in Fig. 3. This figure shows that the magnitude of the high frequency signal for the detected internal faults is 50db higher than that for external faults. This difference can be used to distinguish between internal and external faults. Using the db3 wavelet transform to extract the fault components Δu and Δi of the voltage and current, the high frequency forward voltage Δu_f and reverse voltage Δu_b of the traveling wave are computed. In this way the energies of the high frequency fault components can be used to establish the protection criteria to distinguish between internal and external faults [9-10].

- Fault polarity detection: The two pole HVDC transmission line is a double-circuit construction. Due to the coupling between the two lines, a fault on one pole will induce relatively high electromagnetic transients of voltage and current in the healthy line. Therefore, it is difficult to identify the faulty line based on the measurement of the magnitude of the high frequency signal at one end. When comparing the signals on the two lines with a low frequency range the signal of the faulty phase is higher than that of the healthy ones. This criterion can be used to distinguish whether a fault is on its protected line [7, 10, 12].

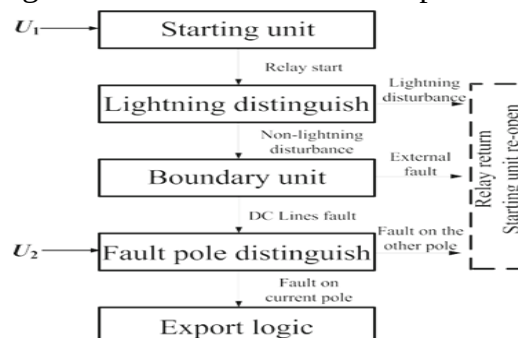


Fig. 3. Diagram of single-ended transient-based protection for HVDC transmission lines.

Simulation tests of the prototype relay: A typical 1043 km long, ± 500 kV HVDC transmission system is simulated using the EMTP software. The sampling frequency is 100 kHz and the db3 wavelet transform is used. The entire protection algorithm requires 5760 multiplier and 4800 summation calculations and can be computed within 300 μs using C32 series of DSP. By taking 1 ms as the data window, the protection can be easily computed within 2 ms. Simulation tests were conducted for over one thousand fault cases in the test system. The protection remained stable for all cases. For a lightning strike on the DC lines and 500 Ω fault resistance, the protection is able to provide high sensitivity with an operation threshold 10 times higher than the setting threshold. However, the protection algorithm based on the rate change of voltage du/dt cannot distinguish between internal and external faults when the fault resistance is over 300 Ω [3, 5, 8].

The sampling frequency is 400 Hz/s and the 4 order B-spline derivative function is used as the foundation dyadic wavelet transform. The performances of the three algorithms were examined to compare the polarity of the traveling wave current, the differential traveling wave and the traveling wave energy for the comparison of the busbar protection. Two out of three modes should meet the criteria when 3 modes are used. Simulation results show that all 3 principles for busbar protection can distinguish between internal and external faults within 2 ms and the traveling wave differential protection possesses the highest sensitivity and

reliability. The algorithm is also less influenced by any branch traveling wave current due to the transformer, which can result in difficulties when determining the polarity and direction of the traveling wave current. The reliability, therefore, of the algorithm requires further research. The main advantages of the algorithm are the fast speed, and the fact that it is not influenced by CT saturation and fault path resistance [8-12].

For many years, stable state quantities have been used for line selection for non-effective earthed systems. However, the magnitudes of the stable state quantities are small, and can become even smaller when taking into consideration of the compensation effect of the Petersen coil, the fault path resistance and any CT errors. As a result, the success rate for this type of faulty line selection device is very low, especially when large fault resistance and arcing fault are involved. Although there are many installations on-site, power engineers have generally lost faith in this type of device due to its low accuracy.

The magnitude of the transient capacitance current can reach up to 10 times or even higher of the stable state capacitance current without the effect of a Petersen coil. Figure 4 compares the direction and magnitude of the zero sequence transient currents for every feeder.

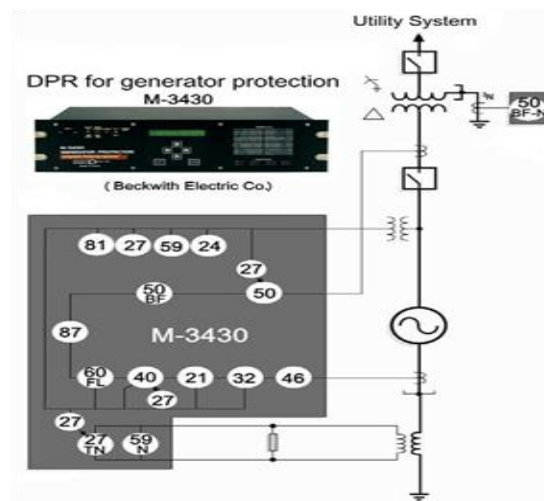


Fig. 4. M-3430 multifunction DPR. The numbers shown in white circles designate standard relay protection functions under ANSI classification.

The current in each feeder follows into the bus bar and the one with the highest magnitude is from the faulty feeder. However, the above mentioned characteristics are only true for a particular frequency band, and this band varies and is also influenced by network parameters and fault modes etc. Therefore, adaptively selecting the frequency band is the key for accurate and reliable faulty line selection [11].

Conclusion.

Application of suggested criterion for measuring DPR reliability and of additional reliability data discussed above will make it possible to change the nature of relationships between DPR consumers and manufacturers and to enhance reliability of relay protection. Practical implementation here depends on the consumer who is to specify appropriate requirements to DPR reliability in tender documentation along with basic technical requirements since soon changes of regulatory documents are nothing to hope for.

The construction of the strong smart grid gives rise to demanding requirement for the protection relay in respect to both speed of operation and reliability. With the development of high speed DSP and the application of optical sensor, the utilization of fault transient information for fault identification is no longer a difficult task. The implementation of protection principles based on transient information has already become possible.

Due to the inconsistent nature of the wave impedance for various power apparatuses and the reflection and refraction characteristics of their interconnection points, the fault

transients contain abundant information about the fault location and type. By correct analysis and the full utilization of such information it is possible to construct ultrahigh speed and highly sensitive AC, DC and bus bar main protection. In addition faulty line selection for neutral non-effective earth systems using transient characteristics offers high sensitivity and reliability that is not influenced by the ways of neutral compensation.

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Rezyume: Maqolada shahar elektr tarmoqlarida ishlatiladigan rele himoya qurilmalarining hozirgi holati va zamonaviy raqamli rele himoya qurilmalarining afzalliklari va kamchiliklari ko'rib chiqilgan. Hozirgi vaqtda raqamlashtirilgan intellektual elektr tarmoqlarida rele himoya qurilmalarini qo'llashning rivojlanish bosqichlari va ularning turlari, ish rejimlari, ishonchliligi bo'yicha ko'rsatkichlari ko'rsatilgan.

Резюме: В статье рассматривается современное состояние устройств релейной защиты, используемых в городских электрических сетях, а также преимущества и недостатки современных цифровых устройств релейной защиты. В настоящее время указаны этапы развития применения устройств релейной защиты в оцифрованных интеллектуальных электросетях и их показатели с точки зрения типов, режимов работы, надежности.

Kalit so'zlar: raqamli rele himoya, ishonchlilik, ishlash va qaytish orasidagi o'rtacha vaqt, MTBF, ishlashdagi vaqt xatoligi.

Ключевые слова: цифровые реле защиты, надежность, среднее время наработки на отказ, наработка на отказ, MTBF, гамма-процент наработки на отказ.

TECTONICS OF INDUSTRIAL FORMS

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Summary: *This article discusses the issues of tectonic shaping of industrial products. The complex nature of educational design, the sequential complication of tasks, as well as familiarization with related areas of design are considered.*

Keywords: *tectonics, design, clausura, aspects, project, layout.*

Tectonic shaping of industrial products and technical objects is a complex task due to the variety of their types, functions, structures, and materials used. The designer has to deal with large and small products, mobile and stationary, static and dynamic, etc.

By its tectonic structure, a small industrial product can be more complex than, for example, an architectural structure.

With a certain degree of conditionality, we can talk about the four main tectonic systems that the designer has to deal with:

- these are so-called monolithic systems, i.e. systems formed on the basis of structures made of one specific material;
- lattice systems and shell-type systems based on spatial load-bearing structures;
- and finally, frame systems formed by both monolithic and prefabricated structures made of various materials (wood, metal, plastic).

What designs (or combinations thereof) actually found in industrial products are associated with the formation of these systems? Some household items, such as tools and utensils, have an integral volume and, as a rule, a monolithic structure, this affects their shape. It is plastic to the maximum extent, since mainly plastic, rather than structural properties of the material are used. This makes it possible to form a shape adapted to the human hand, and significantly vary it depending on aesthetic requirements.

Tectonics is the result of cognition and plastic expression in the structure and shape of the product of the properties of materials and structures, the logic of their work. A visual sense of strength, stability, balance, lightness or, conversely, gravity - that's what is primarily meant when it comes to tectonics.

In addition, it is quite common to combine several different designs in one product. In this case, obviously, it becomes more complicated and difficult to choose and consistently implement in plastic the external shape of the product of the leading tectonic system.

Next, we will try to find out the specifics of the approach to the tectonics of industrial products using concrete examples.

The properties of the material, specially selected and associated with a certain design solution, as well as with the manufacturing technology necessary for this, allow you to create different, sometimes sharply contrasting solutions (despite the same material used).

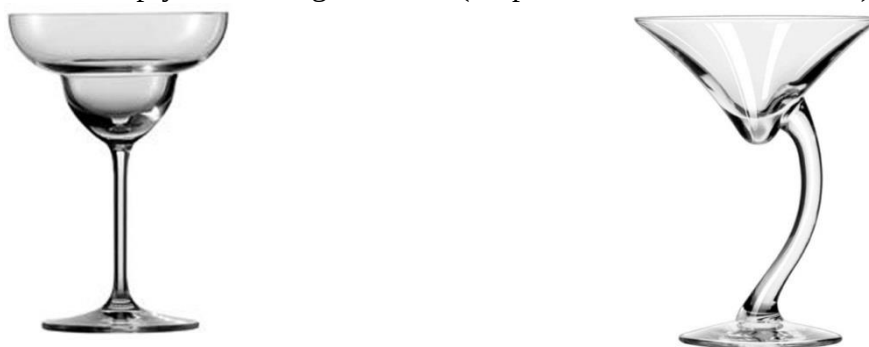


Fig. 1a. Tectonicity of glass product shapes (contrasting solutions)



**Fig. 1b. Tectonicity of glass product shapes
(contrasting solutions)**

Figure 1 shows two products: wine glasses made of thin glass and a massive glass. In the first case (Fig. 1, a), the designer, using the strength of the glass, as well as emphasizing its transparency, creates a light form where the material works at the limit. The thinnest walls of the conical volume, a thin bridge at the point of transition to the support create a tectonically convincing image of a light, transparent product, the shape of which seems to dissolve in the air. Despite the apparent fragility, glass in this form works in accordance with its strength properties and artistic intent.

In another case (Fig.1, b) with the same material, the designer emphasizes its heaviness. The monolithic shape of the massive glass is simple and stable. The walls thicken towards the base and in the reinforced monolith of the bottom, the effect of a special refraction and play of light is created. The material condenses light, as it were. Quite different properties of glass are emphasized here. The tectonicity of this product is no less expressive.



a



b



v

Fig.2. Tectonicity of the chair shape

Let's take another example: three variants of the chair design (Fig. 2). They are made in all cases from a thin metal pipe, but its properties and bearing capacity are expressed differently in each case.

In the first case (Fig. 2, a), four racks made of a thin tube placed strictly vertically create a feeling of lightness in the design of the supporting part of the chair. At the same time, it is durable, simple and reliably stable. In the second variant (Fig. 2, b), four support struts made of a thin pipe are slightly apart and curved, thereby creating a feeling of some mobility, springiness. And, finally, in the third variant, the flexible properties of a thin metal pipe are expressed even more strongly (Fig.2, c). The structural base of the cantilever type is made of a continuous rod of tubular section. Each section of the curved pipe is an element of the supporting structure of the chair: backrests, armrests, seats, etc.

The spring properties of this system are actively manifested in the design of the chair and consciously incorporated into the tectonic meaning of the resulting shape.

As an example from the field of mechanical engineering, consider two road construction rollers.



Fig.3. Road construction rollers

The leading theme in creating an expressive image of a heavy and strong machine is the conscious emphasis on those characteristics of form and material that reveal its tectonic essence. The body of the rollers is made of a thick sheet of metal. It plays the role of a supporting frame and enclosing structure. Moreover, in these two solutions, it is not by chance that the edges of the metal sheet are brought out at the ends, exposed and exposed so that not only its thickness is read, but also the way of its manufacture is guessed by the nature of the plastic shape of the case. In the first case (Fig. 3a), the plastic of the roller body is strong, elastic. A sheet of metal smoothly wraps around the body. The size of the bending radius is dictated by the thickness of the sheet. In the second case (Fig. 3b) - it is a welded structure, the sides of the body are clear, rectangular.

All the components of this organism form an integral structure, where the visual balance of the elements and their semantic hierarchy are achieved not only by competent constructive study, but also by artistic means.

When solving issues related to tectonics, the designer has to take into account the role of factors such as expediency, cost-effectiveness, strength, durability, ease of processing and manufacturing, the maximum use of useful properties of the material, the peculiarities of the influence of technology, etc.

Thus, finding and applying more and more new tectonic solutions is a task that requires constant attention, study and rethinking. Only such an attitude to tectonics gives rise to fresh, bold, interesting ideas and solutions.

In conclusion, it should be noted that the volume-spatial structure and tectonics, being categories of composition, also serve as its important means, since with their help

the foundations of the quality of the form are laid.

However, these funds alone are not enough to solve all the problems of composition.

Determining the overall composition of the product, the spatial structure and tectonics form the basis and determine the successful use of other means of composition in the future.

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Rezyume: *Ushbu maqolada sanoat mahsulotlarining tektonik shakllanish masalalari ko'rib chiqiladi. O'quv dizaynining murakkab tabiati, vazifalarning ketma-ket murakkabligi, shuningdek, dizayning tegishli sohalar bilan tanishish ko'rib chiqiladi.*

Резюме: *В данной статье рассматриваются вопросы тектонического формообразования промышленных изделий. Рассматривается комплексный характер учебного проектирования, последовательное усложнение заданий, а также ознакомление со смежными областями проектирования.*

Kalit so'zlar: *tektonika, dizayn, band, aspektlar, loyiha, prototiplash.*

Ключевые слова: *тектоника, проектирование, клаузура, аспекты, проект, макетирование.*

REDUCTION OF ELECTRICITY LOSS IN RURAL NETWORKS 10/0,4 KV

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Summary: This article considers the issues of improving the quality of electricity in 10/0.4 kV rural networks. Depending on the value of the network voltage, a device is proposed that allows changing the magnetizing current in the secondary windings of the volt-adding transformer. Installation of such devices in 10/0.4 kV rural power networks allows to reduce voltage and power losses.

Keywords. Rural electrical networks, voltage loss, power losses, booster transformer.

Each specific power receiver is affected by power quality indicators in different ways. But in general, for all electrical receivers, the following can be distinguished:

- an increase in voltage leads to heating of the conductive parts of household appliances and industrial installations, and sometimes to the failure of the electrical receiver;
- low voltage, in turn, makes it impossible to use household appliances (the luminous flux of lighting lamps decreases, the performance of electric motors decreases), leads to lengthening of technological processes and to defects in manufactured products;
- changing the frequency leads to a change in the rotational speed of asynchronous motors;
- non-sinusoidal voltage affects the operation of electronic equipment (TVs, computers, radios), and also leads to heating of capacitor units;
- voltage fluctuations reduce the service life of electrical receivers, cause fluctuations in the luminous flux of lighting lamps (flicker), affecting people's health.

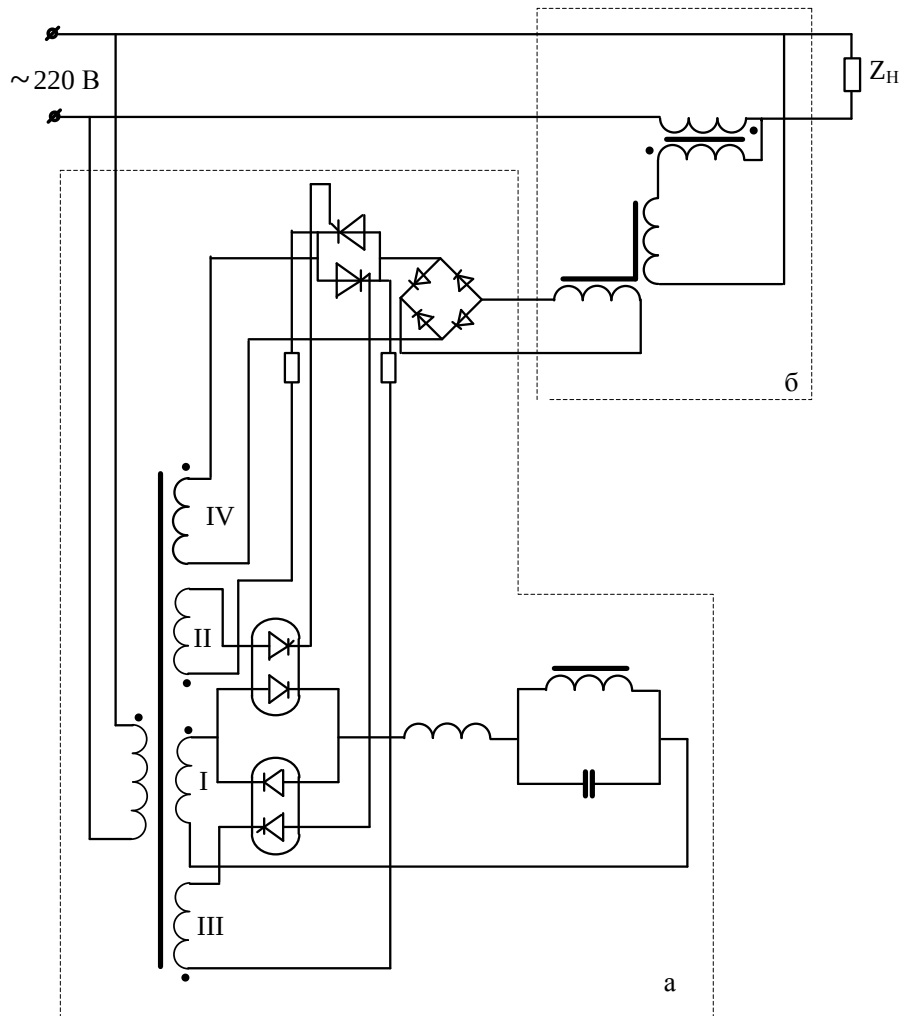
On Pic. 1 shows a single-phase scheme of a booster transformer with a system of smooth voltage regulation in the primary winding. Here a is a device for regulating the value of the rectified voltage, b- is a booster transformer.

By connecting optocouplers diodes in anti-parallel to an unbranched section of the parametric circuit, it is possible to obtain signals from the thyristors of these optocouplers for phase control of power thyristors, depending on the input voltage. Accordingly, at the output of the device, the average effective value of the rectified voltage will also change smoothly from the value of the mains voltage [4].

By applying the received signal to the VDT, we obtain at the output a sinusoidal voltage that changes in magnitude depending on the magnitude of the supply voltage.

It is possible to reduce voltage losses by reducing the line resistance or reactive power Q. Since reducing the resistance of overhead lines is a rather expensive measure, it is possible to reduce reactive power, which is often not consumed in low-voltage networks and leads only to voltage losses and, as a result, to active losses. power.

In this paper, we consider the issue of including a booster transformer in the cut of the 0.4 kV line and creating a control system, biasing the core of the booster transformer as a function of changing the magnitude of the supply line voltage.



Picture 1. Single-phase circuit of a booster transformer with a system of smooth voltage regulation in the primary winding.

In rural areas of the Republic of Uzbekistan, power supply is carried out mainly by overhead lines, which have a large percentage of voltage drop associated with their length. Currently, there is an intensive growth in electricity consumption in the residential sector. All this leads to the fact that power lines designed according to the power consumption standards of the second half of the last century no longer have the necessary capacity, and the quality of electricity from its consumers increasingly does not meet its standards. When energy is transmitted through the electric network that does not meet the requirements for the quality of electricity, its losses also increase. The question arises of effective measures to improve the quality of electricity in rural distribution networks of 0,4 kV. It is believed that due to relatively short feeders and small connected power, reactive power compensation and filtering of higher harmonics in 0.4 kV networks are not economically viable. Therefore, the development of simple, reliable and cheap devices to improve the quality of energy transmitted to the consumer in 0,4 kV networks is relevant.

One of the main indicators of power quality for networks 0,4 kV are the steady-state voltage deviation and the zero-sequence voltage unbalance factor.

Positive and negative voltage deviations must not exceed 10% of the nominal or agreed voltage value for 100% of the time interval of one week at the point of transmission of electrical energy. In this paper, we consider the issue of including a surge transformer in the cut of the 0.4 kV line and creating a control system, biasing the core of a booster transformer as a function of changing the magnitude of the supply line voltage.

In the literature in [1, 2, 3] it is indicated that in a parametric oscillatory circuit, consisting of parallel-connected nonlinear inductance and capacitance connected in series with a linear

inductance, with certain combinations of parameters of the above elements and the supply voltage, stable parametric fluctuations at the fundamental frequency.

In this case, the initial phase of the current in the unbranched section of the circuit under consideration relative to the initial phase of the applied voltage is defined as:

$$\operatorname{tg} \varphi = - \frac{(X_m^6 - 1) \operatorname{tg} \psi \frac{\gamma}{\beta}}{(X_m^6 - 1) \frac{\gamma}{\beta} \operatorname{tg} \psi}, \quad (1)$$

here X_m - flow in relative units;

$\beta = \omega^2 C L_0$; $\gamma = \omega L_0 g$ - dimensionless coefficients

$\operatorname{tg} \psi = - \frac{\beta(1 - X_m^6)}{\gamma} \frac{1}{\gamma}$ - the angle of the initial phases between the applied voltage

and the flux.

The mains voltage in relative units is determined by the following expression:

$$Y_m = \sqrt{[\beta(1 - X_m^6)]^2 - \gamma^2} \quad (2)$$

Connecting such devices to the dissection of three phases of 10/0,4 kV networks reduces voltage and energy losses, and also partially reduces the unbalance in these networks, which leads to an even greater reduction in losses.

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Rezyume. Ushbu maqolada 10/0,4 kV li qishloq tarmoqlarida elektr energiyasi sifatini yaxshilash masalalari ko'rib chiqiladi. Tarmoq kuchlanishining qiymatiga qarab, volt qo'shuvchi transformatorning ikkilamchi chulg'amlarida magnitlanish oqimini o'zgartirishga imkon beruvchi qurilma taklif etiladi. 10/0,4 kV qishloq elektr tarmoqlarida bunday qurilmalarni o'rnatish kuchlanish va elektr energiya yo'qotishlarini kamaytirishga imkon beradi.

Резюме. В данной статье рассмотрены вопросы повышения качества электроэнергии в сельских сетях 10/0,4 кВ. В зависимости от величины сетевого напряжения предложено устройство, позволяющее изменять ток намагничивания во вторичных обмотках вольтодобавочного трансформатора. Установка таких устройств в сельских электросетях 10/0,4 кВ позволяет снизить потери напряжения и электроэнергии..

Kalit so'zlar. Qishloq elektr tarmoqlari, kuchlanish yo'qotilishi, elektr energiya isrofi, volt qo'shuvchi transformator.

Ключевые слова. Сельские электрические сети, потеря напряжения, потери электроэнергии, вольтодобавочный трансформатор.

УЎТ 621.311

ASSESSMENT OF QUALITY INDICATORS OF GENERATED ELECTRICITY

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Summary: The article discusses the combined use of solar and hydropower based on the choice of a rational combination of traditional and renewable energy sources in the energy supply of agriculture and water management. The optimal technical solution for the efficient and joint use of solar and water energy has been developed.

Keywords: Solar, water, renewable energy, small hydroelectric power plant, energy consumption, frequency, combination.

Introduction. During the practical testing of the solar and small HPP hybrid device, it became known that if the constant solar radiation and water flow are chosen correctly based on the geographical capabilities of the area, and if the experience of preparing a solar-hydro hybrid power plant with different geometric dimensions is fully mastered, then in the agricultural and water management areas of our republic located small pumping stations, households, small enterprises, clusters and farms can be used for their electricity needs (see Figure 1).

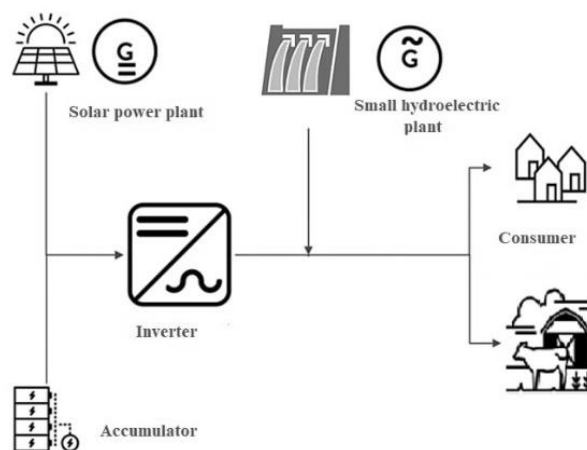


Figure 1. A hybrid combination of solar and small hydropower plants.

Installation of solar and small hydropower plants hybrid power plant at the specified facility should be performed based on the following requirements:

- all electrical devices, automatic switches and fuses, electrical equipment protecting against short circuit must be protected by a fuse;
- solar panels, electric generator and its terminals and electric cable must be in a place where water does not touch;
- it is necessary to follow the instruction on technical safety rules when using a hybrid power plant.

Research Methods. The following sequence should be followed when preparing a solar and small hydroelectric hybrid device for testing:

- solar panels, hydro generator, control unit, counter, control unit, centralized power grid and consumers are connected in sequence as shown in Figure 2;
- the solar panels and the hydro generator are connected to the control unit using electrical cables (see Figure 2).

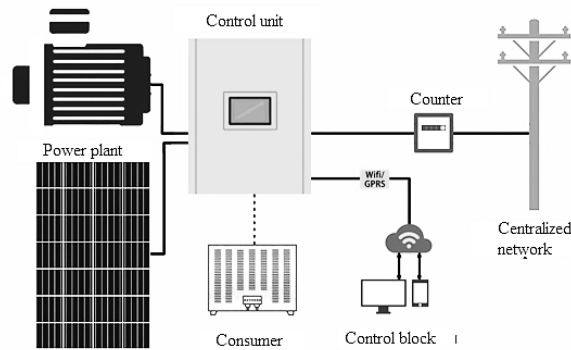


Figure 2. Connection sequence of hybrid power plant devices.

The quality indicators of electricity produced by solar and hydroelectric power stations were checked with the Circutor AR.6 electrical analyzer measuring device. In the course of research, 2 parameters that mainly determine the quality indicators of electricity are given great importance: voltage (V) and frequency (Hz). The obtained results are compared with the value limits specified in the regulatory documents of the international standard. The energy audit for evaluating the quality indicators of electric energy is performed using the Circutor AR.6 electrical analyzer in the following order: - We start the AR.6 electrical analyzer and connect its flash according to the scheme;

- we enter the necessary dimensions into the measuring device. This includes time intervals for measurement, voltage, current limit values and their memory recording processes;
- we check that all the data obtained after carrying out measurement work on the measuring device in the specified time interval are recorded in its memory;
- after making sure that the measuring device has recorded all the data in its memory, we turn it off and disconnect the klesh from the network;
- in order to process the received data, we connect the device to the computer and process all measurement data using the Power Vision program.

Results and Discussions. Our first research was held on March 21, 2021 from 15:10 to 15:20. In this case, all inspections were carried out at the same time. Analysis of the data obtained as a result of the test on voltage deviation and frequency change is presented in Figure 3.

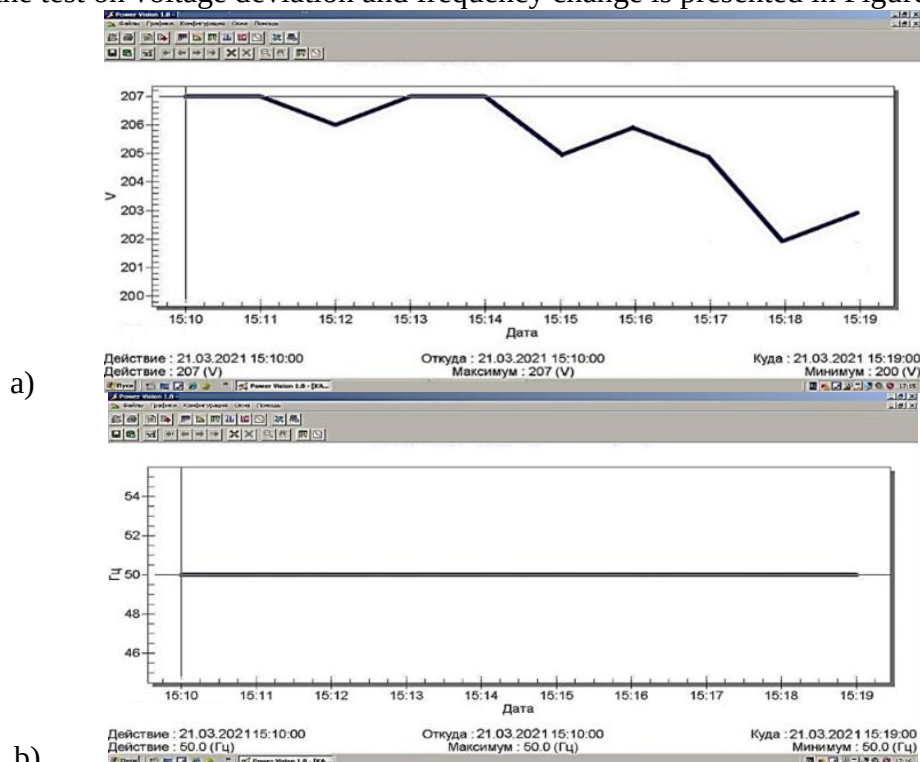


Figure 3. Voltage (a) and frequency change (b) between 15:10 and 15:20.

In the diagram above, the maximum voltage is 207 V, the minimum voltage is 202 V, and the average voltage is 205 V. This indicator is $\pm 10\%$ (198-242 V) variable voltage limit according to the international standard regulatory document. The voltage of 205 V determined during the research is fully compatible with the requirements of agricultural and water industry consumers. The frequency change value obtained from the test experiment was equal to 50 Hz and did not change. This indicator is also equal to the frequency of alternating voltage 50 Hz according to the international standard normative indicators.

In our second research, it was taken on May 17, 2021 from 14:10 to 14:25. The analysis of the data obtained as a result of the test on voltage deviation and frequency change is presented in Figure 4.



Figure 4. The analysis of the data obtained as a result of the test on voltage (a) deviation and frequency change (b) is presented

In the diagram above, the maximum voltage is 234 V, the minimum voltage is 226 V, and the average voltage is 230 V. The 230 V voltage determined during the research fully meets the requirements of agricultural and water industry consumers. On May 17, 2021, as a result of the test experiment, the frequency change value was equal to 50 Hz and did not change. This indicator also fully complies with international standard regulatory documents.

Our third research was conducted on June 22, 2021 from 17:10 to 17:19. The analysis of the data obtained as a result of the test on voltage deviation and frequency change is presented in Figure 5.

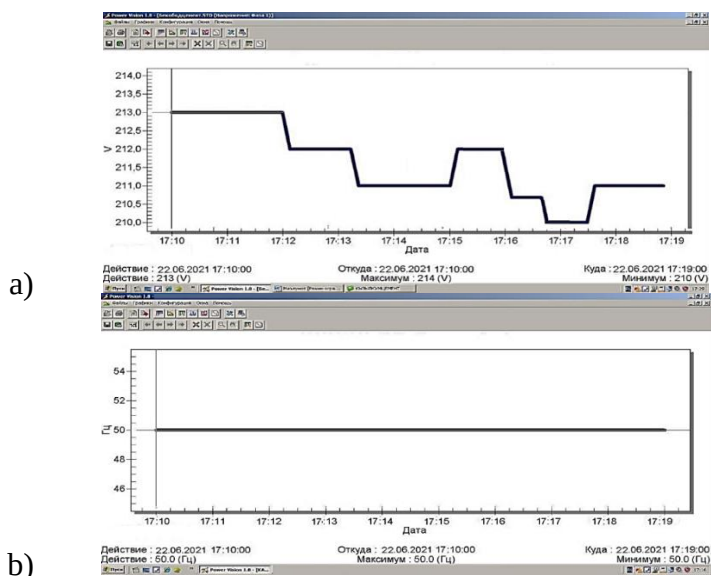


Figure 5. Voltage (a) and frequency change (b) between 17:10 and 17:20.

In the diagram above, the maximum voltage is 213 V, the minimum voltage is 210 V, and the average voltage is 212 V. The 212 Volt voltage determined during the research is fully compatible with the requirements of agricultural and water industry consumers. On June 22, 2021, as a result of the test experiment, the frequency change value was 50 Hz and did not change. This indicator also fully complies with international standard regulatory documents.

Conclusions. Summarizing the research results related to this work, we can draw the following conclusions:

Therefore, according to the results of the conducted scientific research, it was determined that the quality indicators of the electricity produced in the developed solar-hydro hybrid power plant fully meet the requirements of the normative document of the international standard.

A rational combination algorithm of renewable and traditional energy sources and a model for calculating their operating modes were developed.

The device, developed on the basis of technical solutions of solar and hydroelectric power stations, made it possible to ensure the continuity and reliability of the energy supply system by supplying high-quality electricity.

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Rezyume: Maqolada qishloq va suv xo'jaligi energiya ta'minotida yangilanish va qayta tiklanuvchi energiya manbalarining o'ziga xos kombinatsiyasini tanlash asosidagi quvvat va suv energiyasidan birgalikda foydalanish ko'rib chiqildi. Quyosh va suv energiyasidan samarali ham birgalikda foydali ishlab chiqarish optimal texnik echim ishlab chiqarilgan.

Резюме: В статье рассматривается комбинированное использование солнечной и водной энергии на основе выбора рационального сочетания традиционных и возобновляемых источников энергии в энергоснабжении сельского и водного хозяйства. Разработано оптимальное техническое решение для эффективного и комбинированного использования солнечной и водной энергии.

Kalit so'zlar: Quyosh, suv, qayta tiklanadigan energiya, kichik gidroelektrostantsiya, energiya issiqlik, chastota, kombinatsiya.

Ключевые слова: Солнце, вода, возобновляемая энергия, малая гидроэлектростанция, потребление энергии, частота, комбинация.

LINGUO-CULTURAL ANALYSIS OF THE FEATURES OF THE VERBAL EXPRESSION OF
THE POLITENESS UNITS IN FACEBOOK

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Summary: *This article describes the linguistic and cultural features of the linguistic expression of politeness units on Facebook. The role and importance of politeness in studying the global linguistic environment is discussed in depth. Linguistic analysis of whether a Facebook user reacts politely or impolitely to his speech.*

Keywords: *social networks, politeness, impoliteness, compliments, friends, strangers.*

Introduction. Social networks have gained a tremendous importance in communication within the last five years. Several distinct social network platforms have emerged, such as *YouTube* and *LinkedIn*, whereas others, such as *MySpace* have lost their influence on the market. However, one network seems to grow constantly with respect to its influence and its number of users.

Back in 2004, the Harvard undergraduate Mark founded *thefacebook.com* Zuckerberg. It was designed to connect Harvard University students to one another by means of a platform on which they could share personal information and be friends with fellow students. Due to its immediate success, *thefacebook.com* soon expanded to Stanford, Columbia and Yale University in the same year (cf. Facebook, 2012) [1]. In early 2005, US American and international school networks were added and later that year *Facebook*, the renamed version of *thefacebook.com*, counted more than 5.5 million active users. From that point onwards, it was only a matter of time that the network expanded its reach and was made available to people worldwide. By 2008, *Facebook* launched its website in 21 languages and increased its number of active users to more than 100 million.

As of November 2011, the network is available in 70 languages, has more than 800 million active users, an estimated net worth of US\$50 billion and employs more than 3,000 people around the world (Foster Web Marketing, 2011, para.1).

Facebook: A social network—definitions and characteristics. According to *Facebook's about*, the website “is a social utility that helps people. Communicate more efficiently with their friends, family and coworkers [...] in a trusted environment” (Facebook, 2012, para. 1). In other words, the main objective of a social network, such as *Facebook*, is the efficient communication with people whom the user knows. Whether the environment of *Facebook* can be trusted is a different question and will not be discussed here. Nevertheless, there are several other functions a social network can have. Boyd & Ellison (2007) offer a detailed definition of social networks: [2]

We define social network sites as web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system (Boyd & Ellison, 2007, p.2).

In other words, social network sites are a collection of private or public profiles of individual users, which contain a user has customized information in a restricted system, i.e. members can access information about other members only. Customized in this respect means that the user of a social network platform can decide which information they intend to share with social network friends or members of the social network that are not known to the user. The creation of lists of other users sharing a connection refers to the fact that they both know one another and are friends in a certain social network platform or they do not know one another and merely share a specific interest, e.g. they like the same brand.

Especially in the case of *Facebook*, this creates various different networks a user can belong to. Boyd & Ellison (2007) identify the sharing of these created social networks with other users as a unique trait of social network websites. However, this may be true to a certain degree only. Due to recent criticism on privacy settings of *Facebook*, the platform introduced *Friend Lists* that enable the user to ‘classify’ their *Facebook* friends into subgroups, i.e. users may create a list of family members, close friends, colleagues, etc. (cf. Ross, 2011). This feature helps users to share information only with selected users. These friend lists of subgroups can be either visible to other friends only, to friends and strangers or they can be completely invisible to users other than the owner of the profile. These lists help to distinguish between ‘real friends’ and ‘*Facebook* friends’ since most of the people who are befriended on *Facebook* are mere acquaintances or former school friends who do no longer belong to the circle of true friends of the respective user. Overall, it

has to be said that the more information about a user is freely available to other users, either friends or strangers, the more likely it is that new circles and networks to socialize are created (cf. Curran et al., 2011, p. 27). Köbler et al. (2010) summarize three major functions of established social networks, namely generating, sharing and combining information (Köbler et al., 2010, p. 1). In order to facilitate user-generated information sharing, *Facebook* embeds videos and pictures, enables users to 'comment' and 'like' information by other users (cf. p. 2). Furthermore, users can communicate via private messages, chat and status updates [3.,11].

Forms of (im)politeness in social media. Facebook users are given facilities that allow them to publish their opinions, photographs, or videos on their accounts to help them create good imagery of their online identities. Since the contents are shared publicly, their audiences or followers can see them. Audiences can react or provide feedback by giving a like or comment in addition to being visible. People's reactions in the form of comments are varied in meanings. Some show admiration or compliments, and some others exhibit dislikes criticism, disapproval, or even hatred depending on how they perceive the post. Giving comments to compliment the other is very common to be found on social media. It is a form of politeness in Facebook because it is less likely to cause conflicts since every human being would love to be praised and appreciated.

Ever since the early surge of politeness research epitomized by the work of Lakoff (1973), Brown and Levinson (1978, 1987) and Leech (1983, see also 2014), politeness research has been a solid and growing research field in pragmatics, discourse analysis and sociolinguistics and there is no sign of decline in interest [4].

While the early work on politeness combined a Gricean understanding of the creation of meaning with speech act analysis and was thus interested in pragmatic variation on the utterance level, the field has expanded considerably in the last decades. In earlier overviews, Locher (2014, 2018) reported on several areas of expansion, which can be subsumed in two blocks. The first cluster is about theoretical and methodological advancements, while the second cluster concerns the type and scope of data as well as the range of linguistic phenomena studied [5]. For comprehensive and recent overviews, the reader is referred to the Palgrave Handbook of Linguistic (im)politeness (Culpeper et al. 2017). In this brief introduction to the field, we can only highlight a number of pertinent issues.

Early research was particularly interested in discussing how mitigation achieves face protection of both the hearer and the speaker. This research typically worked on particular speech acts on the utterance level. As a consequence, mitigation was almost used synonymously with politeness. This was the case no matter whether the interactants themselves were thinking of their mitigation practices as acts of expressing politeness. In contrast, a lay understanding of politeness often associates politeness with prescribed rules in etiquette books, which include linguistic phenomena but also forms of comportment more generally, and is thus of a multi-modal nature and draws on different ideologies of proper comportment. This multi-modal aspect of politeness norms has been acknowledged by many scholars who include facial expression and gestures in their analysis (typically, qualitative discourse analysis and conversation analysis) and who are interested in uncovering the interplay between different norms, but multimodality has featured less in research that works with discourse production and completion tasks or corpus linguistics. Brown and Levinson define politeness using the concept of face, as reflected in the everyday expression to save/lose face. People constantly attempt to create certain impressions in others to appear smooth and competent in their performances, as well as to be perceived as appropriately responsive and supportive of others' performances. Related to these two notions of face, Brown and Levinson (1987[1978]) identified two kinds of politeness: positive and negative.

Positive politeness is redress directed to the addressee's positive face, his perennial desire that his wants (or the actions/acquisitions/values resulting from them) be thought of as desirable. Redress consists in partially satisfying that desire by communicating that one's own desires (or some of them) are, in some respects, similar to the addressee's desires [6].

Negative politeness is a redressive action addressed to the addressee's negative face, his demand to have his freedom of action unhindered and his attention unimpeded [7].

People, particularly women, have various factors to consider when responding to comments. First, they respond to comments stating that they are investigating the matter. People who value more personalized messages, such as a compliment posted directly to their Facebook page or in the comment section of their post, above a comment on a photo of a friend-of-a-friend in which they are tagged. Besides, the quality of the compliment also matters. Specific compliments are more likely to get a response than an ambiguous short message like "nice". People are more likely to respond to compliments from people they are close to with

longer comments, not just simple "like" or saying "thank you." In the term of politeness, people will respond immediately to their superiors without hindering because it will be considered as impolite if the response is too long (or withhold politeness according to Culpeper (1996), even though comments on social media is asynchronous in nature.

However, people's comments are not always in a positive tone. People in contrast often give harsh comments to others as well. Getting non-constructive criticism, being judged, and mocked are parts of unpleasant consequences living in cyberspace. It is possible because, on social media, people can make use of anonymity. They can hide behind the screen or protected/fake account, which is like wearing a mask so that they predict that they will have no issues when saying whatever they want to without considering further moral responsibilities. People can be very brave and bold on social media. They can say things and behave inappropriately that seem to be contradicted to real-life since they would not dare say and do the very same speech acts on a face-to-face basis. This is certainly an impolite behavior on Facebook because it can lead to conflict, which is why it is always very easy to descend into an argument with people on social media in the comment section. This is supported by the fact that according to a survey conducted by Vital Smarts in 2013, people are less polite online than they are in person and tensions that happen in social media often go unresolved so that they end up blocking, unsubscribing or unfriending' each other over an argument on social media.

Conclusion. As long as a language is not obsolete, language change is an ongoing process. Although virtual social networks or microblogging websites are platforms in which written language predominates, the language used to communicate on these websites is characterized more often by spoken than written features? To establish a personal and friendly atmosphere on social network pages, many companies try to speak to their 'fans' as if they would sit right next to one another talking about random things. The written-as-if-spoken mode of language on Facebook and other social platforms motivates people to react more personally and openly to their 'liked' pages than if the language would be highly formal.

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Rezyume: *Ushbu maqolada Facebook'dagi xushmuomalalik birliklarining lingvistik ifodalanishining lingvo-madaniy xususiyatlari bayon etilgan. Global lingvistik muhitni o'rganishda xushmuomalalikning o'rni va ahamiyati haqida chuqur muhokama qilinadi. Facebook foydalanuvchisi o'z nutqiga muloyimlik bilan yoki xushmuomila bo'lmagan munosabat bildirishini lingvistik o'rganib tahlili keltirilgan.*

Резюме: *В данной статье описаны лингвокультурологические особенности языкового выражения единиц вежливости в Facebook. Подробно обсуждается роль и значение вежливости в изучении мировой языковой среды. Лингвистический анализ того, вежливо или невежливо реагирует пользователь Facebook на его речь.*

Kalit so'zlar: *ijtimoiy tarmoqlar, xushmuomalalik, odobsizlik, maqtovlar, do'stlar, begonalar.*

Ключевые слова: *социальные сети, вежливость, невежливость, комплименты, друзья, незнакомые люди.*

SOME ANTHROPOGENIC CHANGES AND ECOLOGICAL STATE OF KARAKALPAK USTYURT

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Summary: *The article considers the natural-climatic and geological-hydrogeological conditions, from the point of view of the observed tension of the ecological situation in the Karakalpak Ustyurt. One of the important issues that are considered and subject to analysis and accounting during geological exploration and development of mineral deposits of the Karakalpak Ustyurt is the uneven study of the environment and groundwater. The purpose of the research was to study the state of climatic, geological, hydrogeological and environmental conditions for geoecological zoning of the territory. It is presented, the analysis of multidisciplinary information of natural-climatic and geological-hydrogeological conditions, for the appropriate use and further development of a regional strategy for sustainable development of the Karakalpak Ustyurt.*

Keywords: *geological and hydrogeological conditions, anthropogenic changes, plain area, natural landscape, chinks, canyons, tectonic dislocations, pollutant.*

Introduction. The complexity of natural and climatic conditions, the observed tension of the ecological situation in the Karakalpak Ustyurt, is explained by the intense influence of the reduction in the area of the Aral Sea, which leads to an increase in the area of desert ecosystems or is not subject to self-healing after man-made intervention. Insufficient and uneven study of the environment, subsoil and groundwater is far from a complete list of issues to be analysed and accounted for in the exploration and development of minerals of the Karakalpak Ustyurt. The purpose of the research was to study the state of climatic, geological, hydrogeological and ecological conditions of the territory of the Karakalpak Ustyurt for geoecological zoning of the territory of the Karakalpak Ustyurt. To achieve this goal, an information base has been systematized and generalized, allowing a retrospective analysis of the geoecological state of the Uzbek part of the Ustyurt plateau, comprehensive studies of the components of the surrounding geological environment – atmospheric air, soils, surface and groundwater, vegetation, wildlife, landscapes, and a cartographic database have been prepared.

On the Ustyurt plateau, within the contract territories, zoning is aimed at identifying objectively existing boundaries by environmental components, studying factors affecting their formation, differentiation and the nature of the relationship of geoecological conditions. The zoning was based on the degree of geoecological stability of the components of the natural environment. An important feature of the research is that it was conducted on the basis of generalization of already available materials and a modern field survey of the components of the natural environment. Of all the variety of natural factors that determine the state of the environment, landscapes, soils, vegetation and wildlife have in the area under consideration.

Discussion of the results. Most of the considered territory of the Karakalpak Ustyurt is located in areas where landscape zones coincide with tectonic structures. In general, it is a flat area with areas of ridge-hilly terrain. In the near-surface occurrence, there are Miocene rocks of Neogene-Quaternary deposits that fill large depressions in the relief of basins such as Barsakelmas, Assakeaudan. From a physical and geographical point of view, Karakalpak Ustyurt is an independent district, where Aeolian landforms, clay flat spaces, extensive dry depressions, dry channels of ancient and modern temporary watercourses are widespread. Quaternary deposits are widely developed on the surface in the depressions, and Neogene and Cretaceous deposits are on the plateau. Cretaceous deposits are exposed in outcrops – cliffs of chinks. According to landscape, climatic, soil and geobotanical conditions, Karakalpak Ustyurt can be divided into three districts.

Northern Ustyurt covers the northern part of the Karakalpak Ustyurt. Moreover, it is a gently

undulating plain with heights up to 150-200 m. The predominant type is the landscape of the Neogene plateau, which occupies up to 90% of the entire territory of the research area. They are characterised by depressions, with flat basins, sometimes with manifestations of landslides, fracturing, karst and suffusion. The central Ustyurt occupies the central, most lowered, part of the studied territory. The absolute marks of the territory range from 61 m at the bottom of the Barsakelmas basin to 150 m in the north. It is a closed, drainless salt-deflationary depression developed in Meso-Cenozoic rocks and filled with salt layers. In the north-west, there is a continuation of the depression in the form of a lake-accumulative plain composed of sandy deposits (Fig.1).

Southern Ustyurt occupies the territory to the south of the Karabaur ridge and the adjacent hill. The terrain is undulating-flat, dissected by runoff hollows. In the southern part of the Karakalpak Ustyurt there is a large Assakeaudan depression, from the north it is bounded by steep slopes that reach a height of 40-50 m. The vast bottom of the depression is characterised by a hollow wavy relief. Here, as in other depressions adjacent to Barsakelmes, semi-fixed bumpy sands with a height of 2-5 m, consisting of fine-grained particles and salt dust, fixed around shrubs and saxauls, are common [2,3].

In accordance with the structural features of the hydrogeological section, two hydrogeological floors are distinguished. The upper floor covers deposits of Quaternary and Miocene age. They form non-pressurized and weakly pressurized waters of the free water exchange zone with a mineralization of 1.8-10 g/l. The lower hydrogeological floor is associated with relatively isolated water-pressure complexes of Cretaceous, Jurassic and Permian-Triassic deposits.

Groundwater developed in Miocene sediments, as well as in a small part of Quaternary formations, having a close hydraulic connection with each other and form a single aquifer. They have a free mirror surface and are of the nature of groundwater. The area of their nutrition coincides with the area of distribution. In most cases, atmospheric precipitation is the main source of the formation of underground waters of Miocene formations. In the conditions of the Karakalpak Ustyurt, a small amount of precipitation (90-120 mm per year), a significant part of it goes to feed groundwater. This is facilitated by the high permeability of Quaternary sediments and Neogene sediments represented by fractured and quarried limestones and marls. Based on the common geological and geomorphological structure and conditions of formation, movement and discharge of groundwater within the Karakalpak Ustyurt, the selected groups of groundwater flows have a certain orientation due to the general bias of the regional water barrier. The geological and structural plan of the Karakalpak Ustyurt was mostly quite clearly reflected in the relief, groundwater moves from areas of maximum surface marks to areas with minimum marks.

Intensive infiltration of atmospheric precipitation, due to the high permeability of rocks, had a noticeable desalination effect on the groundwater of Miocene sediments. During this long period, due to repeated changes in the basis of groundwater drainage, the hydrodynamic conditions of the aquifer also changed. The basins of underground and surface runoff determine important features and boundary conditions of geochemical migration. In general, they can be considered as one of the main hydrogeological and geomorphological units, within which many important natural and anthropogenic factors and processes that determine the state of the geological environment are integrated.

Based on the above, the spatial relationship between the zonality of groundwater flows and landscapes is clearly determined within the Karakalpak Ustyurt [1-6]. Ecological zoning of landscapes and groundwater flows was carried out according to the system of assessment points. The evaluation criteria were arranged in the order of the expected reduction of the environmental effect of the zoned object. Where a maximum of 3 points is determined for the initial sections of the movement of ground flows within the watersheds, these are *ecologically less stressful areas*.

The slopes of groundwater flows are *more intense areas* within which geodynamic processes and mass transfer in the form of water-soluble substances, including groundwater pollutants, carried out - it is estimated as 2 points.

Within the confines of the drainless depressions, *the condition of groundwater is significantly deteriorating*, and therefore, these areas were evaluated at a minimum of one point.

According to the soil-geographical zoning, the territory of the Karakalpak Ustyurt belongs to the zone of deserts and semi-deserts. The following soil varieties are represented on the territory: gray-brown desert, takyr, takyr, gypsum soils, desert-sandy, desert salt marshes and salt marshes. Salinity and low humus content are characteristic features of the soils of the Karakalpak Ustyurt [12]. Ecological zoning of soils – the upper biogenic layer of the daytime surface, is necessary to predict the ecological situation and assess the consequences of man-made impacts. Soil zoning is based on generalized information about the stability of the soil cover to chemical pollution during geological exploration and industrial construction of linear structures - gas pipelines. When zoning soils, such parameters as granulometric composition, humus reserves, humus content in the upper horizon, the reaction of the soil environment (degree of acidity) the power of the upper horizon were taken into account. Indicators of soil acidity, redox potential, etc. which are functional and depend on the genesis of the breeds.

The content and reserves of humus in the soils of the Karakalpak Ustyurt are initially low, at the level of 0.3 1.0%, which entails instability of the main properties. Primarily the ability of soils to sorb and activate pollutants entering it (a pollutant is any natural or anthropogenic agent entering the surrounding geological environment in quantities exceeding background values and causing thereby polluting it). With a pronounced effect, the rate of humification processes and nitrogen accumulation are further reduced. The loss of humus is primarily associated with its natural mineralization, erosion processes, as well as with a violation of the structure of soil aggregates, for example, during the passage of machinery and the formation of a "puffy" in the rut or when the soil is "knocked out" during sheep grazing.

The functional parameter of soil stability is dynamic, changing in space and time. Variability is associated with climatic conditions: precipitation and temperature, as well as with the influence of internal factors. Soil acidity is an indicator that changes due to the release of carbon dioxide during the decomposition of organic residues and the functioning of biota, the course of chemical and biochemical reactions within the liquid and solid phases of the soil. The level of activity of the soil microbiota, mobility and availability of not only biophilic elements, but also heavy metals depend on the amount of soil acidity. In the soils of natural biogeocenoses of Ustyurt, under anthropogenic influence, a change in soil acidity is often observed, mainly in the direction of acidification. A sharply alkaline reaction is characteristic of the takyr crust – up to 9.5 pH, and the crust itself is usually not saline – the concentration of easily soluble salts is observed under it. Takyr are extremely poor in humus (0.2 0.5%) and easily digestible nutrients for plants, they periodically actively undergo the processes of silting and salting. The capacity of the bio-accumulative horizon (humus horizon) plays an essential role in the formation of soil stability. The humus horizon has an increased absorption capacity in relation to various kinds of pollutants, due to the formation of organomineral complexes. The horizon that plays the role of the first sorption-geochemical barrier on the path of pollutants. Having an increased moisture capacity, it reduces the level of leaching and migration of elements in the soil profile. The assessment of the level of soil stability in points was carried out according to the method of A.S. Fedorov et al. [3,10-12].

With the general vulnerability of desert soils to undesirable influences, the soil varieties of Karakalpak Ustyurt can be divided as follows: 1) gray-brown soils – moderate level of stability (20-15 points); 2) takyr and takyr soils – low level of stability (15-10 points); 3) salt marshes and cortical salt flats - very low level of stability (less than 10 points). Based on the information received, ecological zoning of the soils of the Karakalpak Ustyurt was carried out (Fig.1).

The area with very low soil stability is mainly confined to the lowering of the Barsakelmas in Central Ustyurt. In the rest of the territory under consideration, they are represented only in a limited way, within the Assakeaudan-Southern Ustyurt depression and in the extreme northwest of the Karakalpak Ustyurt. Salt marshes and cortical salt marshes and their variations are included in this category of lands. Mechanical disturbance of the salt crust can lead to a sharp activation of salt

removal and the development of secondary salinization and salinization processes, up to complete degradation of the soils of the adjacent territory.



Fig.1. Schematic geoecological zoning of the Karakalpak Ustyurt: 1 - very low level of stability (less than 10 points) 2 -low level of stability (15-10 points); 3 -moderate level of stability (20-15 points); 4 - water surface.

Areas with a low level of stability are mainly represented by takyr and takyr-like soils. Low humus content, unfavorable physico-chemical properties, low intensity of flow and incompleteness of soil processes with contrasting natural and climatic conditions worsen their ecological stability. Soil arrays with low ecological stability are noted in all landscape areas. Gray-brown desert soils and various variations of underdeveloped soils have moderate stability. The assignment of gray-brown soils to this category is due to their lack of negative properties, with the activation of which a sharp deterioration of the ecological situation is possible. They occur mainly in the southwestern and southeastern parts of the Karakalpak Ustyurt. A significant area of moderately stable soils was formed in the northwestern part of Central Ustyurt. The nature of plant communities is determined by natural and climatic factors: intense solar insolation and high summer temperatures, severe frosts combined with weak snow cover in winter, lack of moisture in the soil and air in summer and pronounced daily and annual temperature fluctuations [1-4]. The flora includes about 600 species of

higher vascular plants, the basis of which are hazy (20%): biyurgun, boyalych, keireuk, kyrgyzbugush, black saxaul, sarsazan. As the data of I.I. Granitov show, on the Karakalpak Ustyurt "there are plant species that are rare in Central Asia in general, known so far only in a few places, and the Khiva solyanka (*Salsola chivensis*) is an "Ustyurt endemic" [6-9]. Protected species are more than 30 species of rare and endemic plants. The modern fauna of the region includes 2 species of amphibians, about 35 species of reptiles, 200 species of birds, 44 species of mammals.

Conclusions. The current state of the biological resources of the territory under consideration, their high value, the presence of sites with the status of specially protected natural territories, as well as the presence of areas of growth or habitat of rare and protected species of flora and fauna. Additionally impose a number of environmental restrictions on the implementation of geological exploration and design and survey work. Zoning based on the analysis of multidisciplinary information is advisable to use for further development of a regional strategy for sustainable development of the Karakalpak Ustyurt. In particular, the analysis of the materials has already made it possible to prepare a number of measures to reduce and eliminate the negative impact on the unique ecosystems of the Karakalpak Ustyurt. Ecological zoning is the final part of ecological research and serves as a fundamental basis for making management decisions in the field of rational nature management.

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Резюме: В статье рассматриваются природно-климатические и геолого-гидрогеологические условия, с точки зрения наблюдающейся напряженностью экологической ситуации в Каракалпакском Устюрте. Один из важных вопросов, рассматривающих и подлежащий анализу и учёту при проведении геологоразведочных работ и освоении месторождений полезных ископаемых Каракалпакского Устюрта является неравномерная изученность окружающей среды и подземных вод. Целью исследований явилось изучение состояния климатических, геолого-гидрогеологических и экологических условий для

геоэкологического районирования территории. Она представлена на основе анализа многопрофильной информации природно-климатических и геолого-гидрогеологических условий, для целесообразного использования и дальнейшей выработки региональной стратегии устойчивого развития Каракалпакского Устьярта.

Rezyume: Maqolada Qoraqalpoq Ustyurtidagi ekologik vaziyatning kuzatilayotgan keskinligi nuqtai nazaridan tabiiy-iqlim va geologik-gidrogeologik sharoitlari ko'rib chiqilgan. Qoraqalpoq Ustyurtining foydali qazilma konlarini geologik o'rganish va o'zlashtirish jarayonida ko'rib chiqiladigan va tahlil qilinadigan va hisobga olinadigan muhim masalalardan biri bu atrof-muhit va yerosti suvlarini notekis o'rganishdir. Tadqiqotning maqsadi hududni geoekologik rayonlashtirish uchun iqlim, geologik, gidrogeologik va ekologik sharoitlarning holatini o'rganish edi. U Qoraqalpoq Ustyurtini barqaror rivojlantirishning mintaqaviy strategiyasidan foydalanish va yanada rivojlantirish uchun tabiiy-iqlim va geologik-gidrogeologik sharoitlarning ko'p tarmoqli ma'lumotlarini tahlil qilish asosida taqdim etilgan.

Kalit so'zlar: geologik va gidrogeologik sharoitlar, antropogen o'zgarishlar, tekislik hududi, tabiiy landshaft, chinklar, kanyonlar, tektonik dislokatsiyalar, ifloslantiruvchi moddalar.

Ключевые слова: геологические и гидрогеологические условия, антропогенные изменения, равнинная территория, природный ландшафт, трещины, каньоны, тектонические нарушения, загрязнитель.

**FEATURES OF THE MANIFESTATION OF PROCESSES AND PHENOMENA THAT
AFFECT THE SUBSURFACE WATERS OF THE ZONES OF ACTIVE WATER
EXCHANGE OF THE KARAKALPAK USTYURT**

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Summary. *In the article, the authors consider the area of the Karakalpak Ustyurt located on the second stage of the relief. Karakalpak Ustyurt, with its area and natural landscape, is a sagebrush-solyanka desert on the one hand and a clay-gravelly desert on the other, as well as towering over the surrounding plain to a height of one and a half to two hundred meters. Where the main types of processes are developed are due to the geological and structural features of the territory. The almost horizontal occurrence of surface rocks is associated with the shafts of Aktumsuk, Karabaur, where there is a relatively weak dissection of the relief. The authors have identified on the northern and southern slopes the dissection of relief with different stages of development of ravines, as well as positive and negative types and forms of relief corresponding to gentle anticlinal zones and deflections. Thus, the geological and hydrogeological processes and phenomena significantly affect the manifestation of the subsurface waters of the zones of active water exchange of the Karakalpak Ustyurt, the so-called karst valley - the northern slope of the Karabaur shaft is the area where takyr are widespread. And the Miocene carbonate stratum is a natural reservoir of subsurface groundwater of the free water exchange zone.*

Keywords: *takyr, podtakyr waters, karst valley, fracturing, natural landscape, chinks, canyons, tectonic dislocations.*

Introduction. In the western part of the Republic of Uzbekistan there is a unique plateau - the Karakalpak Ustyurt. As you know, it and the whole plateau with the adjacent territory is the bottom of the huge ancient Tethys Ocean, which existed more than fifty million years ago, which first turned into an inland sea (about two million years ago, when the waterway connecting the Black Caspian Sea dried up), and then finally dried up.

The study of aerial photography materials of the territory revealed strange lines, obviously of non-natural origin. All lines that form arrow-shaped signs (almost 1.5 km long) have a direction "strictly north".

The "arrows" are laid out of huge boulders (currently heavily destroyed by time), the height of the shafts does not exceed a meter. Also, ancient burial mounds, religious buildings, burials and numerous runic rock inscriptions have been found on the plateau. In short, in the research area, in addition to geological and hydrogeological processes, there are manifestations of engineering-geological processes related to human economic activity. The first thing that strikes the Karakalpak Ustyurt is its area, the natural landscape is a sagebrush-solyanka desert on the one hand and a clay-gravelly desert on the other, as well as towering over the surrounding plain to a height of one and a half to two hundred meters. In some places, the plateau turns into quite impressive gorges with vertical walls, and in other places it becomes mountain ranges, and chinks, canyons, tectonic dislocations are scattered all over Ustyurt, as if by someone's careless hand - almost inaccessible steep ledges up to three hundred meters high.

Somewhere the chinks represent lonely peaks, aspiring upwards, and somewhere a bizarre rock or a series of rocks, some of them resemble castles erected by someone a very long time ago, and where they are huge boulders made up in a chaotic manner on top of each other of an incredible shape (Fig. 1 and 2).

Based on the above, the purpose of the research was geological and hydrogeological processes and phenomena affecting the state of the sub-surface waters of the zones of active water exchange of the Karakalpak Ustyurt.



Fig. 1. Chink steep ledge in the Aktumsuk area



Fig. 2. Peredchinkovaya zone various forms of uncoated boulders made of shell limestone in the Aktumsuk area

Discussion of the results. The Karakalpak Ustyurt is located within the second stage of the desert relief, the main types of processes developed here are due to geological and structural features [1, 2]. Having the character of an almost horizontal occurrence composing the surface, the rocks are connected on the shafts (Aktumsuk, Karabaur, etc.) with relatively weak dissection, i.e. an almost flat surface is observed. Nevertheless, within the Karakalpak Ustyurt, the dissection of the relief (sharp ledges) and with various stages of development of ravines, as well as positive and negative types and forms of relief corresponding to gentle anticlinal zones and deflections are clearly distinguished on the northern and southern slopes (Fig. 3).

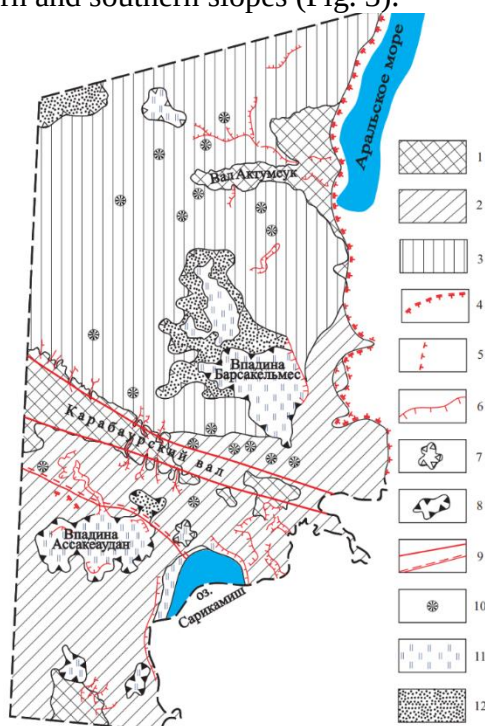


Fig. 3. Schematic map of the spread of geological and hydrogeological processes and phenomena (K.M.Daksymuratov, M.M.Zakirov, D.K.Begimkulov, G.E.Ochilov, 2022. based on personal research and foundation materials): 1 – fractured limestones and anhydrous marls; 2 -fractured karst marls and limestones; 3 -pore-fractured limestones and marls; 4 -chinks, areas of development of slope processes; 5 -chinks with steep slopes; 6 -ledges from 2-

10 m and areas of development of ravine formation; 7 -areas of internal evaporation of groundwater; 8 -underground water discharge sites; 9 -fault lines; 10 -takyr sites; 11 -salt marshes; 12 -sands.

In the north of the Karakalpak Ustyurt, there are drainless depressions of Sam, Karatyuli (in the area of Urdabai and Riapai wells), occupied mainly by sand massifs and salt marshes corresponding to the continuation of the shaft.

Aktumsuk. Deflationary processes are quite widespread in this territory and form, respectively, the same-named forms of relief. The length of the sand massif is about 6 km from southwest to northeast with a width of up to 4 km [1, 2]. Weakly anchored sands form ridge and cellular-ridge relief and a relative excess of up to 5-10 m. In all depressions, sand masses of smaller sizes are observed along the outskirts.

The northern slope of the shaft is everywhere covered with small incisions of temporary sais. Ravine formation of the second and third stages is observed dryly directed from the central part of the Aktumsuk shaft to the west, northwest, as well as on the northern slope of the Karabaur shaft. The slopes are relatively gentle. And cut through by temporary streams, forming ravines in places. On the sides of ravines under a small (0.5-1.5 m) thickness of quaternary sandy loam rocks with inclusions of small and medium poorly rounded limestone and marl gravel, deposits of the Sarmatian tier are observed represented by fractured, slightly carded limestones and loose marls. The sediment capacity is not opened. Physical weathering is observed to a depth of 1.5 m. The sides of the ravines have a vertical depression to the bottom. Intensive development of bottom and tank erosion is observed [1-5]. Along the sides of the ravines, fracturing, cavernous and in places karst cavities with traces of physical weathering are observed (Fig. 4.). The southern slope of the Karabaur shaft is characterized by steep reliefs, a wide spread of gully-beam systems with a depth of cuts from 10-15 to 30-35 m. In general, the southern and southeastern chinks of the Karakalpak Ustyurt have smaller ledges within 60-80 m. As well as a distinctive feature of the south, there is a sharp and dense dissection of the relief by temporary surface layers, forming a deeply embedded 10-15 rarely up to 20 m and a widely branched developing gully network, and ravines transformed into a beam network (Fig. 4).



Fig. 4. Processes of ravine formation on the southern slope of the Karabaursky shaft: a and b -processes of ravine formation; c -beam system.

The impact of various weathering agents, desert denudation, mainly surface and groundwater on the Chinka ledge, depending on geological and structural conditions, landslide and landslide processes are observed to develop over a considerable length, dividing the marginal parts of the Karakalpak Ustyurt into strips 2-2.5 km wide (Fig. 5). In these areas, the impression of mountainous relief is created, especially in the presence of large landslide blocks and huge boulders of Miocene rocks (Fig. 2). Such processes are facilitated by the height of chinks above the edge of the Aral Sea, reaching within 200-250 m.



Fig. 5. The development of landslide and landslide processes that dismembered the marginal parts of the Karakalpak Ustyurt chink into strips 2-2.5 km wide.

In the central part of the research area, it is characterized by the presence of approximately 5000 m² of the Barsakelmes drainage basin and in the southern part of the research area, Assakeaudan [6,7]. In these areas, the minimum relief marks are fixed: Barsakelmes -62; Assakeaudan - within 45 m. The bottom of which is filled with salt marsh, salts and in places arrays of sand. In this part of the district, territories with internal evaporation of groundwater are allocated. These are mainly territories with a sandy massif and a saline surface (Fig.3). They are mainly isolated along the outer border of the Barsakelmes and Assakeaudan depressions. These depressions are located in the central parts of the tectonic depression, and drainless basins such as Shakhpakhty, Aksaymak, Shordzha, etc. have a hydrogeological role for the water supply of geological exploration enterprises.

The formation of large relief forms and microrelief was the result of tectonics, depressions, surface leaching funnels, seepage funnels (steppe saucers), karst and suffusion processes, and subsequently deflationary processes took place. Analysis of previously conducted and in the process of conducting personal research has established the impact on geological and hydrogeological conditions. In the Karakalpak Ustyurt, the karstiness, cavernousness and fracturing of the deposits of the carbonate strata of the Sarmatian tier have been established. In addition, on the territory of the northern slope of the Karabaur, the karstiness, cavernousness and fracturing of the Miocene carbonate strata are widespread.

Thus, the geological and hydrogeological processes and phenomena significantly affect the manifestation of the subsurface waters of the zones of active water exchange of the Karakalpak Ustyurt, the so-called karst valley - the northern slope of the Karabaur shaft is the area where takyr are widespread. And the Miocene carbonate stratum is a natural reservoir of subsurface groundwater of the free water exchange zone.

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Rezyume: Maqolada mualliflar Qoraqalpoq Ustyurti relefining ikkinchi bosqichida joylashgan hududini ko'rib chiqadilar. Qoraqalpog'iston Ustyurti o'zining maydoni, tabiiy landshafti bilan ajralib turadi, bir tomonida shuvoq- solyankali cho'l, ikkinchi tomonida gil-shag'alli cho'l joylashgan bo'lib, atrofdagi tekislik bir yarim metrdan ikki yuz metrgacha ko'tarilgan. Jarayonlarning asosiy turlari hududning geologik va strukturaviy xususiyatlari bilan bog'liq. Tog' jinslarining deyarli gorizontal yotishi Aktumsuk, Karabaur vallari bilan bog'liq bo'lib, bu yerda relefining nisbatan zaif diseksiyasi mavjud. Mualliflar shimoliy va janubiy yon bag'irlarida jarliklar rivojlanishining turli bosqichlari bilan relefining disloksiyasini, shuningdek, antiklinal zonalar va burilishlarga mos keladigan relefining ijobiy va salbiy turlari va shakllarini aniqladilar. Shunday qilib, geologik va gidrogeologik jarayonlar va hodisalar karst vodiysi deb ataladigan Qoraqalpoq Ustyurtining faol suv almashinuvi zonalarining yer osti suvlarini namoyon bo'lishiga sezilarli ta'sir qiladi. Karabaur valining shimoliy yonbag'ri taqirlar keng tarqalgan hududdir. Bunda miotsen karbonat qatlami tog' jinslari erkin suv almashinuvi zonasining yer osti suvlariga tabiiy suv ombori bo'lib xizmat qiladi.

Резюме: В статье авторами рассмотрен район Каракалпакского Устюрта расположенный на второй ступени рельефа. Каракалпакский Устюрт - это своей площадью, природным ландшафтом представляет собой полынно-солянковую пустыню с одной стороны и глинисто-щебнистую пустыню с другой, а также возвышающуюся над окружающей равниной на высоту от полутора до двух сотен метров. Где развиты основных видов процессов обусловлены геолого-структурным особенностям территории. Почти горизонтальное залегание поверхностных горных пород связаны с валами Актымсуку, Карабаура, где относительно слабая расчлененность рельефа. Авторами выделены на северных и южных склонах расчлененность рельефа с различными стадиями развития оврагов, а также положительные и отрицательные типы и формы рельефа, соответствующие к пологим антиклинальным зонам и прогибам. Таким образом, геологические и гидрогеологические процессы и явления существенно влияют на проявление подтакрыных вод зон активного водообмена Каракалпакского Устюрта так называемая карстовая долина -северный склон вала Карабаур является тем участком, где широко распространены такыры. А карбонатная толща миоцена является естественным резервуаром подтакрыных подземных вод зоны свободного водообмена.

Kalit so'zlar: taqirlar, taqir osti suvlari, karst vodiysi, darslanish, tabiiy landshaft, chinklar, каньонлар, тектоник дислокациялар.

Ключевые слова: такыры, подтакрыные воды, карстовая долина, трециноватость, природный ландшафт, чинки, каньоны, тектонические дислокации.

PURIFICATION OF INDUSTRIAL GASES FROM DISPERSED PARTICLES

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Summary: This article presents the results of experimental and theoretical studies on the effective purification of dispersed-annular double-flow technical gases from gaseous and dispersed particles, hydrodynamics and mass transfer. The units are designed to reduce harmful emissions to the established acceptable threshold (PRE) with relatively low energy consumption.

Keywords: gas, dispersed phase, dispersion medium, carbon monoxide.

Enter. Purification of industrial gases from gaseous and dispersed particles due to worsening environmental problems has become a common national problem in the world and on the scale of our republic. In our republic, these problems are of great importance, and due to the lack of attention paid by nature drying enterprises, the level of pollution of nature and atmospheric environment is increasing.

Currently, 25 billion tons of carbon dioxide (including Russia - 1.6 billion tons) are released into the atmosphere every year. A document on climate change was adopted in the UN Convection Framework in 1997, and the Republic of Uzbekistan became a member of it in 1998. According to it, all developed countries and countries undergoing economic development (including Russia and Uzbekistan) will reduce emissions to the atmosphere by the year 2000, i.e., carbon dioxide, methane, nitrogen compounds, highly dispersed particles and other compounds, compounds causing the greenhouse effect in the 1990 index. , and by 2008, they have undertaken to further reduce it to 3-8% [1]. In Russia, in 2010, it was 92-96%, which is the same as in 1990.

The Kyoto Protocol was ratified in the Republic of Uzbekistan on October 12, 1999, and accordingly, it entered into force on February 16, 2005. According to the Kyoto Protocol, 6 types of waste gases are controlled: carbon monoxide (CO_2), methane (CH_4), nitrogen oxide (N_2O), hydrofluorocarbons (SF_2).

Based on this, North Shu'artan, Harmiston, Kumchuq and Shakarbulok fields are connected to one block in "Shortanneftgaz" UShK. A project on the disposal of satellite gases has been drawn up and a large amount of work has been carried out.

The greenhouse effect changes the composition of gases in the earth's atmosphere. As a result of increasing the concentration of gas in the atmosphere, it absorbs the "infrared" rays that enter the earth and retains part of the heat in the atmosphere, and in turn, this situation leads to global warming of the climate on the planet.

CO_2 are considered greenhouse gases (carbon dioxide, CO_2) and 80% due to it, and due to the effect of methane (CH_4) – about 20% of the greenhouse effect occurs, while the greenhouse effect of other gases has little effect on climate change. During the last decade, the amount of CO_2 in the earth's atmosphere has increased more than 3 times, and methane - 2.5 times more.

Today, economical use of industrial gases remains one of the problematic issues in global practice. 170 billion m³ of industrial gas is burned into the atmosphere every year. It is natural that such a situation causes great damage to the ecology and economy of mining countries (Table 1).

Table 1

The volume of industrial gas that is burned or released into the atmosphere
distribution by world regions

Regions	Volume, billion m ³ /year
North America	17
Central and South America	10

Africa	37
Near and Middle East	16
Asia	20
CIS	32
Europe	3
Total	135

Among the countries of the world, Nigeria and Russia have the highest share of waste gas burning. Due to the release of wastes due to the burning of flare gases into the atmosphere, there is a danger to human health, harmful substances are increasing in a very large amount, harmful metals in its content are causing various types of serious diseases.

If we take into account that 60 billion m³ of gas is produced in Uzbekistan for a year, 58.4% of it is sent for domestic use, 6.5% to underground storages, 12.5% to cycling process and 22.5% to export. If we consider that 3% of the total extracted gas is released into the atmosphere through flares, this value is a large indicator.

If we take into account that 1000 m³ of industrial gas emits 3 tons of carbon dioxide into the atmosphere, 1.5 bln. 4.5 million m³ of gas is burned tons of carbonic acid is released into the atmosphere.

This scientific article examines the issues related to the treatment of industrial gases of the hydrolysis industry enterprises, which are considered as sources of increasing environmental risk, i.e., they are associated with the problems of overcomplicating the environmental requirements for the network and a sharp increase in the size of the payments for emissions.

Accumulation of gases released into the atmosphere due to the lack of improvement of technological processes and equipment in the hydrolysis industry, the presence of various harmful gases in its composition, organic vapors, small dispersed droplets of liquid, solid particles of primary raw materials (dust), lignin, solids, soot, etc. will be available.

First of all, the cleanliness of the atmosphere is affected by emissions from the main production facilities:

- air produced from yeast containing sour carbon dioxide, nutrient medium and live microorganisms, heat carrier, dryer discharges containing water vapor and sizes 3-16 µm. particles of dry microorganisms;
- the ecological danger of disposal of hydrolysis devices, equipment and clarifiers is primarily related to the presence of furfural in the gas;
- the discharge of uncondensed gases from the rectification column contains methanol and a whole range of organic acids.

This includes the removal of boiler rooms and auxiliary units. For example, when the discharge volume of a limestone kiln is 30,000 m³/hour, it emits 2.5 tons of solid particles, 7.7 tons of nitrogen dioxide, 8.5 tons of sulfur dioxide, and 0.6 tons of carbon dioxide into the atmosphere every year. The amount of harmful emissions from the Krasnoyar Biochemical Plant alone is hundreds of tons per year.

The complexity of the organization of gas cleaning in the hydrolysis industry ends with the simultaneous maintenance of gaseous and dispersed (solid or liquid) components from the gas, as well as the optimal temperature of the process.

The implementation of the reduction of emissions to the limited permissible norm (ChREM) is related to the acceleration of new technologies and existing technological cleaning processes.

A comparative analysis of the main known cleaning methods (absorption, adsorption, catalytic and thermal) shows that the absorption (wet) method is the most necessary method in the implementation of complex gas cleaning.

A comparative analysis of the main characteristics of certain "wet" types of equipment (Table 2) shows that among them, high-speed Ventura, foam equipment, layered equipment and curtain tube equipment have the greatest efficiency.

The curtain devices between them work in the dispersed-ring mode. They have a number of additional advantages: these devices have the possibility of simultaneous cleaning of gaseous and

dispersed particles, it is possible to ensure the optimal temperature in the zone of contact phases, they work stably in gas and liquid over a wide range of loadings, they have small dimensions and their relatively simple structural equipment, for a long time provides contact (100 times greater than in venturi tubes).

In this case, scaling problems in curtain apparatuses are easily solved, and data obtained in individual tubes in laboratory and experimental-industrial conditions can be quickly transferred to industrial apparatuses. In addition, it is possible to easily organize several accelerated cleaning zones, import natural gas at the expense of the energy of the irrigated liquid, that is, transportation of contaminated gas is provided without additional mechanical equipment, and in practice the total energy costs are reduced.

In the tube curtain apparatus nozzles (Fig. 1), the gas contacts the liquid in the form of a curtain on the surface of the pipe and in the form of drops in the flow core.

The capture of gaseous components is provided by physical or chemical absorption, the increase in efficiency is achieved by increasing the mass transfer coefficient of liquid and gas turbulization, for example, by installing an artificial swirl on the membrane surface [2]. In addition, the twist provides a reciprocating movement of the fluid in the turbulent membrane and, at the same time, stabilizes its flow due to centrifugal forces, maintaining a stable membrane flow when the pipes deviate from verticality and in the deposits of membrane formations on the surface of the pipe.

Another way to effectively trap gaseous emissions is related to the creation of additional surfaces in the contact phases.

The main advantages of direct-flow centrifugal separators are the possibility of effective separation of a wide range of gas consumption and concentration of dispersed phase (solid or liquid aerosol particles) with relatively small hydraulic resistance, reliability and simplicity of structural equipment [3]. At approximately the same cost of energy, and the performance of direct flow centrifugal separators exceeds that of ordinary cyclones in terms of effective separation (especially when the particle size is smaller than 5–10 mkm) [4].

They are close to wet electric filters in terms of overall efficiency, and in terms of fractions - wet (wet) dust traps (particle size 0.5-1.0 mkm - or fiber filters [5]). In order to capture the particles smaller than 1 mkm, steam is introduced into it, their size is increased and it is cooled by giving a cold flow through the wall of the channel, and at the same time, it is condensed under the influence of centrifugal force in the dispersed ring mode, and the particles are deposited on the surface.

Table 2

The main indicators of the devices in the "wet" cleaning of gases

Indicators	Ventura pipeline	SP Type Hollow Scrubber	Foam hardware	Ball Nozzle Scrubber	Curtained - tubular (decreasing direct current)
Dimensions:					
height, m;	4.99	17.4;	8.8;	8.3;	4.8;
diameter, m;	2.8x1.9	0.9;	1.6;	1.2;	1.7;
mass, t	1.26	6.8	2.5	2.3	1.5
Pressure loss in the liquid transmission line, mm water us.	80 000	80 000	8 000	8 000	3 000
Hydraulic resistance, mm water us.	300 – 3000	100 – 220	100 – 350	100 – 500	10 – 350
Comparative energy costs, kWh/thousand m ³	2 – 4	0.99 – 1.7	0.6 – 2.8	0.6 – 2.82	0.23 – 2.12
Coefficient of mass transfer to liquid, m/s	(1–2.5)·10 ⁻⁴	10·5–10 ⁻⁴	(0.6–5.5)·10 ⁻²	(0.5–5)·10 ⁻²	(0.2–1)·10 ⁻¹
Velocity of the gas on the cross-section surface, m/s	1.4 – 7.7	5 – 9	0.9 – 4	6 – 15	1 – 30

Amount in concentration, g/l	< 0.5	–	–	< 10	–
The minimum diameter of the captured particle, mkm	1–3	5–10	2	1–6	1–3
Time of entering the contact zone, sec.	0.01	1.5–4	0.03	0.05	0.16–5
Efficiency, %: SO_2 according to according to NO_2 po dispersed particle	50 - 86 – 90–100	50 – 99	76 (ϕ_{top}) – 90	73 69 95	90 89 95–100

Explanation. The table shows the indicators of the device with gas consumption of 20,000 m³/hour and liquid consumption of 20 m³/hour.

A diagram of a direct-flow centrifugal separator that implements the condensation effect is presented in Figure 2 [6].

In the condensing centrifugal separator, the gas consists of highly dispersed aerosol particles, which enters the 3rd steam mixing chamber through the 1st nozzle and 2nd flow pipe, as a result of which the gas is saturated and the particles are enlarged approximately. Then, the vapor-gas mixture with aerosol particles enters the working chamber of the apparatus 4, passing through the twisting device 5 (spiral) and acquires a rotational movement.

To continue the expansion of the particles, they enter the space between the pipes of the apparatus, and in the channel of the working chamber, expansion takes place due to cooling with a refrigerant. At the same time, separation of enlarged particles occurs under the influence of centrifugal force. The formed liquid film (condensate) together with solid particles moves along the wall of the working chamber, enters the separation chamber through the annular channel and is discharged from the apparatus in the form of solids.

The gas enters the next stage of purification through the 2nd pipe. Purified gas is discharged from the apparatus through the 7th pipe. Depending on the initial size of the particles and the indicator of cleaning requirements, the apparatus consists of several stages, the number of working chambers in each stage is determined according to the consumption of gas.

Separation quality and hydraulic resistance of centrifugal separators depend on the diameter of the channel, speed and degree of twisting of the flow and, accordingly, on the structural equipment of the three main zones that ensure the formation of the twisting flow, separation and separation of the dispersed phase.

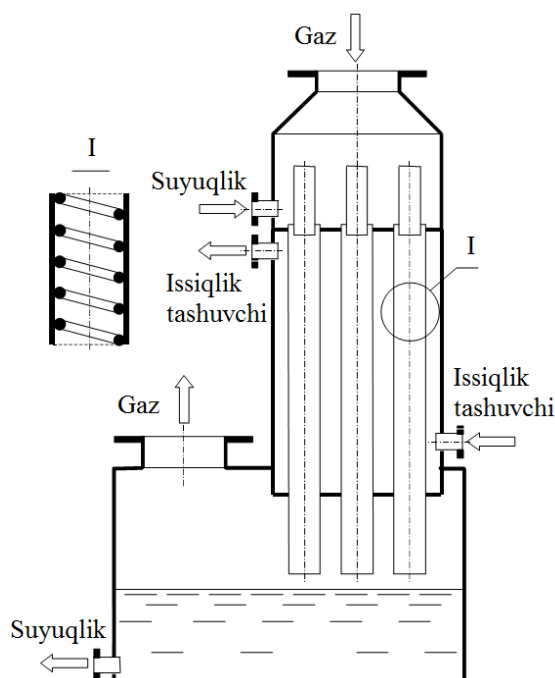


Figure 1. Scheme of the curtain apparatus

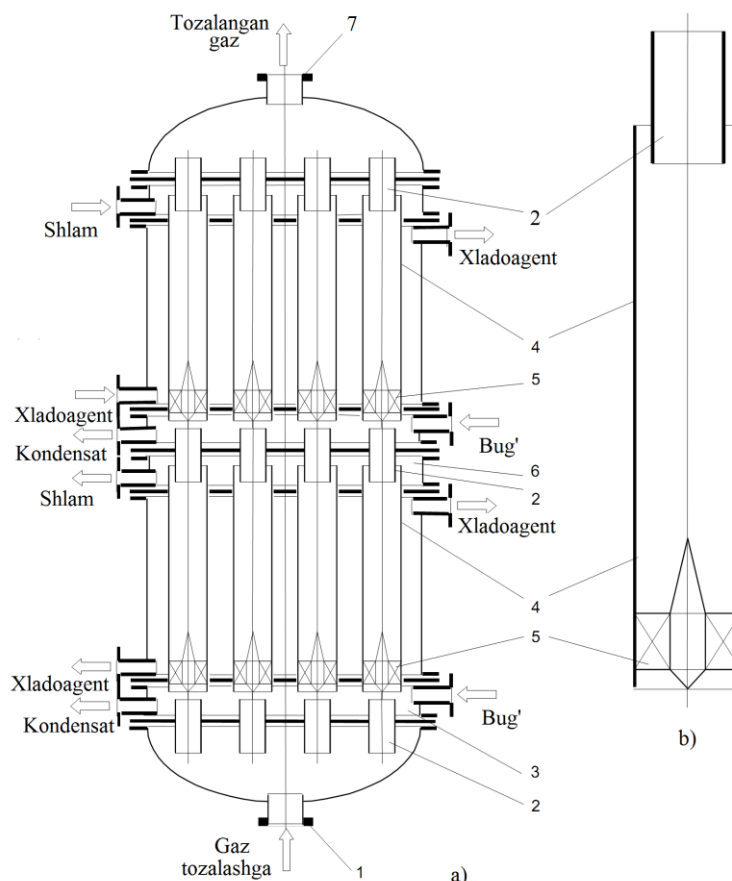


Figure 2. Scheme of two-stage condensing centrifugal separator (a) and working chamber (b): 1 – inlet pipe; 2 – flow-through (exhaust) nozzle; 3 – mixing chamber; 4 – working chamber; 5 – twisting device (roller); 6 – separation chamber; 7 – outlet pipe.

The diameter of the separator determines the performance indicator and the required effective separation (the diameter of the elements is 30-80 mm to ensure high efficiency). In practice, the velocity of the gas has the greatest effect on the rate of exit of the dispersed phase from the apparatus, and accordingly on the efficiency of the separation. Three main methods (or a combination of them) can be used to achieve gas flow compaction (twisting) [7]: tangential gas supply, use of axial compaction devices (shovel, band, screw, etc.) and rotation of the separator itself (not used in practice in separation processes) is achieved through.

The industrial application of devices operating in the dispersion ring mode is being held back due to the insufficient study of the processes carried out in them. The complexity of gas-liquid dispersed-annular axial turbulent or lumped flow modeling and the calculation of high-speed interphase interaction is primarily related to the overall motion and turbulent pulsation of the dispersed phase.

The traditional approach to the study of such a system is based on the fundamental laws of classical mechanics, fluid and gas mechanics, physical chemistry and thermodynamics. However, when modeling thermal or mass exchange processes and apparatuses with phase acceleration, it is necessary to take into account the non-uniformity of the structure of the flow, the uneven distribution of parameters, as well as deterministic probabilistic methods and models.

In the general case, it is necessary to take into account the following unexpected factors: the polydisperse composition of the dispersed phase (solid or liquid particles) and their change over time, the scotic characteristics of the movement and the penetration of particles into the device capacity at different times, the fluctuation of the relative speed of the phase (the state of being mixed and enriched with various particles) is taken into account.

Experimental part. In the investigation of the dispersed-annular regime in the curtain apparatus, the velocity of the gas on the cross-sectional surface of the pipe is measured using a

Pitot-Prandtl tube, and the temperature of the gas is measured using thermocouples. Research work was carried out on smooth and bumpy surfaces of pipes. The roughness of the twisted surfaces is created by means of 3 mm wires on the inner surface of the pipe with very small slits of 0.4-0.8 mm, the distance between the windings of the wires is 30 mm.

Liquid consumption is varied from 1 to 15 m³/hour, and gas velocity is varied from 6 to 50 m/sec. The average thickness of the liquid film was determined using the source shear method (continuous blocking). The minimum and maximum thickness of the membrane is determined by contact needles, and its free end is attached with a microcrew and a transparent capillary. The change of the pressure difference in the pipe during strong interaction is carried out in piezometric pipes, and the air consumption is determined by means of normal diaphragms.

The study of mass transfer to liquid was carried out on the example of isothermal absorption of a liquid layer from air [8]. Cleaning of gas emissions from NO₂ and SO₂ was carried out by pilot-industrial research chemical methods. Primary gas contains 10 to 18 mg/m³ of particulate matter, 23 to 73 mg/m³ of nitrogen dioxide NO₂ and 38 to 80 mg/m³ of sulfur dioxide SO₂ at 140°C.

In the study of effective separation of dispersed particles in the condensation mode, air dusting is carried out using artificial dispensers. Steam transmission to the device is carried out using electric steam generators. The temperature in the air, in the steam-gas mixture and in the refrigerant is measured using a thermocouple. Air pollution is monitored using an AZ-5M aerosol particle counter [9]. The separation efficiency of the dispersed phase is evaluated by the amount of condensate, and the overall dust removal efficiency - dry mass residues in the concentrate, fractionation - dry mass residues in paper filters of different sizes and with the help of the AZ-5M aerosol particle counter. In separate experiments, the results on the amount of particles retained after the tissue apparatus with filtering material FPP-15-1.7 of the FP type (Petryanov's filter) are monitored [10, 11].

In the laboratory experimental device, the dependence of the main parameters on the hydraulic resistance, the description of the heat exchange of the apparatus and the separation efficiency of the dispersed phase from the initial composition of the gas, the consumption of steam for mixing, the velocity and swirling velocity of the flow, the dispersion composition, the main parameters, the concentration of the dust and the change in its physicochemical properties were determined in the following intervals: initial air temperature – 20÷80 °C; initial air humidity – 40÷80%; volume consumption of air - 0.003÷0.03 m³/s; specific consumption of mixed steam - 0.01÷0.1 kg/kg; mass concentration of solid particles - 0÷0.005 kg/m³; temperature of refrigerant (initial) – 2÷10 °C; refrigerant consumption - 0.002÷0.02 kg/s. In the experiments, powders with a bulk density of 1000 to 2000 kg/m³ and a particle size of 0.1 to 10 mkm and different formations are used as the dispersed phase.

Discussion of results. *The hydrodynamic representation of the dispersed annular flow is carried out under complex conditions. Spraying on the surface of the curtain leads to the fact that the share of the liquid at a distance of 1.5-2.0 m reaches 20-80% compared to the total consumption in the dispersed phase, while the thickness of the curtain decreases and the structure of the wave on its surface changes.*

The pressure loss in tubular nozzles in the flow of the dispersed-annular mode of the apparatus is calculated by the following known relation:

$$\Delta P = \lambda \frac{\rho L (w - u_s)^n}{2(D - 2h_{or})} \quad (1)$$

(where ΔP - is the pressure loss; L - is the length of the pipe; ρ - is the gas density; w - is the average flow rate of the gas; $u_s = 1.15u_{parda}$ – surface velocity of the liquid film; u_{parda} – the average flow rate of the liquid curtain; h_{or} – the average thickness of the liquid film; D is the diameter of the pipe; λ - coefficient of hydraulic resistance; n - indicator of stages), problems arise in determining the coefficient of hydraulic resistance on the surface of the phase interval.

It is not correct in principle to rely on Lockcart-Martinell model [12], homogeneous flow [13], in determining the coefficient of hydraulic resistance in the dispersed-annular flow regime, as well as separate flows of the curtain, gas and liquid [14]. At the same time, the expression of the hydraulic resistance coefficient by the parameters of the waves on the surface of the curtain is an ineffective relationship [15, 16].

It is optimal to determine the coefficient of hydraulic resistance by the most commonly used methods of calculating the experimental values of the pressure gradient. It is established that the total value of the test voltage in the channel does not change along its length. The empirical relationship for the hydraulic smooth surface of the pipe in the calculation of the coefficient of hydraulic resistance at the phase intervals of the surfaces in the dispersion-ring mode is obtained in the following form:

$$\lambda = 6,5 \left(\text{Re}_0 \frac{u_{gat}}{w} \frac{\nu}{\nu_s} \right)^{-1,3} \text{Re}_{gat}^{1,24} \quad (2)$$

here Re_0 – is the relative Reynolds number of the gas: $\text{Re}_{gat} = 4\Gamma/\nu_s$ – Reynolds number of liquid film; ν and ν_s coefficients of kinematic viscosity of gas and liquid.

A similar equation is derived for pipes with a constant artificial diameter. The value of the coefficient of hydraulic resistance varies from 0.08 to 2, depending on the load of gas and liquid and the condition of the surface (surface) forming the curtain.

The velocity of the membrane is calculated through the average thickness of the liquid membrane, or it can be calculated according to the equations presented in the general work of [17] (other known equations do not take into account the removal of liquid from the surface of the membrane, which is especially important for the surface with artificial roughness at high gas loading leads to an increased value of the thickness of the curtain during the flow of the curtain according to).

The exponent of degree n in equation (1) varies from 1.4 to 1.8, depending on the concentration of the droplet in the core of the flow, in contrast to single-phase flow ($n = 2$). It is characterized by the quenching of the turbulent pulsation flow of dispersed particles as a partial "laminarization" state.

The coefficient of mass permeability in the cleaning of gaseous emissions in the curtain is $2 \cdot 10^{-3} - 5 \cdot 10^{-2}$ m/s, depending on the consumption of gas and liquid and the condition of the surface forming the curtain in the isothermal absorption of poorly soluble gases [8].

In the dispersed ring mode, the mass transfer at the greatest speed is achieved in the movement of the curtain on the lumped surface of large-scale undulations. In the nonisothermal process, the value of mass permeability decreases by 20–50% in the case of liquid evaporation from the membrane. The presence of a solvent surface-active substance, which reduces the surface attraction forces of the liquid, leads to a decrease in the coefficient of mass transfer by 10-30%.

Additional artificial separation (separation) of the liquid droplet from the surface of the curtain leads to an increase in absorption efficiency. It is determined that the presence of droplets in the dispersed ring flow (on the surface) is not taken into account in the current approaches that lead to the determination of the experimental value of the mass transfer coefficient, which leads to serious errors in a number of cases and does not provide an opportunity to establish the true value of the process parameters.

Separation efficiency research. A large number of theoretical and experimental studies of direct flow centrifugal separators show that the efficiency of centrifugal separation in general depends on the initial concentration of the dispersed phase, the flow rate, the design features and the main parameters of the separator, and the characteristics of the separation in terms of particle size. The performance of direct flow centrifugal separators is determined by the degree of removal of the dispersed phase by vapor or gas streams, as is the case with heat and mass transfer devices with various centrifugal separation elements. In some cases, extraction actually reduces the overall separation efficiency.

Without taking into account the secondary removal in the calculation equation of the efficiency of the retention of the gas flow with aerosol particles in the cylindrical channel in the state of lumped motion, the equation of the following form can be obtained (Fig. 3) [18]:

$$\lambda = 6,5 \left(\text{Re}_0 \frac{u_{qat}}{w} \frac{v}{v_s} \right)^{-1,3} \text{Re}_{qat}^{1,24}$$

$$\eta = 1 - \exp(-8tg^2\gamma \cdot St \cdot \bar{L}) \quad (3)$$

here $St = w_z \delta^2 \rho_d / (18\mu D) = w_z \tau / D$ – Stokes' criterion; $\tau = \delta^2 \rho_d / (18\mu D)$ particle velocity relaxation time [19], $\bar{L} = L/D$ – relative length of the separator channel; w_z – average exhaust gas velocity; δ – particle size; ρ_d – density of the dispersed phase; μ – coefficient of dynamic viscosity of gas; γ – angle of rotation of the current.

The complexity of the hydrodynamic processes in the turbulent swirling flow makes it difficult to solve the problems of centrifugation of dispersed particles, which is practically impossible when secondary entrainment is taken into account. For this purpose, experimental research data on the speed of removal of particles from the surface of the channel in turbulent flow can be used.

A view of the semi-empirical relationship obtained for the calculation of the separation efficiency of the analytical results of the centrifugal separation and secondary extraction processes:

$$\eta \approx \frac{1}{1 + \beta \frac{w_z \rho L}{\mu \cos^2 \gamma}} \left\{ 1 - \exp \left[- \left(1 + \beta \frac{w_z \rho L}{\mu \cos^2 \gamma} \right) \frac{\delta^2 \rho_d}{9\mu} \frac{w_z L}{D^2} tg^2 \gamma \right] \right\} \quad (4)$$

here $\alpha \approx 0,01$ – the fraction of particles that are captured from the surface of the channel by turbulent turbulence [20, 21]; $\beta = \alpha / (270 \cdot 75) \approx 4,94 \cdot 10^{-7}$ – coefficient.

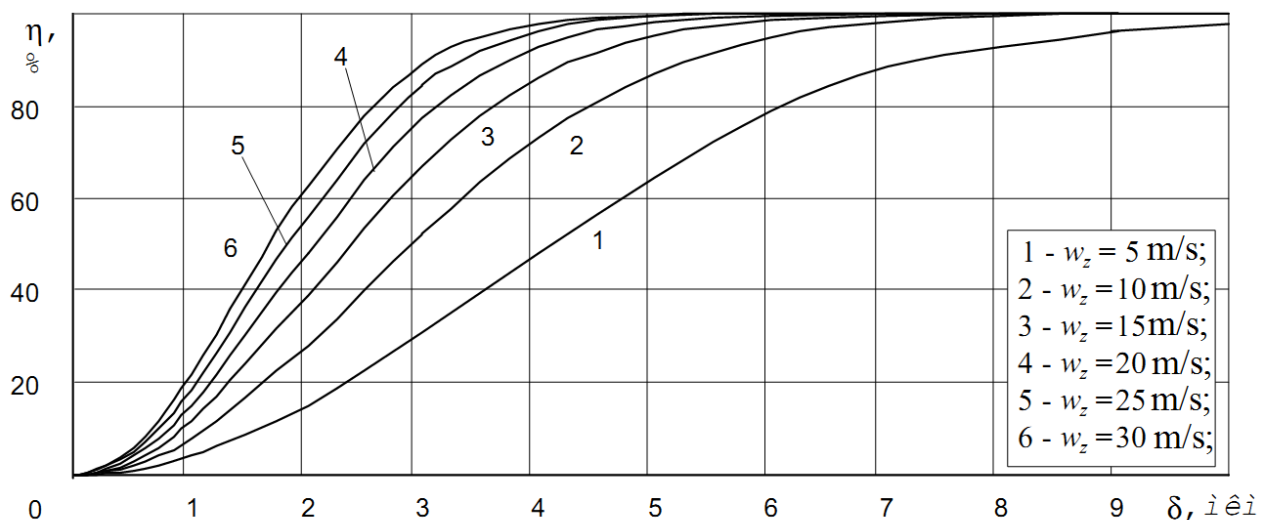


Figure 3: Calculated fractional efficiency of centrifugal separation without secondary extraction: 20°C of air-water, $D = 30$ mm, $L = 300$ mm, $\gamma =$ System when it is 45°.

Calculated relationship (4) corresponds to the data of experimental studies and shows the clear influence of structural and technological parameters on the efficiency of gas cleaning (Fig. 4).

In the case of condensation separation in centrifugal separators, the main mode in the flow of two-phase flow is the dispersed-annular mode, the liquid film along the wall of the channel and the accompanying flow of gas or vapor, suspended droplets and solid particles are observed.

The separation process is carried out in several main stages: vapor saturation of the aerodisperse flow, condensation enlargement of the particles, separation of the dispersed phase.

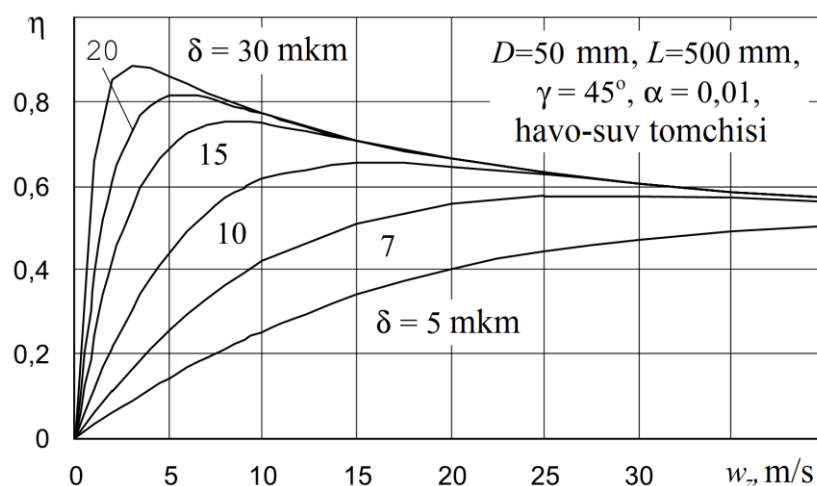


Figure 4. A graph of the calculated dependence of the separation efficiency on the flow rate when taking into account the secondary removal.

In a vapor-gas mixture, aerosol particles play the role of active centers of condensation, upon reaching suitable conditions at the beginning of the process, a separate condensation nucleus is first formed on their surface (small droplets of a new phase), and then a single liquid layer continues to increase in thickness, causing the particles to become larger and heavier.

In this case, wetting and solubility of primary particles do not play any practical role, and condensation actually occurs on the surface of the liquid layer.

Steady-state condensation rate and droplet diameter (at constant temperature and pressure) and actual steam can be calculated from Maxwell's equation. When cooling a vapor-gas mixture moving over a very cold surface, heat transfer occurs through the boundary thickness of the adjacent gas, followed by condensation. If there is a mixture in the dispersed phase (liquid or solid aerosol particles), then condensation occurs not only on the surface, but also on the surface of the channel and on the particles.

The ratio between the mass of the condensate formed on the particles and on the cooling surface of the channel depends on the supersaturation and concentration in the mixture of the dispersed phase. A large amount of condensation in the center of the flow condenses a very large amount of vapor relative to the wall of the channel [22]. At a particle number concentration of 10^8 m^{-3} , a total of 99% condensate is formed.

Calculations and experimental studies show that, under normal conditions, condensation enlargement can increase the size of particles from 1 to 10-15 mkμm. The final size of the particle is determined to a large extent by the magnitude of the heat flux surface density, and is weakly dependent on the velocity and initial size when the gas velocity is greater than 30 m/sec and the number concentration is greater than 10^{12} m^{-3} , which means that the volume of the condensate in each particle formed is the size of the particle itself. will be larger than the initial size. Condensation enlargement of particles in a steam-gas stream is desirable to carry out at a relatively low concentration of the dispersed phase (up to 10^{12} m^{-3}), high heat load, and low flow speeds (up to 30 m/s). At very high concentrations, it is not possible to carry out significant enlargement in each particle of the liquid phase of a small volume. Increasing the flow rate leads to an increase in energy consumption when the final particle size is not large enough to carry out the process.

In a condensing centrifugal separator, the mechanism of transferring particles to the walls of the channel is the same as in other direct flow centrifugal separators, so the basic law of the process is also similar.

In the general case, the axial component of the flow velocity is experimentally determined to decrease the overall separation efficiency of the liquid phase, and the tangential one increases it, but its excessive increase can cause the separation of the liquid film from the seating surface and its removal in the secondary state. In fully inflow or outflow torsional (clumping) two-phase flow motion, the allowable loading on the gas and liquid differs over a wide range (compared to the

axis), where the spray determines the full velocity of the gas at the boundary of the phase separation.

Figure 5 presents an experimental graph showing the dependence of the spray size on the average axial velocity at different values of twist angles of the steam gas flow. For each curvature, the output corresponds to the optimal flow rate at which it is minimal.

Its value depends on the turning angle and the variation of the parameters in the studied intervals is from 14 to 22 m/s. It lies in the limit, which completely corresponds to the normal values of centrifugal separators, that is, the highest degree of clearance (minimum removal, respectively) $\rho_g w^2$ value of 150 to 600 kg/(m·s²) and the gas speed is from 10 to 20 m/s (when the diameter of the cyclone is from 200 mm to 50 m/s).

Disperse phase does not have time to separate at low speed, and at high speed the secondary removal increases - at the boundary of the separation phases due to the increase of the full speed of the flow, the condensate film is broken. In practice, at optimal values of high speed (greater than 30-40 m/sec.), the amount of entrainment practically does not depend on the angle of rotation of the flow, that is, it can be seen that in the turbulent pulsation of the gas, the curtain is completely broken.

The separation efficiency of the dispersed phase at the value of the angle of rotation in the range of optimal speeds of the studied flow is 97.5 to 99.5 %.

The value of the minimum consumption of steam for mixing, which ensures the capture of aerosol particles, depends on its initial concentration and the temperature and humidity of the gas to be cleaned. The minimum consumption of steam is from 10^8 to 10^{12} m⁻³ in concentration, at gas temperature from 20 to 80 °C and humidity from 40 to 80%, consumption is from 20 to ÷50 g/kg. Increasing the steam consumption to a very high minimum has practically no effect on efficiency.

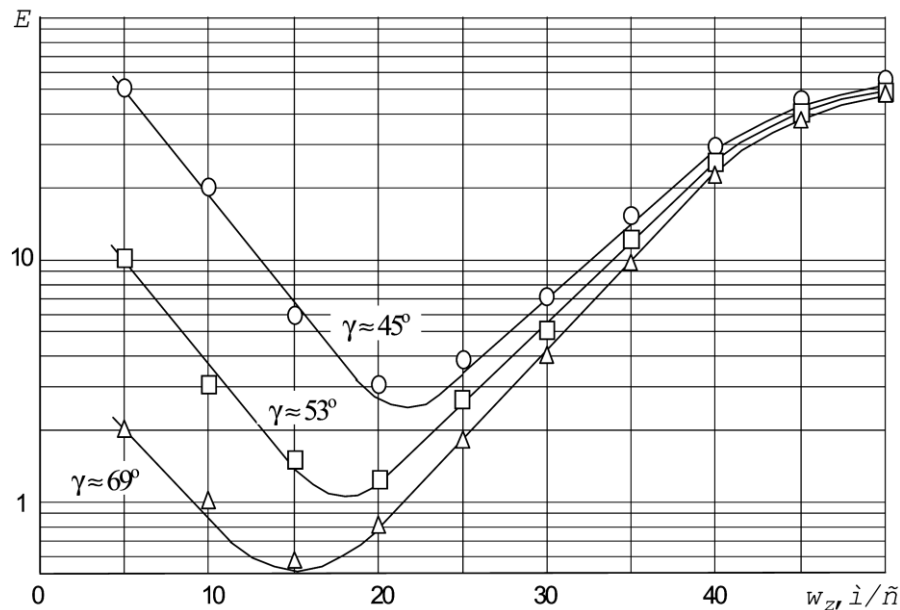


Figure 5. Dependence of the displacement of the dispersed phase on the axial velocity and the angle of the twisting flow: M-1 quartz powder at an ambient temperature of 80°C; particle concentration 10^{10} m⁻³; particle diameter 0.1÷5.0 mkm; the temperature of the cooling agent is 10 °C; specific consumption of steam is 0.1 kg/kg.

In optimal operating modes, the dispersed composition of the powder in the powder practically corresponds to the dispersed composition of the primary powder (independent of density and wettability). Thus, the efficiency of trapping particles with a size of 0.1 to 10 μm in a condensing centrifugal separator at a concentration of 10^8 to 10^{12} m⁻³ does not depend on their primary diameter, which is confirmed by the conclusion of the theoretical analysis. In direct flow centrifugal separators with particle sizes of 5÷10 mkm, retention is 95÷100 % even without condensation enlargement [23]. Thus, even the small diameter particles of the condensing

centrifugal separator are completely captured, and the fractionation efficiency of the separation limits the size of the spray-removal in the exceptional case.

Experience - industrial testing. Experiment - characteristics of the results of industrial research. Table 3 shows the data on the treatment of gaseous effluents in the limestone furnace of the biochemical plant with the height of the curtain apparatus with 3 mm twisting and the gas velocity is 10 m/s. It was found that changing the concentration of lime in water in the range of 20 to 100 g/l has no practical effect on the efficiency of gas cleaning. In case of a relatively small gas velocity, the efficiency of cleaning of gaseous mixtures was achieved even with a low pressure of the industrial ventilator (up to 100 mm. of water per hour), which provided the marginal permissible emissions (ChRET). Even when the liquid is artificially sprayed (sprayed), the dust retention efficiency has increased to 96%.

Based on the received data, an industrial curtain pipe apparatus with a performance of 20,000 m³/hour was calculated. The consumption of lime was 4 kg/h, the relative energy cost was 0.5 kWh/thousand m³. The curtain pipe apparatus and technological scheme developed for the cleaning of gaseous wastes from the limestone kiln at "Krasnoyar BKZ" JSC enabled ChRET to be installed at very low energy costs and to reduce harmful wastes.

The study of the effective retention of aerosol particles in a condensing centrifugal separator was carried out in the pilot-industrial experimental production of the All-Union Scientific Research Institute for the Designation of Technological Antibiotics and Medicinal Enzymes (VNITIAF, St. Petersburg). Trials were conducted in the production of inosine and actinomycete antibiotics.

Cultivated aeration fluid is used in crop cultivation processes and air purified from microbes is used in production fermentation. After the air is fermented (fermented) in the volume of 0.5 m³, it has a substance content of about 10 mg/m³, belonging to the first category of damage - mainly individual bacteria and their accumulation in sizes from 0.1 to 10 mkm. When it gets into the environment, it causes unpleasant effects such as various types of allergic and poisoning in the human body. In order to protect the environment, a single-chamber two-stage condensation centrifugal aerator with a working chamber diameter of 30 mm and a length of 250 mm is installed to clean the technological air leaving the fermenter. The consumption of air during drying was 350 to 450 l/min (0.0058÷0.0075 m³/s) at a temperature of 30±1 °C. The amount of steam is given up to 0.1 kg/kg from the steam network of the sex. Water with a temperature of 2 to 15 °C was used as a cooling agent.

As a screwing device, six-thread, screw (screw) pitch 96 mm (twisting angle 45°) were used. The numerical concentration of aerosol particles (bacteria) was determined by the number of columns before and after the separator in the gas test, after the release of the gas (medicinal substance) the formation of a saturation environment and for 24-72 hours it was kept under favorable conditions according to the VNITIAF methodology.

Table 3

Results of an experimental study

The name of pointers	Until it clears	After cleaning	Efficiency, %
Dust concentration, mg/m ³	19	7	63.2
NO ₂ concentration, mg/m ³	29	3	89.7
SO ₂ concentration, mg/m ³	80	8	90.0

The test was carried out under optimal conditions for the operation of the devices, and the parameters were found in laboratory studies. Steam transfer was carried out according to three schemes - only to the first stage, only to the second stage and equal amounts to both stages. The instability of the concentration of the dispersed phase in the gas made it difficult to reproduce the results of the experiments.

Table 4 shows the dependence of the separation efficiency of the dispersed phase on consumption and steam transfer schemes. It can be seen from the table that when passing steam to

both stages in the amount of 50–100 g/kg, the condensing centrifugal separator provides the gas with a high index of aerosol particles, with a steam consumption of 100 g/kg, complete purification is achieved.

Thus, the pilot-industrial test has confirmed the possibility of using condensing centrifugal separators in the purification of process gases and industrial wastes with a small content of mechanical mixtures from highly dispersed aerosol particles and achieving high efficiency.

Table 4

Experience - the results of industrial testing

Transmission scheme	Specific consumption of steam, g/kg		
	20	50	100
	Separation efficiency, %		
First step	30 – 50	50 – 80	70 – 100
The second step	0 – 30	20 – 50	40 – 80
Two steps together	40 – 80	80 – 100	100

Conclusions

1. Based on a comprehensive study of gas purification methods, the use of curtain and centrifugal condensing devices that implement the dispersed-ring mode interacting with phases for the simultaneous capture of gaseous and dispersed particles is considered the most effective.

2. The developed devices provide high efficiency cleaning of gas from dispersed and gaseous emissions and provide the opportunity to practically clean the atmosphere.

3. The results obtained in the conducted research and industrial testing show the prospects of using the developed approaches in the improvement of the gas cleaning process.

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Rezyume: Ushbu maqolada dispers – halqali ikki oqimli sanoat gazlarini gazsimon va dispers zarrachalardan samarali tozalash, gidrodinamika va massa almashishning eksperimental va nazariy tadqiqotlarining natijalari keltirilgan. Apparatlar ishlab chiqilgan bo‘lib, nisbiy katta bo‘lmagan energetik xarajatlarda o‘rnatilgan chegaraviy ruxsat etilgan (ChRET) zararli tashlanmalarni pasaytirish imkoniyatini beradi.

Резюме: В данной статье представлены результаты экспериментальных и теоретических исследований по эффективной очистке дисперсно-кольцевых двухпоточных технических газов от газообразных и дисперсных частиц, гидродинамики и массообмена. Установки предназначены для снижения вредных выбросов до установленного порога допустимого (ЧРЭТ) при относительно небольших энергозатратах.

Kalit so‘zlar: gaz, dispers faza, dispers muhit, uglerod oksidi.

Ключевые слова: газ, дисперсная фаза, дисперсионная среда, окись углерода.

METHOD FOR DETERMINING THE TIME OF DISTRIBUTION OF A GROUP OF WAGONS ALONG STATION TRACKS IN ACCORDANCE WITH THE REQUIREMENTS OF CARGO FACILITIES

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Summary: As is known, before a group of wagons is delivered to cargo facilities, they need to be assembled on station tracks in a certain order. This article presents a method for determining the time spent on the process of distributing the wagons of a freight train taken to a railway station along station tracks in accordance with the requirements of freight facilities. According to the mathematical theory of combinatorics, the number of options for group layout was revealed. The sequence of the arrangement of the groups of wagons is determined by random selection of an option.

Keywords: Shunting locomotive, group of wagons, half-run, distribution of wagons, mathematical theory of combinatorics, random sampling.

Introduction

The local work of the station includes loading and unloading operations, the formation and disbanding of groups of loaded and empty wagons, sorting the groups of wagons according to the requirements of cargo facilities, ensuring the supply and cleaning of wagons on the sidings to perform loading and unloading operations. Loading and unloading operations at industrial railway stations are the bases of the local work of the station. Local wagons are the wagons that are loaded, unloaded, sorted, and reloaded at the station itself. Processing of local wagons and carrying out cargo operations with them is conducted at the freight yard or on sidings [1-2].

One of the main problems at railway stations is the execution of shunting operations on the station tracks in the shortest possible time for the assembly of wagons to be delivered to cargo facilities in accordance with their requirements. To do this, it is necessary to safely and at the shortest time perform shunting half-runs with a group of wagons arriving at the address of cargo facilities.

Analysis of literature sources and methods

As a result of research on shunting operations, a number of scientific results were achieved worldwide. In particular, the fuel injection systems of shunting diesel locomotives were modernized; systems for increasing the throughput of automobile and industrial railways were improved; locomotives were introduced to deliver wagons to freight facilities; traction units for pushing wagons to a warehouse or a conveyor belt during loading and unloading operations, were developed, and solar energy systems were created to reduce the energy consumption of shunting locomotives [3-7].

A number of scientific studies were conducted to determine the time spent on the accumulation and supply of a group of wagons according to the requirements of cargo facilities at main and industrial railway stations [1, 8-9]. However, when performing operations at time when the shunting diesel locomotive is busy, the procedure for determining the parking duration was not determined in detail.

Based on the location of the freight facilities, it is necessary to assemble a group of wagons on the station tracks in accordance with the requirements of the freight facilities before transferring the train to the freight facilities at the station. The group of train wagons that arrive at the station is distributed along the station tracks by a shunting diesel locomotive in accordance with the requirements of the freight economy.

Options for arrangement groups of wagons entering the station are subject to the mathematical theory of combinatorics [11-12]. According to the mathematical theory of combinatorics, the number of options for arrangement groups obeys the following law:

$$A = n! \quad (1)$$

here respectively n – is the number of groups of wagons in the train, group;
 A – is the number of carriage group layouts in the order of the group sequence.

In the example of station “Z”, equipped with an electrical centering system, Fig. 1 shows the procedure for regulating the operating time of a shunting diesel locomotive during technological operations when distributing wagons of a train arriving from Station “M” to this station based on the requirements of cargo facilities.

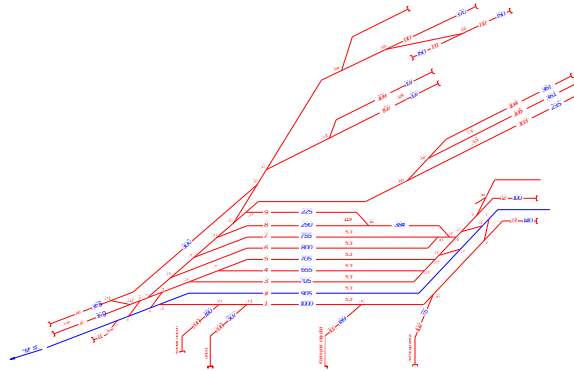


Figure 1. Scheme of station “Z”.

Initial information: a train from station “M” arriving at the main track of station Z, equipped with an electrical centering system, consists of 45 different groups of wagons. 7 tank wagons with sulfuric acid on track 1 of the station, 5 covered wagons and 5 gondola wagons on track 6, 10 empty wagons, 10 empty mineral hoppers wagons on track 5, 12 mineral hoppers with phosphorus concentrate on track 7, 6 box wagons with potassium chlorite on track 4 will be distributed according to the needs of cargo facilities.

For the distribution of a group of wagons along the station tracks in accordance with the requirements of cargo facilities, the sequence of their location is of great importance. A 45 wagons train arriving at station “Z” from station “M” consists of 5 different groups of wagons, each group of wagons must go to one cargo object. A group of wagons in a train can be arranged in 120 different ways according to formula (1). Therefore, in order to calculate the duration of technological operations performed by a given train when it arrives at station “Z”, it is necessary to determine a random order for car grouping. According to the mathematical theory of combinatorics, options for the arrangement of a group of wagons in a sequence of groups are chosen randomly. Consider option with random number 57, shown in Figure 2 [11].

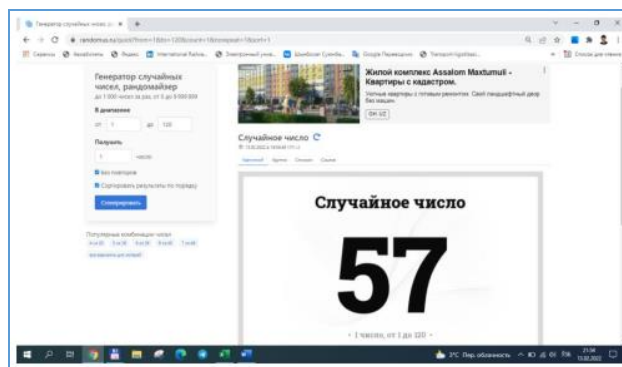


Figure 2. Results of choosing a random number from 120 possible options

The sequence of placing groups of wagons of the train arriving from railway station “M” to station “Z” is determined by the combination 3-2-4-1-5. The procedure for determining the deadline for the distribution of wagons of a train that arrived at station “Z” in the sequence determined by this combination on the station tracks in accordance with the requirements of cargo objects is carried out for an arbitrarily chosen option 57.

When distributing groups of wagons along the tracks of station “Z”, based on the needs of cargo facilities, the duration of the shunting diesel locomotive is determined by dividing time by 2 intervals.

- Time of a shunting diesel locomotive operation, min;
- Time to perform additional operations with the shunting structure, min.

The time of a shunting diesel locomotive for moving a group of wagons over a certain distance is determined by the following formula in accordance with its mileage and the requirements of regulatory documents [10].

$$T_{mov} = (0,0407 + 0,0017 \cdot m_v) \cdot \frac{v}{2} + \frac{0,06l_{mov}}{v}, \text{ minutes} \quad (2)$$

here respectively m_v – is the specified walking speed of the shunting locomotive, km/h;
 v – is the specified walking speed of the shunting locomotive, km/h;
 l_{mov} – is the distance of movement of the shunting locomotive, m.

Results and discussion

When distributing a group of wagons along the designated tracks of the station in accordance with the requirements of cargo facilities, preparing a route, receiving instructions to start shunting work, drawing up a report on the completion of shunting work, disconnecting a group of wagons from formation, using brake shoes to fix wagons that have separated from the line - all these additional steps take a certain amount of time to complete them.

The procedure for determining the duration of time spent on the implementation of the above additional actions is presented in detail in the studies given in [9-11].

At station “Z”, a train of 45 wagons is carried by a shunting locomotive; this action includes a sequence of operations, such as bringing the shunting locomotive to the designated track of the station, leaving the assigned wagons on the station track, and bringing the remaining group of wagons to the main track II. Cargo objects are assembled on the station tracks upon request.

The combination of the sequence of arrangement of a group of wagons in the train, delivered to station “Z” according to option 57, is shown in Fig. 3; each group of wagons is marked with the number of the track for which it is intended. The combination 3-2-4-1-5 was replaced with track numbers.

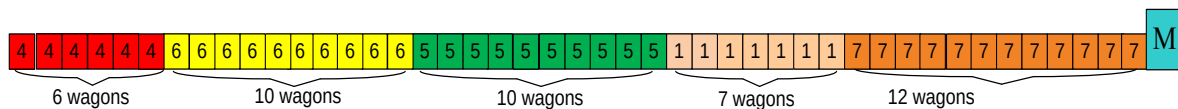


Figure 2. Shunting train of wagons assembled on the tracks of station "Z"

When distributing 45 groups of wagons of a train that arrived from station “M” to the tracks of station “Z” in the order indicated in Figure 3, at the request of cargo objects, 2 shunting gondola wagons with a group of wagons, belonging to each cargo object, will make a run.

1st maneuver-half-run consists in bringing the contents from the main track II to the station track reserved for a certain cargo object.

2nd maneuver-half-run consists of the allocation of wagons belonging to a certain cargo facility to the station track intended for a certain freight facility and the shunting of the remaining group of wagons to the main track II.

This process continues until the group of wagons in the train is distributed in accordance with the needs of all given cargo objects, as shown in Fig. 4.

Based on the requirements of cargo facilities, the time of movement of a shunting diesel locomotive when distributing a group of wagons on station tracks was determined by formula (2) based on the length of the shunting half-run, the given shunting speed and the number of wagons in the shunting operation.

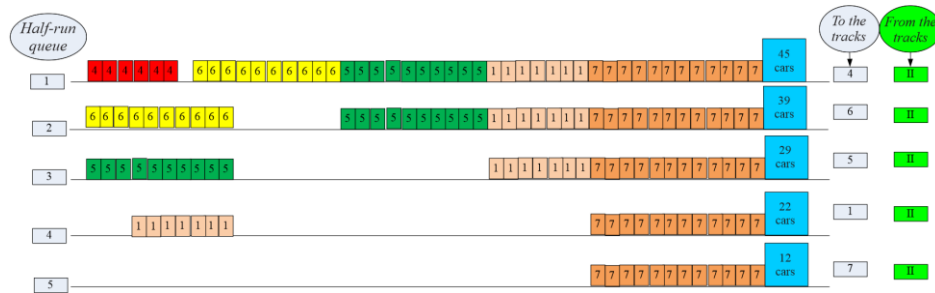


Figure 4. Shunting half-run, performed with the train of wagons on the tracks of station “Z”

Table 1 shows the results of determining the duration of the distribution of a group of wagons in a train along specialized tracks for all cargo facilities of the station, as shown in Fig. 4.

Table 1

Plan of shunting half-runs related to the distribution of trains and calculation of time spent on additional operations

	Station tracks		Name of operation	Mileage of shunting diesel locomotive, m	No. of wagons per half-run	Shunting speed, km/h	Time of operations:			Total time of 1 period, min..	Number of transfers/removals	Employment of a shunting diesel locomotive, min.
	from	to					Time of shunting diesel locomotive operation, min.	Time of additional actions, min.	Total time, min.			
	II track	4- track	arrival	1000.6	45	15	4.88	0.97	5.85	13.11	5	66
			slip	-	6	-	-	1.82	1.82			
			exit	917.2	39	15	4.47	0.97	5.44			
	II track	6- track	arrival	844.4	39	15	4.18	0.97	5.15	12.16	5	61
			slip	-	10	-	-	2.66	2.66			
			exit	677.4	29	15	3.38	0.97	4.35			
	II track	5- track	arrival	702.2	29	15	3.48	0.92	4.4	10.46	5	52
			slip	-	10	-	-	2.31	2.31			
			exit	570.2	19	15	2.83	0.92	3.75			
	II track	1- track	arrival	807.7	19	15	3.78	0.87	4.65	10.70	5	54
			slip	-	7	-	-	1.83	1.83			
			exit	723.7	12	15	3.35	0.87	4.22			
	II track	7-track	arrival	461.4	12	15	2.30	0.97	3.27	8.33	5	41
			slip	-	12	-	-	2.57	2.57			
			exit	303.0	0	15	1.52	0.97	2.49			
Total				7007.8			34.17	20.59	54.76	55		274

The results of the study showed that the duration of technological operations for the distribution of a freight train of 45 wagons, which arrived at station “Z”, to prepare it for transfer to cargo facilities is 54.76 minutes according to Table 1.

Conclusion

It can be concluded that it takes, on average, 55 minutes for a shunting locomotive to distribute one freight train along the tracks of station “Z” according to the studies of freight objects. Taking into account the fact that station “Z” receives 5 freight trains during the day, it takes 275 minutes to distribute the group of wagons of these trains along the tracks of the station. The need for shunting diesel locomotives can be calculated by determining the time of distribution of a group

of wagons along the station tracks in accordance with the needs of cargo facilities using the methods presented in this article.

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Rezyume: *Ma'lumki, vagonlar guruhini yuk obyektlariga uzatishdan oldin ularni ma'lum tartib bo'yicha stansiya yo'llarida jamlash talab etiladi. Ushbu maqolada temir yo'l stansiyasiga qabul qilingan yuk poyezdi tarkibidagi vagonlarni stansiya yo'llariga yuk obyektlari talablari bo'yicha tarqatish jarayoniga sarflanadigan vaqt davomiyligini aniqlash usuli keltirilgan. Kombinatorikaning matematik nazariyasiga ko'ra, guruhlarni joylashtirish variantlari soniga aniqlik kiritilgan. Vagonlar guruhining joylashish ketma ketligi variantini tasodifiy tanlash orqali aniqlangan.*

Резюме: *Как известно, перед подачей группы вагонов на грузовые объекты требуется их подбирать на станционных путях в определенном порядке. В данной статье представлен метод определения продолжительности времени, затрачиваемого на процесс распределения вагонов состава грузового поезда, принимаемого на железнодорожную станцию, по станционным путям в соответствии с требованиями грузовых объектов. Согласно математической теории комбинаторики выявлено количество вариантов размещения групп. Последовательность расположения группы вагонов определена путем случайного выбора варианта.*

Kalit so'zlar: *Manyovr lokomotivi, vagonlar guruhi, yarim reys, vagonlarni tarqatish, kombinatorikaning matematik nazariyasi, tasodifiy tanlash.*

Ключевые слова: *Маневровый локомотив, группа вагонов, полурейс, распределение вагонов, математическая теория комбинаторики, случайная выборка*

DEVELOPMENT OF A MATHEMATICAL MODEL FOR MINIMIZING THE DURATION OF THE PROCESSES OF DISBANDING A GROUP OF WAGONS

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Summary: In practice, shunting work on the sequential placement of a group of wagons on station tracks is carried out according to the experience of the relevant employees. This, in turn, leads to the fact that different amounts of time are spent on these works in different shifts. In this article, a mathematical model has been developed to minimize the duration of technological operations for the disbandment of a group of wagons to station tracks, taking into account all possible options for a sequential selection of wagons. It is shown that the difference between the time of disbanding of one train according to this model at station "Z" is on average 4 minutes.

Keywords: Law of combinatorics, shunting locomotive, shunting work, group of wagons, mathematical model.

Introduction

Shunting works are considered an important component of the organization of transportation by rail transport and are one of the main elements of the process of transporting goods. The system of organizing the sequential placement of groups of wagons as part of freight trains for specific freight facilities should ensure stable operation of railways in the transport services market, minimal costs for shunting work, strict compliance with the terms of cargo transportation, as well as meeting the demand and needs of shippers and recipients. The optimal placement of groups of cars in the train makes it possible to minimize the time of shunting work on the distribution of the train along the station tracks for transfer to cargo facilities after the arrival of trains formed at the stations [1-3].

Due to a number of reforms currently being implemented in the railway transport, the growth in the share of private wagons has changed significantly. However, the main reason for the increase in the number of private wagons is associated with an increase in the number of operations for additional sorting, aggregation and obsolescence of the technical condition of the fleet of freight wagons. This, in turn, leads to the actualization of the need for rapid implementation of maneuvers related to the concentration of wagons in accordance with the requirements of freight facilities, the distribution of a group of wagons as part of the received train on station tracks. One of the most important tasks of the theory of railway operation in these conditions is the rationing of the duration of shunting work. The basis of shunting work is local work, which determines the performance of the station and the efficiency of the use of shunting facilities. The establishment of norms for the duration of shunting operations consists in determining the time required to perform individual shunting operations. This is necessary for the proper organization of shunting operations, planning, evaluation and payment of the work of shunting crews.

Materials and methods

The duration of shunting work consists of the sum of the half-lives that make up it. The rational organization of shunting work largely determines the performance of the station and the efficiency of the use of shunting equipment. Therefore, improving the methods of planning shunting operations and determining their duration using mathematical modeling is an urgent task in the field of organization and control of the process of transportation by rail [4-6].

A number of scientific results have been achieved in the course of research conducted in the world to improve the technologies of transport processes in the organization of shunting operations, in particular, fuel spraying systems of shunting locomotives have been modernized, systems to increase the processing capacity of mainline and industrial railways have been improved, locomotives have been introduced to deliver wagons to cargo facilities, loading and unloading systems have been introduced on warehouse or conveyor paths. traction units are designed for

pushing wagons, systems using solar energy were created to reduce the energy consumption of shunting locomotives [8-11].

A number of scientific works were carried out to determine the duration of employment of a shunting locomotive at railway stations during operations involving the concentration of a group of wagons in a sequence of groups in accordance with the requirements of cargo facilities and the distribution time [3-8], but with the clarification of the optimal placement of wagons in a sequence of groups, a mathematical model was developed to minimize the distribution time of trains. unfinished.

Results and discussion

The procedure for determining the unloading time of trains on the station tracks of freight trains is carried out taking into account various parameters of railway sections. When determining the acceleration time by a shunting locomotive of groups of wagons as part of a train taken to the station, at the request of freight facilities, the number of groups of wagons, the number of wagons in each group, the speed of maneuver, the length of semi-trailers is taken as a basis. For mathematical modeling of minimizing the time of shunting work on the distribution of the deployed train at railway stations, taking into account the possible options for placing groups of cars, the combinations shown in figure 1 were taken as a basis.

The variants of placing groups of wagons in the train arriving at the station, in the sequence of groups at the station where the train is being built, obey the mathematical theory of combinatorics [7, 13]. According to the mathematical theory of combinatorics, the number of options for placing groups obeys the following law.

$$A = n! \quad (1)$$

here respectively n – number of groups of wagons in the train, group;

A —the number of options for placing groups of wagons in a sequence of groups.

The number of possible combinations of placement of wagons in the train composition entering the station in the sequence of groups will be in the order presented in figure 1.

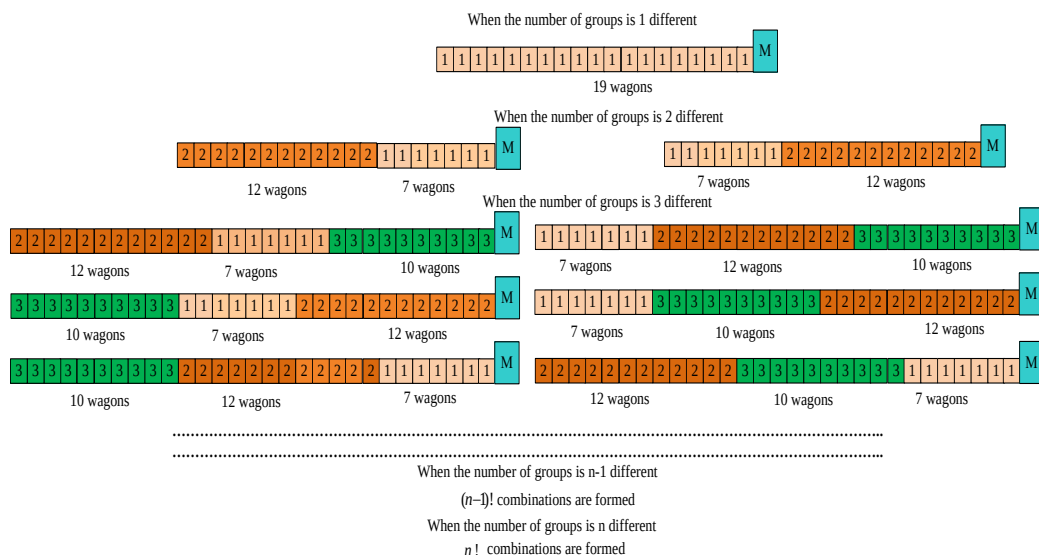


Figure 1. Possible combinations of placing wagons in a sequence of groups

When distributing a group of wagons along station tracks, a shunting locomotive performs shunting semi-trailers containing entry and exit operations for a group of wagons belonging to each cargo object. This means that if the train arriving at the station consists of several different wagons, the number of half-journeys at the exit will be $B = 2 \cdot n$.

The duration of the shunting maneuvers of unloading a shunting locomotive is calculated with a refinement for each semi-trailer. The duration of a gondola car is determined by the existing

formula given below, taking into account its length, the number of wagons in the composition and the speed of shunting [12].

$$T_{mov} = (0,0407 + 0,0017 \cdot m_v) \cdot \frac{v}{2} + \frac{0,06l_{mov}}{v}, \text{ minutes} \quad (2)$$

here respectively m_v – is the number of wagons in the transmission transferred to the cargo facility, wagon;

v – is the set speed of the shunting locomotive, km/h;

l_{sur} – is the distance of movement of the shunting locomotive, m.

When a group of wagons is disbanded as part of a train accepted to the station, the shunting locomotive brings all the wagons of the train from the traction track to the specified station track, disconnects the group related to a certain cargo object, and brings the remaining group of wagons back to the traction track. The shunting locomotive performs semi-trailers until all cars in the train are disbanded. Each of these half-flights is designated as an entrance and exit. The unit of measurement of the duration of movement of the shunting locomotive during the passage of half-runs, including each input and output action, is determined in the following order, calculated in minutes.

1st half-race the entire group of wagons contained in the accepted train is diverted from the towing path to the corresponding station path, where it is envisaged to disconnect a group of m_v^1 wagons, with the disconnection of a group of m_v^1 wagons on this path.

$$T_k^1 = (0,0407 + 0,0017 \cdot m_v) \cdot \frac{v}{2} + \frac{0,06l_k^1}{v},$$

$$l_k^1 = l_1 + l_{lok} + 10 + m_v \cdot l_v, \text{ m.}$$

2nd half-race the shunting locomotive consists in bringing groups of $m_v - m_v^1$ wagons remaining in the composition to the traction path.

$$T_{ch}^1 = [0,0407 + 0,0017 \cdot (m_v - m_v^1)] \cdot \frac{v}{2} + \frac{0,06 \cdot l_{ch}^1}{v},$$

$$l_{ch}^1 = l_1 + l_{lok} + 10 + (m_v - m_v^1) \cdot l_v, \text{ m.}$$

3rd half-race a group of wagons consisting of $m_v - m_v^1$ wagons brought to the exhaust track is brought to the appropriate track of the station, where it is planned to disconnect a group of m_v^2 wagons, and a group of m_v^2 wagons is disconnected on this track.

$$T_k^2 = [0,0407 + 0,0017 \cdot (m_v - m_v^1)] \cdot \frac{v}{2} + \frac{0,06 \cdot l_k^2}{v},$$

$$l_k^2 = l_2 + l_{lok} + 10 + (m_v - m_v^1) \cdot l_v, \text{ m.}$$

4th half-race the shunting locomotive consists in bringing groups of $m_v - m_v^1 - m_v^2$ wagons remaining in the composition to the traction path.

$$T_{ch}^2 = [0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2)] \cdot \frac{v}{2} + \frac{0,06 \cdot l_{ch}^2}{v},$$

$$l_{ch}^2 = l_2 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2) \cdot l_v, \text{ m.}$$

5th half-race a group of wagons consisting of $m_v - m_v^1 - m_v^2$ wagons brought to the exhaust track is brought to the appropriate track of the station, where it is planned to disconnect a group of m_v^3 wagons, and a group of m_v^3 wagons is disconnected on this track.

$$T_k^3 = [0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2)] \cdot \frac{v}{2} + \frac{0,06 \cdot l_k^3}{v},$$

$$l_k^3 = l_3 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2) \cdot l_v, \text{ m.}$$

6th half-race the shunting locomotive consists in bringing groups of $m_v - m_v^1 - m_v^2 - m_v^3$ wagons remaining in the composition to the traction path.

$$T_{ch}^3 = [0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2 - m_v^3)] \cdot \frac{v}{2} + \frac{0,06 \cdot l_{ch}^3}{v},$$

$$l_{ch}^3 = l_3 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2 - m_v^3) \cdot l_v, \text{ m.}$$

7th half-race a group of wagons consisting of $m_v - m_v^1 - m_v^2 - m_v^3$ wagons brought to the exhaust track is brought to the appropriate track of the station, where it is planned to disconnect a group of m_v^4 wagons, and a group of m_v^4 wagons is disconnected on this track.

$$T_k^4 = [0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2 - m_v^3)] \cdot \frac{v}{2} + \frac{0,06 \cdot l_k^4}{v},$$

$$l_k^4 = l_4 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2 - m_v^3) \cdot l_v, \text{ m.}$$

8th half-race the shunting locomotive consists in bringing groups of $m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4$ wagons remaining in the composition to the traction path.

$$T_{ch}^4 = [0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4)] \cdot \frac{v}{2} + \frac{0,06 \cdot l_{ch}^4}{v},$$

$$l_{ch}^4 = l_4 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4) \cdot l_v, \text{ m.}$$

9th half-race a group of wagons consisting of $m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4$ wagons brought to the exhaust track is brought to the appropriate track of the station, where it is planned to disconnect a group of m_v^5 wagons, and a group of m_v^5 wagons is disconnected on this track.

$$T_k^5 = [0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4)] \cdot \frac{v}{2} + \frac{0,06 \cdot l_k^5}{v},$$

$$l_k^5 = l_5 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4) \cdot l_v, \text{ m.}$$

10th half-race the shunting locomotive consists in bringing groups of $m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5$ wagons remaining in the composition to the traction path.

$$T_{ch}^5 = [0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5)] \cdot \frac{v}{2} + \frac{0,06 \cdot l_{ch}^5}{v},$$

$$l_{ch}^5 = l_5 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5) \cdot l_v, \text{ m.}$$

11th half-race a group of wagons consisting of $m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5$ wagons brought to the exhaust track is brought to the appropriate track of the station, where it is planned to disconnect a group of m_v^6 wagons, and a group of m_v^6 wagons is disconnected on this track.

$$T_k^6 = [0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5)] \cdot \frac{v}{2} + \frac{0,06 \cdot l_k^6}{v},$$

$$l_k^6 = l_6 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5) \cdot l_v, \text{ m.}$$

12th half-race the shunting locomotive consists in bringing groups of $m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5 - m_v^6$ wagons remaining in the composition to the traction path.

$$T_{ch}^6 = \left[0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5 - m_v^6) \right] \cdot \frac{v}{2} + \frac{0,06 \cdot l_{ch}^6}{v},$$

$$l_{ch}^6 = l_6 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5 - m_v^6) \cdot l_v, \text{ m.}$$

13th half-race a group of wagons consisting of $m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5 - m_v^6$ wagons brought to the exhaust track is brought to the appropriate track of the station, where it is planned to disconnect a group of m_v^7 wagons, and a group of m_v^7 wagons is disconnected on this track.

$$T_k^7 = \left[0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5 - m_v^6) \right] \cdot \frac{v}{2} + \frac{0,06 \cdot l_k^7}{v},$$

$$l_k^7 = l_7 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5 - m_v^6) \cdot l_v, \text{ m.}$$

14th half-race the shunting locomotive consists in bringing groups of $m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5 - m_v^6 - m_v^7$ wagons remaining in the composition to the traction path.

$$T_{ch}^7 = \left[0,0407 + 0,0017 \cdot (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5 - m_v^6 - m_v^7) \right] \cdot \frac{v}{2} + \frac{0,06 \cdot l_{ch}^7}{v},$$

$$l_{ch}^7 = l_7 + l_{lok} + 10 + (m_v - m_v^1 - m_v^2 - m_v^3 - m_v^4 - m_v^5 - m_v^6 - m_v^7) \cdot l_v, \text{ m.}$$

The sequence of half-journeys continues in the above order until all groups of wagons in the composition are disbanded. The transit time of the shunting locomotive during the distribution of a group of train wagons is determined in the following sequence.

If the train consists of four different groups of wagons, the time of movement of the shunting locomotive is determined in the following order

$$\sum T_{yur}^{1-4} = T_k^1 + T_{ch}^1 + T_k^2 + T_{ch}^2 + T_k^3 + T_{ch}^3 + T_k^4 + T_{ch}^4,$$

$$T_{yur}^{1-4} = \left[2 \cdot 4 \cdot 0,0407 + 0,0017 \cdot (2 \cdot 4m_v - 7m_v^1 - 5m_v^2 - 3m_v^3 - m_v^4) \right] \cdot \frac{v}{2} +$$

$$+ 0,06 \cdot \left(\frac{2l_1 + 2l_2 + 2l_3 + 2l_4 + 2 \cdot 4l_{lok} + 2 \cdot 4 \cdot 10}{v} + \right.$$

$$\left. \frac{(2 \cdot 4m_v - 7m_v^1 - 5m_v^2 - 3m_v^3 - m_v^4) \cdot l_v}{v} \right),$$

If the train consists of five different groups of wagons, the time of movement of the shunting locomotive is determined in the following order

$$\sum T_{yur}^{1-5} = T_k^1 + T_{ch}^1 + T_k^2 + T_{ch}^2 + T_k^3 + T_{ch}^3 + T_k^4 + T_{ch}^4 + T_k^5 + T_{ch}^5,$$

$$T_{yur}^{1-5} = \left[2 \cdot 5 \cdot 0,0407 + 0,0017 \cdot (2 \cdot 5m_v - 9m_v^1 - 7m_v^2 - 5m_v^3 - 3m_v^4 - m_v^5) \right] \cdot \frac{v}{2} +$$

$$0,06 \cdot \left(\frac{2l_1 + 2l_2 + 2l_3 + 2l_4 + 2l_5 + 2 \cdot 5l_{lok} + 2 \cdot 5 \cdot 10}{v} + \right.$$

$$\left. + \frac{(2 \cdot 5m_v - 9m_v^1 - 7m_v^2 - 5m_v^3 - 3m_v^4 - m_v^5) \cdot l_v}{v} \right),$$

If the train consists of six different groups of wagons, the time of movement of the shunting locomotive is determined in the following order

$$\sum T_{yur}^{1-6} = T_k^1 + T_{ch}^1 + T_k^2 + T_{ch}^2 + T_k^3 + T_{ch}^3 +$$

$$+ T_k^4 + T_{ch}^4 + T_k^5 + T_{ch}^5 + T_k^6 + T_{ch}^6,$$

$$T_{yur}^{1-6} = \left[\frac{2 \cdot 6 \cdot 0,0407 + 0,0017 \cdot (2 \cdot 6m_v - 11m_v^1 - 9m_v^2 - 7m_v^3 - 5m_v^4 - 3m_v^5 - m_v^6)}{v} \right] \cdot \frac{v}{2} +$$

$$+ 0,06 \cdot \left(\frac{2l_1 + 2l_2 + 2l_3 + 2l_4 + 2l_5 + 2l_6 + 2 \cdot 6l_{lok} + 2 \cdot 6 \cdot 10}{v} + \right.$$

$$\left. + \frac{(2 \cdot 6m_v - 11m_v^1 - 9m_v^2 - 7m_v^3 - 5m_v^4 - 3m_v^5 - m_v^6) \cdot l_v}{v} \right),$$

If the train consists of seven different groups of wagons, the time of movement of the shunting locomotive is determined in the following order

$$\sum T_{yur}^{1-7} = T_k^1 + T_{ch}^1 + T_k^2 + T_{ch}^2 + T_k^3 + T_{ch}^3 +$$

$$+ T_k^4 + T_{ch}^4 + T_k^5 + T_{ch}^5 + T_k^6 + T_{ch}^6 + T_k^7 + T_{ch}^7,$$

$$T_{yur}^{1-7} = \left[\frac{2 \cdot 7 \cdot 0,0407 + 0,0017 \cdot (2 \cdot 7m_v - 13m_v^1 - 11m_v^2 - 9m_v^3 - 7m_v^4 - 5m_v^5 - 3m_v^6 - m_v^7)}{v} \right] \cdot \frac{v}{2} +$$

$$+ 0,06 \cdot \left(\frac{2 \cdot 7m_v - 13m_v^1 - 11m_v^2 - 9m_v^3 - 7m_v^4 - 5m_v^5 - 3m_v^6 - m_v^7}{v} + \right.$$

$$\left. + \frac{(2 \cdot 7m_v - 13m_v^1 - 11m_v^2 - 9m_v^3 - 7m_v^4 - 5m_v^5 - 3m_v^6 - m_v^7) \cdot l_v}{v} \right),$$

Based on the revealed time duration of the distribution of groups of wagons of the train along the station tracks in the above order, the formula for determining the distribution time of the train consisting of i group is formulated in the following order.

$$\sum_{n=1}^i T_{mov} = \left[\frac{2i \cdot 0,0407 + 0,0017 \cdot (2i \cdot m_v - (2i-1)m_v^1 - (2i-3)m_v^2 - (2i-5)m_v^3 - (2i-7)m_v^4 - \dots - 5m_v^{i-2} - 3m_v^{i-1} - m_v^i)}{v} \right] \cdot \frac{v}{2} +$$

$$+ 0,06 \cdot \left[\frac{2l_1 + 2l_2 + 2l_3 + 2l_4 + \dots + 2l_{i-2} + 2l_{i-1} + 2l_i + 2i \cdot l_{lok} + 2i \cdot 10}{v} + \right.$$

$$\left. + \frac{[2i \cdot m_v - (2i-1)m_v^1 - (2i-3)m_v^2 - (2i-5)m_v^3 - \dots - 5m_v^{i-2} - 3m_v^{i-1} - m_v^i] \cdot l_v}{v} \right],$$

Compressing this formula, it takes the following form

$$\sum_{n=1}^i T_{mov} = \frac{v}{2} \cdot \left\{ 2i \cdot 0,0407 + 0,0017 \cdot \left[2i \cdot m_v - \left[\begin{aligned} &(2i-1)m_v^1 + (2i-3)m_v^2 + \\ &+ (2i-5)m_v^3 + (2i-7)m_v^4 + \\ &+ \dots + 5m_v^{i-2} + 3m_v^{i-1} + m_v^i \end{aligned} \right] \right] \right\} +$$

$$+ \frac{0,06}{v} \cdot \left\{ \left[2l_1 + 2l_2 + 2l_3 + 2l_4 + 2l_5 + \dots + 2l_{i-2} + 2l_{i-1} + 2l_i + 2i \cdot l_{lok} + 2i \cdot 10 + \right. \right.$$

$$\left. + \left[2i \cdot m_v - \left[\begin{aligned} &(2i-1)m_v^1 + (2i-3)m_v^2 + (2i-5)m_v^3 + (2i-7)m_v^4 + \\ &+ (2i-9)m_v^5 + \dots + 7m_v^{i-3} + 5m_v^{i-2} + 3m_v^{i-1} + m_v^i \end{aligned} \right] \right] \cdot l_v \right\},$$

here respectively

i – the number of groups of cars in the composition of the train received at the station, the group;

$m_v^1, m_v^2, m_v^3, m_v^4, \dots, m_v^{i-2}, m_v^{i-1}, m_v^i$ – the number of wagons in groups that are disconnected in each semi-trailer, pieces;

$l_1, l_2, l_3, l_4, \dots, l_{i-2}, l_{i-1}, l_i$ – distances from the access road to the border track of the roads on which wagons are imported, m;

l_{lok} – shunting locomotive length, m;

m_v – the number of cars in the train being taken to the station, pieces;

l_v – length of one car on a half-track, m;

10 – The distance for which the requirements of PTE are met, m.

Based on the above modeled formula , the objective function is generated in the following order:

$$\sum_{n=1}^i T_{mov} \rightarrow \min$$

It is required to achieve the minimum value of the objective function. In order for the objective function to reach the minimum value, the sum below must reach the minimum value:

$$\left[\begin{array}{l} (2i-1)m_v^1 + (2i-3)m_v^2 + (2i-5)m_v^3 + (2i-7)m_v^4 + \\ + (2i-9)m_v^5 + \dots + 7m_v^{i-3} + 5m_v^{i-2} + 3m_v^{i-1} + m_v^i \end{array} \right] \cdot l_v \rightarrow \max$$

In order for the sum to reach the highest value, it is necessary to arrange a group of wagons in a sequence of groups in the order based on the following condition.

$$m_v^1 \geq m_v^2 \geq m_v^3 \geq m_v^4 \geq \dots \geq m_v^{i-2} \geq m_v^{i-1} \geq m_v^i$$

$$l_1, l_2, l_3, l_4 \cdots \cdots, l_{i-2}, l_{i-1}, l_i, l_{lok} \rightarrow \nabla$$

When determining the duration of the distribution of groups of wagons by composition, the following conditions apply for any case of the number of groups:

$$\left\{ \begin{array}{ll} m_v^2 = m_v^3 = \dots = m_v^{i-2} = m_v^{i-1} = m_v^i = 0 \rightarrow \text{If the train consists of one group of wagons;} \\ m_v^3 = m_v^4 = \dots = m_v^{i-2} = m_v^{i-1} = m_v^i = 0 \rightarrow \text{If the train consists of two groups of wagons;} \\ m_v^4 = m_v^5 = \dots = m_v^{i-2} = m_v^{i-1} = m_v^i = 0 \rightarrow \text{If the train consists of three groups of wagons;} \\ \dots\dots\dots \\ m_v^{i-2} = m_v^{i-1} = m_v^i = 0 & \rightarrow \text{If the train consists of } i-3 \text{ groups of wagons;} \\ m_v^{i-1} = m_v^i = 0 & \rightarrow \text{If the train consists of } i-2 \text{ groups of wagons;} \\ m_v^i = 0 & \rightarrow \text{If the train consists of } i-1 \text{ groups of wagons.} \end{array} \right.$$

This means that by placing a group of wagons in descending order in the context of groups consisting of the largest number of wagons that will be disconnected in the order shown in figure 2, it will be possible to perform the distribution process in the shortest time.

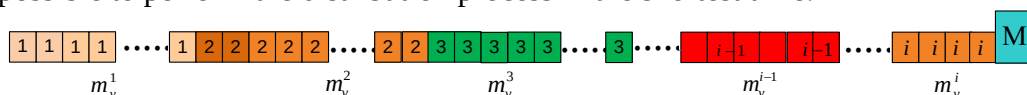


Figure 2. Modeled scheme of placement of wagons in a sequence of groups

The results of the study obtained from the introduction of the above modeled formula to the station “Z” are as follows:

Based on option 51, which was selected by random selection based on the sequence of placement of groups of a single composition of 45 wagons to be admitted to Station “Z”, the time of movement during the distribution of the content arranged in the manner 3:1:4:2:5 on the roads of the station of the maniovr locomotive was 35.02 minutes.

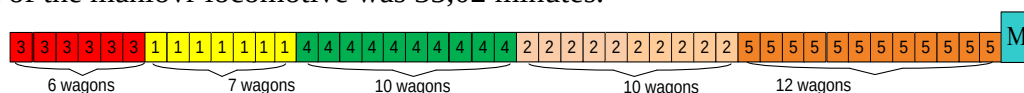


Figure 2. Location sequence of selected groups by random selection

Based on the conditions of the modelled formula, starting from a group with a large number of wagons, in descending order 5:2:4:1:3 or 5:4:2:1:3 the time of movement during the distribution of the content arranged in the manner of the maniovr locomotive on the station roads was 31 minute.

The difference between the distribution Times of a single content posted based on modeling and random selection is an average of 4 minutes. Considering that 5 trains will be accepted to the station “Z” during the day, an average savings of 20 minutes per day is achieved from the time of distribution of these trains. The annual profit from the distribution of admissible contents to the station “Z” is 121.67 locomotive-hours.

Conclusion

In practice, due to the fact that the trains are arranged in sequence in different combinations of cars, different amounts of time are spent on distributing a group of cars along station tracks. The method of determining possible variants of the sequence of placement of a group of wagons on station tracks was developed on the basis of the laws of combinatorics.

A mathematical model has been developed to minimize the duration of technological operations for the disbandment of a group of wagons to station tracks, taking into account all possible options for a sequential selection of wagons.

In the process of practical application of mathematical models based on the refinement of possible options for the duration of shunting work, it was practically proved that the duration of technological time depends not only on the length of semi-trailers, but also on the number of wagons in groups.

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Rezyume: *Amaliyotda stansiya yo'llarida vagonlar guruhini ketma-ketlikda joylashtirish bo'yicha manyovr ishlarini bajarish tegishli xodimlarning tajribasi asosida amalga oshiriladi. Bu, o'z navbatida, ushbu ishlarga turli smenalarda turlicha miqdorda vaqt sarflanishiga olib keladi.*

Ushbu maqolada stansiya yo'llariga vagonlar guruhini tarqatish bo'yicha texnologik amallarga sarflanadigan vaqtni minimallashtirishning matematik modeli guruhlar ketma-ketligida joylashtirishning mumkin bo'lgan variantlarini hisobga olib ishlab chiqilgan. Ushbu modelga asoslanib joylashtirilgan bitta tarkibni "Z" stansiyasida tarqatish vaqtlari orasidagi farq o'rtacha 4 daqiqani tashkil qilishi ko'rsatilgan

Резюме: На практике выполнение маневровых работ по последовательному размещению группы вагонов на станционных путях осуществляется по опыту соответствующих работников. Это, в свою очередь, приводит к тому, что на эти работы в разные смены затрачивается разное количество времени. В данной статье разработана математическая модель минимизации продолжительности выполнения технологических операций по расформированию группы вагонов станционным путям с учётом всевозможных вариантов последовательной подборки вагонов. Показано, что разница между временем расформирования одного состава по этой модели на станции "Z" составляет в среднем 4 минуты.

Kalit so'zlar: kombinatorika qonuniyati, manyovr lokomotivi, manyovr ishi, vagonlar guruhi, matematik model.

Ключевые слова: закон комбинаторики, маневровый локомотив, маневровая работа, группа вагонов, математическая модель.

**THE ISSUE OF ADEQUATE COVERAGE OF THE PROBLEMS AND
PHENOMENOLOGICAL CHANGE OF THE CONCEPTS OF “EXTREMISM” AND
“TERRORISM”**

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Summary: *The article analyses the concepts of “extremism” and “terrorism” using the phenomenological methods. The author notes that the evolution of these concepts in science is related to the transformational processes taking place in modern society. The article raises the problem of combining scientific and everyday concepts of terrorism and extremism.*

Keywords: *terrorism, extremism, social changes, modern society, phenomenology, adequate information.*

Terrorism is a serious threat to the stability of the social system. At the same time, during its existence, terrorism as a methodology of political struggle has become a more complex and organized phenomenon than in the 19th century, according to a number of experts, terrorism appears as a phenomenon. The increase in the population, the growth of cities, and the emergence of modern information technologies - all this has greatly complicated the problem of the threat of terrorism and the development of an adequate methodology for combating terrorism. Nowadays, terrorism is a complex, multi-component phenomenon, which is considered by researchers as an extreme type of activity. However, the important fact is that terrorism does not always refer to extremism as a phenomenon. The basis of such a statement lies in the axiological direction of terrorist activities, as well as in the difference between possible objects of extremism and terrorism. The issue of the main border of terrorism and extremism is considered in more detail in E.O. Kubyakin's research. At present, developments that reveal the essence of youth extremism and allow to get acquainted with other types of illegal activities, including the analytical aspects of terrorism, are the most valuable, having a high scientific potential. It should be noted that the transition to terrorist activities is a very serious moral step, a kind of overcoming the “point of no return” - a transition to specific criminal activities with very real consequences. Young people involved in terrorist organizations can be “fascinated” by a romantic aura, a spirit of rebellion, they oppose a society that does not want to reckon with young idealistic minds. However, terrorism is not romantic; it is a complex action, including determination to carry out specific actions. It is a war with the existing social system or its specific representatives, in which there are human casualties, including accidental ones.

It should be noted that often young people involved in the activities of extremist and terroristic organizations accidentally overcome this “point of no return”. That is, a person who is an accomplice to a criminal act is faced with the fact that he is already a terrorist. Thus, the psychological stage of determination remains in the past, and the problem of moral choice passes into the realm of accepting the event as fact. Another important reason for involvement in terroristic and extremist activities is a wrong idea about the basic values of the state. From the research of N.V.Narikov [4] it follows that it is very important for a citizen to correctly understand the main categories such as homeland, duty, patriotism, national idea.

The appreciation of these most important social values allows a person to demonstrate high civic virtues, including putting himself at risk and even sacrificing his life to achieve high goals. The breakdown and destruction of these basic categories allows a person who is capable of self-sacrifice for others to risk and sacrifice his life, destroy society, kill people, and violate the rights of the law in the paradigm of false ideas and values. In this regard, the problem is that at the moment, the connection to terroristic and extremist activities is carried out with the help of high-tech

potential of information resources. While it used to require direct contact to attract a person to an organization, now all it takes is an Internet connection and access to a specific site. Then information, often of a provocative and disruptive nature, begins to work in the human mind as a delayed action mechanism.

The violation of the existing moral foundations, as a result of the change of the social system and the development of global trends, served as the basis for the construction of the effective activity of people who were excluded from normal social activity. Changes in values, cultural, axiological problems force the potentially active population to blur the line between arbitrariness and freedom, which, as a rule, leads to the choice of arbitrariness. According to V.V. Plotnikova [5], freedom gives a person a sense of the authenticity of being, but to be free means to be aware of responsibility for one's actions, because many people often reject the way to realize freedom, and arbitrariness was chosen as a replacement category. The phenomenon of terrorist and extremist activities that we are studying implies exactly this type of axiological attitude based on impunity, vulnerability and elementary quality.

The most important thing is the international terrorism related to this phenomenon, within which the union of terroristic organizations with different goals is carried out. All this indicates that terrorism is becoming an increasingly urgent problem as a threat to social stability and public safety. In this regard, the problem of state resources participating in the fight against the threat of terrorism is gaining importance. Therefore, it is important for the state to adhere to the principle of socio-cultural balance, according to which, on the one hand, it is necessary to accept and anticipate the socio-cultural trends of global changes in society, and on the other hand, to maintain socio-cultural balance. Inner core of mentality and independence. This principle of natural socio-cultural balance [6] requires the need to demonstrate the mechanisms of self-preservation at the state level. The combination of these principles includes measures to combat extremism and terrorism as one of the most important aspects.

Taking into account the modern technological development, as well as the high level of population in cities, the prevention of terrorist acts is an important problem, because the resources of law enforcement agencies are not enough to keep all potentially dangerous events under control.

Therefore, the problem of involving the population in the fight against the threat of terrorism to the level of timely notification of law enforcement agencies about potentially dangerous events is of great importance. In this case, the level of effectiveness of measures against the threat of terrorism directly depends on the level of public activity. At this level, the problem of perception of the threat of terrorism by the public consciousness becomes urgent. In this regard, it seems appropriate to consider the specific characteristics of the change in public consciousness that has occurred in recent decades.

One of the main sources of public awareness of existing threats, particularly criminal and terrorist threats, is the mass media. The modern development of mass media leads to such a situation that almost all representatives of the population are aware of the most serious events that happened in our country and abroad. However, it is precisely at this level that a tendency to significantly reduce the effectiveness of informing the population about the threat of terrorism appears. The essence of this trend is that the high development of the Internet, the computer game industry, and the film industry has led to a situation where the display of violence in the media has become normal. If earlier one of the important aspects of the perception of media products was a high level of sympathy for the events happening on the screen, now the tendency to distance the consumer from the reality of perceived events is observed more and more clearly. Screen. In fact, a special attitude is being formed to what is happening on the screen as something virtual and not completely real. The public receives a very wide range of entertainment information products containing violent media, which creates a special attitude in consumers towards violence and extreme situations shown in television shows and Internet shows, characterized by the deactualization of the events in question. Thus, a superficial attitude to the events broadcasted by the mass media is gradually inculcated. Importantly, the comfort state in which consumers of media

products live creates a sense of the illusory and virtual nature of what is happening on the screen. As a result, most of the population subconsciously assumes that all such events are happening “somewhere” parallel to their existence. This false sense of security, expressed as a virtual threat to the threat of terrorism, which actually exists outside the scope of the subject's events, leads to a decrease in the seriousness and vigilance of the population in matters of anti-terrorist security.

The state of convenience, which is not comparable to what is happening on the screen, is a serious reason for virtualization of the problems perceived by the population. At the same time, as usual, current events resonate with the population, but this remains superficial and short-lived. Thus, information about the facts of the emergence of a terrorist threat gradually becomes deactualized and does not have a significant impact on the behavior of ordinary members of society. At the same time, it is very undesirable for the state, one of whose tasks is to ensure the safety of citizens, to take the population out of this state of comfort through the media, because panic among the population is negative and may be the result of increased attention to the problem of terrorism in the mass media. In addition, one of the goals of terrorist activities is to create a sense of danger and fear in the population. Therefore, the problem of special training of the population, aimed at its methodological literacy, which helps to identify potentially dangerous events in its time and not to react tentatively to the situation, remains relevant.

Due to the need to maintain a balance between denying the problem of the terrorist threat and over-actualizing it at the level of public consciousness, the problem of involving the population in measures to prevent the terrorist threat is a serious problem. Therefore, indirect methods of inculcating an adequate model of behavior among the population are of great importance. In essence, the point is that the main focus should be on the positive value of adequate action in a potentially dangerous situation, not on the actual danger.

Developing a positive behavior model among the population requires a comprehensive approach. One of the promising fields is the field of culture, at the level of which people are instilled with values and patterns of behavior. The problem under consideration is very complex, because it affects not only the aspect of the adequacy of the risk assessment of certain events, but also the moment of social responsibility for the life and health of other people. At the same time, it is important to inculcate the value of active participation in the life of the society to the members of the society. In this regard, one of the promising directions is the use of mass media not only at the level of information, but also at the level of broadcasting a positive image of a socially active subject who performs a set of correct actions in accordance with his or her own characteristics. The current status. At the same time, other forms of public education, in particular, providing instructions on ensuring security against terrorism in educational institutions, are becoming important. One of the positive consequences of individual education of the population is the possibility of controlling the situation at the level of actualizing the problem of terrorism in the minds of society members.

Based on the above, we can conclude this article as follows. Firstly, what happened in the twentieth century? Significant social, technological, communicative and other changes indicate the need for a new, detailed development of the concepts of extremism and terrorism, which is necessary to determine the strategy of combating these phenomena, including through the efforts of the social institution of science and education. Secondly, it is necessary to determine the social concept of how the society perceives the facts of extremist and terrorist activities. To carry out explanatory work and prepare a methodology for providing national security with information at the level of adequate perception of relevant information by the population. However, we think the important thing is to strike a balance between informing and keeping calm.

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Rezyume: Maqolada “ekstremizm” va “terrorizm” tushunchalari fenomenologik usullardan foydalangan holda tahlil qilinadi. Muallifning ta'kidlashicha, bu tushunchalarning fandagi evolyutsiyasi zamonaviy jamiyatda sodir bo'layotgan transformatsion jarayonlar bilan bog'liq. Maqolada terrorizm va ekstremizmning ilmiy va kundalik tushunchalarini uyg'unlashtirish muammosi ko'tariladi.

Резюме: В статье анализируются понятия «экстремизм» и «терроризм» с использованием феноменологических методов. Автор отмечает, что эволюция этих понятий в науке связана с трансформационными процессами, происходящими в современном обществе. В статье поднимается проблема совмещения научных и житейских понятий терроризма и экстремизма.

Kalit so'zlar: terrorizm, ekstremizm, ijtimoiy o'zgarishlar, zamonaviy jamiyat, fenomenologiya, adekvat axborot.

Ключевые слова: терроризм, экстремизм, социальные изменения, современное общество, феноменология, адекватная информация.

RECONSTRUCTION AND IMPROVEMENT OF FOLK INSTRUMENTS

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Summary: *This article discusses the reconstruction and improvement of ancient types of folk instruments and instruments created by masters and making them with certain constructive changes based on new technology. It is possible to improve the features of the sound (tone), create new technical possibilities in instruments, achieve subtleties of timbre (tone), and expand the sound range.*

Keywords: *folk instruments, percussion instruments, trumpet, whistle, flute, kifara, gijjak, reconstruction, improvement.*

Folk instruments were born in the distant past, in the 13th millennium BC. Percussion instruments first appeared in music, and they are directly related to the rhythmic structure of the work of the oldest cocktail songs. With the development of time, noisy instruments also appeared, and the performers emphasized the rhythm with the help of clapping and strengthened the effect of noisy instruments. Especially, the clapping of female performers was unique and created an unrepeatable, beautiful scene.

Later, folk craftsmen made trumpets, whistles, and little later flutes (longitudinal, transverse, many-way), flute-like whistles, rattles, chitars (harp, lyre), and kifaras from reed or bamboo stalks. Over time, these instruments became more developed (multi-track as well as modern multi-hole). Then string-mizrob and string-bow musical instruments appeared. These musical instruments were used in folk art ceremonies.

Reconstruction and improvement of musical instruments mean making them based on new technology, with the introduction of certain constructive changes. The main purpose of this is to improve the characteristics of the sound (tone), create new technical possibilities in the instruments, achieve timbre (tone) subtleties, introduce chromatic structures divided into twelve-step smooth tempos, and expand the range of sounds. Therefore, the improvement of musical instruments subject to reconstruction means increasing the strength of the instruments, their durability, the sensitivity of some parts, and the quality of sound (tone) generation to the extent that they can meet the high technical and artistic requirements of modern performance. Further development of instruments connected with the general development of musical culture creates great opportunities for the development of folk performing arts.

In the second half of the 19th century, along with the development of performance in folk instruments, interest in folk instruments also increased. By this time, all folk instruments began to be organized in different forms of orchestras and ensembles. The main types of folk instruments have gained stability. This, in turn, led to scientific research on ways to improve them.

It is worth mentioning that for the first time in the world VV Andreev (1861-1918) came up with the idea of improving folk instruments and creating an orchestra of folk instruments. In his book "Musical Instruments of Uzbekistan" (Moscow, 1933), the music researcher of the brotherly nations V. M. Belyaev raised the issue of the need to reconstruct and improve Uzbek folk instruments.

He proposed to determine the standard structure of Uzbek musical instruments based on European notation as a universal notation tool. Since Uzbek folk instruments are diverse, it is an extremely difficult task to develop them. This is a very long and complicated process. Therefore, the reconstruction and improvement of folk instruments, as well as the formation of multi-voice ensembles and orchestras, is a process that lasts for several decades. New, modern models that can meet the high demands of modern performance began to appear instead of old models of traditional instruments. As new models emerge, the outlook for further improvement of existing musical instruments is on the rise.

When additional strings were added to instruments such as chang, gijjak, it greatly expanded their range of sound (tone). Often, a four-stringed violin was used instead of a violin, keeping its vertical position. In the early 1920s and early 1930s, the master of musical instruments Usta Usman Zufarov (1899-1981) created a similar family of dutor, tanbur, and gizjak. Matyusuf Kharratov worked tirelessly to improve the powder. At that time, it was very difficult to perform the works of professional composers.

As a result of research, M. Kharratov expanded the upper register of the dust at the expense of additional strings and horns. The dustmen welcomed this change. Yunus Rajabiy, head of the national ensemble of folk instruments under the Radio of Uzbekistan, created examples of dutor-bass (big dutor), gijjak-bass (big gijjak), and gijjak-alt in cooperation with another great folk musician - Usto Usman Zufarov.

These instruments were included in the unison ensemble. This allowed bringing the ensemble's sound range closer to that of an orchestra. With this, the opening of special workshops for the reconstruction and improvement of Uzbek folk instruments began.

The famous folk musician Usta Rozmat Isaboev (1885-1965) headed the music workshop in Namangan. He made several semichromatic powders that were widely used by performers. In Bukhara, master Khojiot, master Tahirjon Davlatov, master Najmiddin Nasriddinov, and master Marufjon Tashpolatov worked together to create a new look of dutor, tanbur, Afghan rubob. Famous musicians Hayrulla Ubaydullaev, and trumpeter Usta Qayyum tried to improve koshnay and trumpet in Tashkent.

Tokhtasin Jalilov has included small-related families of different sizes in the unison ensemble of Uzbek folk instruments under the State Philharmonic of Uzbekistan. Nevertheless, the position and efforts towards the improvement of Uzbek musical instruments advanced the work to a certain extent, even if it did not solve the problem. From the middle of the 30s, the systematic improvement of Uzbek musical instruments became intense. Under the leadership of A.I. Petrosyants, a group of music masters Usman Zufarov, V.A. Ramanchenko, A.A. Relying on the experience and creative achievements of Kevhoyants, S.E. Didenko, V.V. Andreev, they began to reconstruct the dutor and tanbur.

As a basis was taken a sound series divided into twelve steps with smooth tempos, which creates a pure semitone, that is, a series of chromatic equal semitones. Later, a series of quart and quint chords of gijjaks was created, rubobs were improved, Prima (small) rubob was invented.

By the time of independence, the production of these musical instruments in a new, high quality, modern form is becoming popular. Until today, all regions of our republic and the Republic of Karakalpakstan [4] have successfully launched such works. For example, in Nukus alone, there are many masters of Karakalpak national musical instruments skillfully preparing them and presenting them to our people.

The dutor, kobiz, gizjak, circle, and other musical instruments they make are distinguished by their quality and elegance.

Today, the processes of making musical instruments and preparing folk instruments throughout our country are developing very rapidly, which indicates the continuous development of the art of music in our country and the sustainability of the life of our national musical instruments.

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Rezyume: *Ushbu maqolada ustalar tomonidan yaratilgan qadimiy turdagi xalq cholgʻu asboblari va cholgʻu asboblarini rekonstruksiya qilish va takomillashtirish hamda ularni yangi texnologiya asosida muayyan konstruktiv oʻzgartirishlar bilan amalga oshirish masalalari*

muhoqama qilinadi. Ovoz (ton) xususiyatlarini yaxshilash, asboblarda yangi texnik imkoniyatlar yaratish, tembr (ton) nozikliklariga erishish, tovush diapazonini kengaytirish mumkin.

Резюме: *В данной статье рассматривается реконструкция и совершенствование старинных видов народных инструментов и инструментов, созданных мастерами и их изготовление с определенными конструктивными изменениями на основе новой технологии. Можно улучшить характеристики звука (тона), создать новые технические возможности в инструментах, добиться тонкости тембра (тона), расширить звуковой диапазон.*

Kalit soʻzlar: *xalq cholgʻulari, zarbli cholgʻu asboblari, surnay, hushtak, nay, kifara, gʻijjak, rekonstruksiya, obodonlashtirish.*

Ключевые слова: *народные инструменты, ударные инструменты, труба, свисток, флейта, кифара, гиджак, реконструкция, усовершенствование.*

MODERN CONDITIONS AND WAYS OF DEVELOPMENT OF THE INSURANCE MARKET

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Summary: *This article discusses the economic indicators of the insurance market in our country, its structure and the ongoing work to develop the services of insurance companies.*

Keywords: *finance, investment, insurance contracts, insurance service.*

The development of the insurance market in our country today is one of the important tasks in our economy. Insurance services are one of the means of protecting the economy from all kinds of financial risks. However, the role of these services in the financial market of our country is still small.

The “Kafolat Insurance Company” JSC is engaged in insurance of property of organizations, associations and other persons, insurance of financial and entrepreneurial risks of individuals and legal entities [1].

“Kafolat Insurance Company” JSC was established on March 14, 1997 and operates in accordance with the Resolution of the President of the Republic of Uzbekistan dated October 9, 2017 No PD-3317 “On measures to improve the activities of Kafolat Insurance Company”. In our country today there are more than 40 insurance companies.

The “Kafolat Insurance Company” JSC has been providing insurance services for almost 25 years, offering its products in the local and global insurance market, occupying a leading position. “Kafolat Insurance Company” JSC consists of 215 territorial networks, covering 15 branches, 60 departments and 140 insurance centers.

Currently, the company offers individuals and legal entities a range of convenient insurance services with decreasing coefficients and fully meeting the interests of all parties. Using the experience that has developed in foreign and Uzbek insurance markets, as well as based on the needs and market demand of the population and business entities, new modern types of insurance are being developed.

The “Kafolat Insurance Company” JSC offers all types of insurance services. The license issued by the Ministry of Finance of the Republic of Uzbekistan for all 17 classes in the field of general insurance allows the provision of services for more than 117 types of compulsory and voluntary insurance [2].

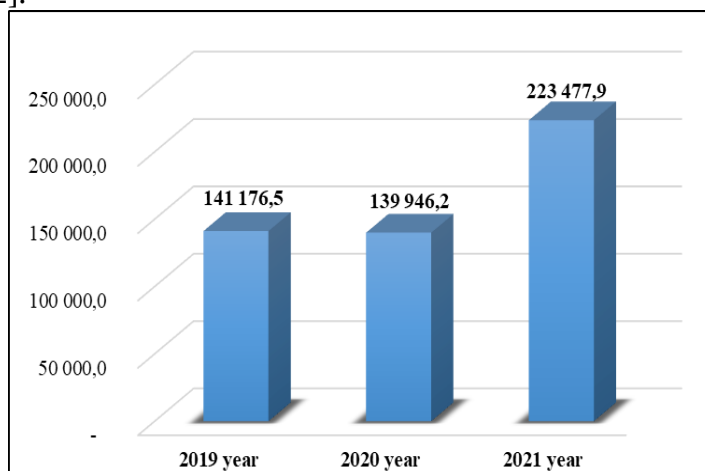


Figure 1. Dynamics of receipts of insurance premiums for 2019-2021 (million soums) [3].

As of the end of the 3rd quarter of 2021, the company's net revenue from sales of insurance services amounted to more than 100.1 billion soums, an increase of 110.1% compared to the same period last year.

The total amount of balance sheet assets at the end of the 3rd quarter of 2021 amounted to 231.6 billion soums, an increase of 129.0% compared to 2020 [4].

In 2021, the company continued to implement the main directions of its long-term development strategy, dynamically developing promising areas of insurance services.

The volume of insurance premiums in 2021 amounted to almost 223.5 billion soums and increased by 82.3 billion soums compared to 2019, which exceeds by 83.5 billion soums compared to 2020.

At the end of 2021, with an indicator of insurance premiums almost 1.6 times or more than 60% more than in 2020, the company took 5th place among over 40 insurance companies of the Republic.

It should be noted that the company has been a leader in the insurance market for the provision of voluntary insurance services for several years. Thus, according to the results of 2021, 175.7 billion soums of insurance premiums were collected by types of compulsory insurance.

This is 185.1% more than in 2020, and among the insurance companies working in this area, this company has been a leader for several years.

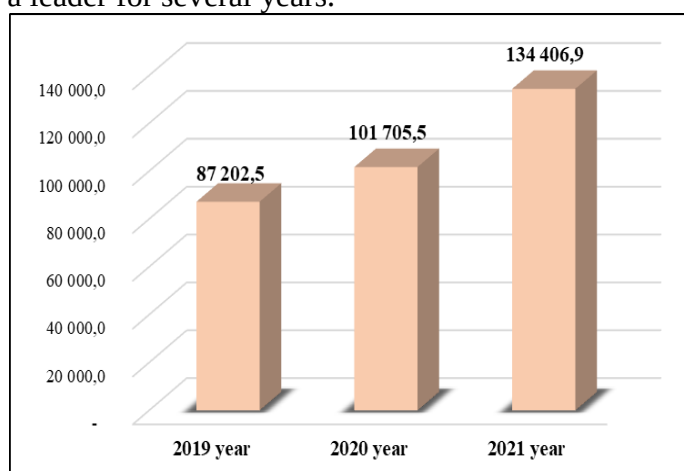


Figure 2. Growth dynamics of insurance liabilities for 2019-2021 (billion soums) [3].

Including the volume of insurance services provided by “Kafolat Insurance Company” JSC in 2021 amounted to 134.4 trillion soums, according to the data, this figure is 47.2 trillion soums more than in 2019 and 32.7 trillion soums more than in 2020. With the volume of insurance liabilities following the results of 2021, almost 1.3 times or more than 32% more than in 2020, the company took 3rd place among over 40 insurance companies of the Republic [5].

At the same time, the company pays special attention to improving the process of processing documents for the payment of insurance compensation, reducing the time intervals between the moment of occurrence of an insured event and the payment of insurance compensation.

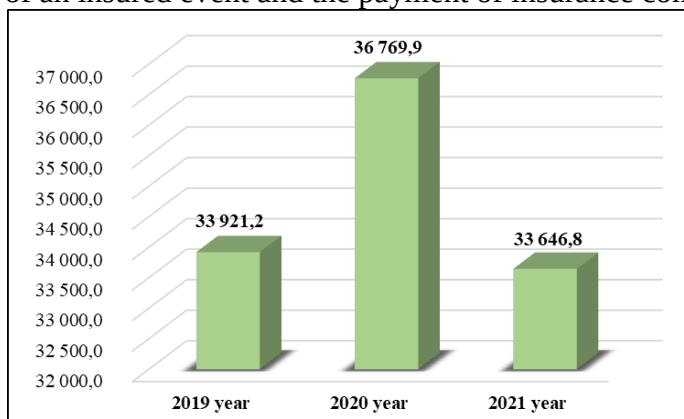


Figure 3. Dynamics of insurance claims for 2019-2021 (million soums) [3]

The company's desire for full and timely fulfillment of obligations under the concluded insurance contracts is confirmed by the implementation of payments for insured events.

As of the end of 2021, according to applications from legal entities and individuals, 33.6 billion soums were submitted, insurance compensation was paid, which, despite a decrease of 8.5% compared to last year, took 8th place among over 30 companies in the insurance market in 2021.

The general performance indicators of “Kafolat Insurance Company” JSC can be presented in more detail in the form of the following table, and based on the data in this table, a general conclusion can be drawn.

Performance indicators of the “Kafolat Insurance Company” JSC for 2020-2021 (billion soums) [3]

№	Indicators	2020-y	2021-y	growth (%)
1	Insurance premiums	139,9	223,5	159,8
2	including insurance premiums for voluntary types of insurance	94,9	175,7	185,1
3	Insurance premiums for compulsory types of insurance	45,0	47,8	106,2
4	Insurance obligations	101705,5	134406,9	132,2
6	Insurance indemnities	36,8	33,6	91,3
7	Investment	96,8	95,9	99,1
8	Assets	179,5	239,5	133,4
9	Insurance reserves	113,5	167,5	147,6

As can be seen from the above data in Table 1, the activity of the insurance company was efficient in previous years. At the end of 2021, insurance premiums increased by 159.8% compared to the previous year, including insurance premiums for voluntary types of insurance increased by 185.1%, and insurance liabilities increased by 132.2%. Insurance compensation was low compared to other indicators. The growth of the company's assets by 133.4% does not tend to a simultaneous increase in investment activity.

In the case of insurance reserves, we see an increase of 147.6% compared to last year. Based on the above, we can conclude that the reserves and assets of the insurance company have long-term indicators of strategic development.

In conclusion, in order to increase public confidence in insurance, it is necessary to increase the level of legal literacy of the population in relation to insurance, that is, to constantly inform customers about the laws being adopted, decisions on insurance and legal protection of insurance services, improving the provision of comfortable conditions.

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Rezyume: *Bul maqalada mámleketimizdagi qamsızlandırıw bazarınıń ekonomikalıq kórsetkishleri, onıń dúzilisi hám házirgi kúndegi qamsızlandırıw kompaniyalarınń xızmetin rawajlandırıw ushın ámelge asırılıp atırǵan jumsları úyrenilgen.*

Резюме: *В данной статье рассмотрены экономические показатели страхового рынка в нашей стране, его структура и проводимая в настоящее время работа по развитию услуг страховых компаний.*

Tayanış sózler: *finans, investiciya, qamsızlandırıw shártnamaları, qamsızlandırıw xızmeti*

Ключевые слова: *финансы, инвестиция, договоры страхования, страховая услуга*

**CHANGES IN THE DYNAMICS OF FREIGHT AND PASSENGER TRAFFIC IN
RAILWAY TRANSPORT IN UZBEKISTAN**

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Summary: *the article analyzes the changes in the dynamics of freight transport in Uzbekistan in 1990-2020, including the indicators of transit cargo transportation. Also, the situation in passenger traffic and passenger turnover was revealed through this network.*

Keywords: *rail transportation, freight transportation, passenger transportation, freight turnover, passenger turnover, transit, population.*

Introduction: During the years of Independence, the volume of cargo transportation on the Republican Railway has undergone specific changes. By the volume of cargo transportation, rail transport occupies the next place after road transport. During the years of independence, it can be seen that the share of railway transport in freight transport has regularly decreased. Railway Transport is distinguished by its ability to transport cargo and passengers over long distances in large quantities, its advantage over road transport in environmental terms. The development of Railway Transport has a rapid and significant impact on the socio-economic development of the regions. From where the railway passes, new settlements of the population, industrial enterprises, various production and service facilities of working places will be built in the same place.

The main part. In 1990, 22.5 percent accounted for 10.3 percent of the total transported cargo in the Republic in 1991, while in 2000 its share reached 15.2 percent, and in 2015 only 4.7 percent of the total cargo transported in transport corresponded to the railway. Another aspect is that the years under study the transport cost of rail transport has increased. In particular, despite the fact that in 2020 the contribution of this network was 5.1%, it can be seen that this figure increased by almost 105.0% compared to 2015 by 166.6% compared to 2000. Another aspect is that in 2015, the cargo transported by rail was 19.2% when transporting these goods, which were 13445.3 thousand tons, while 91.9% of the cargo entering the territory of Uzbekistan was transported by rail transport. The volume of incoming cargo was 12,278.2 thousand tons. By 2019, a total of 18,014.1 thousand tons of cargo had gone out, while 23,054.9 thousand tons of cargo had entered. The proportion of rail transport was equal to 19.8 percent and 80.8 percent, respectively. Due to the pandemic in the world of 2020, 45.8 percent of the cargo that left the territory of Uzbekistan during the restrictions, and 83.5 percent of the incoming cargo falls on the hiss of rail transport. Statistics also show that when sending goods over long distances, rail transport, competing with pipeline transport, leads to the import of cargo into the territory of Uzbekistan (Table 1).

Table 1. Transit cargo transportation through the territory of the Republic of Uzbekistan

	2015	2016	2017	2018	2019	2020
Total of transit shipments, (thousand t)	31974,9	33 992,4	35 288,7	39 114,0	38 553,8	39 906,6
Including by types of transport						
By rail	7545,7	7 976,6	7 675,1	7 270,9	7 037,5	8194,9
On motor transport	494,3	459,2	397,0	620,9	696,2	714,7
By pipeline transport	23934,9	25 556,6	27 216,6	31 222,2	30 820,1	26896,0

From the analysis of the data presented, it should be said that the indicators of the main activity of railway transport in freight transport have acquired a tendency to increase, and a positive assessment of such a situation can be predicted that mokin, at the same time, has consistently increased cargo transportation indicators in rail transport, and this Dynamics will remain even in

In 1991-2017, specific changes also occurred in freight turnover on the railway. In particular, in 1990, when independence was declared, the volume of freight turnover by rail

transport amounted to 56.0 billion.tons km.ni as of 2015, this figure is 22.9 mlrd.ni the total freight turnover for rail transport between 2015-2020 was on average 26-22 Billion t/km.

In particular, the growth rate of railway freight turnover in 2015-2020 was an average of 100.5 percent. In turn, the share of rail freight turnover in total traffic turnover also decreased. If in 1991 this figure was 47.1 percent, in 2015 it was 35.2 percent, in 2019 it was 35.8%. In general, it can be seen that in 2015-2019 the freight traffic on the railway increased by 102.2%. At the same time, the increase in the share of rail transport in the cargo turnover of the transport system can be assessed as a positive situation, since the cost of freight transport in rail transport is 3-5 times cheaper than in road transport, taking into account the fact that the bulk of goods and services produced in our country are transported by territorial differences in passenger traffic and its turnover can be explained by natural, socio-economic factors. In the first place, this was greatly influenced by such factors as the number of inhabitants of the studied areas, the coefficient of mobility of the population, the density of the population, the crossing of Railways, the location of the nearby railway station.

The pace of passenger traffic is observed in more than 200,000 population cities Tashkent, Samarkand, Andijan, Namangan, Fergana and districts with a population of more than 130,000 people. previous state after the removal of pandemic restrictions.

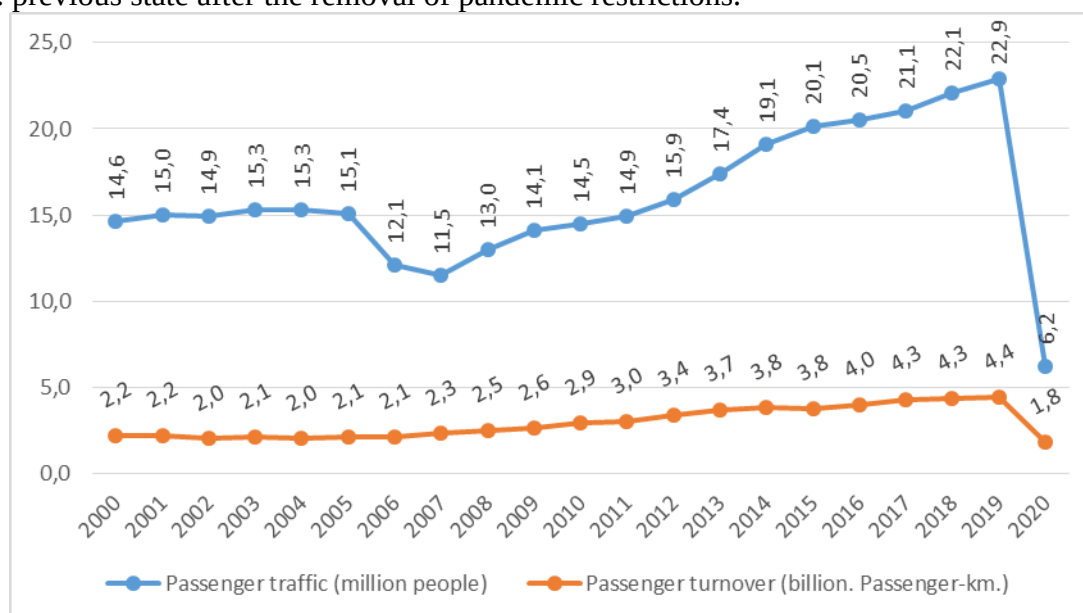


Figure 1. Dynamics of passenger traffic of railway transport in Uzbekistan

In the first decade of independence (1991-2000.) in this type of transport, passenger traffic was reduced by 6.4%. In the next decade, this number was 0.7 percent. And since 2010 it can be seen that the number of passengers transported by rail transport is increasing (fig. Rail transport corresponds to 0.3% of the total number of passengers transported in all types of transport. In 2020, the share of passengers transported in all transport was 0.1%, and this figure returned to its In 2000-2020, specific changes were observed in the passenger turnover of railway transport. In particular, the passenger turnover of the railway in 2000 was 2.2 billion lovchi-km.ni by 2015, this figure increased by 1.4 times. In particular, passenger turnover in 2000-2019 amounted to 2.2 billion.passenger km.from 4.4 billion in 2019.passenger km.ga. did. It can also be observed that the share of passenger turnover in the total passenger turnover in rail transport has also decreased. In particular, in 2000, the share of passenger turnover in rail transport amounted to 7.0% of the total passenger turnover, while in 2019 this figure fell to 3.1%. It is necessary to note separately that the growth rates of passenger turnover in rail transport amounted to an average of 105.0 percent, while the growth rate in the last 2020 fell by 2.4 times.

As a result of the studies, the following conclusions can be drawn: 1. During the period of study of freight traffic in Uzbekistan, the share of this network did not fall sharply even during the pandemic. Even during the pandemic period, it has not lost its relevance as the most effective means

of transporting goods to foreign countries. 2. Despite the high demand for passenger transport and rail transport in the passenger turnover in Uzbekistan, there is a need to carry out reforms in the industry. In this regard, when connecting large cities of Uzbekistan, improving the territorial structure of domestic tourism, it is necessary to take into account the high network capabilities, especially when developing an effective mechanism for transporting transit goods by rail.

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Rezyume: *Maqolada O'zbekistonda temir yo'l transporti 1990-2020 yillarda yuk tashish dinamikasidagi o'zgarishlar, jumladan tranzit yuklarni tashish ko'rsatkichlari tahlil qilindi. Shuningdek, mazkur tarmoq orqali yo'lovchi tashish va yo'lovchi aylanmasidagi holat ochib berildi.*

Резюме: *в статье железнодорожный транспорт в Узбекистане проанализированы изменения в динамике грузоперевозок за 1990-2020 годы, в том числе показатели транзитных перевозок грузов. Также раскрыта ситуация с пассажирскими перевозками и пассажирооборотом по данной сети.*

Kalit so'zlar: *temir yo'l transporti, yuk tashish, yo'lovchi tashish, yuk aylanmasi, yo'lovchi aylanmasi, tranzit, aholi manzilgohlari*

Ключевые слова: *железнодорожный транспорт, грузоперевозки, пассажирские перевозки, грузооборот, пассажирооборот, транзит, населенные пункты*

**ACTIVITIES OF THE REVOLUTIONARY COMMITTEE OF THE KARAKALPAK
AUTONOMOUS REGION**

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Summary: *This article details the political and social management activities of the revolutionary committees that operated in Karakalpakstan during the Soviet government.*

Keywords: *national-state demarcation, revolutionary committees, executive committee, task of the revolutionary committee, tax policy, public education.*

One of the important and little-studied issues in the history of nation-state building in Karakalpakstan is the issue of the revolutionary committee of the Karakalpak Autonomous Region, which played a big role in the creation of the state apparatus and the unification of Karakalpak lands into a single state, although not sovereign, in the preparation and holding of the constituent congress of councils Karakalpakstan.

Over the seventy years of the dominance of Marxist-Leninist theory and ideology in science and practice in the former USSR, well-known stereotypes have developed, the challenge of which entailed negative consequences, and the development of science, in particular historical science, proceeded from this ideology, ascended to it and was evaluated by adherence to it.

The dominance in the theoretical sphere of only one Marxist-Leninist concept significantly fettered the work of learned historians. They proceeded from the decisive role of material production in people's lives and saw the meaning of historical development in the transition from one socio-economic formation to another, culminating in the building of a communist society on earth.

At different times, historians explained the causes and patterns of development of the history of our country in different ways.

But the past does not disappear, but continues to live in the accumulated experience of social life. Generalization and processing of accumulated human experience is the first task of history.

So, based on the foregoing, an attempt was made to take one of the steps taken in this direction.

The overthrow of tsarism as a result of the February bourgeois-democratic revolution in 1917 radically changed the alignment of political forces in Russia.

The Bolsheviks, having come to power, created a fundamentally new political system. They liquidated all the old state institutions (the State Council, ministries, local self-government bodies - city dumas and zemstvos). The former system of justice, the principles of the formation and functioning of the army were rejected. The implementation of the dictatorship of the proletariat (the political power of the workers), proclaimed by the Bolsheviks, and the task of strengthening their power required the creation of a new state machine[1].

The proclamation of the Congress of Soviets as the country's highest legislative body has not been fully implemented in practice. The role of the All-Russian Central Executive Committee was also limited. The real political power belonged to the Presidium of the All-Russian Central Executive Committee and the Council of People's Commissars (SNK), which appropriated not only executive, but also legislative power. His decrees were subject to immediate execution. Local government was concentrated in the provincial and district Soviets. To control their activities, revolutionary committees (revolutionary committees) were created, consisting exclusively of supporters of the Bolsheviks".

By the beginning of the 1920s, several independent state formations existed on the territory of the former Russian Empire. These are the Ukrainian, Belarusian, Azerbaijani, Armenian and Georgian Soviet Socialist Republics, created on the basis of the national-territorial feature of the RSFSR, as well as the Far Eastern Republic".

In Central Asia, the Turkestan Autonomous Soviet Socialist Republic, the Khorezm and Bukhara People's Soviet Republics were first formed within the boundaries established under tsarism. Various peoples and nationalities lived in these republics, having their own domestic and national characteristics, their own language and culture.

Thus, according to the data of 1920, the national composition of the Turkestan ASSR was characterized by the following figures: Uzbeks - 2,050,755 people (39.3%), Kazakhs - 1,091,925 people (20.8%), Russians - 536,671 (10.3%), Kyrgyz - 522,292 (10%), Tajiks - 399,912 (7.7%), Turkmens - 266,681 (5.1%) and others - 353,727 (6.8%). Among other nationalities there were 75,334 Karakalpaks"[2].

On October 17, 1924, the Presidium of the Kirghiz (Kazakh) Central Executive Committee adopted a resolution on the formation of the Provisional Revolutionary Committee. Karakalpak Autonomous Region, whose main task was to prepare the convocation of the First Constituent Congress of Soviets of the KKAO. At that time, it was not decided to expand the composition of the Presidium of the Kyrgyz CEC by introducing a representative of the Karakalpak Autonomous Okrug into it"[3].

On November 6, 1924, the Presidium of the Kyrgyz Central Executive Committee approved the composition of the Revolutionary Committee of the KKAO. "[4]

On November 27, 1924, the Revolutionary Committee informed all village, volost and district Soviets that local power was passing into its hands. "[5]

Regional reforms enjoyed broad administrative and political rights. They could independently resolve issues of economic and cultural construction. The regional courts, created under the revolutionary committees, were instructed to "consider not only the cases of individuals, but also clashes between clans and tribes."

Under the revolutionary committees, national military units were created, which were part of the Khorezm Red Army. Based on the decision of the 10th session of the All-Khorezm Central Executive Committee (May 1924), the Nazirat of Finance of the KhSSR was instructed "with the regional revolutionary committees to submit to the Presidium of the Central Executive Committee a draft taxation, which was to be "adapted" to the living and economic conditions of the Turkmens and Kirghiz-Karakalpaks "[6].

During the years of foreign military intervention and civil war, there were still no necessary conditions for the creation of nationally homogeneous states. By 1924, the conditions were ripe for carrying out a national-state delimitation and the formation of national republics and autonomous regions.

In 1924, a national-state delimitation was carried out in Central Asia. As a result of this, the Uzbek and Turkmen SSRs, the Tajik ASSR were formed as part of the Uzbek SSR. The Kara-Kyrgyz Autonomous Region (now the Kyrgyz Republic), which was then part of the RSFSR, and the Karakalpak Autonomous Region, then an autonomous republic, as part of the RSFSR, and since 1936 as part of the Uzbek SSR.

The autonomous Karakalpak region, formed from the Amudarya region of the Turkestan ASSR and the Kazakh-Karakalpak region of the Khorezm SSR, was part of the Kirghiz ASSR during the period of the national-state demarcation"[7].

Party and Soviet bodies of the Kirghiz ASSR formed the Organizing Bureau of the RCP (b) and the Revolutionary Committee in the Karakalpak Autonomous Region. On November 15, 1924, members of the Orgburo and the Revolutionary Committee arrived in Turtkul, the center of the region.

On November 17, 1924, the Amu Darya Regional Committee of the CPT handed over all its affairs to the Organizing Bureau of the RCP (b) of the Karakalpak Autonomous Region"[8].

On November 20, 1924, the Presidium of the Revolutionary Committee decided to create a unified system of administrative management of the entire region and the formation of district revolutionary committees.

Finally, the issue of the administrative division of the region was resolved by the "Regulations on the Karakalpak Administrative Region", approved by the decision of the CEC of the Kazakh ASSR.

According to the "Regulations" KKAO was divided into 4 districts:

1. Turtkul with volosts - Biybazar, Saribiy, Sheiykh-Abbazvaliy, Mingbulak and Tamdi;
2. Chimbai with volosts - Daukara, Kegeyli, Kuk-Uzyak, Kungrad, Naupir, Nukus, Taldyk, Zhangabazar;
3. Khodzheyly with volosts - Meskinata, Lauzan, Kipchak, Ktay, Kara-Teren, Khodjayarmysh;
4. Kungrad with volosts - Tokmakata, Kzyl-Jar and Muynak"[9].

The "Regulations" also established that the Regional Congress of Soviets was the supreme authority on the territory of the Karakalpak Autonomous Region; and the period between the congresses of Soviets - the Regional Executive Committee elected by them and its Presidium.

The executive regional committee had full power to resolve issues: land, internal administration, public education, health, social security, local economy and budget - in accordance with the everyday characteristics of the region"[10].

The task of the Revolutionary Committee also included the preparation of the Constituent Congress of Soviets of the Karakalpak Autonomous Region. In pursuance of it, a large agitation, mass explanatory pre-Congress work was carried out.

The Chimbay District Executive Committee was dissolved on November 25, 1924, and the Chimbay District Revolutionary Committee was formed instead. On November 27, 1924, the presidium of the Chimbai district revolutionary committee, having dissolved the volost executive committees of the Soviets, formed volost revolutionary committees".

On November 23, 1924, the Central Executive Committee of the Khorezm SSR adopted a resolution according to which the Kazakh-Karakalpak region was transferred to the Karakalpak Autonomous Region based on the decision of the 5th kurultai of the Khorezm SSR"[11].

On November 27, 1924, instead of the Kazakh-Karakalpak Regional Committee of the KhKP (b) of the Regional Revolutionary Committee of the Khorezm SSR, the Khojeyly district Orgburo of the RCP (b) and the Revolutionary Committee of the Khojeyly district were formed. This district then included the current Khodjeyli, Kungrad and Amu Darya without the Mangit region, transferred by the Khorezm region in 1957 to the Karakalpak ASSR) regions.

In the Turtkul district, the District Revolutionary Committee and the District Orgburo of the RCP (b) were not created, and their functions were performed by the Regional Revolutionary Committee of the Orgburo of the RCP (b) of the Karakalpak Autonomous Okrug.

At the beginning of 1925, a separate Kungrad district was formed, which included parts of the territory of the Khodjeyly district. Kungrad volost and Muynak island from the Chimbai district.

Thus, during the period of the Revolutionary Committee's activity, the administrative structure of the Karakalpak Autonomous Region looked approximately as follows: the region was divided into Turtkul, Chimbai, Khodzhelinsky and Kungrad districts. Districts, in turn, were divided into volosts. The boundaries and number of volosts have not yet been finally determined.

It should be noted that in all organizational work on the formation and registration of the Karakalpak Autonomous Region, workers from representatives of local nationalities, such as: K. Avezov, D. Atashev, U. Bekimbetov, A. Ermanov, A. Kudabaev, E. Kozhurov and others.

In December 1924, the Revolutionary Committee of the Karakalpak Autonomous Region created a special commission, which visited Ktai, Kipchak, Khodjeyli, Yana-Kale and Kungrad. She examined the state of the territory that had passed from the former Khorezm SSR to the Karakalpak Autonomous Region. The materials of the commission made it possible to get acquainted with the actual situation in this part of the region and take the necessary measures to eliminate the existing shortcomings"[12].

We will briefly dwell on the state of the national economy and culture of the autonomous Karakalpak region.

The total state property mass to be distributed among the new republics and regions amounted to 75.3 million rubles. Of these, the Karakalpak Autonomous Region accounted for 0.8 million rubles"[13].

During the period of activity of the revolutionary committee, only 2 plants operated from cotton ginning plants: in Turtkul and Khodjeyli.

The Turtkul cotton factory, which had an oil mill and a soap factory, began its activity on October 22, 1924. By the beginning of 1925, the plant had purged 199,329 poods of cotton. The average productivity of the plant per day was 2000 pounds. 76 wagons of pure cotton were sent. After cleaning the cotton, an oil mill worked, then a soap factory.

The Khodjeyly cotton plant started operating in December 1924. There were several hundred small handicraft enterprises operating in the region, producing mainly food products.

As a result of the national-state delimitation of the Karakalpak Autonomous Region, 0.9% of all cotton areas, 2.4% of alfalfa, 0.1% of orchards and vineyards and 5% of the forests of Central Asia were transferred. Of the total number of livestock (13 million 69 thousand heads) of Central Asia Karakalpak Autonomous Okrug received 381 thousand heads"[14].

Credit and agricultural cooperation was of great importance in the restoration of agriculture. Dekhkans, having received cash advances for cotton sowing through credit cooperation, were interested in expanding the sown areas and increasing the yield of raw cotton from each tithe. For example, in 1924, only in 5 volosts of the Turtkul district, 2786 ½ tithes were sown under cotton.

Dehkans of these volosts received advance payments for cotton sowing in the amount of 203,912 rubles. 95 kopecks and delivered 202,233 poods of raw cotton under contract to the state.

The Revolutionary Committee carried out significant work on agricultural cooperation. By the end of December 1924, there were 12 agricultural partnerships and 1 agricultural union in the Turtkul district; in the Chimbai district - 16 agricultural partnerships and 1 agricultural union.

The Revolutionary Committee organized district agricultural bureaus in the Khodjeyly and Turtkul districts (one in each) and provided assistance to the first in the amount of 10,000 rubles, to the second - 5,000 rubles"[15]. There was a wide network of consumer cooperatives in the region.

There were a number of difficulties in the agriculture of the Karakalpak Autonomous Region in 1924: lack of water, damage caused to agriculture by locusts, washing away of land, early frosts, etc. In 1924, the harvest (without raw cotton) was 50 percent less than in 1923. Despite this, most dehkans farms paid the agricultural tax on time. So, from November 1924. to February 1925, an agricultural tax in the amount of 313,723 rubles was collected in the region"[16].

Poor-middle peasant farms that received loans from the agricultural bank could not repay them on time. The Revolutionary Committee resorted to various measures, but they did not give the desired result. Therefore, the Revolutionary Committee set from January 1, 1925 to determine the conditions for the return of these loans by reducing from the middle peasants and the poorest population to 35% of the original debt"[17].

Local authorities made mistakes on tax policy. For example, under the guise of self-taxation, illegal fees were taken from the population, which caused discontent among the masses. On December 14, 1924, the Revolutionary Committee issued a mandatory decree, according to which collections from the population under the guise of self-taxation were prohibited"[18].

After the formation of the Revolutionary Committee of the Karakalpak Autonomous Region, its close connection with the districts became an urgent matter. From the end of November 1924, the Revolutionary Committee took vigorous measures to build the Khodjeyli-Chimbay telegraph line"[19].

By the end of February 1925, this line was completed, but the installation of masts for transferring a wire rope across the Amu Darya in the direction of Khodjeyli - Nukus still remained unfinished"[20]. Already in March 1925, the telegraph line Turtkul-Novo-Urgench-Khojeyli-Chimbay was opened"[21].

In the 1924-1925 academic year, 52 schools functioned in the Karakalpak Autonomous Region, including 5 orphanages, 2 communal schools.

There were 1374 students and 129 teachers in these schools. In 1925, a pedagogical college was opened in Turtkul"[22].

The Revolutionary Committee of the Karakalpak Autonomous Region has developed extensive measures for public education. It was planned to open 3 schools of the 1st stage for 460 students, one school of the 2nd stage for 50 students, a school for teenagers for 30 people, 34 aul-kishlak schools, 40 educational centers, 12 boarding schools for 320 children, 4 clubs and libraries, a farmer's house, a Soviet party school for 150 people, training courses for teachers of aul-kishlak schools and accountants. This program was gradually implemented.

But, the totalitarian regime completely ideologized the school. Textbooks, party, Komsomol and pioneer organizations, teachers affirmed the dogmas of Stalinism in the creation and behavior of the young generation. The functions of the school were also distorted.

All work in the region was led by the party organization. In November 1924, there were 31 party cells in it, in which there were 895 members and candidates of the party, of which 6 party cells were located in the Khodjeyli and Kungrad districts, which had 74 members and candidates of the party.

The Revolutionary Committee created a commission to reduce staff in institutions and enterprises in order to save costs. As a result of the work of the commission, the states throughout the region were brought to 914 units, of which 207 people were assigned to the state budget, 692 people to the local budget and 15 people to self-justification"[23].

District Congresses of Soviets were held in late January and early February 1925. At these congresses, the Executive Committees of the district Soviets and delegates to the Constituent Congress of Soviets of the Karakalpak Autonomous Region were elected.

The Regional Congress of Soviets of the Karakalpak Autonomous Region began its work on February 12, 1925 in the city of Turtkul. It was the first Constituent Congress of the region.

The congress at its meetings considered questions of national-state delimitation, the report of the Revolutionary Committee, cooperation and state trade, questions of public education, etc.

At the congress, the "Declaration on the formation of the Karakalpak Autonomous Region" was adopted"[24]. The First Constituent Congress legally formalized the formation of the Karakalpak Autonomous Region.

The work of the congress ended on February 19, 1925. The work of the congress ended on February 19, 1925.

The XII All-Russian Congress of Soviets on May 11, 1925 confirmed the formation of the Karakalpak Autonomous Region as part of the Kazakh ASSR.

As a result of the national-state delimitation in Central Asia, the Karakalpak Autonomous Region was formed. It actually began to exist from November 18, 1924. This process ended in February 1925 with the First Constituent Congress of Soviets, which proclaimed the formation of the Karakalpak Autonomous Region.

So the foundations of the national statehood of the Karakalpaks were laid.

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Rezyume: *Ushbu maqolada Qoraqalpog‘istonda sovet hukumati davrida faoliyat yuritgan inqilobiy qumitalarning siyosiy va ijtimoiy sohadagi boshqaruv faoliyati atroflisha yoritilgan.*

Резюме: *В данной статье освещается руководящая деятельность ревкомов в политической и социальной сфере, действовавших в Каракалпакстане при советской власти.*

Kalit sózlar: milliy-hududiy chegaralash, inqilobiy qo‘mitalar, ijroiyy qo‘mita, inqilobiy qo‘mitaning vazifasi, soliq siyosati, xalq ta’limi.

Ключевые слова: национально-государственное размежевание, ревкомы, исполнительный комитет, задача ревкома, налоговая политика, народная образования.

THE PROBLEM OF YOUTH EDUCATION IN THE GLOBALIZED PROCESS OF EDUCATION

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Summary: *In this article, in the process of globalization, student education is brought to life from a dialectical point of view, and the way of doing things is not old, but it is necessary to bring something new, if innovations focused on traditional teaching methods are introduced, the goal will be achieved. From this point of view, as one of the most important elements of the globalization of education, rapid development of computer and information technologies, positive and negative methods of globalization of education were analyzed.*

Keywords: *education, innovation, globalization, technologies, message, Internet, visualization, pedagogy.*

Large-scale reforms aimed at modernizing the content of education, increasing the quality of education, introducing innovative technologies in education are being implemented in our country. For that reason, interactive methods, innovative technologies, pedagogical and information technologies are widely used in the educational process. Our president Sh.M.Mirziyoyev noted: "The strategy and mechanisms of innovative development of our country are closely related to effective use of the intellectual and scientific and technical potential created in this country" [1., 237.p.].

The 21st century has become the age of globalization for the world society. The process of globalization has had a noticeable impact on a wide range of phenomena in the fields of economy, politics, sociology, pedagogy and education. Globalization is a process of economic, political and cultural integration throughout the world. This is an objective process with a systematic nature, covering all aspects of social life. As a result of globalization, the world is becoming biased towards all its subjects. Globalization in its modern features can have a unique appearance in itself as a multi-level and multi-level system of all-round integration phenomena.

Their effects are global communication, global economy, global politics, global culture, global subject, global language, global lifestyle. Globalization processes in education should be seen in several aspects: 1. Institutional, 2. Conceptual, 3. Processual.

Among the orientations of the institutional aspect is the creation of various international educational institutions. For example, UNESCO organizes the world education space, develops international legal documents for all countries, supports the development of integration processes in educational institutions. Analyzing the conceptual aspect of education, the world pedagogic society proposed to divide all its concepts into three groups: assimilation, which ensures the cultural-enlightenment of one dominant population and the crisis of others due to integration; multi-cultural, it emphasizes the autonomous development of cultural groups of all kinds; It is aimed at mutual enrichment due to cross-cultural, mutual influence and penetration of different cultures.

An example of the global changes showing the procedural aspect is the expansion of the class-lesson system, the expansion of the compulsory primary and secondary education, and the development and implementation of education quality standards throughout the whole world in the 17th century. As a clear example of the globalization of education, the Bologna process, its goal was convergence and integration, in order to create a single Europe, European countries that do not have educational systems are considered places of education. Today, the Bologna process unites 46 countries of the world.

Globalization processes have had a great impact on education. As one of the most important elements of the globalization of education, it can be considered that society information is separated from the rapid development of computer and information technologies. Due to modern communication technologies, the learning process began to take on new forms in terms of quality.

The process of globalization has opened up wide prospects for all students who have the opportunity to receive the desired information online, to participate in conferences, webinars from time to time, to use the books of the world's libraries, the materials of the best scientific articles.

The Internet has become one of the most important sources of information for students, teachers, and a wide range of people who want to change their profession or get additional education in certain fields. Now we can learn from the distance. Being at home, in another city, in another country, you can listen to interesting lectures, master-classes, video lessons.

New technologies provide an opportunity to solve important problems such as visualization and vision in the learning process. Graphs, diagrams, tables, drawings, the progress of any process or the dynamics of development - such a view allows you to better understand the educational material, which has become a sought-after part of educational programs offered not only on the Internet, but also on CD. The Internet and other new technologies make it possible to make the educational process continuous. A person who has received education will replenish his stock of knowledge during his future life.

The development of globalization and its impact on education and one important way is that globalization has opened the national borders of the countries and gained the opportunity to study in other countries. Currently, the world's largest universities educate many foreign students. International cooperation consists in providing exchange of students and teachers, promoting secondary education institutions. "Active integration of the globalization process into the educational process is not only related to effective methods, but also has a number of problems that significantly hinder the integration of states into the world educational space" [2., p. 14].

One of the problems of the globalization of education is the language problem. Some of the university students did not know foreign languages. As a result, students cannot participate in conferences conducted in a foreign language; He produces a number of exercises for some students who get information from foreign sources. In addition, both the student and the teacher must be computer literate. A person who does not know how to use a computer will be cut off from new global educational opportunities. The globalization of the teaching, which has been developed a lot by physiologists and healers, also has an exercise. Acceleration of learning, computer use brings health-related exercises. This factor is especially important for schoolchildren. "Another form of fear of communication in the environment of education and globalization processes is manifested in the fact that in developing countries or regions, an educated person often cannot find the right application of his knowledge and skills" [3., p. 17]. This leads to the desire of a person to find a job not in his own country, but in another country.

The end of this is so bad that "due fees and the migration of the working force (this is especially dangerous) is considered as a mass return of students to their homeland after studying in the best universities." As a result, a phenomenon called "brain drain" is observed. This trend leads to a long-term strengthening of inequality in developed and all other countries, because societies that can create the best conditions for women to do business win in this election for more women.

The departure of women from the desired branch of the economy, the departure of the best educated students to other countries has a negative impact on the economy of any country.

The origin of the widely used traditional teaching can be traced back to Plato's Academy and Aristotle's Lyceum in ancient Greece. Over the course of hundreds and thousands of years, the techniques and methods of conducting lectures and seminars have been perfected and put into practice.

Since modern times, students and teachers have been trying to find the best forms of interaction: teacher-student audience, participation of all groups of students are considered as contests. What are the dangers of moving away from traditional forms of learning and interest in computer technologies?

Modern learning processes often facilitate the collection and collection of electronic texts. As a result of not working together with the teacher, he acquires electronic information and collects it in a passive way, collecting information without knowledge. The process of gathering information

has certain advantages, they are time saving, presentation of study material and all the necessary materials are related to me.

At the same time, the passive accumulation of knowledge, which is characteristic of the globalization of education, creates the effect of psychological bias in the creation of the educational system of students. The negative impact of the ideology of globalization will be reflected in the disruptive changes in the educational process.

The market mentality penetrates the education system and leads to a large-scale reconstruction of the motivation of teachers and students. Removing the educational component from the educational process and focusing it on narrow professional goals helps to satisfy the utilitarian requirements of the mind of students, puts the capabilities and needs of the user in the first place. In the form of a culture of material prosperity, the enrichment of professional work and commercial success is being forcibly connected. Unfortunately, the current education system does not meet this ideal.

Pedagogical society has been talking about the danger of not paying attention to the spiritual aspects of national culture for a long time, because the weakening of the spiritual potential of the society leads to the loss of their ability to preserve marital parameters.

The spiritual context of educational professionalization is focused on individual survival goals and abilities, forcing us to take into account knowledge and skills, as well as skills and leadership qualities that allow us to deal with increasingly competitive conditions.

In short, as noted by K.D.Ushinsky: "the nature and orientation of folk education is the result of a nation's long historical development, it cannot be taken from other nations" [4., 354.p.]. The role of past cultural experience and the inertia of cultural processes cannot be ignored. In the process of globalization, students should approach the education of young people from a dialectical point of view.

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Rezyume: *Ushbu maqolada globallashuv jarayonida o'quvchilar ta'limi dialektik nuqtai nazardan hayotga tatbiq etilib, ish yuritish usuli eski emas, balki an'anaviy o'qitish usullariga yo'naltirilgan innovatsiyalar joriy qilinsa maqsadga erishiladi. Shu nuqtai nazardan ta'lim globallashuvining muhim elementlaridan biri sifatida kompyuter va axborot texnologiyalarining jadal rivojlanishi, ta'lim globallashuvining ijobiy va salbiy usullari tahlil qilindi.*

Резюме: *В этой статье в процессе глобализации студенческое образование воплощается в жизнь с диалектической точки зрения, и способ ведения дел не стар, но необходимо привнести что-то новое, если инновации, ориентированные на традиционные методы обучения, введено, цель будет достигнута. С этой точки зрения, как одного из важнейших элементов глобализации образования, бурного развития компьютерных и информационных технологий были проанализированы положительные и отрицательные методы глобализации образования.*

Kalit so'zlar: *ta'lim, innovatsiyalar, globallashuv, texnologiya, aloqa, internet, vizualizatsiya, pedagogika.*

Ключевые слова: *образование, инновации, глобализация, технологии, сообщение, интернет, визуализация, педагогика.*

USTUYURT MESOLITHIC PERIOD

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Summary: *The article examines the history of the archaeological study of the Mesolithic monuments of the Ustyurt plain in the Republic of Karakalpakstan and the revision of the existing archaeological materials, as well as the possibilities of raising the study of the Mesolithic in Uzbekistan to a new modern level.*

Keywords: *Ustyurt, archaeological research, Mesolithic, E.B. Bijanov, A.V. Vinogradov, Aydabol, Churuk, Kartpayqum.*

In the world archeology of the 20th century, the material culture of the Stone Age, especially the Mesolithic communities, was studied on the basis of the evolutionary theory. Currently, there are different views in world science about the Mesolithic period and its periodization.

Archeological sources testify that the Middle Stone Age, an important period of our history, was a period of large-scale exploitation of not only Uzbekistan, but also the territory of Central Asia by people.

The regions of Ustyurt were not left out. The region of Ustyurt is of special importance in the study of the culture of the Mesolithic period of Uzbekistan. In the second half of the last century, E.B. Bijanov and A.V. Vinogradov found about 20 monuments of the Mesolithic period in these borders. They were mostly open monuments [1].

According to the observations of the researchers, these monuments are located along the basins, salt marshes, sandy massifs, old "bays", tributary depressions and springs. Aydabol, Churuk, Kartpayqum, Alan massif and others have such topography. They are divided into long-term and short-term spaces. Long-term monuments include Aydabol 25 with more than 2,000 finds (with 1,000 finds), Aydabol 20, Aktailak (with 14,000 finds); Kiyikshingrav 2 (with 12000 hits) can be included. Short-term monuments include Aydabol 15 (83 finds), Churuk 2 (84 finds), Sumbetimer 1 (263 finds) [2].

Among them there are several hundreds of medium-sized monuments. For example, Aydabol 10 (about 400 finds), Aydabol 16 (about 5000 finds), Aktobe 2 (more than 5000 finds) [3]. According to A.V. Vinogradov, among the above monuments, those with 200 to 1000 finds are settlements intended for one-time or seasonal living [4].

According to the given information, monuments of the Mesolithic period can be divided into three types according to the classification of K. Flannery and F. Howler [5]:

1. Seasonal, main camps;
2. Settlements for the distribution of hunting prey;
3. Short-term intermediate spaces.

Among the monuments of the first type, many tools of various production characteristics were found. Monuments of the second type are limited to a set of special weapons designed for hunting and skinning and distribution of prey products. Although the weapons of the third type are similar to those of the first type, they are characterized by the fact that the number of stone objects is much less [6].

The material culture of Mesolithic communities on the Ustyurt Plateau was first highlighted by E.B. Bijanov in his research [7].

The first cultural-periodic interpretation of the monuments of this period in Ustyurt was carried out by E.B. Bijanov. At the same time, the lack of stratigraphic monuments and type sheets made for these industries does not allow solving a number of important issues such as their cultural characteristics, relative and absolute dating, periodization, genesis, development paths, cultural and

genetic connections.

That is why there are uncertainties and debates in the study of the Ustyurt Mesolithic. For example, let's take separately the monuments considered by researchers to be unique to the Mesolithic period. We cannot agree on this point. According to E. B. Bijanov, Aydaol 16, 25 sites, Aydaol 6, 9, 11, 21, 22 can be said to belong to the exact Mesolithic period, and Jarinquduq finds are conditionally to the Mesolithic period. Aktilak 1 (1 set), Aktobe 2, Churuk 2 (1 and 2 sets), Churuk 7, Sulama, Churuk 3 (2 sets) settlements.

Dated by E.B Bijanov to the late Mesolithic [8] or early Neolithic periods. A.V. Vinogradov takes a careful approach to the dating of the monuments of Aktilak and Aydaol [9], but it is difficult to understand which collection he is talking about. In our opinion, the period of transition from the Mesolithic to the Neolithic above in addition to Aktobe 2, Churuk 2 (1 and 2 sets), Churuk 7, Sumbetimer 1, Koshatin 2, Kiysiksingrav 2 (11 sets), Aydaol 7, 10, 12, 14, 15, 20 and 23, among the monuments mentioned by E.B Bijanov can be entered.

Monuments of the Mesolithic period in Ustyurt are characterized by a large percentage of microlithic elements made in plate-like lightning technique. In secondary processing, opacity retouching was often applied. Pedicures are produced. There are many scrapers and cutters. You can also find jewelry made of shells in these monuments.

The origin (cultural identity) of Ustyurt Mesolithic monuments is still unknown. According to E.B. Bijanov, mixed and specific local cultures formed under the influence of the Caspian and South Ural Mesolithics were formed in Ustyurt [10].

As evidence, he cites the similarity of the trapezoids in the Ural and Caspian monuments and in Ustyurt.

At the same time, E.B. Bijanov also dwells on the differences and the peculiarities of the Mesolithic of Ustyurt, and thinks that the Middle Stone Age monuments of this place grew out of local Paleolithic sites such as Esen 2 and Churuk 12 [11].

However, meeting trapezes in Ustyurt, the Urals, the Caspian and even in the European Mesolithic monuments is a regularity, and it is not enough evidence to take them as a basis for comparison and cultural genesis in general [12].

In general, it is still time to divide the Mesolithic period into cultures in Ustyurt. For this, it is necessary to solve problems such as exact typology and type-sheets of stratigraphed monuments and their industries, percentages of types of weapons, absolute dating work.

Trassological data testify about the economy of the inhabitants of the Mesolithic period in Ustyurt, and it was determined that it was mainly of an assimilative character. The main occupation of the population was hunting and gathering.

Leather, bone and wood processing took a big place in the household. The Mesolithic inhabitants of Ustyurt were in constant cultural contact with the neighboring regions and played an important role in the formation of the subsequent local Neolithic development.

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Rezyume: *Maqolada Qoraqalpog‘iston Respublikasi Ustyurt tekisligidagi mezolit davri yodgorliklarini arxeologik o‘rganish tarixi muhokama qilinadi va mavjud arxeologik materiallar, shuningdek, O‘zbekistonda mezolit davrini o‘rganishni yangi zamonaviy bosqichga ko‘tarish imkoniyatlari ilmiy jihatdan o‘rganiladi.*

Резюме: *В статье рассматривается история археологического исследования мезолитических памятников равнины Устюрт в Республике Каракалпакстан и научно исследовать имеющихся археологических материалов, а также возможности поднятия изучения мезолита в Узбекистане на новый современный уровень.*

Kalit so‘zlar: *Ustyurt, arxeologik tadqiqotlar, mezolit, E.B. Bijanov, A.V. Vinogradov, Aydabol, Churuk, Kartpayqum.*

Ключевые слова: *Устюрт, археологические исследования, мезолит, Е.Б. Бижанов, А.В. Виноградов, Айдабол, Чурук, Картпайкум.*

WAYS TO FORM THE SKILL OF LOGICAL THINKING IN PRIMARY SCHOOL PUPILS

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Summary: *This article is devoted to methodological recommendations for the formation of logical reasoning skills in younger schoolchildren. One of the main requirements for younger schoolchildren was that independent and logical thinking plays an important role in the formation of skills, abilities, the development of oral, written speech, the ability to reason logically on the basis of problematic questions-tasks, improving their reading culture, enriching vocabulary, in the embodiment of their spiritual and moral image as personalities. The article presents the importance of using interactive educational technologies, one of the modern technologies for the successful formation of logical thinking skills in younger schoolchildren.*

Keywords: *logical thinking, independent thinking, interactive technologies, brainstorming, teacher, group members, questions and answers.*

Introduction. Education's most important and urgent task in modern society is to develop mentally mature, morally purified, physically strong, and spiritually rich generations. These feelings in a person are formed and developed directly in educational institutions. The school is an institution responsible for the correct direction of the development of children's natural abilities based on their intellectual capabilities. This process is carried out by educators. Therefore, teachers should be capable of thinking logically and creatively independently, have cultural beliefs, possess high moral qualities, be able to think logically and creatively independently, know their students well, so that they can educate the younger generation who are capable of approaching any situation independently, logically, and creatively. There is a great need in the education system for teachers who understand that the development of the intellectual potential of the younger generation, its education and support is an urgent social need, in short, a competent teacher.

Therefore, "in order for our youth to become independent thinkers, possess high intellectual and spiritual potential, become people equal to themselves on a global scale in any field, and become happy, our state and society must make every effort and we will mobilize our capabilities," it is emphasized that the training of personnel capable of independent and logical thinking is one of the most important tasks of modern society in the education of the youth of our country by highly qualified professionals who are able to freely express their opinions and orally, and in writing it remains. [1; 488].

Literature analysis. A number of efforts have been made to improve the effectiveness of teaching and develop students' ability to think independently. In particular, Gulomov A. (1989) [2], S. Yaminova (1997) [3], Ya. Rakhmonov (2004) [4], K. Khusanboeva (2006) [5], B. Khadzhaev (2009) [6], J. Musaev (2007) [7] Sh. The scientific works of such researchers as Nurullayeva (2005) [8] comprehensively cover the problems of developing students' thinking, independent and creative organization and activation of the learning process. At the same time, the issue of bringing students, especially younger schoolchildren, to logical thinking is one of the urgent issues awaiting solution in the science and practice of domestic education.

The scientist-philosopher A. Choriev philosophically analyzed the activity of independent thinking as the main component of individual independence [9. 6]. E. Gaziev [10] and V. Karimova [11] in their research revealed the psychological foundations of thinking. Psychologists say that thinking as a socio-intellectual process is an independent activity that has its own motive (inner strength, spiritual need), purpose and methods. With the help of thinking, the conscious or unconscious aspects of things and events that are reflected in the human brain or psyche are clarified. Thinking happens because of this research. Thinking is a necessary part of influencing another person entering into communication, and the basis for knowing each other [11.106]. Success in this process requires self-reasoning, logical reasoning in the opinion expressed or

objections raised. Without it, neither intellectual research, comprehension of something or an event, nor influence on the interlocutor will bring the expected effect.

Research methodology. In order to form and develop the logical thinking skills of younger schoolchildren in the classroom in primary grades, first of all, their focus on independent thinking is one of the most important requirements for lessons. Because relying on logic in thinking requires the acquisition of independent thinking skills. In this regard, relying on the opinions of K. Yuldosheva on the methodological foundations of the renewal of school literary education and the development of new pedagogical thinking, set out in his doctoral dissertation on "New pedagogical thinking and scientific and methodological foundations of teaching literature in secondary schools" [12] perhaps In the conditions of updated pedagogical thinking, it is recommended that education and its main factors prevail in the relationship between a student and a teacher, pedagogical cooperation, and in this process each child should get to know himself, independently explore, determine his interests and guide him in the development of his abilities. In this process, the independence and freedom of thinking of the self-learner leads. On the basis of this independence and freedom, signs of logical thinking are formed.

To. Khusanboeva "Scientific and methodological foundations of teaching students independent thinking in the process of literary education" [5]. The doctoral dissertation on the topic is directly focused on the problem of organizing independent thinking of students. The formation of students' ability to think independently requires the use of logic in this process. In order for a person to think independently, express his opinion and convince others of his opinion, he must have specific and appropriate logical grounds. Therefore, an independent opinion of any person is based on logical grounds. There is no independent opinion and attitude without a logical basis.

Analysis and results. It is known that teaching methods are a complex structural component of the educational process, they serve to highlight all areas of activity of the teacher and student, a large amount of communication and communication between subjects creates connections. The training method is an algorithmized system of actions of a certain content that ensures the achievement of a given goal [13. 475-476].

It seems that educational methods are not a static phenomenon and can be used in a unique and appropriate way at each stage of learning. Various educational technologies and teaching methods based on them are widely and effectively used in classes to improve primary literary education. The unique leading side of interactive teaching methods is that when using them, almost all students participate in the educational process at the level of their intellectual capabilities. It is important to note that during the lesson, students work together. In addition, when using these methods, the process of independent and logical thinking is well implemented, and an environment of mutual support is created together with partners. It allows not only to acquire new knowledge, but also to develop cognitive activity and bring it to a higher form of cooperation. Most importantly, interactive methods used in the classroom require students to think independently and logically.

The term "Brainstorming", which is used under the name "Ideological brainstorming" in the science of domestic education, comes from the English word "Brainstorming" — brain attack, and means a method called "bank of ideas". This method is used to stimulate the intellectual creative and cognitive abilities of students. The purpose of the "Brainstorming" method is to help students find unconventional ways to solve problems and organize their joint cognitive activity; stimulate creative activity; develop students' ability to think logically; to demonstrate the advantages of collective research in the search for solutions to complex problems; to demonstrate the advantages of cooperation between teachers and students; the best, generalized set of possibilities for intuitive and conscious use of the acquired knowledge is considered. The use of this method in bringing students to logical reasoning is described in the section "I will receive the Nobel Prize when I grow up" of the 2nd grade "Native language and reading literacy" of the textbook "I will receive the Nobel Prize" [14. 12-15] can be seen by the example of didactic text analysis. Based on the purpose of literary education, it is advisable to work on this text in connection with the life, interests of students, partly with grammar. However, the inability of all teachers to approach the lesson process

based on the main goal of literary education - the formation of a spiritually mature personality can negatively affect the effectiveness of the lesson. To organize the lesson process in this direction, the teacher first expressively reads the text. Then, with the help of several logical questions, the level of logical thinking of students is checked. After that, a didactic analysis of the work is carried out with the help of the following questions and tasks that set students up for logical thinking:

1. Tell me, what does it mean that people living on earth are called by their first and last names?
2. Do you know the meaning of your name?
3. What do you think are the strange things our mother nature has? Have you ever encountered "strange things" in your life?
4. Dear children, what are we learning in our science textbook? How did you understand the phrase "There are many mysteries in nature"?
5. Dear friends, have you ever thought about how rain or wind occurs? What is your opinion on this?
6. Tell us what surprised you in life? Can natural phenomena surprise you?
7. Why do stars appear in the sky at night? Do you know about them?
8. Children, have you ever heard of the profession of astronomer? What are their main tasks?
9. Try to get more information about organizations such as NASA, SpaceX on the Internet. Share your knowledge.
10. Which organizations would you like to work with? Why do you want to cooperate with these organizations?
11. How do you understand the phrase "exploring the universe"? Do you think it's possible to explore space?
12. How do you imagine spaceships? What kind of space do they fly into?
13. What planet do we live on? Besides Earth, what other planet has life on it?
14. What profession do you want to have in the future? What subjects, in your opinion, should be studied more deeply for this?
15. What do you represent for studying physics and chemistry?
16. How do you imagine the galaxy?
17. What achievements do you want to achieve in the future? What goals did you set for yourself to achieve these achievements?

Not all students have to answer all questions during the interview. Students are given the opportunity to answer only what they know. The most important thing is that these questions are fixed in the thinking of children and from time to time can bother them.

With the help of the above questions and tasks, students are encouraged to work independently and are directed to logical answers through logical thinking. Thus, they learn to analyze various situations and solve complex problems in cooperation based on up-to-date information, as well as express alternative opinions through logical thinking and make rational decisions through discussions. Thus, they embody the ability to think logically. The teacher encourages students to do independent research, but does not give ready-made knowledge. The main task of the teacher is to create conditions for the development of students' ability to think independently and logically, to show initiative, activity, creativity.

Conclusion.

In conclusion, one of the main requirements for younger schoolchildren is the development of skills and abilities of independent and logical thinking, the development of oral and written speech, the development of the ability to think logically on the basis of problematic issues, the development of their reading culture. vocabulary plays an important role in the embodiment of the spiritual and moral image of a person. The interactive activity of primary school teachers analyzes various situations in the classroom and involves the joint solution of complex tasks based on up-to-

date information. Through the process of communicating, the individual also has the ability to make rational decisions based on alternative opinions and discussions.

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Rezyume: Ushbu maqola kichik maktab o'quvchilarida mantiqiy fikrlash ko'nikmalarini shakllantirish bo'yicha uslubiy tavsiyalarga bag'ishlangan. Kichik yoshdagi maktab o'quvchilariga qo'yiladigan asosiy talablardan biri mustaqil va mantiqiy fikrlash ko'nikma, malakalarni shakllantirish, og'zaki, yozma nutqni rivojlantirish, muammoli savol-topshiriqlar asosida mantiqiy fikr yurita olish, o'z bilimlarini takomillashtirishda muhim o'rin tutadi. o'qish madaniyati, so'z boyligini boyitish, ularning shaxs sifatidagi ma'naviy-axloqiy qiyofasini gavdalantirishda. Maqolada kichik yoshdagi maktab o'quvchilarida mantiqiy fikrlash ko'nikmalarini muvaffaqiyatli shakllantirish uchun zamonaviy texnologiyalardan biri bo'lgan interfaol ta'lim texnologiyalaridan foydalanish muhimligi ko'rsatilgan.

Резюме: Данная статья посвящена методическим рекомендациям по формированию навыка логического рассуждения у младших школьников. Одним из основных требований, предъявляемых к младшим школьникам, было то, что самостоятельное и логическое мышление играет важную роль в формировании навыков, умений, развитии устной, письменной речи, умения логически рассуждать на основе проблемных вопросов-заданий, повышении культуры их чтения, обогащении словарного запаса, в воплощении их духовно-нравственного образа как личности. В статье представлено значение использования интерактивных образовательных технологий, одной из современных технологий успешного формирования у младших школьников навыков логического мышления.

Tayanch so'zlar: mantiqiy fikrlash, mustaqil fikrlash, interfaol texnologiyalar, aqliy hujum, o'qituvchi, guruh a'zolari, savol-javob.

Ключевые слова: Логическое мышление, самостоятельное мышление, интерактивные технологии, мозговой штурм, педагог, члены группы, вопросы и ответы.

**OPTIMAL ASSORTMENT PLANNING MODELS IN THE TOURISM INDUSTRY AND
THEIR IMPORTANCE IN INDUSTRIAL ENTERPRISES**

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Summary: *This article discusses an optimal assortment planning model focused on the tourism industry that allows for alignment of interests. Criteria aimed at increasing values are also given. Experimental and practical calculations of the optimal design were carried out. The main mathematical support for solving the model is the program for solving the quadratic programming problem. Calculations for an industrial enterprise have shown that the choice of the optimal for detailed specialization can significantly reduce production costs. The main difficulties of calculations using the model are associated both with a more complex structure of the problem (quadratic functional of the objective function, the presence of integer variables), and with a higher dimension of the corresponding tasks for most subsectors.*

Keywords: *Model, economics, planning, optimization, assortment, tourism industry, mechanism, orientation, product, parameter, criterion, products, calculations, enterprise, function.*

I. INTRODUCTION.

At the stage of transition to modernization of the economy, when the market is saturated and competition is developed, the heads of enterprises realized the need to orient production activities towards consumers and enterprises - manufacturers of products through optimization mechanisms using high marketing technologies.

Below is a model for the optimal planning of the production program of the enterprise, which makes it possible to ensure such a coordination of interests.

II. LITERATURE REVIEW.

Kraevsky V.V. Methodology of scientific research: A manual for students and postgraduates of humanitarian universities.

Archibald R.S. Management of high-tech programs and projects.

Novikov A.M., Novikov D.A. Educational project. Methodology of practical educational activities.

Ruzavin G.I. Research methodology: Textbook. A manual for universities

III. RESEARCH METHODOLOGY.

In practice, as a rule, simplified models are used.

The authors of such models proceed from the assumption that there is a certain “fork” within which the comparative value for the consumer of a particular output structure is still practically impossible to estimate. And if so, then why not provide an improvement in indicators such as the total volume of commodity output or profit within the framework of this uncertainty. However, with a corresponding change in the structure of output, there is, as a rule, a decrease in the value for the consumer of the structure of commercial output.

Optimization by changing the structure of output makes sense only when, thanks to such a change, the value for the consumer of the structure of commodity output increases.

One of the well-known criteria, which is aimed at increasing the value of the structure of products for the consumer, is the criterion of the maximum output in a given assortment. The use of such a criterion assumes that we know the best assortment of manufactured products (then it is accepted as an assortment condition). However, even in the case when this ratio is unknown to us in advance, the principles of the theory of decision-making under uncertainty, the experience and intuition of a marketer allow us to find a more or less acceptable approximation to the best assortment.

This criterion has at least three significant drawbacks. The first drawback is that the criterion does not take into account that the very best assortment can vary depending on the achieved level of

output. The second disadvantage is that due to a small deviation from a given assortment, you can often get a significant increase in the output of individual products and the total output. And finally, the third drawback is that such a criterion can lead to the selection of technological methods that are expensive in terms of cost, capital investment and reduced costs.

The first drawback can be removed by several modifications of the criterion under consideration, the simplest of which is that the assortment is specified by relations of the type

$$yg = \tilde{y}g + \lambda(Bg - \tilde{y}g)$$

where yg is the required output of the g -type product; $y\tilde{g}$ - the achieved level of output of the g -type product (or the value of the output of the g -type product in a certain structure-rationalized plan that does not exceed the amount achieved); B_g - need; λ is the parameter to be maximized. A more accurate way of eliminating this drawback consists in the transition from the criterion of maximizing output in a given assortment to the criterion for maximizing output in a variable assortment, in which a more general form of nonlinear dependences of the specific weights of different products in the total volume of output on the achieved value of this volume are used.

In this research, we used of methods of analysis and synthesis, grouping, comparative and structural analysis, induction and deduction.

IV. ANALYSIS AND RESULTS.

In a number of works, criteria have been proposed that make it possible to partially or almost completely remove the indicated disadvantages of the maximum output criterion in a given assortment while maintaining the positive side of this criterion: focus on the best, from the point of view of the consumer, assortment.

The idea of various types of criterion for maximum profit minus penalties for deviations from the rationalized assortment, proposed in some works, is as follows. If the best assortment can be achieved without underutilizing resources and without using expensive production demands, then the solution gives the maximum output in a rationalized assortment. If, due to a small deviation from this range, the output of other products can be noticeably increased or the choice of less expensive production methods can be ensured, then this criterion provides a corresponding deviation. This deviation enables the decision to stay close to the rationalized assortment and is in a sense the minimum deviation from it. The rationalized assortment itself changes depending on the achieved level of satisfaction.

Criteria of this type can provide both an improvement in the start-up structure from the point of view of consumer interests, and a decrease in production costs. They are more general than the commonly used requirements of the maximum profit, the maximum commodity output, the maximum output of the final product in a given assortment, the minimum cost, the minimum standard deviation of the share of the declared demand from the unit, etc. As more general, they allow to eliminate a number of disadvantages of the indicated simplified criteria and take advantage of their relative advantages. However, the proposed criteria of this kind, expressing the requirement for a maximum profit minus penalties for deviations from the rational structure, are extremely difficult to use in the same enterprise where finished products are produced, and are included in the cost of the latter at cost.

In such a more general case, the requirement for a minimum of total production costs and penalties for deviating the size of output from requirements can be taken as a criterion.

From a mathematical point of view, this kind of criterion belongs to the same class as those proposed in a number of works.

The parameters comparing the “cost” and “natural” terms of the criterion (the values of the model below η_g) can be constructed using information about the relative importance (usefulness) of certain types of products for the national economy or for consumers. These parameters can be constructed taking into account the relative importance of products, reflected in the price ratios, and the importance, reflected through the indicators of the elasticity of demand for products of the corresponding types.

The parameters η_g themselves can be considered as a specification with an accuracy up to some common controlled parameter $\eta(\eta = \eta' \bullet \eta_g)$, with the help of which you can attach great importance to individual factors (costly or structural). The value of the specified parameter should be the higher, the higher the expected percentage of satisfaction of the demand.

In contrast to linear models with constraints in the form of "forks" on product output, in which decisions fall mainly on the boundaries of the "fork" ranges, decisions in a model with an assumed criterion for given parameters η_g that determine the greater or lesser importance of products are not obtained at the boundaries "Forks", but inside them.

Varying a parameter η is by no means tantamount to varying forks in linear models. In the latter, it is assumed (in the transition from solution to solution) the variation of 2G-parameters (upper and lower "forks"), G is the number of variables.

As a condition of optimality in the improved model of optimal current planning, it was adopted, as noted above, the minimization of current production costs and penalties for deviations of the size of the output of the final product of the enterprise from the needs for it:

$$\sum_k C_k x_k + \sum C^s x_f^s + \sum_l \sum_f n^l Clf + \sum \frac{\eta_g}{B_g} \left[B_g - \left(\sum_{k \in k^g} x^k - \sum_{q \neq g} \sum_{k \in k^q} a_{gk} \bullet x_k \right) \right] \rightarrow \min$$

The limitations of the model presented by us represent the specific features of watch factories and eyeglass optics enterprises, for example, the presence of auxiliary instrumental production, which is characteristic of the watch industry and spectacle optics, the presence of intermediate products (semi-finished products, etc.). It should be noted that although some restrictions were contained in similar or more simple form in other models, however, models containing just such a set of interrelated constraints with just such a system of indicators are presented for the first time.

Thus, the proposed model of optimal planning is significantly more general than those previously used in instrumentation and mechanical engineering.

It seems that the calculation of the optimal current plan should be carried out with the aim of using it for the second of two planning years. The fact is that the equipment ordered in the middle of the current base year for the next planning year arrives and is installed during this planning year not in full accordance with the ordered specification and mainly by the end of the year. Because of this, the calculation of the optimal plan for the next planning year may be impaired. Therefore, it makes sense to initially calculate the plan for the second of the two planning years, refining it as it is clarified, determined by the first options for calculating the model, while the most significant variables are x_f^s

When a year has passed and the second planned year becomes the first, the problem of optimal current planning of production with given values of old and new fixed assets in the corresponding year can be solved for it. Where fixed assets are in the relevant year. In cases where fixed assets of some types turn out to be significantly changing during the year, this problem can be solved for certain segments of the year (for example, for quarters). So, the model for the second year of the two planning years includes the following restrictions. Balances of the average annual amount of available and newly introduced equipment of each type at each enterprise and its use:

$$\sum_{k \in \tilde{e}_1} b_k^s x_k \leq \tilde{h}_f^s (\tilde{x}_f^s - \hat{x}_f^s) + h_f^s \bullet x_f^s; \quad f=1, F; s \in S_f \quad (1)$$

The balance of the availability and use of capital investments for the acquisition new equipment in the sub-industry:

$$\sum_{f=1} \sum_{s \in S_f} C^s x_f^s \leq Q \quad (2)$$

Above restrictions on possible supplies of each type of equipment:

$$\sum_{f=1}^F x_f^s \leq B^s, s \in S \quad (3)$$

Balances of the availability and use of production areas of the main production for each enterprise:

$$\sum_s u_s (\tilde{x}_f^s - \hat{x}_f^s + x_f^s) \leq P_f, f=1, F; \quad (4)$$

Balances of the availability and use of the labor force of the main production for each enterprise and in general for the sub-industry:

$$\sum_k r_k x_k \leq x^f \bullet t; \quad x^f \leq x^f \leq \bar{x}^f; \quad f=1, F; \quad \sum_f x^f \leq R; \quad (5)$$

Balances for the subsector of the availability and use of raw materials, materials and components of each type, received from the outside:

$$\sum_k r_k^m \leq R_m; \quad m=1, M; \quad (6)$$

Restrictions from below on the output of the final product of each type:

$$\sum_{k \in K^g} x_k - \sum_{q \neq g} \sum_{k \in K^g} a_{gk} x_k \geq A_g; \quad g \in G_2; \quad (7)$$

Production and consumption balances of purely intermediate products of the sub-sector:

$$\sum_{k \in K^g} x_k - \sum_{q \neq g} \sum_{k \in K^g} a_{gk} x_k; \quad g \in G_1; \quad (8)$$

Balances of the availability and use of tools and equipment of each type for each enterprise:

$$\sum_{k \in K^g} V_k^l x_k \leq \tilde{n}_f^l + \frac{1}{2} n_f^l; \quad f=1, F; \quad l \in L_f; \quad (9)$$

Balances of the availability and use of funds of working time of instrumental sections for each enterprise:

$$\sum_l b_l^f \bullet n^f \leq C_f; \quad f=1, F; \quad l \in L_f; \quad (10)$$

Balances of production and use of tools and equipment of each type by sub-industry:

$$\sum_f n^f = \sum_l n_f^l; \quad l \in L; \quad (11)$$

Conditions for non-negativity and integer variables:

$$x_k \geq 0; \quad n_f^l \geq 0; \quad x_f^s \in \{0, 1, 2, \dots\} \quad (12)$$

In the given model, the following designations are used.

Indices:

q, g - names of products manufactured in the sub-industry (parts, assemblies, finished products); k - production technology; f - factory ($f=1, F$); s - type of equipment; m - the type of limited raw materials, material or component parts obtained from the outside ($m=1, M$); l - the kind of tool or equipment.

Sets:

G_1 - names of purely intermediate products; G_2 - names of final products (which can only be partially consumed within the sub-industry), including products used for the repair of finished products; K^g - production technologies at the f th enterprise; S_f - types of equipment at the f enterprise; S - types of equipment in the sub-industry; L - types of tools and equipment in the sub-industry; L_f - types of tools and equipment at the f enterprise.

Required values:

x_k - volume of production of products produced by the k th technology; $\hat{x}_f^s$ - the number of items of equipment of the s th type that should be dismantled (not counting dismantling due to wear and tear of equipment) at the f th enterprise; x_f^s - the number of items of equipment of the s

th type, which should be purchased to replace the equipment that is retired due to wear and tear and to expand production at the f enterprise; n_{lf} - the number of new tools or equipment of the l th type that will be used at the f th enterprise; n^l - the number of new tools or equipment of the l th type produced at the f th enterprise; x^f - the number of workers of the main production employed at the f th enterprise.

Known values:

t -planned fund of working time of one worker;

b_k^s -rates of costs of machine-hours of the S th type for products manufactured using the k th technology; r_k -rates of expenditure of working time of the main production workers for products manufactured using the k th technology; u_s - the rate of occupation of the production area for a unit of equipment S - type; v_k^l - the rate of expenditure of tools or equipment of the l th type in pieces for products manufactured using the k th technology; b_l^f - cost standard for the manufacture of one tool of one tooling of the l th type in machine-hours or standard-hours at the f th enterprise; r_k^m - cost standards m - the type of raw materials, materials or components received from outside, for products manufactured using the k th technology; a_{gk} -the number of parts and assemblies of the g th name, produced at the enterprise, spent on a unit of production produced by the k th technology (excluding parts and assemblies included in the g th assemblies and mechanisms); $\tilde{h}_f^s$ -the annual fund of working time of a piece of equipment of the type s available at the f enterprise at the time of the beginning of the planning period, i.e. by the beginning of the first planning year; h_f^s - the annual fund of working time of a unit of new equipment of the s type established in the planned year; $\tilde{x}_f^s$ -the amount of s equipment of the type available at the beginning of the planning period (again, by the beginning of the first planning year) at the f enterprise; C^s - the cost of a unit of equipment s - type, reduced to current costs; C_k - the cost of a unit of products produced by the k th technology (after deducting the cost of parts and assemblies spent on this product, manufactured at the enterprise itself); C_{lf} - the cost of manufacturing a unit of a tool or equipment of the l th type at the f th enterprise; reduced to current costs; x^f and $\bar{x}^f$ - respectively, the lower and upper boundaries of the number of workers of the main production at the f th enterprise; R -limit of the number of workers of the main production in the sub-industry; P_f - available production areas of the main production for each enterprise in the planned year; $\tilde{n}_{lf}$ the number of tools or equipment of the l th type available at the beginning of the planning period at the f th enterprise; C_f - the capacity of tool production in machine-hours or standard-hours at the f th enterprise; Q - capital investment limit for the purchase of new equipment in the sub-industry; R_m - limits on raw materials, materials and component m parts-type, obtained from outside the sub-industry; A_g -minimum permissible output of finished products of the g th name, B^s -maximum possible purchases of equipment s specific, B_g -requirement for products of the g th name; η_g - losses of society from underproduction of products of the g th name (in the first approximation - the prices of products).

The main difficulties in calculations using the model are associated with both a more complex structure of the problem (quadratic functional of the objective function, the presence of integer variables), and with a higher dimension of the corresponding problems for most subsectors.

V. CONCLUSION/RECOMMENDATIONS.

The main mathematical support for solving the model is the program for solving the quadratic programming problem. Experimental and practical calculations of the optimal design in spectacle optics and the watch industry were carried out on the basis of the model of the given type, which confirmed the possibility and expediency of its use. The integral effect of solving the problem of optimal current planning of spectacle optics was expressed in a decrease in production costs by 1800 thousand soums, which is 6% of all production costs, with an increase in production by 350 thousand pieces. lenses per year. at the same time, the structure of the production program has improved from the point of view of its public utility (the satisfaction of the need for high-refractive lenses, especially those required by the consumer, has improved, the share of large-diameter lenses that are in the greatest demand among consumers has increased).

For an industrial enterprise, calculations have shown that the choice of the optimal detailed specialization can significantly reduce production costs.

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Rezyume: Ushbu maqolada turizm sanoatiga yo'naltirilgan assortimentni rejalashtirishning optimal modeli muhokama qilinadi, bu manfaatlarni uyg'unlashtirishga imkon beradi. Qiymatlarni oshirishga qaratilgan mezonlar ham berilgan. Optimal dizaynning eksperimental va amaliy hisob-kitoblari amalga oshirildi. Modelni yechishning asosiy matematik yordami kvadratik dasturlash masalasini yechish dasturidir. Sanoat korxonasi uchun hisob-kitoblar shuni ko'rsatdiki, batafsil ixtisoslashuv uchun optimalni tanlash ishlab chiqarish xarajatlarini sezilarli darajada kamaytirishi mumkin. Modeldan foydalangan holda hisob-kitoblarning asosiy qiyinchiliklari muammoning yanada murakkab tuzilishi (maqsad funktsiyasining kvadratik funktsionalligi, butun o'zgaruvchilarning mavjudligi) va ko'pgina kichik tarmoqlar uchun mos keladigan vazifalarning yuqori o'lchami bilan bog'liq.

Резюме: В статье рассматривается оптимальная модель ассортимента планирования для индустрии туризма, позволяющая обеспечить согласование интересов. Также приведены критерии повышения значений. Проведены экспериментальные и практические расчеты оптимальной конструкции. Основным математическим средством решения модели является решатель задач квадратичного программирования. Расчеты для промышленного предприятия показали, что выбор оптимума по детальной специализации позволяет значительно снизить себестоимость продукции. Основные трудности расчетов с использованием модели связаны с более сложной структурой задачи (квадратичная

функциональность целевой функции, наличие целочисленных переменных) и большим объемом задач, подходящих для множества небольших сетей.

Kalit so'zlar: Model, iqtisodiyot, rejalashtirish, optimallashtirish, assortiment, turizm sanoati, mexanizm, orientatsiya, mahsulot, parametr, mezon, mahsulotlar, hisob-kitoblar, korxona, funksiya.

Ключевые слова: Модель, экономика, планирование, оптимизация, ассортимент, индустрия туризма, механизм, ориентация, продукт, параметр, критерий, продукция, расчеты, предприятие, функция.

**A PERIOD OF FORMATION OF THE KARAKALPAK THEATRE
(1922-1930)**

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Summary: *This article deals with the position of the ordinary people in the formation and development of the Karakalpak theatre, it was explored in detail until the professional theatre.*

Key words: *Theatre, director, director, show, art, history, playwright, playwriting.*

Ancient Greek philosopher Aristotle, in his poetics, "The Poetics" is the "Poetics" not lose weight from "comedy's task. Comedy ... Although not completely destroyed bad people, show them only a part of the events. Basically, it is a definition of something funny - a defect that does not touch anyone, and not bring harm to anyone. " [1].

However, even in the years of Aristotle, the Comedia genre will only serve not only for educational purposes, but also for educational purposes. Whom the Great French comedographer was the theory of French, Moler, said his "high comedy", saying it was something that indicates ethics and bad vices that exist in society. In his comments, the great addicts of Russia, in his comments were criticized his time, Tsarist Russia, darkness, and bureaucracy, and human freedom.

Comedy has changed the content, both the change in social systems, and shape. When discussing the Karakalpak Theatre, the Tong Radii Trump. First of all, during the victory of the Soviet rule, the military themselves began to open clubs, uzbek, kazakh and tatar circles the karakalpak theatrical circle was not established. Candidate of Arts, Associate Professor Turesh Allanazarov's book "Formation of National Region in the Karakalpak Theatre" words, the words, heads between the Karakalpak elution ... "[2] –

The role of the theatre in promoting work among the population is different, "... from the second half of 1920, the first national theater tree entitled" Tong Nuri "was established.

That's the first organizer of the Tartar Nuri, Tatar Guard, Zarif Fatihovich Xosimov, then the successor of this initiative was A. Utepov. " [3]

When we look at the work carried out by the troupe, the troupe over the time and the voices of troupes, we thanked for K. Awezov, S. Majitov, A. Utepov, A. Begimov, J. Aymurzaev, "Because they were always walking in the hands. Walking under the cabbage, national theatre teams taught them to play, showing how to read, walk in rural areas. The most important thing is that they led to the work of their enthusiasm, verses, survived the troupe of the karakalpak national theatrical troupe, and the first to the "morning light" [4].

On November 28, 2018, it was a creative city of Tashkent and held a creative chat with the master T. Bayandiev. The man was a theatre stating the history of karakalpak art, doctor of theatre studies, professor, and professor of the state institute of arts. A number of questions were asked about the art of karakalpak and the relevant answers were received. He spoke of the appearance of the Karakalpak theater, which has almost one-centing history, and the theatre devils created in it.

In 1922-1925, he said: "During 1924, A. Utepov will be told for Khorezm for the business visit at that time, and in the same time will get acquainted with him.

"I think the works of teacher T. Bayandiev," A. Utepov's works, largely similar to the same business, held a creative conversation, and A. Utepov has a plot for comedy, he's own. Those who creates a comedy with what they hear and know. After that, the concert programs, its repertoires, responsible tasks, which are similar to the organization of the concert, will be responsible. "[5]

"Which people are accepted from others, however, it poses the heart of its own wisdom what he accepted. Thus, he interfering with the wisdom of that nation and new art is reinstated in his heart. "[6] V.G. Belinskiy said. The Tong Nuri circle, which has been passed by, the Tong Nuri, is now called the morning light, and on November 8, 1926 He brings to the people, which brings to the people, was organized by Z. Kasimov.

According to the Theatre Archive, 54 performances were chased and among the karakalpak, uzbek, kazakh and world playwrights were stored.

Taking a look at the repertoire A. Utepov was as a playwright, a directed directives. He wrote plays with the performance of such tasks. His "Tengin topgan qiz", "Odekalon", "900 gramm", "Oshxona", "Pochajon" and other pears were intensely welcomed.

The events in the PESA, especially the fight against the young man with riches, dodges, servants in comedy. We can also see this in works by A. Utepov, but also in the works by A. Matyakupov "Kuknarchi", "Xokislilar" by J.Aymurzaev.

All this works in the period of the first formation of the karakalpak theatre. In 1930, the political literacy of the "Tong nuri" Troupe was preserved. By saying the actors, the actors spoke their words through prompter, and the actors made the decorations as the directors. In the musical dramas, the songs were performed by the people with melodies and went away from the events.

Since 1930, he has been prioritizing in such theatrical life, but began to eliminate the scenery. The main reason for this was the year of dramatic change in the history of the karakalpak theatrical history in 1930. In accordance with the decision of the tenth congress of VKP, national theatres began to appear in all national republics under the old Soviet. At the same time, they began to be provided by all government agencies, the positions of state theatre (statuses). Under the historic document, the karakalpak state theatre was formed on December 1930, on the basis of the former morning light. The rise of the karakalpak theatre reached the level of state theatre was founded primarily due to the transition to the stage of professional theatres. [6].

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Rezyume: Ushbu maqolada Qoraqalpoq teatrining shakllanishi va rivojlanishida oddiy xalqning tutgan pozitsiyasi, qoraqalpoq teatrining professional teatrga aylangungacha bosib o'tgan yo'li atroflicha tadqiq qilingan.

Резюме: В данной статье подробно исследуется позиция простых людей в становлении и развитии каракалпакского театра, путь каракалпакского театра до того, как он стал профессиональным театром.

Kalit so'zlar: Teatr, rejissor, rejissura, tomosha, san'at, tarix, dramaturg, dramaturgiya .

Ключевые слова: Театр, режиссер, режиссура, спектакль, искусство, история, драматург, драматургия.

**THE FIRST APPEARANCE OF POP PERFORMANCES AND ITS DEVELOPMENT OF
WORLDWIDE DEVELOPMENT**

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Summary: *In this article, the history of the formation and development of pop theater, not only pop and other genres, as well as today's problem, the emergence of the profession of actors, which are the heroes of the stage, is thoroughly researched.*

Keywords: *Theatre, director, director, show, art, history, playwright, playwriting.*

Renewing is being made in the field of science in the field of scientific development. At the same time, great changes are taking place in the field of culture and arts. The President of the Republic for the development of culture and art was signed by Sh. M Mirziyoev a number of decisions and decrees. In the current stage of the spiritual maturity of our people on August 3, 2017, the President noted that the spirit of research is required by the people of culture and arts, the spirit of research, which is more active, new-new creative ideas, and the spirit of research. These words placed great responses and responsibilities to creative intellectuals. It is no secret that Myths, expressing the imagination and thinking in ancient Greece, developed. Their Myths were in the religious spirit and emphasizes the idea that the universe consisted of the Chaos in the beginning.

It is no secret that Myths, expressing the imagination and thinking in ancient Greece, developed.

Their Myths were in the religious spirit and emphasizes the idea that the universe consisted of the Chaos in the beginning. Chaos - this is used in the sense of a form that is mixed with everything.

The earth from the Chaos, Gaia and underground world appeared Tartar. From Gaia his son Uran, appeared the God of heaven. From Uran and Gaia Titan- the great God is born Kronos. From Kronos –Ares, Poseidon, Demeter, Hera and Zeus were appeared. Zeus is a head of the gods, began to control the sovereignty of the great gods, and ruled by the rule of great gods. So Zeus was the Head of God, the goddess of the Heavenly, and Hera his wife. The Greeks distributed their responsibilities as the causes of the miracles and changes in nature as the cause of:

- Poseidon – is the god of sea
- Demeter – is the god of productivity and grain
- Gaia – is the household of earth
- Ares is the underground god
- Athena is the god of wisdom and beating
- Artemis - moon and hunting user
- Apollo – is the god of sun and arts
- Dionysus – is the god of wine ceremony
- Aphrodite –is the god of beauty and love
- Dionysus is a harvest of a beautiful young man and the God of the wine.[1]

The holidays play an important role in the world culture. It has also an event dedicated to their gods. In order to celebrate these holidays, they even called the guests from neighboring cities. As a result, the holidays were based on the competitions between the days of the people, physical and dance, and the show of the girls' clothing show, chorus, and chorus. Theatre, actor, comedy, mime, chorus, orchestra, drama, scene, variety, and the stadium are terms created by ancient Greeks, and they are still not losing their significance.

Ancient Greek theatres, reminiscent of the horse's darkness, could accommodate 20-25 thousand spectators. They called the place where they were flat, surrounded by a hill - the stadium, that is, the competition. Three sides were plain, if one side of the town of the city, consisting of soil, was a plain. So the Greeks called the audience the theatre. The plain is closest to the audience, the

front part is called the outside - orchestra, the area where the choiring is located. This is the same, as well as musical theatres - the outside - orchestra and choosing.

To ensure that the chorus is in talks and manage it, it is specially equipped on the back of the orchestra - the board plumage. Because the prestige of chorus was not possible to walk in front of him as high.

The first actor also came out on the barking in the chorus and choral communicating. The appearance of the first actor, along with Koriffey on the stage, demanded that the wooden appliance to expand the plank house - "variety" - "variety", the scene "literature - a special place". This means that the pop-up is a place of special equip for the performance of the actors, and still maintains its essence.

The ancient Greeks called "Skene", and the special tent behind the scenes, called the Chamber. There the actors dressed and saved the scene equipment. Later, the pop stage was blocked by a special wall and the Tent was invisible to the viewer. There were three doors on this wall, and the actors entered the stage.

The walls were for the first time to the wall for a dionysis.[2] Thus the wall gradually changed the topic, and the first decoration began as a stage cloth. The poets of that period Safran and Kenarchus gave the Greek peoples to the verbal mounts and brought it to written literature. From BC VI-III, this is a developing and popularized. The performers of the ceremony singrooms spoken of DIFFIRAMPS - the goat's skin was closed when you fulfill praise to praise. Thus, TRAGEDY was born. The Greek "Tragos" means Taka, "ODE" - song. Hence, Greek trags appeared from the DIFFIRAPP. Comedy was created and comedies on the basis of songs and funnies dedicated to the Dionesis.

The state itself was the head of the total matters of the State Institution of ancient Greece and the establishment of theatrical performances. Drama shows were held in the form of a crampling race. Three trojanavis and three comedian poets participated in the competition. Each of the tragedy has to present three tragedies (trilogies) and a stemamental drama (i.e. siring-based narrative comedy). The three trags that are plot in terms of plot and are called "Techography" when they are added to these trilogia.[3]

The competition lasted for three days. Every morning three tragedy - trilogia, drama and comedy of one of the evening Payite comedia were displayed. Only freshly new works were insulted.

The ancient Greek actors performed tragedies in front of the 20-25 thousand spectators, and they arise without the microphone, how they could influence the audience without the amplifier. The actors were separated from the choir performers, first of all, with their clothes. They wore the mantle of uzin mantia, which surrounds the whole body, the clothes of the priests singing. The audience realized that the actor was looking at the scene. In the masks - a horn or Gado, the glorious person or a masculine, slave, male, and a male image are expressed. In ancient Greek trags, the images of all women were performed by men.

The next expression to display the majesty of the actors was his speech, and the ancient Greeks used this issue masterfully. In ancient Greece, theatrical performances were to fulfill the sacred duty not to entertain. Most importantly, every citizen of the show was required to participate in the show. The Greek democracy has allocated special "theatre money" to go to the performance from the period Pericl, who ruled the government at the blossomed public.

Since the collection of theater education is calculated, the poles that admire morality, politics, ideology and ideas were the main issue of analyzing the most important issues. The concept of Drama, which was brought to the Greek theatrical art, meaning "movement". The man always acted on purpose to improve his life. The "movement" in the drama must contain a change in the desiring desiration, pain, and cheating, striving for hostility.

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Rezyume: Ushbu maqolada Estrada teatrining, nafaqat estrada boshqada janrlarning shakllanishi va rivojlanishi tarixi hamda bugungi kun muammosi, sahna qahramonlari bo'lmish – aktyor kasbining paydo bo'lishi haqida atroflicha tadqiq qilingan.

Резюме: В данной статье подробно исследуется история становления и развития эстрадного театра, не только эстрадного и других жанров, а также проблема сегодняшнего дня, возникновение профессии актеров, которые являются героями сцены.

Kalit so'zlar: Teatr, rejissor, rejissura, tomosha, san'at, tarix, dramaturg, dramaturgiya .

Ключевые слова: Театр, режиссер, режиссура, спектакль, искусство, история, драматург, драматургия.

USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE PROCESS OF TEACHING HISTORY

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Summary: *As in all educational institutions, the teaching of each subject in higher education has its own peculiarities. The scope of the problem, the main directions and the nature of the topics of general and special sciences determine the specifics. These features should be taken into account in the use of technological means, including information and communication technologies (ICT), as in any teaching tool. After all, only then the expected didactic goal is achieved. The article analyzes the application of ICT, taking into account the specifics of the teaching of history.*

Keywords: *teaching, history, history teaching, history teaching process, ICT, use of ICT for educational purposes.*

Introduction. From a psychological point of view, the development of the human mind ensures its perfection as a person. In this process, which takes place in an experimental (evolutionary) way, a person acquires knowledge, skills, qualifications, professional competence, gains life experience. The maturity of the individual directly affects the development of a society formed on the basis of the unity of social subjects. It is noteworthy that the basis of personal development and the development of society is determined by scientific, technical and technological advances, and the progressive changes that are taking place in connection with them. Scientific, technical and technological advances put on the agenda the need to modernize society in certain periods.

The 21st century, by its very nature, has gone down in history as the era of global information and digital technologies. After all, today the maturity of the individual and the development of society can not be imagined without ICT. ICT is entering the life of society so rapidly that the types of personal activities are recognized directly based on their specific characteristics. For example, in the form of an informed society, digital economy, virtual being, online education. As noted by OM Zagorodnikova, ICT is reflected in the modern education system as «a source of professional knowledge, a tool of pedagogical activity»[3].

The use of information and communication technologies in the teaching of history requires sufficient knowledge of the means, which are initially expressed using the concept of ICT. Currently, the most actively used ICT tools in the education system are: e-learning materials displayed on a computer or multimedia projector - e-textbooks, manuals, training and working instructions, assignments for practical training, sets of exercises and problems; electronic glossary, encyclopedia and reference books; simulation virtual simulators; programs that allow you to generate online tests; Internet resources of educational nature; multimedia products (electronic posters, flash disks with pictures and images; reading books, albums, atlases, video and audio recordings; visual animations, project works (samples), interactive games, web quests, presentations and projects); interactive whiteboard, multimedia projector. The use of ICT in the educational process has a number of advantages. In particular: achieving speed in the preparation of educational and methodological developments; updating and developing knowledge using simple, effective methods; very easy copying of study materials, study assignments; to achieve wide dissemination of educational information. [2, p.5].

Main part. Experts propose a classification of ICT tools. The following classification is widely used in educational practice:

1. Technical means of ICT. These include computers, notebooks, netbooks, tablets, printers, scanners, mobile phones, modems, Skype, cameras, camcorders, audio and video recorders.

2. ICT software. E-learning literature, simulation virtual simulators, test assignments, web quests, Internet information sites, and search engines make up this set of tools [6].

Teachers are the initiators and organizers of the effective use of ICT in the teaching of history. Therefore, it is important that they have the competence to work with ICT.

F.N. Aliphanova notes that it is expedient to organize education in the form of multimedia lectures, virtual laboratories, online excursions[1]. During the research, the use of ICT in the teaching of history teachers was studied. According to the results of the study, all history teachers focus on the use of ICT in the classroom. In this process, teachers of history will increase the cognitive activity of students through the organization of a system of non-traditional lessons based on the use of ICT; to develop students ability to imagine and express their opinions; development of creative abilities in students on the basis of individual and collective creative tasks; development of skills in working with texts (textbooks, historical sources); enriching skills in working with maps and visual materials [5, p. 19] should successfully solve pedagogical tasks such as. Most history teachers at universities have the skills to use Internet resources.

That is, they can search for educational information on the subject on various sites through the Internet service "Search". Able to reflect the received information in the electronic presentation prepared on a subject of training. However, in most cases, the finished data is presented in the form of informative text. In addition, electronic presentation does not create an active communication between teacher and students because it is not interactive in nature. This situation leads to the dullness of the lessons, a decrease in the interest of students in the study of the subject, including the subject.

At the same time, ICT-based teaching methods used by history teachers include texts in Word, spreadsheets in Microsoft Excel, electronic presentations in Power Point, and a group of teachers in My Test X. complexity level tests can be included. This is a positive situation, however, a very low result considering the technical, functional and didactic capabilities of modern ICT. Indeed, today, with the help of dozens of ICT programs, it is possible to create interactive electronic educational and information resources on history. Here are some of them.

Modern ICT has an educational character browsers, programs and applications

№	ICT browsers, programs and applications	Their technical, functional capabilities	Practical action	Didactic products
1	2	3	4	5
1.	Internet Explorer	Work with different search engines and online modes (yandex.ru, rambler.ru, mail.ru, gmail.uz, etc.)	Search for the necessary literature, access to information, transfer of educational materials	Textbooks, electronic presentation
2.	Microsoft Word	Create and edit texts in graphic form	Create files, enter and save information to a computer	Textbooks, graphics, organizers
3.	Microsoft Power Point	Slide presentation, preparation of visual aids	Create and save a presentation	Presentation, interactive presentation
4.	Microsoft Excel	Doing arithmetic on a spreadsheet or web page, visualizing numerical evidence	Creating a spreadsheet on arelevant topic	Spreadsheet
5.	Microsoft Office Publisher	Preparation of booklets, brochures, etc.	Preparation and printing of electronic booklets, brochures, etc.	Booklet, brochure
6.	Google-translate	Automatic translation of texts and electronic dictionary (AbbyLingvo7.0)	Selection of training materials for automatic translation	Translated teaching materials

7.	Flash-disk	Storage and collection of educational information	Gather training information for storage and collection	Stored and collected educational information
8.	Internet, Skype, e-mail, Hangout and Telegram, V Kontakte.ru, Odnoklassniki.ru, Facebook.com Instagram social networks	Organizing interactive communication	Choosing a useful topic for communication and organizing communication	Online communication: chat, web forum, blog
9.	Mozilla Firefox, Google Chrome, Opera, Safari, Yandex	Search for necessary information	Preparation and publication of educational material on the basis of the collected information	Electronic and printed educational information
10.	Microsoft Media Player, zplayer	Processing and restoration of graphic and audio learning materials	Graphic and audio training materials for processing and restoration	Graphic and audio e-learning products
11.	CorelDraw, PhotoShop	Create and view images	Creating images Selection of training materials for viewing	Visual electronic products
12.	Easypano Studio, Java Applet, Image Assembler, Spherical Panorama, Choose images, Create HotSpot link, SP_VTB, SP_Stitcher, IPIX e-gallery, IPIX i-Linker and others	Creating virtual museums and galleries	Selection of study material for virtual museums and galleries	Virtual museums and galleries
13.	Hot Potatoes 6	Didactic games: crossword puzzle, anagram, creating rebuses	Didactic games: crossword puzzle, anagram, systematization of educational information for rebuses	Didactic games: crossword, anagram, rebuses
14.	iSpring Suite	Creating e-learning courses, learning tasks of various complexity, the formation of online tests	Selection of materials for e-learning courses, assignments of various complexity, online tests	E-learning courses, homework of various complexity, online tests
15.	iSpring Free Cam, iSpring Presenter	Online training course, video lesson, interactive presentation and test	Selection of materials for online training course, video lesson, electronic presentation and test	Online training course, video lesson, electronic presentation, online test
16.	iSpring QuizMaker	Creating an online survey and tests	Formulation of online surveys and tests	Online survey, online test
17.	iSpring Kinetics	Creating interactive e-learning literature	Selection of material for interactive e-learning literature	Interactive e-learning literature
18.	iSpring Space	Creating interactive micro-courses, organizing team work on the course	Creation of interactive micro-courses, selection of materials for the organization of team work on the course	Interactive micro courses, team projects
19.	Training such as Moodle, SAKAI, OLAT platforms	Organization of video conferencing, chat, online lessons	Video conferencing, chat, setting the topic of online lessons, selection of teaching materials	Video conferencing, chat, online lessons

Lessons organized using ICT tools listed in this table will be demonstrated through training platforms (Moodle, SAKAI, OLAT, etc.). "Learning platforms can be divided into the following types depending on their environment: web-based and mobile learning platforms (a platform that allows to place all the functions and resources of ICT in the network and deliver them through web browsers)[4, p. . 293].

Video lessons, electronic presentations, interactive posters, electronic glossaries, interactive didactic games (crossword puzzles, scanwords, anagrams, riddles), tests of different levels of complexity, as well as the creation of webquests by students as a product of teamwork based on personal experience of history teachers using ICT Repetition of training materials by, available strengthening knowledge helps to build learning skills. Thus, working with ICT in modern conditions helps to effectively organize the training, as well as to determine the information competence of history teachers. The results of the study show that most history teachers at universities have a certain level of skills in the use of Internet resources and computer technology.

However, the skills they have do not mean that they are sufficiently aware of all the technical, technological, functional and didactic capabilities of ICT.

The table of browsers, programs and applications of modern ICT, formed by the dissertation in the course of the research, helps to inform history teachers about the technical, technological, functional and didactic capabilities of ICT.

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Rezyume: Barcha ta'lim muassasalarida bo'lgani kabi OTMda har bir fanni o'qitishda o'ziga xos xususiyatlar ko'zga tashlanadi. Umumiy va mutaxassislik fanlarining muammo doirasi, asosiy yo'nalishlari hamda mavzularining xarakteri o'ziga xosliklarni belgilab beradi. O'qitish jarayonida ta'limning har qanday vositalari kabi texnologik vositalar, jumladan, axborot-kommunikatsion texnologiyalar (AKT)dan foydalanishda ana shu o'ziga xosliklar inobatga olinishi zarur. Zero, shundagina kutilgan didaktik maqsadga erishiladi. Maqolada tarix fanlarini o'qitishda ko'zga tashlanadigan o'ziga xosliklarni nazarda tutgan holda AKTni qo'llash masalalari tahlil qilinadi.

Резюме: Как и во всех учебных заведениях, преподавание каждого предмета в вузах имеет свои особенности. Масштабы проблемы, основные направления и характер тематики общих и специальных наук определяют особенности. Эти особенности необходимо учитывать при использовании технологических средств, в том числе информационно-коммуникационных технологий (ИКТ), а также любых средств обучения. Ведь только тогда будет достигнута ожидаемая дидактическая цель. В статье анализируются вопросы использования ИКТ в обучении истории с учетом отличительных особенностей.

Kalit so'zlar: o'qitish, tarix fanlari, tarix fanlarini o'qitish, tarix fanlarini o'qitish jarayoni, AKT, AKTdan ta'limiy maqsadlarda foydalanish.

Ключевые слова: преподавание, история, преподавание истории, процесс обучения истории, ИКТ, использование ИКТ в образовательных целях.

УДК: 903.2 (903.01/ 903.21)

ESEN-2 - THE OLDEST SPECIALIZED PALEOLITHIC WORKSHOP IN UZBEKISTAN

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Summary: *The territory of Uzbekistan is one of the richest ecumenes of the earth with stone-working workshops of the Stone Age. The article is devoted to a new interpretation of the stone-working workshop Esen 2, located on the shore of the Barsa-Kelmes depression of the Ustyurt plateau. The only available classification was developed by M.R. Kasymov and L.Ya. Krizhevskaya in the 70s of the twentieth century. Due to the emergence of new typological and technological methods for the study of stone products, as well as the opening of new Stone Age workshops on the territory of Uzbekistan, there are opportunities to develop new cultural and chronological links of monuments of this kind. This article is devoted to the history of the study of the flintworking workshops of Central Asia, as well as the new cultural and chronological classification and interpretation of the Esen 2 workshop.*

The article provides evidence that the Esen workshop is not a “workshop in the proper sense of the word”, as the authors noted, but a “specialized workshop for making beef.” This is a few hundred thousand years older than the appearance of specialized workshops not only on the territory of Uzbekistan, but also throughout Central Asia. But Paleolithic specialized workshops, unlike Neolithic ones, did not serve for commodity turnover, but were limited to the needs of one producing society.

Keywords: *Paleolithic, flint-working workshop, Esen-2, specialized workshop, biface, nucleus, cleavers (stone axes), migration wave.*

The region of Central Asia is one of the countries rich in stone-working workshops of the Stone Age. Most of these workshops are located in Uzbekistan. The discovery and study of stone processing workshops in our country dates back to the 60-70s of the 20th century [Kasymov, 1962. S. 18; Kasymov, 1972. S. 1-160; Okladnikov, Kasymov, Konoplya, 1965, S. 5-11; Kasymov, 1966. S. 28-34; Kasymov, 1963. S. 239-250; Kasymov, 1961. S. 62-64; Kasymov, 1964. S. 12. Kasymov, 1965. S. 30-39; Kasymov, 1970. Pp. 143-145; Kasymov, 1962. S. 19-27; Kasymov, 1967. S. 57-58; Kasymov, 1968. S. 52. Okladnikov, 1966. S. 40. Kasymov, Rostovtsev, 1969. P. 8; Kasymov, Krijevskaya, 1969. P. 265-268. Kasymov, 1962. P. 17]. Workshops of the early, middle and late Paleolithic and Neolithic periods were found on these lands. This situation makes it possible to observe the evolution of Stone Age workshops.

It is known that the monuments of the Stone Age are divided into two large groups: spaces and stone-working workshops. The sites are hearths (sometimes remains of houses), kitchen waste, stone and bone objects, etc. will have leftovers.

The classification of Central Asian stone-working workshops was originally M.R. Kasimov and L.Ya. Krijevskayas it was carried out by the [Kasymov, Krijevskaya, 1969. S. 265-268]. When they classified the workshops of stone-working here, they predicted that "this classification is not eternal and that further research in the Central Asian regions may introduce changes and clarifications" [Kasymov, Krijevskaya, 1969. S. 265-268]. We found it necessary to cite the classification of Central Asian workshops developed by M.R. Kasimov and L.Ya. Krijevskaya.

They divided stonework workshops into two types: space-workshops and literal workshops. In turn, the space-workshops are divided into two groups:

The first group includes finds located in the immediate vicinity of stone mines. The occupation of the inhabitants of such workshops consisted mainly of obtaining raw materials, primary and partly secondary processing of stones.

The second group of space-workshops differs from the first in that they are located far from the raw material mines. Residents of such workshops brought raw materials to their premises from outside and fully processed them here.

A characteristic feature of both groups of workshop-sites is the presence of household items, which testify to the seasonal or permanent habitation of these places by people, along with primary worked stones.

Workshops in the literal sense are characterized by the presence in them only of items related to the production of weapons. There are no signs of human habitation in these places. Such workshops are usually located near certain stone deposits suitable for making weapons. These workshops are divided into two types according to the nature of people's production activities:

The first type are literal workshops - places where stones are primarily processed and rough pottery is polished. In these lands, in the Paleolithic and Neolithic periods, raw materials were obtained by a simple or open method. Since the Neolithic period, raw materials have been obtained by digging pits, wells and mines.

Unlike the first type, in the second type literal workshops, not only primary processing of stones was carried out, but also specialized (specialized) types of weapons were produced. According to the nature of processing certain weapons, monuments of this type are divided into several types of workshops where axes, scrapers, spear blades, etc. are made.

According to the authors, such "specialization" is characteristic of the Neolithic period. In the Paleolithic period, such workshops did not exist yet. This situation is explained not by the fact that the workshops of the Paleolithic period are not well studied, but by the fact that the level of social division of labor in the Paleolithic period was still in its infancy [Kasymov, Krijevskaya, 1969. S. 265-268].

During the Neolithic there was a great differentiation of production and this was associated with a more distributed and improved division of labour. This situation is reflected in the different categories of monuments.

In the Paleolithic period, it is suspected that the space was workshops, "home" workshops or workshops of "specialized importance" [Kasymov, Krijevskaya, 1969. S. 265-268]. Although V.P. Although Lubin expressed the opinion that such workshops may have existed in the Muste period [Lyubin, 1965. S. 55-56].

By the Neolithic period, workshops take on a vivid appearance with all the social consequences of production processes in the form of intensive division of labor arising from them. This is reflected in exchange, which in turn leads to further development of the productive forces.

The Esen 2 monument is located on the Esen hill at the southern border of the Borsa-Kelmes basin of Ustyurt. He is E.B. Bijanov [Bijanov, 1979. S. 48] and A.V. It was discovered by the Vinogradovs in 1977 [Vinogradov, Bijanov, 1977. S. 522]. The area of this find is 90x40 square meters on a low flat hill. There are eroded deposits of heavily silicified limestone. A stone collection of 200 items was collected among the scattered fragments of this rock. About 15 of this collection are natural stone fragments, while the rest are unmistakable artefacts.

The industry of Esen 2 workshop it was fully studied by A.V. Vinogradov and published in his monograph "Drevnie okhotniki i rybovy sredneaziatskogo mejdurechya". The majority of the 15 finished stone tools found in the Esen 2 workshop are bifacially worked large and thinned almond-shaped pieces - bifaces. Most of them are fragments of bifaces, and this condition determines the character of the monument, which is Esen 2 workshop. Their shape and size can be imagined by looking at the only intact biface preserved among the collected materials of 1977 (height 14.6 cm; width 7.7 cm; thickness up to 3 cm). In the preliminary data, Esen 2 materials were tentatively dated to the Late Paleolithic period [Vinogradov, Bijanov, 1977. P. 522]. Such dating is based on comparison with the materials of Central Kazakhstan. But these materials from Central Kazakhstan are not published enough and do not allow a full comparison with them. Based on the above comparative data, E.B. Bijanov dated the Esen 2 materials to the end of the Early Paleolithic or the

beginning of the Middle Paleolithic [Bijanov, 1979. Fig. 3, 5]. Thus, Esen 2 and the Kazakh materials compared to it also require careful re-study [Vinogradov, 1981. p. 56].

A.V. Vinogradov did a great deal of research on Esen 2 materials. For the Esen 2 collection the dating proposed by E.B. Bijanov is based on comparison with the monuments in South Kazakhstan (Borykazgan, Tanirkazgan, etc.). It should be noted that there are more differences than similarities between the materials of the monuments compared above, and South Kazakhstan, especially the Karatog region, is characterized by completely different cultural and technical traditions [Alpysbaev, 1979. S. 189-190]. Bifas or hand grips do not play a significant role in this. In the articles of A.A. Alpysbaev, only one hand-pitcher (found in the Akkol site) from the Early Paleolithic finds can be cited here, and only this pitcher can be compared with Esen 2 bifas. Other materials from South Kazakhstan are typologically closer to chopping or double-sided flanged weapons.

As a summary of the above-mentioned points, A.V. Vinogradov suggests dating the Esen 2 materials to the end of the Middle Paleolithic or the beginning of the Late Paleolithic rather than to the Acheulean or Acheulean-Muste [Vinogradov, 1981. p. 57].

Printed materials of the Esen 2 monument carefully analyzed by L.B. Vishnyatsky [Vishnyatsky, 1996. P. 213]. According to him, the Esen 2 collection does not contain real nuclei and they are fragments of flint without any system.

Almost half of the Esen 2 collection is made up of fuel and their fragments. These are mostly small-sized uchirindis with a natural flat strike area and dorsums that are flashed in an irregular manner. About 15 fibers of the set are plate-like in nature and on average they are 5-7 cm tall and 1.5-2 cm wide. Almost all of them are triangular in cross-section, in 50% of cases there are only 3 semi-primary plates [Vinogradov, 1981. Fig. 14, 2, 5]. None of the kit fuels have been retouched. Only a few stone fragments were retouched and 2-3 scrapers and 2 carved weapons were found. One of them is a retouched ankosh, and the other is a muzzle weapon formed using two ordinary ankosh [Bijanov, 1979. P. 71].

The most important group of objects for understanding the Esen 2 industry are bifas. They make up a little less than a third of the collection. There are about 20 bifas in the initial stage of development, and 42 bifas near the completion stage. Unfortunately, it is possible to think about bifaces in the completed stage only by their fragments: 16 of them are distal, 10 are proximal, and 6 are medial and lateral fragments [Vinogradov, 1981. Fig. 14, 14]. But there are also whole copies of them. These bifas are made from rock fragments. Judging by the few almost complete and whole bifas of the Esen 2 monument, and their rather large fragments, it can be said that the masters who made them were as thin as possible, but wide and large (they are not less than 10-12 cm in height). In some cases, these bifas are smoothed with retouches along the entire perimeter, but mostly they are formed with the help of fuels that completely or partially cover their surface.

Regarding the classification of Central Asian workshops, O.T. Ergashev's works in the study of Kokayaz 1-8 workshops are noteworthy. It was proved by him that Kokayoz workshops are specialized workshops of the Eneolithic period [Ergashev, 2013. P. 162]. Below we refer to a table showing the classification types of stone-working workshops of the Middle Asian Paleolithic period and the functional position of the Esen 2 workshop in it:

Table №1. Classification of stone-working workshops of the Middle Asian Stone Age

Literally workshops	Specialized workshops	Space-workshops	Mines, pits
Kapchigoi, Ohangaron workshop (Kizilolma 1-4, Jarsoy, Ghishtsoy, Uvaksoy), Karatusk workshop (Uchtut, Idjont, Vaush), Sultan-Uvaystau, Kokcha	Esen 2, Shakhpakhti, Karagudug ("restricted"); Kukayaz 1-8 ("in the broadest sense") Samarkand area,	Location of Samarkand, Kyzilkir	Uchtut, Ghishtsoy 2

	Kyzilkir Uchtut, Ghishtsoy 2		
Early Paleolithic-Neolithic	Middle-Late Paleolithic	Late Paleolithic - Neolithic	Neolithic

As can be seen from the table, there are three types of stone workshops in Central Asia (raw materials are introduced into the lake in an open way) and two types of mining methods (mine and pit excavation).

Thus, the Esen 2 stonework workshop can be considered a workshop specializing in the production of bifas, rather than a "literal one" as the authors claim. After all, in Esen 2, the attention of the manufacturers is focused on the production of full bifas. Other items in the kit can be considered waste products from the manufacture of these weapons. Nuclei are rarely found in the collection. It can be said that the activity in Esen 2 was focused only on the production of bifas. Regarding the date of the monument, it can be said that, according to our modern technical-typological studies, some cleavers (stone axes) are found in the Esen 2 collection along with bifas (a new technical-typological study of Esen 2 stone objects is the subject of another article). This situation, as well as the technique of processing materials and the level of preservation, indicate that the Esen 2 complex belongs to the pure Acheulean culture of the Early Paleolithic, and not to Muste.

Based on A.P. Derevyanko's research [Derevyanko, 2017. p. 877], it can be said that Esen 2 communities belong to the second wave of migration from Africa (after the first migration of ancestors) or to the first wave of the Acheulean culture. The absence of Levallois technologies in the Esen 2 technocomplex confirms our opinion. It is known that after the representatives of this migratory wave entered Eurasia about 1.5 million years ago, they had two paths of development: There was a way of 1. Cultural development mixed with the communities of the local ancestral culture, or 2. Independent, that is, while preserving the Ashelian traditions. The materials from Esen 2 may be an example of an independently developed Acheulean culture of the second of the above-mentioned ways, that is, without spear weapons.

Thus, in our opinion, Esen 2 is a workshop specializing in the production of biface weapons, which, unlike Neolithic workshops of this type, can be classified as "limited" to the needs of the manufacturing community, and not for exchange.

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Rezyume: O'zbekiston hududi yer yuzining tosh davri toshga ishlov berish ustaxonalariga boy o'lkalaridan biridir. Maqola Ustyurt platosining Borsa-Kelmas botig'i sohilida joylashgan Esen-2 toshga ishlov berish ustaxonasining yangicha talqiniga bag'ishlangan. O'rta Osiyo ustaxonalarining yagona tasnifi XX asrning 70-yillarida M.R. Qosimov va L.Ya. Krijevskayalar tomonidan ishlab chiqilgan edi. Keyingi yillarda tosh buyumlarning yangi tipologik va texnologik usullarining paydo bo'lishi va O'zbekiston hududida qator ustaxonalarning topib o'rganilishi munosobati bilan bu turdagi yodgorliklarning yangicha madaniy-davriy tasniflarini ishlab chiqish imkoniyati tug'ildi. Ushbu maqola O'rta Osiyoning tosh davri toshga ishlov berish ustaxonalarini o'rganilish tarixi hamda Esen 2 ustaxonasining yangicha tasnifi va talqiniga bag'ishlangan.

Maqolada Esen 2 topilmajoyi mualliflar ta'kidlaganidek, o'rta paleolit davrining tom ma'nodagi emas, balki ilk paleolit davriga oid ixtisoslashgan ustaxona ekanligi isbotlanadi. Bu holat nafaqat O'zbekiston, balki butun O'rta Osiyo hududida ixtisoslashgan ustaxonalar tarixini bir necha yuz ming yillarga qadimiylashtiradi. Biroq paleolit davri ustaxonalari, ishlab chiqarish mahsulotlarining neolit davridagidek, ayirboshlash emas, balki ishlab chiqaruvchi jamoaning ehtiyojlari doirasida cheklanganligi bilan ajralib turadi.

Резюме: Территория Узбекистана является одним из богатых ойкумен земли камнеобрабатывающими мастерскими каменного века. Статья посвящается к новой интерпретации камнеобрабатывающей мастерской Esen 2, расположенной на берегу впадины Барса-Келмес Устюртского плато. Единственная, имеющаяся классификация разработана М.Р. Касымовым и Л.Я. Крижевской в 70-годы XX столетия. В связи с появлением новых типологических и технологических методик изучения каменных изделий, а также открытием новых мастерских каменного века на территории Узбекистана появились возможности выработки новых культурно-хронологических привязок памятников подобного рода. Данная статья посвящена к историю изучения кремнеобрабатывающих мастерских Средней Азии, а также новой культурно-хронологической классификации и интерпретации мастерской Esen 2.

В статье приводятся доказательства о том, что мастерская Esen не является "мастерским собственным смысле слова", как отмечали авторы, а "специализированной мастерской для выделки бифасов". Это удревяняет на несколько сотен тыс. лет появления

специализированных мастерских не только на территории Узбекистана, но и во всей Средней Азии. Но палеолитические специализированные мастерские в отличие от неолитических, служили не для товарооборота, а ограничивались с потребностями одного производящего общества.

Kalit soʻzlar *Paleolit, toshga ishlov berish ustaxonasi, Esen-2, ixtisoslashgan ustaxona, bifas, nukleus, kliverlar (tosh boltalar), migratsion toʻlqin.*

Ключевые слова: *Палеолит, кремнеобрабатывающая мастерская, Есен-2, специализированная мастерская, бифас, нуклеус, кливеры (каменные топоры), миграционная волна.*

**PLACE AND ROLE OF SOCIAL AND ETHICAL IDEAS IN THE CREATIVITY OF
AJINIYAZ**

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Summary: *The article studies the main features of the socio-economic, socio-political and spiritual life of Karakalpakstan at the end of the 18th and first half of the 19th centuries, which were important for the formation of the worldview of Ajiniyaz, his socio-ethical views.*

Keywords: *worldview, socio-economic life, socio-political life, creativity, view, opinion.*

Introduction.

Humanistic ideas, being very broad in their content, constitute one of the components of social and spiritual problems, of the entire spiritual culture, including the socio-philosophical thought of the peoples of Central Asia. The humanistic ideas of the Karakalpak poet Ajiniyaz are multicomponent in their problem-ideological content. They are closely connected with the spiritual traditions of the peoples of Central Asia. [1-3].

A key position in the humanism of Ajiniyaz is occupied by his understanding of the essence of man, his place in the world and society, his spiritual and moral potential, social and personal manifestations. "The humanism of Ajiniyaz has common origins and echoes the humanistic ideals of his contemporary Berdakh and his predecessor Makhtumkuli. The beauty of this world is man," he says. This is the philosophical credo of a humanist poet," the Karakalpak poet I. Yusupov assesses it in this way, drawing legitimate historical parallels and comparisons. In our opinion, the humanism of Ajiniyaz is not an abstract love for a person, not only good feelings, sympathy for someone else's grief, but above all the principle of a special approach to a person, the desire to see in him a carrier of the highest value, taking into account personal potential [3-5].

One of the important features of Ajiniyaz's understanding of the human problem is that he tried to approach it taking into account the positions of those teachings, the role and place of which in the formation and development of his creative heritage was discussed above. At the heart of Ajiniyaz's thoughts about man and all related problems lies the idea of human rationality, consideration of the mind as the main factor of personal and social perfection.

In the works of Ajiniyaz, the humanistic approach to the problem of man suggests that a person's love for his neighbor and for the Almighty (God) means the creator's return love for his creation.

According to Ajiniyaz, since God is the highest beauty, his creations, nature, every creature as their necessary component are also beautiful. Man is the same inseparable particle and at the same time the goal of this nature, therefore he should be exalted in every possible way, to ensure that he is worthy of such a position. In our opinion, the Provision of Ajiniyaz, noted by I. Yusupov, "The beauty of this world is man, should be interpreted more broadly, given the foregoing. In general, a person is the beauty of the world, as a creation of the Almighty, and therefore he is beautiful. Its beauty is a whole complex of spiritual and physical qualities that contribute to its gradual improvement, harmonization with the outside world, primarily with the deity.

The poet, however, understands that people are not all the same, they have diversity, their own characteristics, which also constitutes the true beauty of a person. In the poem "Bolmasa", the poet, based on this principle, describes what characteristic features representatives of various groups of people should have. However, the main and common dignity of a person is Spiritual perfection. It should be noted here that in Sufism people are divided into "kamil" ("perfect"), which primarily include prophets, and "vasil" ("achieving"), among which are the famous Sufi sheikhs-murshids. In the poem "Bolormi?" ("Is there?") he notes that "the murshid needs concealment and state." Here we are talking about a special spiritual state of the Sufis ("hal"), in which he stays at one stage or another to the knowledge of the truth, the achievement of genuine spiritual perfection.

Many researchers of Ajiniyaz's work believe that this contradicts the generally accepted love for people and natural phenomena. In this regard, it should be noted that the problem of love finds a variety of manifestations in the worldview system of the poet. In particular, love in the work of Ajiniyaz also acts as an ethical category, which will be discussed below. In this case, love acts as a broader force that directs and organizes human activity, its social state, which ultimately determines one of the ideological foundations of its humanism. The poet, singing the spiritual and creative abilities of a person, considers him the crown of creation in the world, determines one of the peculiar ontological status of a person, as well as the associated social conditions, society as a whole [6-8].

Important aspects of Ajiniyaz's humanism are manifested in his deep reflections on the essence of man, his spiritual world, place in the universe and the meaning of his life, which are considered by the poet as a whole through the prism of the concepts of "reason", "love" and "beauty", which constitute the spiritual and moral the essence of man. Let us first note Ajiniyaz's general approach to these concepts. He believes that there is no higher perfect creation in the world than man, because God has given him a "priceless pearl" the power of the mind, which contains the gift of knowing the secrets and heights of the world, with the help of which he must accomplish great deeds. As for the problem of love, in the East, especially in socio-philosophical thought, it is very multifaceted, has many manifestations and aspects. Sufi teachings contributed to this in no small measure. In particular, for Ajiniyaz, it acts as a general humanistic factor in interpreting the problem of man, the development of the whole world, including society, solving important social problems, one of the most significant components and driving forces for increasing the moral potential of a person and society. Thus, the problem of love acquires a great socio-philosophical and ideological meaning. The theme of love, which was raised and developed at that time, primarily from the position of Islamic dogma, for a long time, finds its generalizing and in-depth embodiment in the work of Alisher Navoi. One of the main features of his interpretation is the inseparable combination and interconnection of its divine and earthly components, which found its expression in the works of Ajiniyaz. The second aspect, the originality of the latter's views on this issue, is that the earthly content often affects his general Sufi approach to the interpretation of love, beloved, which, for example, is manifested in his poem "Bir Periy ("One Peri")" [2-5].

In general, he skillfully combines the unity of the earthly, divine and cosmic approach, which is an important feature of the humanistic interpretation of the problem of love. If we integrate many of the poet's statements about love, then it represents in his understanding as a high spiritual moral force that contributes to the internal perfection and purification of a person. And beauty is an object of love, understood as broadly and in many aspects. Therefore, the desire for beauty involves constant spiritual and moral improvement, which is the hidden essence of many of the poet's love-romantic poems.

Considering these problems in more detail, it should be noted that, according to Ajiniyaz, the mind of a person should determine all his actions and deeds, from everyday household to high social-state, spiritual activity. The poet claims that people who are unreasonably approaching life, their actions and actions, will inevitably acquire the worst vices and cannot achieve any spiritual perfection, intellectual and moral virtues. Therefore, Ajiniyaz considers it appropriate that people be led along the path of truth, humane deeds by mentors, teachers who are endowed with high intelligence, the ability to comprehend the world from the standpoint of its rational interpretation.

In the history of philosophy, currents are known that opposed reason and faith, but Ajiniyaz, following a number of Eastern philosophical traditions, does not follow the path of their opposition, but harmonizes them, believing that a person uses reason as the highest gift of God in order to consciously follow faith, to be able to take responsibility for their actions.

Trying to comprehend the problem of man from this point of view. Ajiniyaz concludes that human life, even without being eternal in its individual earthly manifestation, is nevertheless relative to the eternal world in its spiritual manifestations. In the poet's poems, the idea of the relativity of human life, this world and the eternity of divine existence is expressed by various

means. He often compares a person with other objects and phenomena that claim to be eternity (high mountains, oceans, deserts, etc.). However, according to Ajiniyaz, all this is also transient, including the person himself, regardless of whether he is noble or not by origin, rich or poor by state.

In his works, Ajiniyaz likens the life of a person to a caravan, and the world to a caravanserai. A person, like a caravan, comes to a caravanserai and after staying there for some time, leaves it. He expresses the duration of human life in the real world with the concept of “bes kunlik dunya” (“five-day life”). In this regard, it should be noted that the concept of “paniy dunya” (“transient world”), which is often found in his works, in our opinion, expresses precisely this relativity, i.e. the transience of the world for a specific person to stay in it. “I have shown in detail that the world is transient,” as the poet put it in one of his poems. Here Ajiniyaz in his views merges with the general Sufi positions, which, however, are concretized in him in the Naqshbandi understanding of man, which is largely due to his recognition of the active nature of the human mind.

Therefore, the poet does not absolutize, does not extend a certain feature of the human personality to all people. He considers the life of each person in a concrete manifestation. Here it should be noted that the above concept of “pany dunya” expresses different degrees of transience of specific objects and phenomena of the world, an individual and humanity, the world as a whole. Ajiniyaz, recognizing the finiteness of the life of each individual, believes that people in this real world come as guests to each other. Therefore, in their relationships, they should be guided by virtuous norms, so that each decorates the life of the other with his presence, rewards him with joy. Therefore, in the “transient world” everyone should do good, because Allah in the “afterlife” punishes for the violation of this covenant. On the scales of justice, he correlates the good and evil of each person. Therefore, everyone should choose the “good” path from the very beginning. (i.e. a person must be honest, (“insapli” - R.R.)).

In another poem, he, recalling the rapidly transient nature of this world, calls on people to have a reasonable attitude towards all the phenomena of the world, which is an important aspect of “Imon” (“Faith”), which is discussed below.

As shown earlier, for Ajiniyaz, this “correct path” is connected with the Sufi search for truth (“haq”).

In this regard, in some cases, the poet describes in such detail the life of paradise, which, in our opinion, appears in him not only as a divine reward for a virtuous person, but also as a “search for truth”, a certain state of the human soul. However, referring to ordinary people, in the poem “Ishinde” (“inside”), he describes a paradise in which orchards grow, precious stones abound, magnificent palaces were erected. There are beautiful maidens there. No one there feels the cold and heat, no one experiences suffering. All this is intended for those who have done good deeds in the past (“qayir-sahawat”).

Not limited to this, the poet advises wealthy people to do good deeds not only by helping orphans and the poor, but also by facilitating the acquisition of knowledge.

A person should leave behind not wealth, but good friends who will remember his deeds, “as well as children who have received proper parental education. Ajiniyaz puts forward a deeply philosophical idea that, just as a barren tree is cut down in a garden, a person cannot bear the sacred name “man” if he cannot realize his status in society.

Ajiniyaz, as a humanist, believed in the dignity of man, deeply sympathized with the oppressed and destitute, sincerely wished for the triumph of goodness and justice. His humanistic ideas in their concrete expression, distinguished by their originality, at the same time had much in common with the views of other Karakalpak poets, that each person should have respect and love for the dignity of another person.

However, this problem has another aspect. As shown by the researchers, Kunkhodzha in the works “Jetimnin’ haqin jep qoyman” (The share of the orphan did not sleep), “Shopanlar” (“Shepherds”), and Berdakh in the poems “Qashan rahatlanadursan” (“When you enjoy it”),

“Kerek” (“It is necessary”), “Izler edim” (“I would look for”) turn their humanistic aspirations primarily to the elderly, helpless people, the poor, crippled and orphans, call for a humane attitude towards a person, no matter how distressed he may be.

In this regard, the idea that he expressed in the poem "Airylsa" is of fundamental importance for the development of Ajiniyaz's humanistic views. The poet notes with sorrow that "Man's lamentations rise to the sky" caused by the difficulties of his existence. All this necessitates a sympathetic and kind attitude towards him.

Conclusion.

Ajiniyaz, more than other poets, emphasizes that man, being the most perfect creation, was born not for evil, but for good, is called upon to serve him, to develop good and noble qualities in himself. This aspect of the human problem, its humanistic interpretation necessarily leads Ajiniyaz to an attempt to comprehend the relationship between man and society.

Each person, representing a certain personal value, at the same time cannot exist outside of society, outside of his environment. With this in mind, he writes: "A man who is torn away from the people is a madman who has lost his beloved becomes a stranger to everything."

Therefore, Ajiniyaz considers the ability to jointly fight for his vital and spiritual interests, against the vices that manifest themselves in his contemporary society as an inalienable human quality. According to him, all people are born by nature equal, free and should enjoy all the blessings of life, while at the same time not infringing on the interests of others. A humane attitude towards other people is the basis of the social and spiritual and personal development of a person, the source of all his virtues. Therefore, Ajiniyaz sharply condemns those people who base their well-being on base and anti-moral deeds: lies, flattery, human ignorance, etc. In our opinion, this opinion of the poet can contribute to the establishment of such an understanding of humanism, which implies not only respect for a person, but also an increase in the spiritual and moral potential of the individual, the significance of a person in the system of the world, nature, and society. Good deeds, according to Ajiniyaz, entail good consequences for the one who commits them, and, conversely, evil intentions and unworthy deeds bring harm primarily to the one from whom they come.

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Rezyume: *Maqolada Ajiniyoz dunyoqarashining shakllanishida muhim ahamiyatga ega bo'lgan XVIII asr oxiri — XIX asrning birinchi yarmidagi Qoraqalpog'istonning ijtimoiy-iqtisodiy, ijtimoiy-siyosiy va ma'naviy hayotining asosiy xususiyatlari va uning ijtimoiy-axloqiy qarashlari o'rganilgan.*

Резюме: *В статье изучены основные особенности социально-экономический, общественно-политический и духовной жизни Каракалпакстана конца XVIII первой половины XIX вв., имевшие важное значение для формирования мировоззрения Ажинияза, его социально-этических взглядов.*

Kalit so'zlar: *dunyoqarash, ijtimoiy-iqtisodiy hayot, ijtimoiy-siyosiy hayot, ijodkorlik, qarash, fikr.*

Ключевые слова: *мировоззрение, социально-экономическая жизнь, общественно-политическая жизнь, творчество, взгляд, мнение.*

COMMERCIAL BANKS TO IMPROVE LENDING TO SMALL BUSINESSES.

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Summary: *The article examines the improvement of lending to small business entities by commercial banks. The problems of increasing the efficiency of the projects and their improvement, as well as their future prospects, were determined. The experience of developed foreign countries in financing innovative projects of small business entities was studied. Commercial banks have developed practical proposals and proposals for financing innovative projects of small business entities.*

Keywords: *small business entities, investment project, lending practices of commercial banks, management of innovative activities, loan portfolio.*

Introduction

It is difficult to develop the socio-economic life of the country without small business entities and their innovative projects, the role of commercial banks in their financing is important. The reason is that commercial banks provide innovative project-producing and service-providing companies with credit funds, play a key role in the financing of innovative projects in our country, and thereby contribute to the general macroeconomic stability of the society.

In the context of modernization of the country's economy, the importance of financing innovative projects by commercial banks is increasing year by year. With the help of loans from commercial banks, important sectors of the economy are being financed, enterprises operating with new innovative projects are being established, production and services adapted to innovative technology are being introduced, and the creation of new types of products is being developed.

Regarding the role of commercial banks in the financing of innovative and investment projects, Sh. Mirziyoev stated that "The bank should develop measures to attract external sources of financing together with its own funds for investment activities" [1], and that the year 2020 in the country will be "Science and Enlightenment" and the development of the digital economy", the fact that its program takes into account the issues of wide application of innovative projects to production in the country, comprehensive support of science and enlightenment, financial support of innovative projects at all stages of economic development, determines the relevance of the research today.

In order to develop the country's economy, the volume of lending by commercial banks has increased tenfold in recent years. However, as we know, the process of development and development is characterized by intense competition, and problems are perfected in the process. When financing the projects of enterprises engaged in innovative activities by banks, their liquidity is assessed as low. This creates problems in allocating bank loans to enterprises. Scientific, theoretical and methodological in-depth research of ways to solve these problems, financing and management of new innovative projects is an important task.

Analysis of literature on the topic

The term "innovation" (derived from the Latin word "innovate") means renewal and improvement. In the context of innovation, it is understood as the material (intangible) value of the culture that is perceived as new.

Turning to the opinions of economists, the following foreign scientists have given their different interpretations, in particular:

I.L. Balabanov explained that "innovation" is the result of investment in a new form of control, planned method, new technique and technology, production, labor, service, management organization [2];

A.B. Borisov believes that "innovation" means the result of positive activities aimed at the development, creation and distribution of new types of technologies, introduction of new forms of organization [3];

R.Gimush and F.Matmurodov, among the economists-scientists from Uzbekistan, said that "innovation" means innovation and innovation [4];

B.E. Toshmurodova and N. According to the Zhiyanovas, the concept of "innovation" includes not only technical research, but also innovations in the business method [5].

The World Bank defines innovation as the application of technology or something new in society (World Bank Report, 2010).

G. Popov explains the innovation activities as the results of completed scientific research and development or the scientific and technical achievements achieved for the production of products implemented in an improved technological process [6].

In recent years, the importance of innovative projects and innovative activities has increased in the context of the global financial and economic crisis. This, in turn, led to positive changes in the innovation activity of banks and the innovation policy of the state in general.

Crediting of innovative projects by commercial banks in the country in order to support the representatives of this field, increasing their role in the modernization of the country's economy is relevant today.

At this point, referring to the opinion of the economist R.Kh. Karlibaeva, in the context of economic reforms, he cited the need to revive the economic policy aimed at the modernization of the country's national economy, increasing the rate of production [7].

In our opinion, the attraction of bank credit resources for the development of the national economy and the organization of new production is an urgent issue. Because the organization of new production and their implementation require large financial opportunities. The solution to this financing issue is defined as providing loans to enterprises.

In Uzbekistan, the number of enterprises that need credit for their innovative ideas has been increasing in recent years. This means that credit resources will not be used for the purchase of current assets, but for the financing of strategic development programs. It is known that the resources invested in this case are high-risk and in most cases will be returned at the expense of income generated as a result of the implementation of commercial projects.

Today, the shortcomings in the credit policy of commercial banks and the practice of lending to enterprises, including the fact that the lending procedure of banks in the republic still cannot meet the world standards and customer requirements, the fact that the lending practice of commercial banks of developed countries is not applied to the commercial banks of the country, was the reason for choosing the topic of this article. Therefore, it is intended to identify the existing problems of commercial banks in the practice of lending to small business entities today, to study the priority aspects of foreign banks' lending practice based on practical analysis, to present their best practices in this field, and to present clearly based scientific proposals on the introduction of them into the practice of lending by commercial banks of Uzbekistan. shows the relevance of the scientific article.

Research methodology

In the process of research, dialectical and systematic approach to study, comprehensive assessment, comparative and comparative analysis, statistical and dynamic approach and grouping methods were used to determine the role, development, specific characteristics of the enterprises operating with innovative projects in the economy of the country and the employment of the population in it. Determining the amount of credit that has a positive effect on the country's economy, and together with this, econometric analyzes of the effect of loans allocated to the real sector, in particular, on innovative projects, on GDP were carried out. The practical significance of this work is that the quantitative growth of the country's gross domestic product in ensuring national growth in the country is 350 trillion for 2025. if we assume that it is soums, the total amount of loans required from banks to achieve this result is 25,543 trillion. it was determined to be soum.

One of the factors of economic development at a steady pace is the financing of innovative projects. In this process, it is determined by the increase in employment of the population and the comparative analysis of these indicators, and the development of appropriate recommendations on this basis.

Analysis and results

According to the World Bank, in 2020, the demand for bank loans of enterprises operating on the basis of innovative projects is somewhat higher in developing countries. In developed countries, on average, 40% of enterprises need a loan, while in the countries of Eastern Europe and Central Asia, this indicator can be observed from 45% to 60%. At the same time, it should be noted that the requirement of collateral in the lending process is higher than 60% on average in developed countries, while it is higher than 80% on average in Eastern European and Central Asian countries (Figure 1).

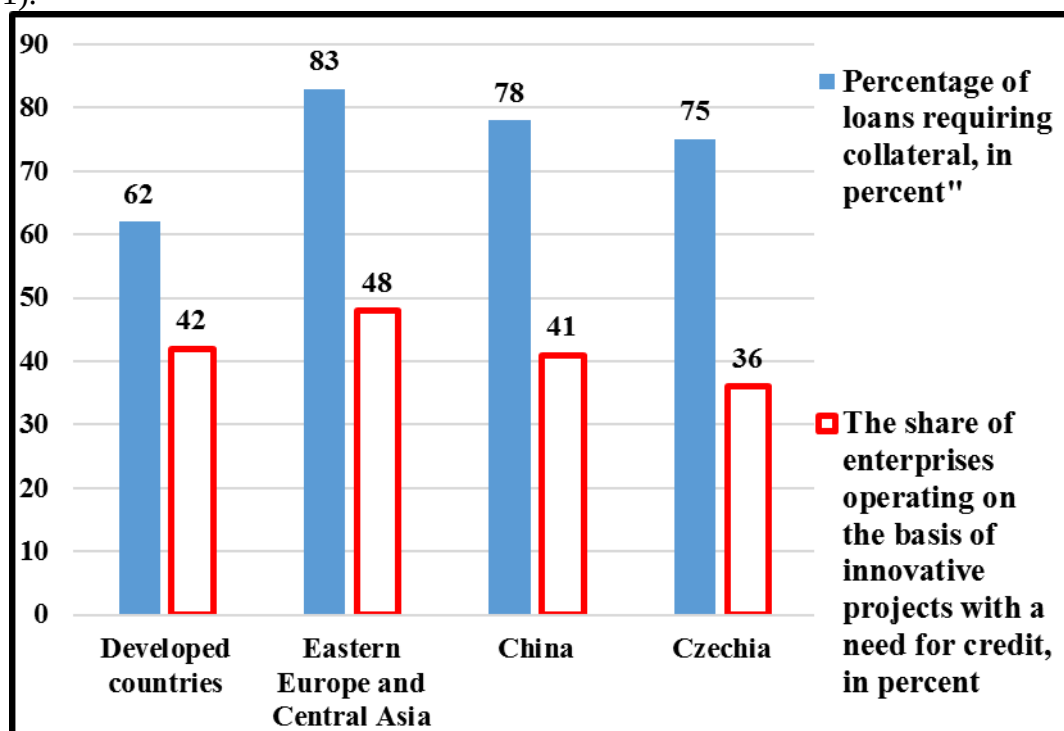


Figure 1. Demand for bank loans of small business entities operating on the basis of innovative projects in the world, in percentage

Source: Compiled by the author based on World Bank 2018 data.

Based on the experience of the above countries, crediting of innovative projects of small business entities should be aimed at solving specific social and economic problems, such as improving the standard of living of the population, employment of the population, and increasing their economic activity. From the experience of investment lending tested in world practice, the use of its positive aspects in the conditions of the formation of the market in this direction in the Republic of Uzbekistan serves as an important theoretical and practical resource.

Taking the CIS countries as an example, in Belarus in 2007, with the adoption of the "Innovative Development State Program", the commercialization of scientific developments led to the development of innovative activities in the republic. The country's innovation infrastructure consists of more than 80 companies that provide consulting services, information and organizational support in this field. There are various technology parks, two innovation centers, eleven technology transfer firms, three international technology transfer centers and other innovative infrastructure organizations.

Financing of innovations in Belarus is mainly carried out by small business entities on the basis of their own funds, and especially on the basis of budget funds. Almost 70 percent of the total expenses are bank loans and extra-budgetary funds do not make up even one percent. This is due to

the fact that investment projects in the field of innovation are high risk and the probability of return is relatively low. Therefore, efforts are being made to develop venture financing in Belarus on a large scale (Figure 2).

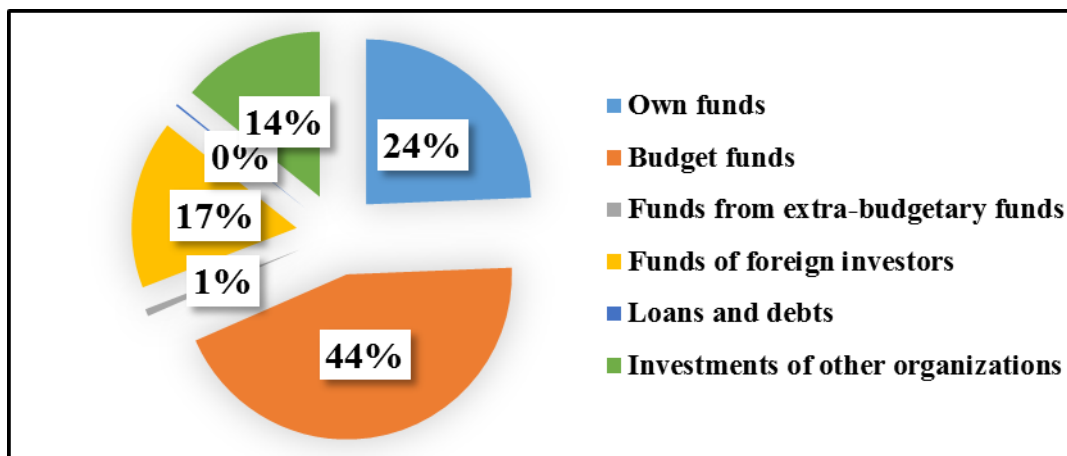


Figure 2. The structure of innovation financing sources in the Republic of Belarus
Source: Statistical collection in the Republic of Belarus, 2020

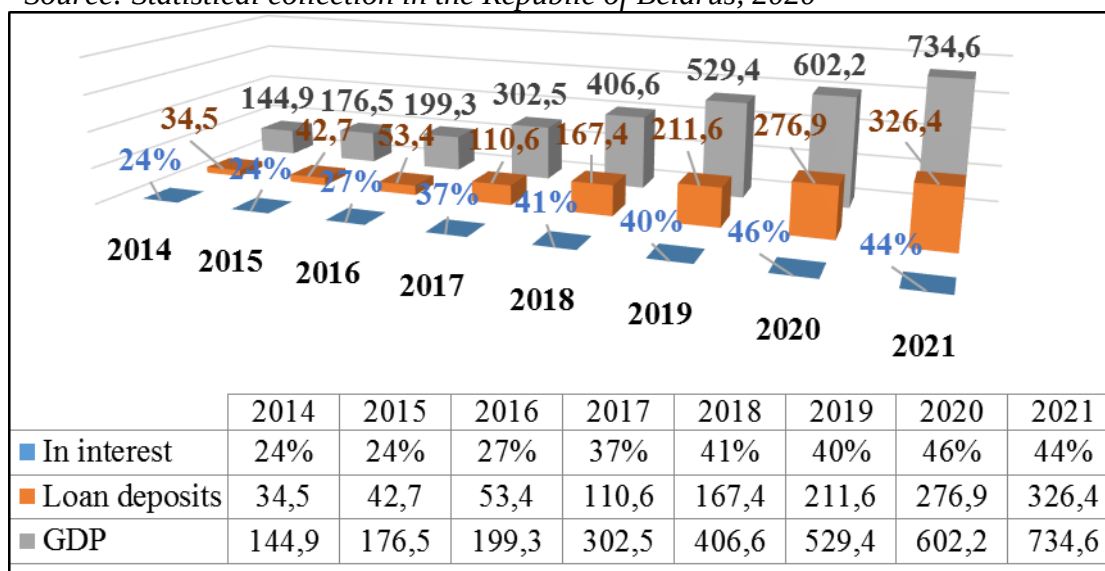


Figure 3. Gross domestic product (GDP), amount and level of commercial bank loans in the Republic of Uzbekistan, trillion soums.

In 2021, the gross domestic product of Uzbekistan will be 734.6 trillion. amounted to soums and achieved a 21.9 percent increase compared to 2020.

GDP per capita is 20.9 mln. organized soum. In 2014-2021, the gross domestic product of the Republic of Uzbekistan and the volume of loans of commercial banks had an increasing trend. The volume of credit investments directed to the real sector of the economy increased by 17% this year compared to the previous year and reached 326.4 trillion by 2021. amounted to soums, the ratio of loans to GDP was 44 percent. If we observe the international experience, in relation to the country's GDP, it is more than 190 percent in Australia, 279 percent in the Netherlands, 170 percent in Great Britain and more than 150 percent in the USA. The following conclusions can be drawn from this, the loans allocated in our country are really widespread and the demand for money is increasing, but according to the analysis of international experiences, it indicates that today the level of credit provision is not sufficient (Fig. 3).

The technology and innovation system in Uzbekistan today is not at the advanced stages of the technological process, therefore we need new knowledge and technologies to be introduced and assimilated from abroad. Attracting foreign investments and mastering foreign technologies

remains one of the main priorities of the state innovation policy. It is more important to adopt and adapt the existing innovations, which are new for the economy of Uzbekistan.

Today, a number of positive actions are being taken by the state for the development of small business entities, including the provision of modern services and production of competitive products, and great attention is paid to their support and financial assistance.

In our country, a comprehensive vision of the system of financial support of innovative small business entities has not yet been formed. Large enterprises with funds are not interested in the projects of small innovation enterprises. Innovators themselves also try not to get credit due to the short loan period, high interest rates and lack of collateral. A lack of funding is only one aspect of the problem, and it is also important to know how to allocate funds.

However, as a result of defining the strategy of developing the economy through innovation in the priorities of the development of the Republic of Uzbekistan adopted in 2017, the level of interest of commercial banks in working with enterprises engaged in innovative activities, which they previously considered to be high risk and low liquidity, has changed. There was a need to improve the financing mechanisms of innovative projects by banks.

Conclusions and suggestions

The following general proposals and recommendations were developed to increase the role of commercial banks in financing innovative projects of small business entities:

To increase the amount of banks' own assets in order to expand the scope of using the project financing method in financing the modernization of the main industries in the republic, especially innovative investment projects by banks;

Development of a new methodology for identifying, evaluating and managing the field of investment projects of small business entities of commercial banks;

In improving the mechanism of financing investment projects of commercial banks, it would be appropriate if the main focus is on improving the procedure for the examination of innovative project documents by banks and introducing a mechanism for assessing their efficiency not only by quantitative economic indicators, but also in terms of quality.

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Rezyume: *Maqolada tijorat banklari tomonidan kichik biznes sub'ektlarini kreditlash tizimini takomillashtirish masalalari ko'rib chiqiladi. Loyihalar samaradorligini oshirish va ularni takomillashtirish muammolari hamda istiqboldagi istiqbollari belgilab olindi. Kichik biznes*

subyektlarining innovatsion loyihalarini moliyalashtirish bo'yicha rivojlangan xorijiy mamlakatlar tajribasi o'rganildi. Tijorat banklari tomonidan kichik biznes subyektlarining innovatsion loyihalarini moliyalashtirish bo'yicha amaliy taklif va takliflar ishlab chiqildi.

Резюме: В статье рассматривается совершенствование кредитования субъектов малого предпринимательства коммерческими банками. Определены проблемы повышения эффективности проектов и их совершенствования, а также их дальнейшие перспективы. Изучен опыт развитых зарубежных стран по финансированию инновационных проектов субъектов малого предпринимательства. Коммерческими банками разработаны практические предложения и предложения по финансированию инновационных проектов субъектов малого предпринимательства.

Kalit so'zlar: kichik biznes sub'ektlari, investisiya loyihasi, tijorat banklarining kreditlash amaliyoti, innovatsion faoliyatni boshqarish, kredit portfeli.

Ключевые слова: субъекты малого предпринимательства, инвестиционный проект, кредитная практика коммерческих банков, управление инновационной деятельностью, кредитный портфель.

FOREIGN EXPERIENCES IN DEVELOPING FREE ECONOMIC ZONES

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Summary: *This article reflects the current problems in the development of the investment environment in free economic zones and foreign experiences in this regard. The experiences of Japan and the United Kingdom from developed countries were described, and conclusions aimed at improving the investment environment in free economic zones were formed.*

Keywords: *free economic zones, favorable investment environment, attractiveness of investment environment, national economy, cluster, cooperation, logistics, Japan, Great Britain*

Studying the world experience of establishing free economic zones and regulating their activities can be an important factor in determining the reasons for the success and failure of investment activities in free economic zones.

We will increase the investment activity of the special economic zone as a whole in the world economy. In addition, special or special economic zones are emerging, specializing in the implementation of commercial activities on the basis of separate projects for the socio-economic development of the region and the implementation of strategic directions.

The experience of free economic zones operating on the territory of industrialized countries shows that the success of free economic zones is based on the following two principles: their perfect investment planning in the process of establishing free economic zones and the management of free economic zones, in particular, based on the principle of the priority of the interests of investors in the organization of corporate management relations. such as the rational policies implemented.

The changing conditions in the world economy (scientific and technical revolutions, competition between transnational corporations, changes in exchange rates, changes in international currency exchange systems) require free economic zones to quickly adapt to these changes.

Social and economic interests make a significant contribution to creating a favorable investment environment in free economic zones. The influx of investments into the territory of free economic zones will create new jobs and revive foreign trade relations. It helps to increase the scientific and technical potential.

Relations between investment attraction and commodity production in free economic zones of developed and developing countries differ from each other.

In free economic zones established in the territory of developed countries, there will be a desire to produce export-import substitute products. In developing countries, goods are developed mainly for export. These countries mainly aim to increase foreign exchange earnings through it.

Japan. The world's second largest economic country is unique in many ways, including the country's zonal policy, which relies on the following system of criteria:

- to use the limited land resources of the regions as efficiently as possible;
- taking into account the relative poverty of natural resources;
- aligning the interests of local and central administration;
- to weaken the excessive concentration of population and industrial production in large cities.

The Japanese government also makes extensive use of EIHs as a way of revitalizing the economy while pursuing a zonal policy. The country has its own methods of regional development planning on a national scale. State planning includes the general development plan and plans for the development of regions with different methods of joint entrepreneurship of individual ministries. EIZs, known as free import zones, are common in Japan. Such an area includes "special legislative measures for the purpose of development at the expense of import development and investment attraction." A clear example of this is the Sakaiminato area located in Tottari Prefecture. The uniqueness of this area is that its plan was prepared and jointly managed by experts

from the two prefectures (Tottari and Simane), and it is aimed at improving the port of Sakai. The development plan of this free import area includes the following measures: includes:

1. To turn Sakai port into the gateway of friendship and international cooperation of western Japan;
2. Development of local industry through effective exchange of goods in the information sector;
3. Deepening international relations through the development of trade and industry.

The following benefits have been granted to support entrepreneurship in this area and to increase the amount of imported goods:

- interest rates were given to Japanese banks and relief funds dealing with small businesses;
- businessmen engaged in the placement of import cargoes are given benefits in receiving taxes on profits and income from real estate;
- concessions in payment of fees to suppliers of equipment for trade and transport enterprises; processing industry, wholesale trade and transport enterprises are exempted from land tax;
- preferential insurance is given to small enterprises;
- conducting fairs, providing advice on import issues, and obtaining information on the development of foreign trade are free of charge.

In Japan, free trade zones or import promotion zones are a specific form of EIZs. They are organized in sea and air ports. The purpose of establishing these areas is:

- due to the accumulation of goods at the regional level in these ports, the transaction costs in all sectors of the Japanese economy are optimized;
- is to slow down the process of "washing out" of industrial bases in the country in the conditions of growing foreign investments;
- is to facilitate the expansion of the division of labor with neighboring Asian countries;
- is to create unique "polygons" for testing new methods of regulation.

In 1999, there were 22 import regions in Japan. These areas are under the local authority of a city or prefect. State authorities pay great attention to these areas. They provide various benefits and support for the successful operation of the area. Generally, the following benefits are provided:

1. Assistance to companies processing imported goods, for example, providing loans with an interest rate of less than 3%;
2. Establishment of an information center for free trade zones providing advice on import issues, holding exhibitions, organizing business conferences;
3. Creating a simplified customs system for companies in the region by making special additions to the customs legislation;
4. Creating special conditions for credit insurance for small businesses.

Great Britain. In the eighties of the 20th century, the conservative government of Great Britain, after analyzing the problems in the country's regions and the situation in the borders in general, made a decision in regional policy that was fundamentally different from the previous period. It enriched world practice and demonstrated a new approach to world unity. This decision was the decision to create modern enterprise zones, and it was the most important aspect of the new regional policy of the UK government. According to this regional policy, it was necessary to stimulate the development of disadvantaged regions of the country in terms of development, it was necessary to stop the outflow of investment from these regions, and it was necessary to preserve the jobs in this region that could potentially be transferred to developing countries.

In Great Britain, a special economic mechanism was developed and implemented to implement the new regional policy. This mechanism exempted the real estate in operation in the business area and the newly built enterprise from property tax. In addition, the bureaucratic hassles and obstacles associated with the creation and registration of a new enterprise have been reduced to a minimum. It was decided to liberalize the rules for granting concessions in the sale of municipal land as private property and for the construction of buildings and structures.

The geography of business areas in Great Britain is very broad. They arose because of the problems of the cities of old England. The initiative to establish such areas usually comes from below. Because local self-government bodies are the first to face the problems of economic development and social unrest.

Experience shows that the inner quarters of cities are the birth centers of small businesses, which, in turn, do not like and cannot afford state intervention in their activities. When Margaret Thatcher was Prime Minister, the government paid a lot of attention to small businesses. He left the responsibility of dealing with small business matters entirely to the local government authorities, who in turn were able to encourage the activity of their small firms. This was helped by business areas. Local governments have established enterprise zones, supported the industrial and commercial renewal of the abandoned neighborhoods of the city and supported the commercial and industrial renewal together with private entrepreneurs and retailers. Industrial, commercial, commercial buildings are exempted from property tax, and these funds are covered by the central budget of the state for local government. 100 percent annual depreciation is allowed on buildings and equipment. A simple procedure for obtaining a permit to do business in the region will be introduced.

It should be noted that the creation of enterprise zones in Great Britain not only stopped the outflow of investment from these regions, but also helped to create new jobs. Later, business areas spread to the United States. The US government, using the experience of Great Britain, proposed to local governments in depressed areas and cities to create business zones. The goal was to create a "working environment" by providing various benefits. The successful experience of Great Britain and then the USA was used in many countries of the European Union.

Free economic zones are established mainly in the form of export production zones on the territory of developing countries. The economic purpose of the establishment of export production zones is to attract foreign capital, meet industrial needs, develop industrial goods for export, develop science and technology, and gain modern scientific achievements.

The preferential form of economic activity created in the free economic zones established on the territory of the developing country is privileged and liberal for foreign entrepreneurs.

Based on the analysis of the experience of foreign countries in increasing the efficiency of free economic zones, it is appropriate to implement the following measures in the development of free economic zones operating in the Republic of Uzbekistan:

Non-residents who make investments in the form of importing foreign currency into the territory of the free economic zone must provide guarantees from the Government of the Republic of Uzbekistan regarding the activity of transferring the income received from these investments to the territory of a foreign state. This increases the investment activity of non-resident entities in the territory of the free economic zone;

exempting from taxes the income of foreign specialists working in the territory of free economic zones. It encourages the entry of qualified foreign specialists into the territory of free economic zones;

clearance of goods imported to free economic zones and exported for export purposes by customs authorities, simplification of customs cargo declaration filling procedures to the maximum extent.

Issues of investment legislation in the territory of the free economic zone are also a means of attracting foreign investments to the territory.

Foreign investment can be in the form of capital, innovation or social investments made by foreign state bodies, legal entities or individuals, international organizations to the territory of one country. In the territory of free economic zones, foreign investments can be made in various organizational and legal forms.

Foreign investors can make investments in free economic zones in the following ways:

1) participating in the chartered funds and other property of economic societies and companies, banks, insurance organizations and other enterprises established together with residents of the free economic zone - legal and (or) individuals;

2) establishment and development of economic societies and companies, banks, insurance organizations and other enterprises fully owned by foreign investors in the territory of the free economic zone;

3) purchase of property, shares and other securities, including debt obligations issued by residents of the free economic zone;

4) inclusion of rights to intellectual property, including copyrights, patents, trademarks, utility models, industrial models, company names and know-how, as well as business reputation (goodwill) in the territory of innovative free economic zones and technology parks;

5) obtaining concessions, including concessions for the search, development, extraction or use of natural resources;

6) by purchasing property rights to trade and service facilities, residential buildings together with the land plots on which they are located, as well as the rights to own and use land (including leased use) and own and use natural resources.

It is worth noting that the practice of establishing joint ventures involving foreign investments has developed in the free economic zones of most foreign countries. In particular, foreign investors can establish enterprises with participation of foreign investments in the territory of the Republic of Uzbekistan and use all the rights, guarantees and privileges granted to them by the legislation of the Republic of Uzbekistan.

Enterprises with participation of foreign investments in the territory of the Republic of Uzbekistan are enterprises in which foreign investments make up at least thirty percent of their shares (shares, shares) or authorized capital. They operate in any organizational and legal forms that do not contradict the legislation of the Republic of Uzbekistan. One of the participants of the enterprise with foreign investments must be a foreign investor.

An enterprise with the participation of foreign investments can be established by establishing it or as a result of the acquisition of a participation share (subsidiary, shares) in an enterprise previously established without the participation of foreign investments, or as a result of the purchase of such an enterprise by a foreign investor in its entirety, including in the process of privatization.

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Rezyume: Ushbu maqolada erkin iqtisodiy zonalarda investitsiya muhitini rivojlantirishdagi mavjud muammolar va bu borada xorijiy tajribalar aks ettirilgan. Rivojlangan davlatlardan Yaponiya va Buyuk Britaniya davlatlari tajribalari bayon qilingan bo'lib, erkin iqtisodiy zonalardagi investitsiya muhitini yaxshilashga qaratilgan xulosalar shakllantirilgan.

Резюме: В данной статье отражены современные проблемы развития инвестиционной среды в свободных экономических зонах и зарубежный опыт в этом отношении. Описан опыт Японии и Великобритании из развитых стран, сформированы выводы, направленные на улучшение инвестиционного климата в свободных экономических зонах.

Kalit so'zlar: erkin iqtisodiy zonalar, qulay investitsiyaviy muhit, investitsion muhit jozibadoplighi, milliy iqtisodiyot, klaster, kooperatsiya, logistika, Yaponiya, Buyuk Britaniya

Ключевые слова: свободные экономические зоны, благоприятная инвестиционная среда, привлекательность инвестиционной среды, национальная экономика, кластер, кооперация, логистика, Япония, Велико Британия.

DEVELOPMENT TRENDS OF THEATER ART IN KARAKALPAKSTAN AND ITS IMPORTANCE FOR THE SPIRITUAL EDUCATION OF YOUNG PEOPLE

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Summary: *This article deals with the stages of development of Karakalpak theatrical art, the first creative style and theatrical forms, the history of the Karakalpak State Academic Musical Theater named after Berdakh, which has been operating since 1926, and its importance for the spiritual education of young.*

Keywords: *Theater, troupe, director, actor, play, style, method, history, Karakalpakstan.*

Introduction

Substantiation of the theme and its relevance: Each period has its own characteristics, as well as the creation of unique works of art. This fact is a system of artistic and comprehensible means of interpreting the principles of the creator and his ideological and aesthetic surroundings. With its help, a person creates another image in a unique way through artistic means. In the development of art, such phenomena are called artistic style. Clear and historical truth plays a key role in the emergence and spread of artistic style, forming the objective basis on which a particular style emerges. Therefore, within a single socio-economic formation, there may be different ways of artistic creation.

We study the process of formation of Karakalpak theatrical art in the brains of the Karakalpak State Academic Musical Theater named after Berdakh, which has been operating continuously since 1926 and has been an example to other creative communities since independence.

Covering several periods known from the history of theater, the real modern theater was formed in the Karakalpak people in the early twentieth century. After the decision of the Commissariat of Public Education of the RSFSR "On the establishment of the theater department" in January 1918, attention was paid to the conduct of various spiritual and educational work in all cities, the establishment of theatrical concert organizations. From these years he used all the opportunities available to organize a professional theater. In March 1919, the Karakalpak branch of the RSFSR Music and Drama Ensemble was opened in the Turtkul district of Karakalpakstan At the end of 1919, an 18-member Tatar amateur circle was formed under the leadership of Kasim Yamashev, a teacher from Kungrad district, with the participation of Uzbek, Karakalpak and Kazakh youth.

The names "theater" and "theater troupe" began to spread among the Karakalpak people in the mid-1920s. Since most of the republics of the former Soviet Union did not have a theater, all nations began to take an interest in theater. From these years, theaters have been operating in every nation speaking the national language. [1.p.9] In the summer of 1920, Hamza Hakimzoda Niyazi came to Khorezm and began to lead the "Planet" troupe. In the late 1920s, the Planet troupe, led by Hamza, toured the cities of Turtkul, Khojayli and Kungrad. His performances are watched with great interest by the people. In September 1920, by the decision of the Executive Committee of the Amudarya branch of the Workers' Deputies, a large city club, library and cinema were opened in Turtkul. The club, which has special state units, is considered to be the first cultural center in Karakalpakstan.[2] In 1925, Zarip Fatikhovich Kasimov, a science teacher at the Turtkul Pedagogical College, formed a Karakalpak national troupe of students from the technical school. This year, the troupe will present performances of Baybishe-Toqal, Songi Tayanish and a concert program to the people of the city.

The period when the "Dawn Light" troupe was formed covers the years 1926-1930. The troupe will have 13 creative and technical staff. Jolmurza Aymurzaev, Aytbay Matyakubov, Genjebay Ubaydullaev, Madreyim Matjanov, Jumagul Seytova, Gurbangul

Bekmuratova, Maryam Temirkhanova, Perdegul Saekeeva, T.Ismetullaeva, Q.Allaniyazov, Bayniyaz Seytov, J.Pirnazarov, O.Toremuratov.

The names of these people became the swallows of the troupe "Dawn Light", today's Karakalpak theater. During these years, the theater was one of the amateur theaters. The staged performances are very simple. The actors did not know the stage speech, the acting skills. Nevertheless, dramaturgy developed. Musical dramas were written. The audience loved the music. The creative style of these years can be called a very simple, amateur team.

Abdirman Uteпов, the leader, director, actor and playwright of the national troupe, has done a lot of creative and administrative work. However, their directing work methods were not professional. The staged poems were performed by a prompter. There are no special decorations, lamps, props, props and other components for the performances. Because at that time, the special development of decorations for performances was not included in the theatrical program. Evening performances, posters for concerts, people shouting in the streets with special shouts, or were announced through trumpets. In case of performances in the districts, the necessary decoration equipment, props, hats, shoes were collected from the venue, from the local people and used on the stage.

Scientific novelty

The 1930s were a period of high spiritual and educational work in Karakalpakstan. Schools, technical schools, courses for young professionals have been opened. Great work has been done to open a museum of historical and regional studies. From the Council of Ministers there was a department of art management. He began to accept talented young people as a pilot of folk art and music. This was a stage in the development of culture in Karakalpakstan. Of course, the 1930s were also a period of great development in theatrical art. Collective farm amateur theaters, 3 music schools, 8 brass bands will start working in 12 districts. Three state theaters from Turtkul: Karakalpak State Theater, Young Spectators Theater and Russian State Theaters will start their creative work. By 1933, 39 libraries, 61 clubs, 14 peasant houses, 7 red houses, and 61 reading rooms were opened in the republic. [3.p.76]

In December 1930, the Karakalpak State National Theater was established on the basis of the Tong Nuri troupe. In the newspaper "Kizil Karakalpakstan" of that time, the director of the Karakalpak State Theater Y. Bekbavli's son wrote in his article "Let's build a modern theater, the theater is on the way to growth". "In our country, the theater cracked after the revolution. In 1927-1928, drama clubs were organized on the ground (mainly in schools), and from then on our modern theater was renamed the State Theater in 1934." [4.p.2]

In 1936, the well-known director Zuhur Kabulov was elected artistic director of the theater, composer B.D Tumanian music director, A. Tairov chief choreographer. Well-known Uzbek director J. Obidov and Kazakh T. Umarov will also come to the Karakalpak theater. Z. Kabulov, who has staged many musical dramas, begins his career at the Karakalpak Theater with Khurshid's musical drama "Layli and Majnun". In the play, the artist F. Versalsky creates the spirit of the period, the palace and desert nature with beautiful ornaments. The play was one of the earliest successes in Karakalpak theater. Director Z. Kabulov asked the amateur actors to make the theater team feel the reality of the stage, the responsibility on the stage. The repertoire of the Karakalpak theater is enriched with works by Uzbek and Kazakh authors. It has now moved from one-act performances to large-scale performances. Works from our daily lives with historical works have taken a wide place in the theatrical repertoire.

The main issues and hypotheses of the research:

Theatrical art has won the hearts of our people with its musical works. The work of Uzbek directors in the Karakalpak theater has yielded results. The creative style began to take shape. 1930–1939 was a period when Karakalpak theater joined the ranks of state theaters and is now rising to the stage of qualified theaters.

In 1934, the Russian artist Boris Dmitrievich Kamenev was appointed chief artist of the theater. Decorations for performances will begin to be created. The characters who will take part

in all the performances will also be responsible for the costumes, props, and props. This was the creative style and method of the theater in the years when it was established as the Karakalpak State Theater.

Taking into account the need for qualified personnel in the growth and development of the theater, in 1934 a Karakalpak course was opened at the Lunacharsky Institute of Theater Arts in Moscow. Well-known teachers V.V.Bibikov and O.I.Pizhova teach acting lessons to Karakalpak youth. It prepares them for professionalism.

The arrival of Karakalpak studios in Moscow GITIS in 1939 was a great historical event. The Karakalpak State Theater was renamed KS Stanislavsky and renamed the Karakalpak State Musical Comedy and Drama Theater named after KS Stanislavsky. It was a time when the theater began its creative process, filled with its truly qualified staff. The studio will present A. Ostrovsky's "Poverty is not a crime", Moler's "Skapen's trick", V. Vishnevsky's "The First Cavalry". Among the graduates are well-known artists, teachers Turesh Allanazarov, Yuldash Sharipov, Yuldash Mamutov, Sapar Khodjaniyazov, Sofiya Karabaeva, Tarbiya Jolymbetova, Yahyt Allamuratova, Khalmurad Saparov, Baltabay Aymanov, Saodat Yusupova, Sabyrbay Utepberiyov, Madovbayov, Isakh Shadievs became the first qualified staff of the Karakalpak theater.

World War II also affected the theater. Economic hardships did not go unnoticed. Several creative staff went to the front. The team was divided into two agitation brigades, one group led by Ayimkhan Shamuradova and the other group led by Yuldash Sharipov.

One of the innovations that took place in the Karakalpak theater in 1943 was the arrival of Usman Yusupov to watch the play "Alpomish". He wrote the first version of Najim Davkarayev's poem "Alpomish" in 1939 and planned to hold the play in Tashkent. The Republic of Karakalpakstan was preparing for the Culture and Literature Week. However, with the outbreak of war in 1941, preparations for the play came to a halt. The theater will move from Turtkul to Nukus, the new capital of the Republic.

In 1943, he premiered the play "Alpomish" in a new theater in Nukus. The performance will be met with great interest by our people. The main idea of the play is "For the people, for honor!" will be. The people of Karakalpakstan are very rich in folklore. For centuries, our epics have been sung and passed down from generation to generation. Due to the fact that the epic "Alpomish" is the most popular epic, our people are very happy to see their national hero on stage. The play is staged in the genres of realism and naturalism. Played by young actor Reyimbay Seytov in the role of Alpomish, Alpomish was a hero from the people. He embodies the hero of a true epic and wins the love of the audience. The role of Barchinoy was played by Ayimkhan Shomuradova. The music of the play will be composed by the well-known composer V. Shafrannikov. Before writing music, the composer gets acquainted with the traditions and customs of the Karakalpak people. Their way of life begins with music, with a good study of the language. The arias of the play are still performed by our singers.

In the post-war years, drama and theater shifted to their previous style. Although the main theme is related to the post-war reconstruction period, there are themes in the lives of different people. All performances featured a struggle between life events, old and new. The relentless research has given impetus to the development of our national drama.

Research goals and objectives:

The purpose of this study is to create, use, develop a creative style in Karakalpak theaters from the historical and modern point of view on the example of the above-mentioned theatrical activities, and to describe and analyze the problems and achievements in this area.

In the years of the theater's existence, radio, television and cinema were underdeveloped for our audience. Theatrical performances have served as concerts and theaters. In those days, although there were few experienced musicians to perform musical dramas and concert programs, musicians who played world classical instruments such as violin, cello, clarinet, trumpet, and trombone worked in the theater. Among them are Kamal Mendiboev, Jumamurod Yangiboev, Palvaniyoz Abdijamilov, Olim Abdullaev, Tursymurod Utemurodov, Lyusya Brokman, Kurbanboy Esjanov,

Kurbanbay Nametullaev, Allamurod Koshimbetov, Makset Kopjasarov, Viktor Maryukhin, Nikolai Murmantsev and other musicians Kalba and Tulegenov. The symphony orchestra was conducted by well-known composers Olimjon Khalimov, Abdireyim Sultanov, Saparbay Palvonov and composed music for several performances.

Theoretical and practical significance of the research results:

In the works of all our playwrights of the 1970s and 1980s, more and more people raise issues of education and morality. For example, "Stubborn", "Two Lives in One House", "Conscience", "Five-Day World", "Bride", "Bless the World", and other works were among them. In 1987, the first Karakalpak national opera "Ajiniyaz" was staged. Well-known composer, artist of Uzbekistan and Karakalpakstan N. Muhameddinov will create our national opera "Ajiniyaz". The libretto was written by the hero of Uzbekistan, People's Poet of Uzbekistan and Karakalpakstan I. Yusupov. In 1989, the theater was given the status of "musical theater". Our theater is the Karakalpak State Musical Theater and has joined the ranks of multi-genre theaters.

Conclusion

In a new era, the theater has continued its pre-existing creative heritage and programs, staging translated works of nearby peoples with works by national playwrights. Our art, which has a national opera, has now shown the world's classical operas to the Karakalpak audience. The reason was that there were enough soloists, choirs, orchestras, ballet dancers in the theater. It had a wide range of possibilities. Therefore, S. Yudakov's opera "Maysara's trick" (directed by N. Ansatbaev), S. Rakhmaninov's opera "Aleko" (directed by K. Abdireymov), N. Mukhameddinov's opera "Ajiniyaz", N. Mukhameddinov's ballet "Oyjamol", A. Begimov, T. Allanazarov's musical drama "Gharib oshiq", K. Matmurodov's drama "Sharyar" (directed by B. Baymurzaev), A. Aripov's drama "Sohibkiron" (directed by N. Ansatbaev) were well staged. Also, taking into account the requirements, a number of comedy works for our comedy-loving people include K. Rakhmanov's "Love of Injik", K. Matmurodov's "Omurbek and the Dust", M. Nizonov's "Two Worlds", Sh. Boshbekov's "Iron Woman", I. Sadikov's Performances in the genre of "Effendi's wife", B. Jurtoev's "Mother-in-law", and several other comedies were shown to the audience. Theatrical show concerts on each holiday became a theatrical program. In conclusion, it is important that Karakalpak theaters, while operating in the new XXI century, do not lose the achievements of the XX century, but develop, preserve and strengthen national identity, and at the same time be aware of research in world theater.

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Rezyume: Bu maqolada Qoraqalpoq teatr san'atining rivojlanish bosqichlari, dastlabki ijodiy uslub va sahnaviy shakllar va 1926-yildan e'tiboran uzluksiz faoliyat ko'rsatib kelayotgan Berdaq nomidagi qoraqalpoq davlat akademik musiqali teatrlarining kelib chiqish tarixi va uning yoshlar ma'naviy tarbiyasiga ahamiyati xususida so'z yuritiladi.

Резюме: В данной статье рассматриваются этапы развития каракалпакского театрального искусства, первые творческие стили и театральные формы, история Каракалпакского государственного академического музыкального театра имени Бердаха, действующего с 1926 года, его значение для духовного воспитания молодежи.

Kalit so‘zlar: Teatr, truppa, rejissyor, aktyor, spektakl, uslub, metod, tarix, qoraqalpog'iston.

Ключевые слова: Театр, труппа, режиссёр, актёр, спектакль, стиль, метод, история, Каракалпакстан.

ETHICAL IDEAS AND MORAL DIDACTICS OF AJINIYAZ

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Summary: The article reviews social and ethical ideas and moral didactics of the prominent thinker and poet of the karakalpak people Ajiniyaz Kosibay ull.

Keywords: Ethics, inoral, didactics, morality. category, good deed, evil deed, mental culture.

The problems of ethics, moral education and moral didactics occupy an important place in the works of the Karakalpak poet and thinker Ajiniyaz Kosybai uly, in his worldview constructions. The peculiarity of Eastern poetry, which consists in its inseparable connection, organic correlation with moral motives, finds its vivid manifestation in the poetic works of Ajiniyaz, since this is facilitated by his tendency to certain philosophical generalizations, moral and didactic conclusions and to their conceptual and figurative development. He acts as a great moralist of his time, whose views have always retained their significance, but in our days have received a special response.

Of course, this was largely facilitated by the fact that in the philosophical systems and views of the thinkers of the Muslim East, ethics, the development of ethical categories, concepts and norms acted as their most important systemic component.

Moreover, the entire social 2 philosophical thought of the peoples of Central Asia had one of its highest priority orientations as spiritual and moral education of the individual and society as a whole.

It should be noted that the ethical views of Ajiniyaz, converging with many teachings on the morality of the thinkers of the East and having one of their important sources of the spiritual and moral potential of Islam, organically and at the same time are included in the ethical thought of the Karakalpak people, embodied in their folklore, as well as in the creative heritage of a number of Karakalpak poets of that period.

Analyzing the problems of the moral didactics of Ajiniyaz, first of all, it should be borne in mind that, one way or another, many of the moral categories and norms that were inextricably linked with the spiritual and moral potential of Islam, with its moral values, found their expression in it. Ajiniyaz himself directly correlates the moral requirements of Islam with the formation of human virtues, in which, according to him, even the need to observe fasting, read prayers, etc.

In particular, he notes:

If your wife is virtuous, keeps prayers,

That is not a wife, but a gift from God [1,75]

He makes the same request to her husband.

It should also be taken into account that Ajiniyaz himself in his works, when considering some specific issues of morality, sometimes directly correlates this with moral perfection on the Sufi "path to Truth, i.e. god." This testifies to the importance that, according to the poet, the Sufi spiritual and moral concept should also have in the educational process.

According to Ajiniyaz, the purpose of ethics is the spiritual and moral improvement of a person, ensuring the moral foundations of justice in the life of society and the individual, introducing a certain order and the possibility of living together people of different character and disposition.

Ajiniyaz, following the above-mentioned best traditions of past and contemporary ethical thought, in his moral views relies to a large extent on the dictates of reason, sees in it one of the important criteria for moral behavior, since a person is endowed with this gift from God precisely for his conscious attitude towards his behavior, spiritual and moral improvement.

Bright lines of this content are found in his poem "Bolmas", in which he tries to reveal the complex relationship between reason and faith in solving moral problems:

If you are intelligent, then consider the consequences.

This is of no use to you except faith [1.122]

Moral education, according to Ajiniyaz, should be aimed at ensuring not only the proper moral behavior of a person, but also his ability to appreciate the other, and to help a person correctly distinguish between good and evil.

Judging by the works of Ajiniyaz, he widely operated on evaluative concepts and categories of ethics, including those that had been formed for a long time in ancient ethical teachings. At the same time, his moral views reflected the specific features of the moral life of the Karakalpak people, due to the peculiarities of its historical development.

This is clearly manifested in his poem "Еллерим барды" [2,11], in which he tries to describe some of the spiritual and moral features and qualities of the Karakalpak people. In the interpretation of moral categories and concepts, his views are expressed on such cardinal social and ethical problems as the spiritual and moral meaning and purpose of life, the moral ideal and happiness of a person, which, being neither moral nor immoral in themselves, are subjected to moral evaluation, acquire moral content and meaning.

When analyzing the poet's views on moral categories and concepts, it should be remembered that he does not have any complete and consistent definitions of them, a clear description of their nature, essence, purpose, etc. However, their reconstruction is possible on the basis of the context in which he often operated with categories and evaluative concepts, noted one or another specific aspect of their moral content. On the other hand, such an approach to the analysis of Ajiniyaz's interpretation of the categories and concepts of ethics helps to present them in a richer, more vital content.

In the ethical views of Ajiniyaz, "good" and "bad" ("жақсылық" хәм "жаманлық") constitute two most important categories, two opposite sides (positive and negative) of moral phenomena, moral norms of behavior and actions of a person, which determine the goals and motives of actions and deeds people, as well as moral personality traits [2,43-94].

This is important to note, because the poet gives even purely moral assessments, based on such a broad understanding of good and evil, of which there is a contrasting significance in the life of a person and society. It is in this plan that in one of his works the poet contrasts them and comes to the conclusion: "If we compare the meaning of good and evil, then the distance between them is closer than between the sun and the earth" [2,57].

Ajiniyaz considers as good in its moral manifestation everything that is permissible and necessary from the point of view of his concept of the meaning and purpose of human life, about the moral ideal and happiness of a person, in general, everything that saves the people from suffering and oppression, and evil is everything that is unacceptable and rejected by this concept. In reasoning about good and evil in this aspect, the poet considers them in connection with certain human actions that are related to the interests of other people, society as a whole.

Summarizing the analysis of Ajiniyaz's views on ethics, we can draw the following conclusions:

1. The ethical views of Ajiniyaz, even without having received a special consistent development, nevertheless represent an internally correlated integrity of views on the sources of morality, categories of ethics and motives of behavior and have a special power of influence, because they are built on the unity of a certain conceptual-generalizing approach and emotional-figurative perception.

2. Ajiniyaz perceives the problems of morality through the worldview categories of good and evil, a certain hierarchy of ethical categories and concepts, and the task of educating the younger generation is not only the formation of a purely moral consciousness, but also a broad spiritual and moral improvement, oriented both to moral and personal relationships, and to fulfill the public duty to the Motherland, the people, which at that time was of particular importance in the context of the increased desire for national unity of the Karakalpaks.

3. The ethical views of Ajiniyaz differ from the views of other Karakalpak poets of the 19th century in their vitality and close connection with direct observations of reality, the realities of social life and the spiritual world of the individual. His ethical views were of great importance in the subsequent conceptual and categorical development of ethical systems by Karakalpak thinkers and should be taken into account in modern research in the field of ethics from the point of view of its closer linkage with the peculiarities of the spiritual and moral life of the Karakalpak people.

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Rezyume: *Maqolada qoraqalpoq xalqining buyuk mutafakkir shoiri Ajiniyaz Qosibay U'glining Ixtimoyi-ahloqiy qarashlaridagi pand-nasiyhat g'oyalari ilmiy analiz etilgan*

Резюме: *В статье рассматриваются социально-этические идеи и нравственная дидактика выдающегося мыслителя и поэта каракалпакского народа Ажиньяза Косибая улла.*

Kalit so'zlar: *Etika, axloq, didaktika, kategoriya, yaxshilik, yomonlik, ma'naviy madaniyat*

Ключевые слова: *Этика, нравственность, дидактика, категория, добро, зло, духовная культура.*

**THE IMPORTANCE OF NATIONAL ORAL TRADITIONS OF FOLK PEDAGOGY IN
THE EDUCATION OF THE YOUTH**

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Summary: *The article tells about the importance and significance of legends, stories and proverbs in Karakalpak folk pedagogy and their actuality in the education of the young.*

Keywords: *Folk pedagogy, education, an epic, a fairy-tale, proverbs.*

Folk pedagogy, educational customs and traditions left by our ancestors are of particular importance in the development of our young people in the character of well-educated, well-rounded generation. Each nation has a complex historical and spiritual world, which is connected with social relations and has been shaped and developed in various ways since ancient times. The Karakalpak nation, like other nations, is famous with its ancient history, customs, and traditional education. The traditional education of the people, soaked in the blood of our ancestors and passed down from generation to generation, has a tendency to shape the inner world of young people, their spiritual and moral image by its content.

As Professor U.Aleuov says “a person can contribute to the development of society and himself only through qualified education. Proper training of the individual will lead to the improvement of the society. It is necessary to learn and use the culture of the past for this aim. The content of education should be built on the basis of national culture”. [1.492]

In Karakalpak folk pedagogy, special attention is paid to the issue of child education in Karakalpak folk pedagogy, especially to the education of etiquette in the family. That is why they say “Parents are the owners of art, child is the production of art, and the educational process is the art itself” [2.52]. Folk pedagogy teaches children to be careful, intelligent, well-spoken, obedient, responsible and considerate, to understand the meaning of good and bad, to show respect for justice, parents and elders, to be sensible, always to take care of children and the young, and to show kindness to people who have seen a lot. It educates to learn from experience, to learn from the advice of the wise, to love and serve one's country, to be brave, brave, and stable. “A bird is dear with its wings, a person with his nation”, “No sweet without some sweat”, “With good person the aim I had, with bad person I became ashamed”, “Mother has more rights in his child than anyone else”, “He knows a lot who has seen a lot”, A man is responsible to his land”, and others. One can meet a lot of proverbs of the type that give advice to a person in the folk pedagogy.

We can see the lines that raise children in the feeling of love for their homeland in many Karakalpak folk songs, in literary works, especially in lullabies. According to the folk tradition, there was a ceremony of choosing a name for a newborn baby, when people gather together to give a name, placing baby in a cradle and wishing him all the best.

Babies were mostly brought up in a family home, in their mother's arms during cradling period. And the mother taught the child in the form of lullabies. The lullaby is the beginning of education, and the elements of education in the spirit of loyalty to the motherland, along with wishes for good health, educated growth, good marriage, and happy life, are often mentioned in its content. In her lullabies, the mother calls her child to be a child of the nation, to be a hero who will not be afraid in the future and stand up against the enemy. This is a reflection of the dream of every parent to see their son as a loyal child of the native land.

Hard-working people dream that their children will protect the country, love their country with all their heart and soul, become loyal children who will serve their people, and try to educate them in the spirit of patriotism as much as they can. Education is not limited to the cradle period, but continues after the child begins to walk and even reaches adulthood. As the child grows up, the demands on his upbringing become stronger.

Many tales were written about the nation and the heroes of the nation. Fairy tales have their own peculiarities in order to bring the listener from the world of his own creation to the world of fairy tales, for example, they start with special introductory words like “once upon the time there was...” and are interspersed with words like “so they lived happily all the rest of life” [3.32]. Even in the pre-revolutionary era, it was no surprise that Russian scientists paid attention to Karakalpak folk tales. For example, the Russian writer and painter K. Karamzin recorded “The Tale about the Woman’s Kingdom” from Karakalpak people and published it in 1875.

A clever and brave woman in this tale rises to the rank of khan with her courage, wisdom, and eloquence and rules the country for several years. The fairy tale about the kingdom of the woman plays an important role in educating young people in the spirit of loyalty to the motherland, being an excellent example of the people’s initiative. Fairy tales are spread from mouth to mouth among the people and became a school that fulfills the task of educating young children. Such fairy tales include “Coin”, “Two Friends”, “Smart Girl”, “Flying carpet” and others. The main ideas of these tales are: “Whoever loves his country, his homeland, his people with all his heart, serves wholeheartedly, and is not afraid of difficulties; he will always be victorious over the enemy and will be happy. Children who get his parents’ blessing evoke good feelings in people and become an example for future generation. The main plot of folk tales consists of these. There is a saying in folk wisdom that “a child who follows his ancestors’ advice will not have difficulties”.

Indeed, it is difficult to find a tool that has an educational effect with a powerful “didactic” content in the world for elementary school students such as a fairy-tale.

“Maman Biy”, “Guldirsin” and other Karakalpak folk legends talk about love for the native land, heroism, and inculcate feelings of loyalty to the motherland in people.

Also, feelings of loyalty to the motherland, the hatred and anger of the hardworking people of towards khans and rich people are openly expressed in anecdotes about Omirbek and Jiyrenshe Speaker. According to elocutionist Jiyrenshe, parents are the child’s educators. He appreciates the words of wisdom that parents should be an example to their children in their upbringing, if a child is separated from his parents, “He will be the same as the falling mountain, the same who sank in the water” [4.203].

In particular, such opinions are often found in Karakalpak folk proverbs and songs.

The Karakalpak people used to listen to bakhshi, zhiraw, story-tellers, and poets at weddings, parties, and large gatherings. Before starting to sing their works, as well as folk tales, they used to tell the assembled people all sorts of didactic stories about the issues of youth education. For example, the national song “What is bad” begins as following:

- What is the worst?
- It is bad for a child who grows up without education.
- What’s wrong in the second?
- A girl who grew up without a control.

While reading these lines, we see that the people paid special attention to the issue of upbringing boys and girls.

The Karakalpak people speak extensively about brave men and women in their proverbs, tales, and especially epics who sing the sorrows of the people, who value friendship and comradeship, and who fight against enemies.

It is necessary to take into account the long-standing pedagogic views, folk concepts and practices of forming an individual in each epic related to folk pedagogy. Taking into account such events in epics, U. Aleuov said: “One cannot help being excited when the folk songs played by jiraws remind people of the happy life, the hardships and regrets of our nation through heroic epics and songs. [5.10].

The Karakalpak have more than 40 of epics widespread among people such as “Forty Girls”, “Sharyar”, “Alpamis”, “Maspatsha”, “Koblan”, “Kurbanbek”, “Yer Ziyuar” and others.

Great importance in the epic of “Forty Girls” is given to the issue of training young people from the point of loyalty to the motherland and strengthening friendly relations between peoples.

The content of Karakalpak epics “Sharyar”, “Kurbanbek”, “Yer Ziyuar”, “Maspatsha” is similar.

For example, the friendship and relationship between the two countries in the epic “Alpamis” was depicted based on heroes of two nations (Alpamis from the Karakalpak nation and Karazhan from the Kalmik nation). These heroes are friends not only because they are defeated by each other, but because they have the same behavior, manner, heroism, psychology, customs, interests, thoughts, and dreams. Based on the image of such individual heroes, relations between two countries, two peoples, friendly ties, as well as the role of these heroes as models for the citizen’s position are clearly shown.

A friendship, camaraderie, loyalty to the motherland thoughts and ideas in the legends, epics, fairy tales, folk tales have not lost their importance up to the present, but the best qualities of humanity, heroism and friendship are becoming an example to the youth.

Humanity, loyalty, love, loyalty to the country and motherland, courage, and feelings are of great importance in raising the quality of education of young people, especially in educating them to love and protect the motherland. Here are the examples of sayings about homeland, the place of birth and the nation:

“Acting for the sake of the country, you won’t be burn in the fire, or drowned in the water”. “The native land is valuable, even if it is very tiny”. “The country is hotter than fire”. “Sacrifice for the country”. “The smoke of one's native land is also sweet”. Every time we repeat proverbs, which are filled with love for the great motherland, our native country, our sense of loyalty to the motherland grows stronger. The people say to traitors who sold their homeland, to those who do not know the value of their homeland, “there is no homeland in betrayal”, “a person without a homeland is a fowl without a grove”, “it is better to be a shepherd in one's own country than to be a king in another country”.

It is good for teachers and tutors to make elementary school students to write down and memorize proverbs and sayings in their notebooks for meaningful words. It is necessary to explain the content of some of them in the literature lessons according to the requirements specified in the school curriculum. It is important to give proofs about the proverbs and sayings, the origin country, how they were used by the poet and in which works. And the proverb quoted above “The native land is valuable, even if it is very tiny” is added by T. Matmurov, I. Yusupov, A. Dabilov into their poems. The poet wrote as following:

“Bring the honor of your native country”.

“Leave your enemy in difficulty” and calls to protect the land.

During their extracurricular time or homework, students should copy such proverbs and sayings that they use in the works of art they read, and try to find out why they are used and their artistic features.

People have enough proverbs and rules related to this topic. A crowded place is always fruitful. That's why the people say: “A great wedding seen by many”, “the mass is to be blessed”, “In a blessed country there is always a holiday”, “You can lose your way, but don’t lose our your country”, “For the love of people feed them with your blue goat”, “Joining together they can win the enemy”, “He who scares a lot, may drown you deep”, “If one spits a lot, there will be a lake”, “Where there is plenty, there is fullness”.

“Where there are people, there is fun”, “Even if you are out of shape, do not be out of the nation”, “Even if you exceed the ranks, you can’t exceed the nation”, “The people do not speak, if the people speak, they speak the truth”, “The nation does not grow old, the lake does not grow full” – these proverbs show the respect and honor to the native people. Each of these words has a deep meaning. Pupils learn to be pluralistic, strive for unity, and achieve community goals from such folk sayings.

“Strength is the unity, unity is good life, the basis of life is harmony”, “Strength is in the unity”, “Unity wins, discord destroys”, “A quarrel destroys harmony, unity develops the people”, “A penny from a penny, the unity from peace”, “One who follows good advice he always

flourishes”, “Where the morality presents, there will be no shortage”, “Cutting hand with the agreement of lots is not hurtful” – these words of wisdom call to aspiration, unity, to discuss and solve many issues together in unity.

The power of proverbs and sayings of our people about heroism, valor, and bravery is also different in training primary school students in the spirit of loyalty to the motherland. When the teachers talk about the historical works of our people and the heroes in their regular lessons, the readers can remember the proverbs, or they can take one of those proverbs as a theme and write a free composition. In the result, some of students may write a work in the form of a poem, others in the form of a story or an essay. Students can use such proverbs and sayings as epigraphs for their works. Teachers and educators should explain to the students how the proverbs on this topic are spread, why they are said, and their mutual differences. In addition, it should be mentioned that there are many proverbial words characteristic of heroism, such as “Koblan”, “Alpamis”, “Yer shora”, “Sharyar”, etc. Every teacher should skillfully use these in his class, and improve the educational technology based on this. In my opinion, human qualities and abilities in the form of popular characters in folk pedagogy, epics, folk tales, fairy tales and legends are of great importance in the education of young people today.

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Rezyume: *Maqolada qoraqalpoq xalq pedagogikasida doston, naql-maqollarning mohiyati va kelajak yosh avlod tarbiyasidagi ahamiyati haqida so'z yuritiladi.*

Резюме: *В статье говорится о сущности эпос и пословиц в каракалпакской народной педагогике и их значении в воспитании будущего молодого поколения.*

Kalit so'zlar: *xalq pedagogikasi, ta'lim-tarbiya, doston, ertak, naql-maqol.*

Ключевые слова: *народная педагогика, воспитание, эпос, сказка, пословиц.*

**SPECIFIC ASPECTS OF FILING A COMPLAINT FOR THE
RE-EXAMINATION OF CRIMINAL CASES IN THE COURTS OF HIGHER INSTANCE,
AS WELL AS THE INTRODUCTION
OF A PROTEST**

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Summary: *The article subjected to scientific analysis the specifics of filing a complaint for re-examination of criminal cases in higher courts, as well as protesting. On the basis of a scientific analysis of the current criminal procedural legislation, scientific conclusions and proposals have been developed on the specifics of filing a complaint for the review of criminal cases in higher courts and bringing a protest.*

Keywords: *appeal, protest entry courts of higher instance, sentence, convict, acquitted person, Chairman of the court, prosecutor.*

The performance of Justice of the courts in the Republic of Uzbekistan is explained by the fact that they carry out legal, justified and fair activities. The fact that the judgment, ruling and decisions issued by the court fully comply with the law, plays an extremely important role in the implementation of Justice. Because only through this procedural situation can effective and thorough protection of the rights and legitimate interests of citizens be ensured.

According to Article 44 of the Constitution of the Republic of Uzbekistan, each person is guaranteed the right to defend their rights and freedoms through the court, to complain over illegal actions of state bodies, officials, public associations, as well as against judgments and decisions in the order of appeal and cassation which is regarded as their constitutional right.

General features of filing a complaint and filing a protest in the courts of higher instance (appeal, cassation) in the Republic of Uzbekistan, judicial duties are performed only by courts issuing reasonable, fair and legal judgments, rulings and decisions.

Usually, the basis for the initiation of a re-trial of court decisions is indicated by improper application of criminal law, violation of Criminal Procedure legislation, severity of punishment, groundlessness, the origin of a dispute over a civil claim, the issuance of an illegal acquittal sentence or termination of the case, among other reasons.

The current criminal procedure legislation defines persons who have the right to file a complaint and protest against a judgment, a ruling, a decision in the courts of appeal, cassation instance, as well as subjects who have the right to petition and protest to initiate proceedings due to newly opened circumstances. These subjects are considered to be the subjects of criminal procedure. At this point, it is advisable to consider the procedure of proceedings in the courts of higher instance (repeated viewing in the order of appeal, cassation, cassation, initiation of proceedings due to newly opened circumstances) and its specific features, as well as persons applying at this institute.

The sentence, ruling and decision can only be canceled, changed, added to it in accordance with the established procedure if there are grounds specified in the law by the court that issued it and the competent High Court. No other authority and official was given such authority. A criminal case can be seen not only on the basis of complaints from dissatisfied persons, but also according to a protest filed by the relevant officials.

The form, structure, mechanism and content of verification of the legality, validity and fairness of judgments, judgments and decisions of appellate and Cassation instances are practically the same.

Among them are the acceptance of complaints, the requirements for the complaint, the obligation to bring a protest, the order of the case, the elimination of the disagreements that have arisen and the content of the decisions to be made. The uniqueness of the grounds for canceling or changing a sentence is also their peculiarity.

It is worth noting that as the stage of verification deepens, the subject of its work is expanding. The Cassation instance checks not only the judgment of the court of first instance, but also the judgments of the appellate court.

Revising court decisions by higher instance courts is a procedural way of verifying the legality, validity, and fairness of court decisions. Any other information about the permissible judicial error (submissions of judges and prosecutors, messages from the media) can serve as the basis, and not just complaints from persons interested in initiating these proceedings (convict, his defender, victim is his legal representative). The period for the cancellation of the indictment or the start of proceedings in Cassation order in order to apply a law that provides relief to the convicted person is not limited. On grounds that further aggravate the status of the convicted person, the re-examination of the indictment, Court ruling or decision, as well as the acquittal sentence, a court ruling or decision on the termination of the case is allowed for one year after they enter into legal force [1., 285]

In accordance with Article 17 of the law of the Republic of Uzbekistan "on Courts" of July 28, 2021, the parties, and in cases provided for by law, other persons also have the right to appeal the court document in the manner prescribed by law.

A number of opinions have been cited regarding the complaint as well as the protest. In particular, according to some sources, a complaint is an appeal in which, by the decision or actions of some body or official, a request is made to restore one's right and legitimate interests in case of damage to the rights and legitimate interests of citizens [2., 167].

In other legal literature, one can find the opinion that a complaint is an appeal of citizens, in which a request is made to restore their violated rights, freedoms and legitimate interests [3., 412].

In our opinion, a complaint is a fact (claim) of violation of the rights and legitimate interests of citizens and its requirement (claim) to be legally restored.

Article 38 of the law of the Republic of Uzbekistan "on the prosecutor's Office" of August 29, 2001 cites a protest against a document contrary to the law to the body or higher standing body in which the prosecutor received this document. In relation to the illegal decision of the official, a protest is brought in a similar order.

In educational dictionaries, protest is given in the sense that it is protest, strict resistance, objection [4., 191]. In the legal encyclopedia, a definition is given that a protest is an activity that provides for renewal, emergence in a new way, the Prevention of an act, a violation of legislation [5., 371].

Another other source writes that in relation to a document contrary to the protest law, the protest is brought to the body or higher – standing body where the prosecutor accepted this document [6., 282].

In our opinion, a protest is a matter of judicial decisions contrary to the law, it is a written request made by an official (Chairman of the court, prosecutor) with relatively relevant authority to the same court or Court of higher instance.

B.X.Pulatov analyzed that, according to Article 409, Part 7 of the Criminal Procedure Code, "the prosecutor is involved in the court of appeal, Cassation instance in the execution of criminal cases or issues related to the execution of a sentence or in cases provided for by this code", and in Part 4 of Article 473 it is noted that "the presiding judge and other parties Therefore, the Cassation instance does not fully compensate for another instance and has several characteristics of its own [7., 40].

S.Sakhaddinov defined that appellate is the basis for filing or expressing a complaint and the shortcomings of a criminal case that testifies to the illegality and groundlessness of a court sentence and requires its modification or cancellation [8., 299].

V.Gorobes writes that persons who filed or protested an appellate complaint draw attention to situations that they consider necessary to be investigated at a hearing of the appellate instance court, ask the court to call the defendant, convict, victim, witnesses, experts and other persons, to preserve, select, Cancel or change the precautionary measure against the defendant. And the court, having studied the materials of the criminal case, including appellate complaints and protests, after hearing the speeches of the parties, determines to what extent these petitions are based. This means that the judgment can be judged as legitimate, justified and fair only when it is in accordance with the evidence provided by the parties and the court has implemented all the procedural possibilities aimed at filling and verifying them [9., 38].

U.A.Tukhtasheva and D.D.Vakhabovs wrote that in the Criminal Procedure Code, the content of the powers of the courts of the appellate and Cassation instance is very close to each other, they differ mainly in the fact that the court of the appellate instance considers the complaints and protests brought against court decisions that have not entered into legal force, and the cassation instance court is distinguished by the fact that it considers complaints and protests against legally binding court decisions [10., 20].

In our opinion, in contrast to the proceedings in the appellate order, the subject of proceedings in the Cassation order can be formed only by the judgment, ruling or decision of the court, which has entered into legal force.

In our view, the distinctive features of the re-examination of court decisions in the courts of appellate and Cassation instance are as follows:

1) the court of First Instance and appellate instance issues a ruling by considering cases of complaints (protests) against judgments and judgments (Article 28 of the CPSU);

2) the court has no right to deviate from the scope of the arguments presented in the complaint (protest), as well as to see the case in relation to convicts (acquitted persons) who did not file an appellate complaint (the second and third parts of Article JPG 497²⁹).

3) the Cassation complaint, not limited to the arguments stated in the protest, examines the case in full, both in relation to all convicts, including those who did not file a complaint and who did not file a complaint or protest (article 509⁸ of the CPC);

4) Non-limitation of the terms of the court's indictment, judgment on unjustified conviction of a person or the revision of sentences and sentences on relief of punishment;

5) the chairman of the Supreme Court of the Republic of Uzbekistan and his deputies have the right to suspend the execution of the sentence and ruling of any court in the Republic of Uzbekistan until the Cassation complaint and protest are resolved in Cassation order. In the event that there is evidence of an open violation of the law, these persons have the right to suspend the execution of a sentence and a ruling for a period not exceeding three months until a protest is expressed on them at the same time as a request for a criminal case (article 504 of the CPSU).

In short, it is important to follow the step-by-step rule. Because in this case, the proceedings in the court of the entire upper instance will be regulated and will allow you to see the complaints and protests filed between the upper instances (lower and upper) in Cassation order, with proper distribution. In addition, the correction of errors made by the lower courts excludes the appeal to the court of higher instance for the restoration of violated rights. As a result, the provision of human rights and interests in the court of the relevant instance is achieved.

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Rezyume: *Maqolada yuqori instansiya sudlarida jinoyat ishlarni qayta ko'rish bo'yicha shikoyat berish hamda protest keltirishning o'ziga xos jihatlari ilmiy tahlil qilingan va amaldagi jinoyat-protsessual qonunchiligini takomillashtirishga qaratilgan ilmiy xulosa va takliflar ishlab chiqilgan.*

Резюме: *В статье проанализированы особенности подачи жалобы и внесения протеста на повторное рассмотрение уголовных дел в суде вышестоящей инстанции, разработаны научные выводы и предложения по совершенствованию действующего уголовно-процессуального законодательства.*

Kalit so'zlar: *shikoyat berish, protest kiritish, yuqori instansiya sudlari, hukm, mahkum, oqlangan shaxs, sud raisi, prokuror.*

Ключевые слова: *подача жалобы, вынесение протеста, суды вышестоящей инстанции, приговор, осужденный, оправданный, председател суда, прокурор.*

UDK: 347.78

DATABASE COPYRIGHT PROTECTION

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Summary: *The article analyzes the problems of Database copyright protection in the Republic of Uzbekistan and provides conclusions and proposals for their solution. The paper proposes to revise the definition of a database in domestic legislation, analyzes the legislative framework in this area, and also reveals the legal nature and essence of some terms.*

Keywords: *Database, copyright, collection, catalogs, file cabinet, directories, electronic computing machines.*

The rapid development of all spheres of public life in the country requires innovation based on modern technologies, inventions and the creation of well-known local brands. All this will strengthen the position of any state in the world market and make it a full-fledged subject of international economic relations.

The intensive introduction of modern information and communication technologies using the results of intellectual activity in the economy, public life and other areas is one of the important conditions for the progressive development of the Republic of Uzbekistan.

From some hardware to the latest software in the IT (information technology) field, that is, in almost any direction, you can always find some kind of intellectual property. For example, any chip (integrated circuit) is an invention, the arrangement of nodes and elements is the topology of an integrated circuit, a computer is also an invention, and its software is a creative work created in accordance with copyright provisions. There are more and more e-books and interactive multimedia products, as well as copyrighted training courses. The current problems of the e-commerce industry, the frequent use of domain names and the emergence of disputes on these issues have become the main theme of the development of intellectual property law, including copyright, related rights, trademarks and competition law.

At the same time, the lack of full-fledged legal protection of intellectual property rights due to the lack of specialists in this field, especially in government bodies and organizations, requires criticism. In addition, insufficient measures are taken to properly use someone else's intellectual property and prevent plagiarism in the educational process. These shortcomings hinder the rapid development of the intellectual property sector of our country, increase the volume of exports of products representing Uzbekistan on the world market, attract foreign investment, hinder the development of economic growth, national welfare and social development in general.

In this regard, the Strategy for the Development of Intellectual Property in the Republic of Uzbekistan for 2022-2026 (hereinafter referred to as the Strategy), approved by the Decree of the President of the Republic of Uzbekistan dated April 26, 2022 No. PP-221, is of particular importance [4]. One of the main objectives of the Strategy is the complete digitalization of the intellectual property sphere through the introduction of modern information and communication technologies in order to free the sphere from bureaucracy.

The possibility of a simple, relatively inexpensive and high-quality conversion of analog objects protected by copyright, such as audiovisual, literary, scientific and pictorial works, into a digital (electronic) format has opened up a new space for these objects - the global Internet. In this virtual world, you can find music, movies, books, as well as works of art. Websites are sometimes subject to specific copyright due to the uniqueness of its design as a work of art. Thus, information and communication technologies have created a new "virtual" world of traditional intellectual property. Databases play an important role in this digital world.

Paragraph 3 of Part 1 of Article 1043 of the Civil Code of the Republic of Uzbekistan [1] states that collections, including encyclopedias, anthologies, databases and other composite works, which, by selection or arrangement of materials, are the result of creative work, are objects of

copyright. This is also stated in Article 6 of the Law of the Republic of Uzbekistan "On Copyright and Related Rights" [2] dated 20.07.2006. In addition, Article 3 of the Law of the Republic of Uzbekistan "On the legal protection of programs for electronic computers and databases" [3] establishes that databases are subject to copyright and, accordingly, are protected in the same way as software.

According to Art. 1 of the Law of the Republic of Uzbekistan "On the legal protection of programs for electronic computers and databases", a database is a collection of data (for example: articles, calculations) expressed in an objective form and systematized in such a way that these data can be found and processed with using electronic computers (computers). However, only those databases are protected that are the result of creative work in the selection and organization of data. That is, a simple collection of information without any system for the selection and processing of information is not considered a database.

The database may contain other copyright items. In such cases, the rights of the authors of the objects included in the database must be respected in accordance with the general rules of copyright. Otherwise, the copyright of the database creator will not be recognized by him. The authors of the materials included in the database retain their copyrights, and the use of these materials on their own does not infringe on the rights of the database author. The copyright to the database also does not prevent other persons from independently selecting and organizing the materials and works included in this database.

In theory, the following features of the database are distinguished: firstly, it is the presence of a set of materials. It does not matter whether the materials themselves are protected by copyright. These may include articles, legal acts, images, calculations, reference information, etc.; secondly, the presence of a system for the location of materials (systematization); thirdly, the technical possibility of working with the database using a computer. At the same time, programs that provide work with the database are protected as independent objects of copyright [7, 875-877].

The definition of a database in domestic legislation is narrower in terms of its logical scope than the definition of a database in many foreign countries. Common to the laws of most states is the understanding of the database as a collection of information organized in a certain way. The difference lies in classifying only "electronic" databases as databases, i.e., requiring computers for search and processing, as established by domestic law, or a broader approach that allows any collections to be classified as a database, including those on ordinary paper media that are presented in a structured form (file cabinets, catalogs, directories, etc.).

It is believed that the introduction of database protection by copyright is unjustified, since such an object is practically not the result of intellectual activity. For example, a city telephone directory is simply a collection of data on subscribers of the telephone network, compiled in alphabetical order [6, 166]. In this regard, it is proposed to revise the definition of a database in domestic legislation in accordance with the "broad" approach, which is characteristic, in particular, for Western European countries, in view of the fact that for the legal protection of these objects, their composite and structured nature, and not the method of presentation, is of primary importance (electronic or paper).

Databases are treated by domestic legislation as objects of copyright, while they are provided with legal protection as collections. The protection of databases by copyright seems insufficient for two reasons: a) not every database has such a criterion of an object of copyright as the creative nature of the compiler's activity in creating it; b) copyright does not protect the content of the object, and for databases it is the protection of the content that is very important. In this regard, it is proposed to introduce into the legislation an additional system of legal protection of databases, similar to the protection of a "special kind" provided for by the Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases [5]. Such a system of protection will allow protecting databases not only from literal copying, but also from borrowing their essential parts, as well as providing legal protection to non-creative databases ("non-creative" databases).

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Rezyume: Maqolada O'zbekiston Respublikasida ma'lumotlar bazasini mualliflik-xuquqiy tartibda himoya qilish masalalari tahlil qilingan va ularni hal qilish uchun taklif va hulosalar keltirilgan. Milliy qonunchilikda ma'lumotlar bazasi ta'rifini qayta ko'rib chiqish taklif etilgan, ushbu sohadagi qonunchilik bazasi tahlilangan, ayrim iboralarning mazmun-ma'nosi ochilib berilgan.

Резюме: В статье анализируются проблемы авторско-правовой охраны баз данных и приводятся выводы и предложения для их решения. В работе предлагается пересмотреть определение базы данных в отечественном законодательстве, анализируется законодательная база в этой сфере, а также раскрывается сущность некоторых терминов.

Kalit so'zlar: ma'lumotlar bazasi, mualliflik huquqi, to'plam, katalog, kartoteka, ma'lumotnoma, elektron hisoblash mashinalari.

Ключевые слова: база данных, авторское право, сборник, каталог, картотека, справочник, электронно-вычислительные машины.

PROSPECTS OF EFFECTIVE PROTECTION AND PROVISION OF CONSTITUTIONAL RIGHTS AND FREEDOMS OF CITIZENS DURING THE NEW DEVELOPMENT OF UZBEKISTAN

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Summary: *The article provides an academic analysis of the particular features and prospects of work to ensure the effective protection of the constitutional rights and freedoms of citizens at a time of Uzbekistan's new development. A comprehensive study of reforms in the judicial and legal sphere, digitalization efforts and the methods of international positive experience in this area, opinions on introducing into the national system the positive aspects and advantages of the advanced modern mechanism for reforming the judicial system, and proposals and recommendations of both theoretical and practical importance are set out.*

Keywords: *development strategy, digital technologies, judicial system, legal sphere, digitalization, integration, interactive electronic services, electronic appeal to the court, "respect", "protect", "put into practice".*

Ensuring the effective functioning of legal mechanisms that reliably protect human rights and freedoms based on the requirements of legal norms in the world is considered one of the priority tasks of every state. As the President noted, "As each country chooses its own path of independence and development, its Constitution sets the most important goals and tasks that serve to ensure the well-being of the people.

"Therefore, a country that has a Constitution in harmony with the will, language and good intentions of its people will always move forward without ever deviating from the high goals it has set.

Our Constitution, which was adopted in the early period of our independence, clearly defined mutual rights and obligations and their guarantees in the relations between individuals, society and the state.

In Uzbekistan, human dignity and public interest are one of the most important vital and political issues. In recent years, during the new development of Uzbekistan, this great movement, first of all, the members of the society

Today, Uzbekistan is on the threshold of new development. Therefore, while observing the large-scale reforms in our country and the progress being made in all fields, we recognize that the principles and norms established in our Constitution, which is our Basic Constitution, began to work effectively, and the national legal system is also improving in proportion to it, which is the basis of all our successes [2, 2].

"Of course, any Constitution as the main law of the country should have a stable, strategic character. At the same time, it is not a rigid, immutable document. As social life develops, the Constitution, the most basic of the legal documents that regulate it, can also change. Consequently, several amendments and additions were made to our Constitution with the requirement of life.

The elected President of Uzbekistan, Shavkat Mirziyoyev, in his speech at the inauguration ceremony, put forward another important proposal, which is demanded by the representatives of the electorate at the pre-election meetings of all candidates, which is demanded by life itself and the logic of our reforms. It consists in the implementation of constitutional reforms in our country. In the world experience, we see that constitutional reforms were carried out in many countries during the period of radical change.

Thanks to the strong political will of the head of our state, the political-legal, socio-economic image of our society is rapidly changing, and our people are witnessing the formation of modern relations, new opportunities and new values in our lives. Along with a number of fundamental democratic concepts and life skills, the principle of "rule of law" is becoming a reality.

The rule of law means, first of all, that the documents issued by the state authorities and administrative bodies, the actions of the officials are only in accordance with the Constitution and laws” [3, 2].

As the head of our state emphasized, “We all know and highly appreciate that our Constitution, which is the foundation of our life, is a solid legal foundation for all the achievements and milestones we have achieved in the years of independence.

Relying on our Constitution, five years ago we adopted the Action Strategy in our country and started large-scale reforms to build New Uzbekistan. In the past short period, the political-legal, socio-economic, cultural-educational landscape of our society has completely changed. Freedom and openness, rule of law, mutually beneficial cooperation with the world community have become the main direction of our state’s policy.

We are committed to the idea of building a legal democratic state and a free civil society sealed in our Constitution, and in this way we have done a lot of great work, accumulated a lot of knowledge and experience” [4].

In the course of the research, an attempt was made to answer two questions: first, an attempt was made to comprehensively analyze the trends in the protection of human rights and freedoms and the reforms implemented in Uzbekistan over the past five years, and their effectiveness; secondly, to clarify the essence and prospects of continuing these reforms.

On the occasion of the 29th anniversary of the adoption of the Constitution of the Republic of Uzbekistan, the head of state signed the Decree “On pardoning a group of persons who are serving a sentence of deprivation of liberty, who sincerely regret their actions and are determined to recover” as a practical confirmation of the humanist policy carried out by our state. In accordance with the decree, 182 persons who are serving sentences in penal institutions for crimes committed in accordance with Article 93, Clause 23 of the Constitution of the Republic of Uzbekistan, who sincerely repented of their actions and resolutely took the path to recovery, were pardoned. Of the pardoned persons, 3 persons were fully released from the main punishment, 108 persons were released on parole before the term of serving the sentence, 8 persons were replaced with a lighter punishment. Also, 63 persons were sentenced to imprisonment. Of those pardoned, 6 are foreign citizens, 6 are over 60 years old, 9 are women, and 25 are persons who participated in the activities of banned organizations. Relevant tasks were given to the responsible ministries and agencies to return pardoned persons to their families and relatives, adapt to social life, engage in useful work, establish a healthy lifestyle, and find a worthy place in society [5, 1].

“It is worth noting that in our country, the work being done for human dignity can be seen on all fronts. In particular, more than 16,000 citizens who have strayed into the activities of religious extremism under the influence of various malicious forces have been removed from the “black list” of law enforcement agencies, or more than 500 women and children who have fallen into a dire situation and become helpless in Syria, Iraq and Afghanistan as part of the “Mehr” operations. The fact that they were brought to Uzbekistan and started their new life in our country, where human freedom and rights are valued, is a clear example of this” [6].

In recent years in our country, as a result of the implementation of the state programs adopted and consistently implemented in five priority areas within the framework of the Strategy of Actions in the life of the state and society, the foundation stones of the foundation of New Uzbekistan were laid. With the announcement of the development strategy, the wide-ranging reforms started in our country began its new phase.

In recent years, the work done to establish the New Uzbekistan, a free civil society based on populist and democratic principles, has been recognized at the national and international level. Instead, as life requires continuous movement and changes, it is necessary to develop reforms at a new stage without being satisfied with the achieved results. Therefore, the President announced the development of the development strategy of New Uzbekistan.

In order to realize this noble goal, on January 28, 2022, by the Decree of the President of the Republic of Uzbekistan No. PF-60, the development strategy of New Uzbekistan for 2022-2026 and

the State program for its implementation in the “Year of Human Dignity and Active Neighborhood” were approved [7].

This document is significant in that it is aimed at creating the necessary political-legal, socio-economic and scientific-educational basis for large-scale reforms to be implemented in our country in the next five years based on the principle of “From an action strategy to a development strategy”. The wide-ranging reforms that are being carried out are also creating a basis for improving the Constitutional framework.

“At the same time, the adoption of a long-term strategy in the field of human rights will lead to the effective implementation of state policy in this field, the formation of respect for human rights and freedoms, and the strengthening of the country's reputation in the international arena, including the position of the Republic of Uzbekistan in economic and political-legal ratings and indexes. serves to improve.

In order to further improve the mechanism of protection of human rights and freedoms, to ensure the implementation of the Strategy of Actions on the five priority directions of the development of the Republic of Uzbekistan in 2017-2021, as well as to effectively and timely implement the tasks defined in the Address of the President of the Republic of Uzbekistan to the Oliy Majlis dated January 24, 2020: the following Uzbekistan Ensuring the unconditional implementation of national action plans aimed at implementing the recommendations of international organizations on the protection of human rights as the main directions of the activities of the state bodies and organizations responsible for the implementation of the norms of the international human rights treaties of the Republic; by developing and implementing measures aimed at improving the practice of legislation and law enforcement, identifying and analyzing the reasons and conditions that prevent the implementation of the recommendations of the chartered bodies and treaty committees of the UN on human rights make and eliminate; Implementation of effective cooperation with the Public Chamber under the President of the Republic of Uzbekistan and civil society institutions in the field of fulfilling the international obligations of the Republic of Uzbekistan on human rights” [8].

“Based on the above considerations, we can say that human rights should be the primary principle and object of service for New Uzbekistan” [9].

Also, on June 24, 2022, the decision of the Legislative Chamber of the Oliy Majlis of the Republic of Uzbekistan No. 2260-IV on “Putting the Draft Constitutional Law of the Republic of Uzbekistan on Amendments and Additions to the Constitution of the Republic of Uzbekistan to public discussion” was announced in the press. In this draft of the Constitutional Law, it is determined to define New Uzbekistan as a secular legal democratic state, to create a more effective mechanism for ensuring human rights and interests, to inculcate the priority of human rights in the articles of the Constitution, to introduce norms that are understandable to the people and work directly in the Constitution.

In today's era of globalization, the issue of true independence of the judicial power and achieving justice as one of the most acceptable, effective and perfect tools for glorifying human dignity, which is one of the democratic values, ensuring justice and the rule of law in society, is becoming increasingly important and urgent. the level of development is evaluated as a process directly related to the extent to which human rights are ensured and the indicator of improving the efficiency of justice.

The reforms carried out in our country in recent years have created the ground for democratization and liberalization of the judicial and legal sphere, and for further increasing the role of the judiciary in reliable protection of the rights and legal interests of individuals and legal entities.

As defined in Article 44 of the Constitution of the Republic of Uzbekistan, every person is guaranteed the right to protect their rights and freedoms through the courts, to appeal to the courts against the illegal actions of state bodies, officials, and public associations [10].

Decree No. PD-4850 of the President of the Republic of Uzbekistan dated October 21, 2016 “On measures to further reform the judicial system and strengthen the guarantees of reliable protection of the rights and freedoms of citizens” qualitatively raises the state policy in this field to a new level and sets the main priorities determined.

Also, in the Strategy of Actions on the five priority directions of the development of the Republic of Uzbekistan in 2017-2021, it is recommended to expand the guarantees of reliable protection of the rights and freedoms of citizens, to increase the level of their access to justice, to increase the efficiency and quality of court proceedings, to further improve the system of selecting candidates and appointing them to judicial positions. strengthened as the most important directions of the reforms implemented in the field of law.

In particular, on February 21, 2017, the Decree of the President of the Republic of Uzbekistan No. PD-4966 “On measures to fundamentally improve the structure of the judicial system of the Republic of Uzbekistan and increase its effectiveness” was adopted. This Decree is significant in that it is aimed at the gradual democratization of the judicial system and the strict observance of the constitutional principle of the independence of the judiciary, which reliably protects human rights and freedoms.

“In the judicial system of the countries of the world, special attention is paid to honesty, regulation of conflict of interests, ensuring the transparency of justice, as well as guaranteeing the real independence of courts in the implementation of justice by the state. Strengthening the guarantees of the rights of individuals to receive information about the activities of the courts, improving the organizational and legal mechanisms of the court's cooperation with the mass media, introducing modern information and communication technologies into the activities of the courts, adapting the national legislation to international standards on the transparency of justice and information transparency, legal documents and law finding a scientific solution to problems related to the practice of application is gaining relevance.

In the process of establishing a new Uzbekistan, tasks aimed at “ensuring openness and transparency in the activities of judicial bodies, further increasing the confidence of citizens and business entities in the judicial authority” [11] have been defined in our country. “Ensure that decision-making processes in all state bodies are open and only open” [12], improvement of legal mechanisms for strengthening public control over the activities of state bodies is required. This is the development of effective legal mechanisms for increasing citizens’ trust in justice, in particular, the legal nature of the openness of the courts and the transparency of court proceedings, the limits and guarantees of ensuring openness and transparency, and the development of the organizational and legal foundations of cooperation of the judiciary with the mass media, the public in the field creates the need to research the prospects for the development of control” [13].

“It should also be noted that according to the analyzes of the world's leading international organizations, including the World Justice Project, today more than 1.5 billion people in the world do not have access to justice [14].

Ensuring the real independence of the judiciary in practice, making the judicial system transparent, and thus the position of our country in the direction of Open Government of the WJP Rule of Law Index (WJP Rule of Law Index) [15] of the World Justice Project increasing its legal image by further promoting it is one of the main goals of the new democratic society we are striving for, the New Uzbekistan.

In the Government Transparency Project, key laws and related information are publicly available, written in understandable language, and published in all languages spoken by that nation, as well as the quality and ease of access to information published by the government in print or online; based on criteria such as the timely publication of administrative regulations, draft laws and high court decisions.

For this reason, our leader, in his address to the Oliy Majlis of the Republic of Uzbekistan, once again touched upon the work of the courts and said: “The digitalisation of the court system will be further expanded, an opportunity will be created for our citizens to apply online, without

having to travel to the courthouse, and the possibility of remote monitoring by citizens of the process of considering their applications will be provided” [16], he stressed” [17].

The 7 priority directions of the New Uzbekistan for 2022-2026, approved by the Decree of the President of the Republic of Uzbekistan dated January 28, 2022 PD-60, provide for the achievement of nearly 100 goals and include 398 measures to be implemented in 2022. became the most important strategic document directly related to its future [18].

According to the 15th goal of the 2nd direction of this document, which is called to make the principles of justice and the rule of law the most basic and necessary condition of development in our country, one of the main priorities is to radically increase the level of access to justice for citizens and business entities by gradually digitizing the judicial system, eliminating bureaucratic confusion and obstacles. was defined as one [19].

Undoubtedly, the fundamental changes implemented in the leadership of our state are an expression of practical work carried out in the interests of the people” [20].

“In this regard, every law and legal instrument adopted by our country in the field of justice in our country is significant because it pays particular attention to the legal relations related to this field” [21].

“Any country renews its Constitutions in order to meet the modern needs of society, expand human rights, and consolidate the guarantees of the implementation of various laws, and they regularly make changes to the constitutions and in some cases prepare completely new constitutions. One of the main objectives of any constitutional reform is to ensure the promotion, respect and protection of human rights and fundamental freedoms. According to Socrates, freedom is the essence of democracy. It is as relevant today as it was 2,000 years ago. Also, a good Constitution can greatly contribute to the protection of these freedoms and create a basis for democratic governance” [22].

At the same time, the large-scale reforms implemented in the country create the need to further improve the mechanisms for ensuring human rights and freedoms, and to effectively implement international norms and standards in the field of human rights protection.

Human rights are a set of individual and collective rights defined in the constitutions of world states and international law [23].

“Currently, Uzbekistan has joined more than 80 international documents in the field of human rights, including 6 basic UN treaties and 4 optional protocols. National reports on their implementation are constantly submitted to the UN Human Rights Council and treaty committees.

A unique model of systematic and step-by-step implementation of international human rights standards into national legislation and law enforcement practice has been formed in Uzbekistan” [24].

If we pay attention to the content and characteristics of international documents, human rights are an invaluable value, and according to international legal treaties on human rights and international customary law, the following three comprehensive obligations are imposed on states: “respect”, “protect” and “implementation”. While the balancing of these three obligations or duties arises from the nature of the rights in question, these obligations apply equally to all civil and political rights and economic, social and cultural rights. States are also responsible for ensuring that cases of human rights violations are dealt with at the national level.

At the same time, human rights are a whole field of international law regulated by all states, and the institution of human rights is one of the main principles of national law. The implementation of the basic principles of human rights determines the legal assessment of each state. Based on this, the role of human rights in the national legal system is very important. As a clear example of this, we can cite Article 18 of the Constitution of the Republic of Uzbekistan: “In the Republic of Uzbekistan, all citizens have the same rights and freedoms, regardless of gender, race, nationality, language, religion, social origin, faith, personality and social status are equal before the law” or we can also quote Article 19 “Citizens of the Republic of Uzbekistan and the state are interconnected by their rights and duties towards each other. The rights and freedoms of

citizens, enshrined in the Constitution and laws, are inviolable, and no one has the right to deprive them or limit them without a court decision” [25]. All this can show how important human rights have become and are becoming for Uzbekistan. “As one of the largest mechanisms of human rights in international law, we certainly think that we should mention the international documents called the Bill Complex for the Protection of Human Rights. These are: the Universal Declaration of Human Rights adopted on December 10, 1948, the 1966 Covenant on Human Rights, Civil and Political Rights, and the 1966 Covenants on Human, Economic, Social and Cultural Rights and their Protocols. In addition, the UN Charter also contains provisions on human rights and fundamental freedoms. Generally speaking, we can say that human rights in international law are a set of principles and norms that determine the legal status of a person in any modern society” [26].

Based on the above, from the point of view that the protection of human rights is a continuous process, having determined the important tasks and goals of glorifying human dignity, their perspective and the meaning and importance of the development strategy of New Uzbekistan, further promoting the constitutional and legal foundations. improvement, it is necessary to introduce effective legal mechanisms aimed at the implementation of the important tasks defined in it and ensuring human rights.

“The main issue is to convey the essence of the laws to our people and the responsible executives in time, to properly organize their execution, and to ensure strict adherence to the requirements of the law.

...in order to ensure the rule of law, it is important to raise the legal culture and educate citizens in the spirit of respect for the law.

In order to ensure human interests, first of all, it is necessary to communicate with people, people, to know well their pains, worries, dreams, life problems and needs” [27].

“Constitutional-legal culture is an important component of the general legal culture of the society, it appears as its special form. The legal culture of the society is manifested in the direct relationship between the laws in force in it, especially the Constitution. The head of our state paid special attention to the topic of legal culture and approved the “Concept of raising legal culture in society” with his decree dated January 9, 2019. Constitutional culture is not a simple sum of knowledge about compliance with the Constitution, constitutional values, human rights and freedoms, but a reaction to this knowledge. That is, have they become a regulator of life and activity or not? It is possible to talk about the existence of a constitutional culture only when a positive attitude to this knowledge and spiritual wealth is formed. After all, this culture plays a creative and regulatory role in the life of a person and society. Its basis is a highly developed constitutional and legal consciousness. At the same time, certain constitutional thinking and worldview should be established in society members, state bodies, officials and civil society structures. The formation of a positive constitutional culture in our country is manifested, on the one hand, in the activities of the bodies, officials, and social structures that apply the norms of our Basic Law, as described in the brochure, and on the other hand, in the mechanisms of protection of the Constitution and laws, executive discipline of the authorities and individuals” [28].

In this matter, as noted, in order to form a positive constitutional legal culture in our country, it is proposed to adopt a constitutional draft law during the new development of our country, to add more than 200 amendments and additions to 64 articles of our Constitution, and to add 6 new articles containing 16 norms [29]. These proposed norms serve to burden the constitutional legal culture of our people.

Also, “one of the problems of the organization of the judicial system and the functioning of the courts is the implementation of the principle of transparency, which has an important place in the system of state and legal values of the present time. The concept of transparency or transparency, openness usually covers all institutional and dynamic manifestations of a modern state body, including a court: from the organization and establishment of the order of formation, to the grounds and order of termination of activity, from the publication of the texts of laws, to the

publication of judicial practice materials on their application. from biographies of judges to reports on the activities of disciplinary bodies, etc. [30].

In the study of foreign practices and experiences, in particular, “The principles of operation of the Finnish judicial system are enshrined in the Finnish Constitution, as well as in a number of laws regulating court cases. The Finnish Constitution (Section 21) guarantees everyone the right to a fair and prompt hearing by a court or other public authority. “The law on compensation for the excessive length of the trial provides compensation for the participants of the trial at the expense of state funds in case the trial is prolonged” [31].

At the same time, there is a Code of Judicial Procedure in Finland, according to which “the procedure for expanding the powers of judges is part of the system of judicial independence. A judge must be impartial. If there are grounds to reject the judge, he cannot consider the case and make a decision about it. In order to ensure the impartiality of the courts, the judge must consider the case and make an impartial and free decision without any undue influence or outside interference in the implementation of law enforcement activities” [32]. Based on this, effective mechanisms for ensuring the transparency of courts have been included in our national legislation, and it is appropriate to strengthen the rules for further increasing the impartiality of judges in a separate Judicial Procedure Code.

According to our head of state, “... if the judiciary is not independent, there will be no development in our society.

Every person whose case comes to the court office must be sure that law and justice are the priority in this court.

In the new Uzbekistan, only the courts should find a fair solution to any disputed issue. Any interference in the work of judges will be severely punished, and all necessary conditions will be created for their unimpeded work. However difficult it may be, we will certainly continue our reforms in the judicial system” [33].

In general, the constitutional reforms are a solid legal basis and a reliable guarantee for long-term strategies for the development of our country, the welfare of our country and people in the future creation of effective mechanisms for implementing the legal framework, at the same time, will serve to further enhance the development of the country, strengthening its economic power and competitiveness in the world.

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Rezyume: Maqolada O'zbekistonning yangi tarakkiyoti davrida fuqarolarning konstitutsiyaviy huquqlari va erkinliklarini samarali himoya qilinishini ta'minlash va bu boradagi ishlarning o'ziga xos xususiyatlari hamda istiqbolllari ilmiy jihatdan tahlil qilingan. Sud-huquq sohasidagi islohotlar, raqamlashtirish yo'lida olib borilayotgan sa'y-harakatlar hamda soha bo'yicha xalqaro ijobiy tajriba uslublari atroflicha o'rganilib, sud tizimini isloh qilishning ilg'or zamonaviy mexanizmining ijobiy va afzal tomonlarini milliy tizimga tadbqiq etilishi yuzasidan fikr yuritilib, nazariy hamda amaliy ahamiyatga ega bo'lgan taklif va tavsiyalar bayon etilgan.

Резюме: В статье научно проанализированы особенности и перспективы работы по обеспечению эффективной защиты конституционных прав и свобод граждан в период нового развития Узбекистана. Всесторонне изучены реформы в судебно-правовой сфере, усилия по цифровизации и методы международного позитивного опыта в этой сфере, высказаны мнения по внедрению в национальную систему положительных сторон и преимуществ передового современного механизма реформирования судебной системы, изложены предложения и рекомендации, имеющие как теоретическое, так и практическое значение.

Kalit soʻzlar: tarakkiyot strategiyasi, raqamli texnologiya, sud tizimi, huquqiy soha, raqamlashtirish, integratsiya, interaktiv elektron xizmatlar, sudga elektron murojaat qilish, hurmat qilish», «himoya qilish», «amalda tatbiq etish».

Ключевые слова: стратегия развития, цифровые технологии, судебная система, правовая сфера, цифровизация, интеграция, интерактивные электронные услуги, электронное обращение в суд, «уважать», «защищать», «применять на практике».

CHARACTERISTICS OF A TEACHER'S PROFESSIONAL COMPETENCE IN THE EDUCATIONAL SYSTEM

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Summary: *The article examines the essence, content and structure of professional competence of a teacher based on the analysis of scientific literature of foreign scientists.*

Keywords: *Competence, competence approach, professional competence.*

At the present stage, the strategy of education consists of the development and formation of professional competence of a teacher who is ready and able to solve professional tasks, implement innovative processes.

A number of researchers determine the content of competence, identifying pedagogical, psychological and social conditions of its development. They are considering it:

- as a set of professional properties (L.I. Antsiferova);
- how to implement a set of professional and job requirements at a certain level (E.M. Pavlyutenkov);
- as the degree of possession of the system of knowledge, skills, skills, methods of activity necessary for the implementation of professional activity (A.A. Verbitskiy), etc.

There are several approaches to determining the content of professional competence.

The management approach is considered through the management cycle of activity and the stages of solving specific tasks.

The structural and functional approach examines the range of skills and abilities necessary for the implementation of functions and types of professional activity, its stages.

The personality-activity approach addresses the unity and dialectics of the formation of a teacher as a person, a subject of activity and communication.

The systematic approach studies the following vectors of formation and development of professional competence:

- system (functional structure) of activity;
- personal characteristics of the subject of activity;
- the object of professional activity in the process of professional formation.

The acmeological approach is considered as a stage on the way to mastery, art.[1.170].

The axiological approach forms a personality capable of broadcasting and producing cultural values.

The process-dynamic approach is considered according to its structural elements:

- goal setting;
- content block;
- technologies;
- interaction;
- the result.

Such a variety of approaches is due to the objective complexity of the teacher's profession.

Professional competence is a key concept for the characterization of pedagogical activity. According to the research of V.V. Kosareva, A.P. Kryuchatova, N.N. Lobanova, it is determined by the quality of the teacher's activity, expressed in the stable nature of the activity, in the ability to find an adequate, rational solution to the emerging pedagogical problem in conditions of instability of various difficulties of an objective and subjective nature, which provides a purposeful pedagogical action that takes into account a wide range of its consequences.

According to V.V. Vvedenskiy, the professional competence of a teacher is not limited to a set of knowledge and skills, but determines the need and effectiveness of their application in real

educational practice. V.V. Vvedenskiy identifies the following components of professional competence:

1. Communicative competence of a teacher is a professionally significant, integrative quality, the main components of which are: emotional stability; the ability to design direct and feedback communication; speech skills; listening skills; the ability to reward; delicacy.

2. Information competence includes the amount of information (knowledge) about yourself, about students and their parents, about the work experience of other teachers.

3. The regulatory competence of the teacher assumes that he has the ability to manage his own behavior. It includes: goal setting, planning, mobilization and sustained activity, evaluation of performance, reflection. The main determining factors of activity are moral values.

4. Intellectual and pedagogical competence can be considered as a set of skills for analysis, synthesis, comparison, abstraction, generalization, concretization, as qualities of intelligence: analogy, fantasy, flexibility and critical thinking.

5. Operational competence is determined by a set of skills necessary for a teacher to carry out professional activities: predictive, projective, subject-methodical, organizational, pedagogical improvisation, expert.

In the structure of professional competence, N.N. Lobanova identifies professionally meaningful, professionally active and professionally personal components.

The professional-content or basic component assumes that the teacher has theoretical knowledge, which ensures awareness when determining the content of his professional activity by the teacher.

The professional-activity or practical component includes professional knowledge and skills tested in action, mastered by the individual as the most effective.[2.272].

The professional and personal component includes professional and personal qualities that determine the position and orientation of the teacher as a person, an individual and a subject of activity.

Professional competence is considered by specialists as a personal education. Based on this, the leading importance is given to the personal component in the structure of professional competence.

V.A. Adolf proves that competence is a crucial prerequisite for the teacher to solve cultural and educational tasks and self-regulation of his personality. A professionally competent teacher has highly developed skills of interaction, the ability to mobilize knowledge at the right moment and apply them in activities, developed pedagogical reflection. He offers a structural-level model of professional competence, including motivational, goal-setting and content-operational components.

The motivational component is determined by the system of motivating forces of the teacher's personality, certain needs, claims, intentions, life plans and proposals, characterizes his subjective socio-professional position.

The goal-setting component includes the dynamics of the pedagogical mentality and worldview of the teacher, the system of his personal meanings, the content of which is focused on the humanistic goals of pedagogical activity.

The content-operational component characterizes the teacher as a creator, researcher, designer, technologist.

In the works of foreign authors, competence is considered as:

- ability and desire to perform a task;
- the ability to perform specific activities according to the prescribed standard;
- the ability to achieve certain achievements;
- behavioral indicators that affect the performance of work;
- any individual characteristics that can be reliably measured and that can demonstrate the difference between effective and inefficient execution;
- the ability to apply existing knowledge and skills in new situations of professional life, manifested in the organization and planning of work, in unusual situations and innovations;

- fundamental abilities and skills necessary for successful work.[3.56-61].

American experts in the field of vocational education define "competence" as a combination of six components: conceptual (scientific) – understanding of the theoretical foundations of professional activity;

instrumental – possession of basic professional skills; integrative

– the ability to combine theory and practice in solving professional problems; contextual – understanding of the social and cultural environment in which professional activity is carried out; adaptive – the ability to anticipate changes and be prepared for them in advance; communicative – the ability to effectively use written and oral means in interpersonal communication.

At the same time, the American scientist J. S. Stark and his colleagues believe that professional competence is formed only in connection with the social attitudes of a specialist, which include:

- professional identity – acceptance of professional norms and responsibility through the process of professional socialization;

- professional ethics – mastering the ethical standards of the profession;

- competitiveness – the ability to perform effective professional activities in the structure of market relations;

- striving for scientific improvement – the need to advance to new knowledge through research;

- motivation to continue education – the need to improve professional skills and knowledge to meet modern requirements.

Different results are required at different levels of mastering professional activity. This means that it is necessary to provide for several levels of competence development.

Thus, English researchers M. Berns, C. Kramsh, S. Savignon distinguish three levels in the structure of competence:

1. Integrative competence. This is the ability to integrate knowledge and skills and use them in practical life

2. Psychological competence, representing a developed system of emotions capable of providing an adequate perception of the surrounding world and practical behavior of people.

3. Competence in specific fields of activity, expressed in the ability to work with people, overcome uncertainty, implement planned plans, etc.

The scientist considers the components of competence to be those characteristics and abilities of people that allow them to achieve personally significant goals – regardless of the nature of these goals and the social structure in which these people live and work." These components of competence are divided into cognitive (identification of obstacles to achieving goals), affective (pleasure from work) and volitional (perseverance, determination, will).

Thus, based on the analysis of the scientific literature of foreign scientists, the professional competence of a teacher is the ability to effectively perform professional activities determined by the requirements of the position, based on fundamental scientific education and an emotional–value attitude to pedagogical activity. Professional competence presupposes possession of professionally significant attitudes and personal qualities, theoretical knowledge, professional skills and abilities.[4.4-9].

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Rezyume: Maqolada professionalning mohiyati, mazmuni va tuzilishi muhokama qilinadi chet el olimlarining ilmiy adabiyotlarini tahlil qilish asosida o'qituvchining kompetensiyasi.

Резюме: В статье рассматривается сущность, содержание и структура профессиональной компетентности педагога на основе анализа научной литературы зарубежных ученых.

Kalit so'zlar: Kompetentsiya, kompetensiyaga asoslangan yondashuv, kasbiy kompetentsiya.

Ключевые слова: Компетентность, компетентностный подход, профессиональная компетентность.

PUBLIC CONTROL IN THE NEW UZBEKISTAN

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Public control is not only control over the activity of state agencies, but also a way of self-management of society, in other words, one of the important factors of development of civil society.

(Sh.M. Mirziyoev)

Summary: *In the article, relevant suggestions and recommendations have been developed on the problems of protecting the rights of citizens, improving the implementation of control of working with appeals of individuals and legal entities in the new Uzbekistan.*

Keywords: *public control, protection of citizens' rights, working with appeals of individuals and legal entities.*

In the new stage of development of Uzbekistan, which began after the adoption of the action strategy, the position and role of the civil society also has a special meaning. In the present period, the functions performed by it are acquiring a new quality in accordance with the great changes taking place in the state power and administration. The fundamental turn in the development of society was described by the President in his address to the Oliy Majlis as follows: "Society is the initiator of reforms." the new idea is getting deeper and deeper into our daily activities [1].

Among the functions performed by the civil society, there is another relevant function, the existence of which shows the practical possibility and power of the society. Here we are talking about public control. Public control serves to ensure that the structures of state power and management and their officials, officials of the non-state sector clearly and unconditionally comply with the legislation and fulfill their obligations related to the solution of national tasks properly and effectively, to improve and improve the mechanisms of state and community management.

In 2017-2021, large-scale administrative reforms and socio-economic changes have begun due to the Action Strategy on the five priority directions of the development of the Republic of Uzbekistan, as well as a plan aimed at reforming public administration and strengthening the role of non-governmental non-profit organizations, civil society institutions in this process, and increasing the activity of citizens in this regard. the development and adoption of a number of new legal documents was set. The dialogue between the authorities and citizens was completely different, it allowed to destroy justice in the society, to unite leaders and officials with the population, and as a result, for the first time, the Institute of Virtual Reception of the President of the Republic of Uzbekistan was introduced.

In addition, on the basis of the action strategy, the establishment of " People's reception desks " for the review of appeals of individuals and legal entities in each district (city) of Uzbekistan, in which consideration of proposals, applications and complaints of individuals and legal entities, permanent and open communication with the population they provide communication, detailed study and solution of their problems, as well as increasing the trust of the population in the state.

Today, the issue of organization of effective provision of state services through public receptions is being considered by the service of protection of citizens' rights, control and coordination of work with appeals of individuals and legal entities.

Formation of a strong civil society in Uzbekistan is to ensure constitutional human rights and freedoms. Many civil institutions are becoming a powerful factor in protecting people's democratic values, rights, freedoms and legitimate interests. They create conditions for citizens to realize their potential, increase their social, socio-economic activity and legal culture. However, in the absence of public control, public authorities do not always perform their duties in good faith and effectively. Therefore, the creation of effective mechanisms of public control over the activities of state

authorities and administrative bodies remains an urgent task in the development of effective civil institutions.

As the President of the Republic of Uzbekistan Sh.M. Mirziyoev stated in his Address to the Oliy Majlis, "Until today, clear legal mechanisms for effective public control over the activities of state bodies have not been created. This prevents non-governmental non-profit organizations from objectively evaluating the activities of state bodies and officials. Based on this, it is necessary to adopt the Law "On Public Control" in order to introduce effective and practical mechanisms of public control in the administration of the state and society. In this regard, I propose to establish public councils that will operate under all state bodies. These public councils should fulfill the function of a bridge that ensures the openness of the activities of state bodies and connects them directly with the population" [2].

In this regard, on April 12, 2018 The Law of the Republic of Uzbekistan "On Public Control" was developed and adopted. The purpose of this Law created a legal basis for the establishment of public control over the effectiveness of the performance of the tasks assigned to the state bodies, their observance of human rights, freedoms and interests, the extent to which the leaders of the state bodies respond to the appeals of citizens and the problems raised by them on the spot, and the implementation of public control.

Of the Republic of Uzbekistan "On Public Control", preparation and holding of referendums, elections, as well as implementation of public control in the field of defense, public safety and law and order, investigative activities, investigation, preliminary investigation, court proceedings, execution of sentences it is indicated that it is regulated by separate legal documents.

Also, when the "Electronic Government" was introduced, a number of changes took place. For example, the transparency and openness of the activities of state bodies has increased, the use of the services of state bodies has expanded and become easier, there has been an opportunity to present them to individual citizens, there has been an opportunity to involve citizens in political processes and state administration, the use and exchange of information has been accelerated, the main thing is convenience. was created.

In addition, through the "My Opinion" web portal, it was possible to submit an electronic group appeal to the chambers of the Oliy Majlis and the local Councils of People's Deputies. Currently, every citizen expresses his opinion on the development of the legal system of the country using his constitutional right.

The cooperation of all institutions of civil society is of great importance in the formation of civil society. Because the purpose of public control is to control how the state authorities fulfill all their obligations to the population. The transparency of the activities of state administration bodies creates a convenient opportunity for public control.

Public control is important not only for the society, but also for the effective organization of the activities of state authorities and management bodies. After all, public control calls for ensuring the effective functioning of laws, respecting and protecting human rights and freedoms, and ensuring the improvement of state structures. This ultimately creates a basis for increasing the responsibility and accountability of the officials of the state bodies, which is considered extremely relevant today through public control.

It is appropriate to quote the following comments of the President of the Republic of Uzbekistan Shavkat Mirziyoyev. "We must form such a legal culture in our society that compliance with the Constitution and laws, respect for the rights and freedoms, honor and dignity of others is not an obligation, but must become a daily rule and custom."

Currently, a number of works have been carried out in the legislation to strengthen the institution of public control, especially the rules on public control sealed in Article 32 of the Constitution of our country, as well as in the laws "On the openness of the activities of state authorities and management bodies", "On social partnership" and other documents. indicates that public control as an important function of civil society has a high level of legal basis

It affects the development of the society and solves the problems of the state through the openness of the activities of the state authorities and management bodies. Openness should also be understood as a constructive requirement for the principle of legal state activity and its mechanism.

Public control is considered an important institution of democracy and people's rule, and it serves to ensure the protection of the rights and legal interests of citizens by exercising control over the activities of state bodies. Public control over the activity of state bodies by citizens, non-governmental non-profit organizations, citizens' self-government bodies, mass media and other institutions of civil society, to ensure that the rights, freedoms and legal interests of citizens, and state bodies and their officials comply with the legal requirements. directed directly.

On April 16, 2020, the Decree of the President of the Republic of Uzbekistan No. PF-5980 under the President of the Republic of Uzbekistan "On the establishment of the Public Chamber" was adopted. It should be noted that the adoption of this Decree was of great importance in the implementation and provision of public control. In accordance with this decree, it is expected that the establishment of its departments in each region of the Public Chamber under the President of the Republic of Uzbekistan will become one of such important institutions to strengthen public control. The Public Chamber and regional public chambers, which are being established as a unique new representative body, will be formed from citizens who have contributed to the development of the society and are respected by the country.

Recently, the populist policy carried out by the President of the Republic of Uzbekistan Shavkat Mirziyoyev, especially the implementation of the idea that "the people should serve the people and not the state agencies", has led to the development of the institution of public control.

For example, in social networks on the Internet, in the International Press Club, open dialogues are held with the heads of ministries, state committees, and agencies, public discussions are organized on draft laws and other normative legal documents, meetings with the public are held on-site, dialogues are held in regions and districts, and problems are solved on the spot., public receptions, the virtual reception of the President of the Republic of Uzbekistan, the establishment of the Unified State Services Agency, the activity of mass media, especially internet newspapers, is aimed at fully ensuring the rights and interests of citizens, and these processes should be accepted as new forms of public control.

to foreign experience in this regard , the concept of public control is hardly used in the USA and Western European countries. Meanwhile, the institution of public control in developed democratic countries has enough instruments. In particular, the openness of information and freedom of information, public councils under state bodies are among them.

In particular, in the late 1960s, in the United States, when difficulties were encountered in the implementation of nature protection legislation using traditional coercive legal means, the need to introduce new mechanisms of control over the observance of this legislation by the public and its individual members in the United States was understood [3].

In the US, a number of general legal acts can be cited as legal guarantees of public, including public environmental control, including the Freedom of Information Act (FOIA) of 1966, according to which regulatory When adopting legal documents , meetings of state bodies should be open, and state bodies should publish reports on their activities, etc.

In France, there is the National Association of Prisoners (NAPT), which works on a public basis. Its status is reflected in the French Criminal Procedure Code. He helps the head and staff of the prison, provides spiritual and material support to the prisoners. This organization is a non-governmental organization formed by volunteers. Of course, such a visit will be carried out after the permission of the head of the prison, the conversation with the social workers.

The German Bundestag also has a Petitionen section, where citizens' proposals are posted [4]. can submit their initiatives on the Internet resource "Russian Public Initiative"[5] . However, when the initiatives received on the internet resource are analyzed at the regional scale, it is found that the main contribution is made to the central region, the city of Moscow and the Moscow region. Of course, not only the residents of the central city, but also the residents of the remote areas have

the opportunity to widely use the right of initiative, and considering that the Internet has not reached all regions of the country, it is correct to show the people's initiative as a form of expression of the people's initiative through public receptions.

As another important form of public control, the right of citizens' rights initiative is widespread in foreign countries. According to him, a project that has collected a certain number of citizens' signatures must be considered by the parliament. In most cases, a draft normative legal document elaborated by citizens is added. However, it should be emphasized that this form of public control does not impose an obligation on the relevant law-making bodies to accept it (only an obligation to consider it arises). Currently, this institution is widely used in the operations of countries such as the USA, Germany, Spain, Italy, Switzerland, and is also constitutionally strengthened in countries such as Latvia, Lithuania, Poland, Romania, and Slovenia [6].

At the same time, institutions of state administration and power corresponding to the model of national development, strategic goals, and progressive-reform policy of Uzbekistan at the current stage have been formed. But improvement process hot continue is doing and it is not without problems. of problems main part directly state and society construction processes liberation with depend _ Already, the state management functional tasks of institutions system too from that proof gives [7] _ That is state management institutions : internal and _ external safety provides ; Main in the law in the eye caught to goals in reaching and constitutional tasks in execution solution plays a leading role ; democratic stability provides ; citizens right and their freedoms in providing main responsibility own undertake takes and etc.

Public control is control carried out by citizens[8]. In another source, "a general, extensive and territorial (dependent on controlling the state of strength and weakness), (cumulative) activity carried out by means of various methods during the performance of a special task in the field of public administration" is understood as a way of controlling the state [9].

Based on the above definitions, social control carried out by authorized civil institutions in order to ensure legality in the activities of state authorities can be understood as public control over state power.

At the same time, on July 4, 2018, the Decision of the President of the Republic of Uzbekistan No. PQ-3837 was adopted by the State bodies of the Republic of Uzbekistan "On measures to organize the activities of public councils". It should be noted that the adoption of this Decision created legal mechanisms for the implementation of social partnership of state bodies with non-governmental non-profit organizations and other institutions of civil society, formed the legal basis for ensuring the openness of the activities of state bodies, fundamentally reformed the system of considering the appeals of individuals and legal entities, and fighting corruption legal frameworks of the mechanisms have been created, as well as the "Electronic Government" system is being gradually introduced and implemented.

To sum up, it is necessary to implement public control in order to solve the most urgent problems in the life of the society, which concern the population and their specific strata. For example, there is a need to strengthen public control over the areas that have a negative impact on the fight against corruption, ensuring employment of the population, the economic development of our country, the mood of the population, as well as the need to review the scope of public control objects, and in the context of a democratic society, public control of state bodies, non-governmental, non-profit organizations and civil society ensuring cooperation with other institutions of society in the development and implementation of sectoral and territorial programs, as well as regulatory legal documents, other decisions related to the rights and legitimate interests of citizens, further stabilization of the socio-political situation on the basis of regions, on the scale of regions, citizens' we think that it is appropriate to organize cooperation with the authorities in order to improve their interests, especially their material conditions, and solve a number of other social problems.

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Rezyume. *Maqolada yangi O'zbekistonda fuqarolarning huquqlarini himoya qilish, jismoniy va yuridik shaxslarning murojaatlari bilan ishlashni nazorat qilishini amalga oshirishni takomillashtirish muammolari bo'yicha tegishli taklif va tavsiyalar ishlab chiqilgan.*

Резюме: *В статье разработаны актуальные предложения и рекомендации по проблемам защиты прав граждан, совершенствованию осуществления контроля за работой с обращениями физических и юридических лиц в новом Узбекистане.*

Kalit so'zlar: *jamoat nazorati, fuqarolarning huquqlarini himoya qilish, jismoniy va yuridik shaxslarning murojaatlari bilan ishlash.*

Ключевые слова: *общественный контроль, защита прав граждан, работа с обращениями физических и юридических лиц.*

**MAIN DIRECTIONS OF IMPROVEMENT OF THE SYSTEM OF EXECUTIVE
AUTHORITIES OF THE REPUBLIC OF KARAKALPAKSTAN**

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Summary: *The article highlights the issues of effective construction of a system of state bodies. And also the legal foundations of their powers and the problems of decentralization of power are analyzed.*

Keywords: *executive power, public administration, Constitution, competence, powers, decentralization, local government.*

In the system of the rule of law, administrative law is formed as the law regulating public administration. It should be distinguished from other types of public-power activities: lawmaking and justice. If we consider that the goal of lawmaking is to determine public interests in certain areas or issues of public life and to establish a measure of public power through abstract regulation, the goal of justice is to verify compliance with the established measure of public power in the event of a legal dispute. Then the goal of public administration is through public the will to practically realize public interests in public relations in accordance with the established measure of public power and thereby apply this measure of public power in specific circumstances of social interaction.

Public administration in the Soviet and post-Soviet understanding meant the administrative and managerial activities of the state. Exclusively state authorities carried out state administration. Today, economic management bodies are also involved in this system. That is, now it is a system of bodies of state and economic management, acting as a single organized entity.

As you know, the Decree of the President of the Republic of Uzbekistan “On the Development Strategy of New Uzbekistan for 2022-2026 dated January 28, 2022 № DP-60 provides, among the tasks to improve the system of state and public construction, the transformation of the activities of public administration bodies based on the principle of “orientation to serve citizens”. Which provides for the development of legal mechanisms that provide for a specific procedure for the creation and abolition of ministries and departments, criteria for their differentiation, revision of the current system of public administration; determination of the procedure for establishing restrictions on the increase in staff units of government bodies, as well as specific criteria for the rational use of personnel potential and material resources; elimination of the possibility of a conflict of interest in the implementation of state control over the activities of public administration bodies, involvement of the general public in this process[1, 14-19].

The question of the effective construction of a system of state bodies is one of the fundamental questions of the science of state and law, and of the science of administrative law itself as a branch of legal science designed to investigate the legal forms of government, the actions of the executive branch and its procedure. Thus, Article 91 of the Constitution of the Republic of Karakalpakstan enshrines the norm that the competence of the Council of Ministers, the procedure for its activities, the relations of the Council of Ministers with other state bodies of the Republic of Karakalpakstan are determined by the law of the Republic of Karakalpakstan[2, 102].

If we talk about other bodies of state and economic management, then the Basic Law of our republic does not contain norms on the central bodies of executive power. Thus, at the constitutional level, there is relationship between the central executive bodies (ministries, committees, departments) and the Government of the Republic, which includes the heads of these bodies, is not legislatively ensured.

As you know, the Decree of the President of the Republic of Uzbekistan “On Approval of the Concept of Administrative Reform in the Republic of Uzbekistan” indicated that a number of systemic problems and shortcomings remain, constraining the successful implementation of state policy

on the modernization of economic sectors and the social sphere. The comprehensive development of territories, and the improvement of living standards and welfare of the population, among them - the lack of a clear delimitation of the spheres of responsibility of executive authorities and their leaders, effective mechanisms for intradepartmental and interdepartmental interaction between executive authorities[3].

As noted above, if the legal status of the Government of the Republic of Karakalpakstan is sufficiently fully regulated by the relevant legal acts, then the legal status of ministries, committees, departments is not clearly defined, there is no differentiation of their legal status. There are common features that unite the ministries and government committees:

a) they belong to the central executive authorities and operate within their competence in the territory of the Republic of Karakalpakstan;

б) work under the direct supervision of the Government - the Council of Ministers of the Republic;

в) Regulations on the ministries and state committees are approved by the Council of Ministers of the Republic;

г) ministers, chairmen of state committees are appointed by the Jokargy Kenes, and between sessions - by the Presidium of the Jokargy Kenes with subsequent approval at the session of the Jokargy Kenes;

д) both ministries and state committees enjoy independence in their relations with other state bodies. As for other executive authorities their status has not received a clear legislative enshrinement.

It seems that in the Republic of Karakalpakstan it is necessary to adopt a special normative act on the central executive bodies of the Republic of Karakalpakstan, in which their types (ministry, state committee, committee, agency, inspection, etc.) should be fixed, as well as the criteria for their differentiation and tasks.

Decree of the President of the Republic of Uzbekistan "On the Development Strategy of New Uzbekistan for 2022-2026 dated January 28, 2022 № DP-60 provides, among the tasks for improving the system of state and public construction, the introduction of a compact, professional, fair and serving to achieve high performance public administration system.

As you know, the executive authorities perform one of the main functions of the executive power. The performance of these functions, in many respects, depends on how effectively the bodies of state and economic administration resolve issues within their competence.

Competence as a legal phenomenon must be associated with the legal status of the executive authority, its place in the system of these bodies.

It should be noted that the concepts of "competence", "function" and "authority" and their correlation in science have not yet found a common understanding. As Techiev S.R. writes: "The competence of a state body is a special kind of legal personality; its special character is due to the presence of not only the legally established and protected by the coercive force of the state the ability to enter into legal relations. But also the obligation to enter into legal relations in order to implement the functions assigned to the state body" [4, 14]. Therefore, the powers of this or that public administration body, in his opinion, are enshrined in the relevant regulatory statutory act, and the rights and obligations of this body are implemented in the presence of administrative-legal relations with other subjects of administrative-legal relations.

From the point of view of E.V. Kharitonova's competence is "a parameter of a social role, which, in personal terms, manifests itself as competence, the correspondence of a person to the place he occupies" [5, 67-68]. Also in the legal literature, there is an opinion according to which the competence of a state body, in particular the parliament, is made up of functions and powers. At the same time, powers are understood as a set of his rights and duties[6, 34]. S.A. Avakyan defines competence as a set of rights and obligations of a public authority, local government, official, which is enshrined in relevant laws and other regulatory legal acts[7, 382]. Studying the concept, signs and main functions of the executive authority, K. Shalkybaev under the function in the broad sense of

the word understands the external manifestation of the properties of an object in a certain system of relations. At the same time, the author justifiably substantiates the conditionality of the function of the executive authority of the state with its social essence, the main goals and objectives facing it [8, 147-153].

As you can see, among scientists, there is still no single position regarding such concepts, and this applies not only to “functions” and “competence”, but also to the “subject of competence”, “range of affairs”. An analysis of the theoretical developments of scientists regarding the concepts of “competence”, “function” and “authority” allows us to draw a number of the following conclusions. Firstly, this or that body of state or economic management performs one of the main functions of the executive power (that is, it has a certain competence). Secondly, the legislation of the Republic of Uzbekistan and the legislation of the Republic of Karakalpakstan sets before them specific tasks, which, in fact, are their functions.

Analysis of the provisions of the Decree of the President of the Republic of Uzbekistan “On the Development Strategy of New Uzbekistan for 2022-2026 dated January 28, 2022 №DP-60 shows that an important direction in improving the system of state and social construction is the reduction of the administrative apparatus in the public administration system. Acceleration of work on the decentralization of state administration and ensuring the openness of the activities of state bodies, organizing the effective work of territorial divisions of state bodies of all levels in solving problems for the development of regions. The solution of these tasks could be facilitated by the delegation of powers to the executive authorities of the Republic of Karakalpakstan on issues referred to the exclusive jurisdiction of the Republic of Uzbekistan, on the basis of agreements on the delimitation of jurisdictions and powers between the state authorities of the Republic of Uzbekistan and the state authorities of the Republic of Karakalpakstan.

Of course, issues related to the decentralization of power must be carried out systematically, having determined a strategy for achieving the goals set. Among the powers that can be delegated to local authorities may be local development issues, land use-planning, protection of the natural and built environment, housing construction, local public transport, local public safety, cultural and sports activities, libraries and cultural centers, etc. As is known, in accordance with the Decree of the President of the Republic of Uzbekistan “On improving the structure of territorial government bodies” dated February 24, 2016, consolidated departments were formed in the structure of the administrative apparatus of the khakimiyats of the regions and the city of Tashkent. In addition, departments for integrated development of the territory, the key areas of activity of which were the development of industry and capital construction, agriculture, transport, utilities and utilities, social development, demography and employment.

Solving the problems of decentralization involves the delimitation of powers between the central and local levels of the public administration system and contributes to increasing the independence of local authorities, their financial support, responsibility and accountability.

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Rezyume: Maqolada davlat boshqaruv organlari tizimining samarali tashkil etish masalalari yoritilgan. Shuningdek, mazkur organlarning vakolatlari va hokimiyat vakolatlarini joylarga u'tkazish muammolari tahlil qilingan.

Резюме: В статье освещены вопросы эффективного построения системы государственных органов. А также анализированы правовые основы их полномочий и проблемы децентрализации власти.

Kalit so'zlar: ijro hokimiyati, davlat boshqaruvi, Konstitusiya, kompetensiya, vakolat, hokimiyat vakolatlarini joylarga o'tkazish, mahalliy boshqaruv.

Ключевые слова: исполнительная власть, государственное управление, Конституция, компетенция, полномочия, децентрализация, местное управление.

THE IMAGE OF MOTHER IN ENGLISH POETIC GENRE

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Summary: *The given article is devoted to the stylistic analysis of the image of mother in the works of English famous poets. In the article method of stylistic and interpretive analysis were used. The material of the research was the poems of famous English poets such as L. Hughes, E. A. Poe, R. Kipling, E. Dickenson, R. W. Service, W. B. Yeats, L. Montgomery.*

Keywords: *image, poetic genre, English poets, mother, stylistic-interpretive analysis.*

As in the literature of other nations, the image of the mother as the most important element of culture is brightly covered in English literature, and especially in such a genre as poetry. The image of a woman-mother, the keeper of the hearth, embodying such qualities as caring, kindness, love and beauty, occupies a special place in the works of many famous English poets.

The article uses the method of stylistic and interpretive analysis. The material of the research was the poems of famous English poets such as L. Hughes, E. A. Poe, R. Kipling, E. Dickenson, R. W. Service, W. B. Yeats, L. Montgomery.

L. Hughes' poem "Mother to Son" [1] is an appeal of a mother to her son. The author uses a frame repetition, the sentence used at the beginning of the poem is repeated at the end: Life for me ain't been no crystal stair. A mother tells her son what life is. It should be noted that the poet uses not just words in their direct meaning, but symbolic words that have a figurative meaning, i.e. expressed figuratively. This can be seen from the first lines:

Life for me ain't been no crystal stair.

It's had tacks in it,

And splinters,

And boards torn up.

Life is not a smooth, level ladder that is easy to climb. Just as there may be nails protruding on it, there may be fragments, boards that are barely holding on, in life there can also be difficulties, failures, danger. As a person who has gone through all this in life, the mother tells her son that she continued to "climb the stairs", i.e. live, trying to overcome all obstacles on the way:

But all the time

I've been a-climbing on,

And reaching landings,

And turning corners.

The mother warns her son not to look back, advises him not to sit on the steps of the stairs, affectionately addressing him "my sweet" (honey). The use of polysyndeton (repeating the union and), the antithesis: dark-light and many imperative sentences helps the author to create the image of a caring mother who is afraid for her son, tries to protect him from dangers in life, help to overcome difficulties. And at the same time, the mother teaches her son from her own experience not to give up, but to go forward. In the text of the poem, content-conceptual and content-subtext information are in the foreground.

The poem "To my mother" by E.A.Po [2] is dedicated to the poet's mother, whom he lost early.

Because I feel that, in the Heavens above,

The angels, whispering to one another,

Can find, among their burning terms of love,

None so devotional as that of "Mother,"

Therefore by that dear name I long have called you-

You who are more than mother unto me,

And fill my heart of hearts, where Death installed you

*In setting my Virginia's spirit free.
My mother- my own mother, who died early,
Was but the mother of myself; but you
Are mother to the one I loved so dearly,
And thus are dearer than the mother I knew
By that infinity with which my wife
Was dearer to my soul than its soul-life.*

The poet emphasizes that the word “mother” is a sacred word, using the synonymous repetition -mother-dear name. Sadness is felt in the poet's voice, no one and nothing will replace his mother, the death of his mother is a great lesson. The author also speaks with great warmth about his wife's mother-in-law. The lexical repetition of the word “mother” (My mother, my own mother) emphasizes the poet's love for his mother, emphasizing how dear she was to him (heart of hearts; You who are more than mother unto me). Mother was the dearest and closest person to him. The poet uses mainly cross rhyme (abab) and at the end of the poem a paired rhyme (aa).

The poem “Mother O'Mine” [3] by R. Kipling is dedicated to the poet's mother. The poet's thought goes through the whole poem that mother is the dearest and closest person to you who loves you, worries about you, and at any moment she is ready to lend you a helping hand. The entire poem is built on such stylistic devices as repetition and parallel construction (in each verse, the lines have the same syntactic structure, each verse begins with a conditional sentence If I were...):

*If I were hanged on the highest hill,
Mother o'mine, O mother o'mine!
I know whose love would follow me still,
Mother o'mine, O mother o'mine!
If I were drowned in the deepest sea,
Mother o'mine, O mother o'mine!*

The poet uses mainly cross rhyme (abab) and in the last couplet of the poem a paired rhyme (aa).

In R. W. Service's poem “The mother”[4] we are talking about a mother who is far from her children, does not care for them, is not involved in their upbringing. Life goes on as usual, children grow up, go to school, play sports, work, get married, and all this without a mother. The author conveys this with the help of a syntactic stylistic device of gradation:

*In school and sport, in work and play,
And last, in wedded bliss.*

The stylistic devices of metonymy (Another's voice will cheer) and polysyndeton (repeating the union and) show the mother's feelings, how she misses and yearns for her children and brushes away the tears that involuntarily appear in her eyes:

*And you will fondle baby clothes
And brush away a tear.*

The whole poem is built on a cross rhyme (abab). In the last verse, the author turns to the mother of the children, as if reassuring her: if she failed to take care of the children, then perhaps caring for her grandchildren in the future will make her happy and be forgiven.

The following poem “Spartan Mother” [5] is written in the 1st person, on behalf of the son. Since childhood, the mother has been trying to raise her son in her own way, to instill in him a love for horses and dogs. But the son hated them, he was indifferent to them, but he loved to read books and was interested in art. His mother thought that he had grown into an unlucky person. The war began, the son goes to war and dies heroically, defending his homeland, his country. The mother is proud of her son. Here is how the poet writes about it:

*“Thank God, a son I give
To King and Country”, - well, I'm dead
Who would have loved to live.
“For England's sake,” she said, “he died.
For that my boy I bore”.*

*And now she talks of me with pride
A hero of the War.*

The author with great skill conveys the feelings of the mother, overflowing her heart: pride in the courage of her son, who gave his life for his homeland. The poem uses mainly cross-rhyme (abab), poeticisms (glee, steed) are used in the vocabulary, and from the point of view of syntax, the couplets contain sentences presented in indirect speech, they accurately convey the speech of the mother, her appeal to her son.

In Emily Dickinson's poem "Nature the gentlest Mother is" [6], the poetess writes with tenderness and love about a mother who takes care of her children, has boundless love for them. The title of the poem contains the metaphor "Nature the gentlest Mother is" (mother is nature). To create a real image of the mother, the author used many epithets: the gentlest mother, admonition mild, infinite affection, infinite care, her golden finger. The author simultaneously describes what is happening in the forest, in the bosom of nature, and the actions of the mother in relation to children, as if once again emphasizing the similarity between mother and nature.

*Nature the gentlest mother is,
Impatient of no child,
The feeblest of the way wardest.
Her admonition mild
In forest and the hill
By traveller be heard,
Restraining rampant squirrel
Or too impetuous bird.
How fair her conversation
A summer afternoon,
Her household her assembly;
And when the sun go down,
Her voice among the aisles
Incite the timid prayer
Of the minutest cricket,
The most unworthy flower.
When all the children sleep,
She turns as long away
As will suffice twilight her lamps,
Then bending from the sky
With infinite affection
An infinitesimal care,
Her golden finger on her lip,
Wills silence everywhere*

William Butler Yeats' poem "The Mother of God" [7] describes a mother's feelings at the birth of a child. The author used hyperbole and oxymoron to show strong feelings: The threefold terror of love; this love that makes my heart's blood stop; and bids my hair stand up? Metonymy in stocks (The Heavens in my womb; what is this flesh I purchased with my pains) shows what a child means for a mother (a child in the womb sent by God; flesh that appeared in excruciating pains). Motherhood is an unusual state inherent in a woman, it is difficult even for poets to convey the feelings of a mother to a child.

*The threefold terror of love; a fallen flare
Through the hollow of an ear;
Wings beating about the room;
The terror of all terrors that I bore
The Heavens in my womb.
Had I not found content among the shows*

*Every common woman knows,
Chimney corner, garden walk,
Or rocky cistern where we tread the clothes
And gather all the talk?
What is this flesh I purchased with my pains,
This fallen star my milk sustains,
This love that makes my heart's blood stop
Or strikes a Sudden chill into my bones
And bids my hair stand up?*

The poem "The Mother" by Lucy Montgomery [8] is written in the 1st person, on behalf of the mother. In it, the poet describes in detail and colorfully the reverent feelings of the mother for her child, using various stylistic devices. In the description of the child, different types of epithet are used: a) a simple epithet: splendid, soft eyes; fine feet; silken fingers, valorous deeds; words so musical and golden; starry truth; poesy olden; poignant love; holy sorrow; deep kisses, white son, waxen brow; b) complex epithet: dew-fresh charms; c) epithet in postposition: hair, golden and fine; d) a syntactic epithet consisting of two nouns connected by the preposition of (noun + of + noun): words of beauty; white rose of your face; e) figurative epithet: hungry hold. A large number of comparisons used by the author in describing the child helps him realistically create a vivid image of the baby:

*1. Your hair like a miser's dream of gold.
2. And the white rose of your face far fairer,
Finer and rarer
Than all the flowers in the young year's keeping.
3. Through your eyes are fast shut I can see their blue,
Splendid and soft as starshine in heaven.*

The use of metaphor «Of the heart that shrines and cradles you now!», gradation and polysyndeton: «Rapture and power and grace must borrow», inversion: «Away from the grasping world I fold you» and in the last line – phraseological unit: «Flesh of my flesh and bone of my bone» help to convey the feelings of the mother to the child.

Thus, in the poems, the focus is on the fact of love between mother and child, the longing of the child for the mother, the connection between the child and the mother, the role of the main nature and land of the motherland as a mother, the belief about the mother-Goddess belonging to different cultural peoples.

The study of the image of the mother in the works of famous English poets shows the high importance of the image of a woman-mother for English culture. The image of the mother in the poetic texts of English poetry appears as a cultural and personal event that plays an important role in the family, social, and personal life of each person. Mother in English poetry is the dearest and closest person who loves, worries, and at any moment is ready to lend a helping hand to her child.

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Rezyume: Ushbu maqola ingliz mashhur shoirlari ijodidagi ona obrazining stilistik tahliliga bag'ishlangan. Maqolada stilistik va izohli tahlil usulidan foydalanilgan. Tadqiqot materiali L. Xyuz, E. A. Po, R. Kipling, E. Dikkenson, R. V. Servis, V. B. Yeats, L. Montgomeri kabi mashhur ingliz shoirlarining she'rlari edi.

Резюме: Данная статья посвящена стилистическому анализу образа матери в произведениях известных английских поэтов. В статье использован метод стилистического и интерпретационного анализа. Материалом исследования послужили стихи известных английских поэтов, таких как Л. Хьюз, Э. А. По, Р. Киплинг, Э. Дикенсон, Р. У. Сервис, У. Б. Йейтс, Л. Монтгомери.

Kalit so'zlar: obraz, she'riy janr, ingliz shoirlari, ona, stilistik-tarjimon tahlil.

Ключевые слова: образ, поэтический жанр, английские поэты, мать, стилистико-интерпретационный анализ.

UDC 378.

ORGANIZATION OF CRITICAL ANALYSIS PROCESSES IN HIGHER EDUCATION

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Summary: *The most important task is to improve the education system, which is considered the most important link in the world of humanity, and to direct it to serve the interests of society. Education is the basis of development of human society. Changing students' critical thinking and attitude to their work is of great importance in forming students' independent creative thinking skills.*

Keywords: *students, consortium, time, critical thinking, critical analysis, creative, think, skill, globalization, culture, information support, assistance, universalization.*

Introduction.

In Uzbekistan, reforms aimed at radically reforming the education system, raising the quality and content of education to a new level, creating a modern mechanism for training qualified personnel, updating curricula and literature are being implemented gradually and systematically. Today, as noted by the great thinkers of the Middle East Khorezmi, Farobi, Ibn Sino, the students of our educational institutions, which embody the content of Eastern education in the development of our country, are taught to think independently and in the process of this critical thinking. Acquired knowledge with ready-made knowledge from any source.

It is important to say that it has a great advantage in today's globalization process. In particular, this knowledge, which is more complete and faster, becomes the belief of students and is a tool for their thinking and active practical critical thinking. Many modern scientists, educators, psychologists and methodologists are engaged in the study of critical thinking. In particular, in the works of V.V. Davidov, M.G. Davletshin, I.Y. Lerner, A.M. Matyushkin, M.I. Mahmutov, S. Rajabov, D. Shodiyev, Egoziyev, A.M. Umronkhodjayev the types of generalization of the principles of problem-based education and their structure, the organization of the educational process. The structure of critical thinking, the peculiarities of the individual components that determine the ways of forming generalized methods of mental activity are analyzed.

In this regard, we recall the words of President Sh.M. Mirziyoyev: "Critical analysis, strict discipline and personal responsibility - should be a daily rule of every leader." [1] As the head of our state said, if we teach critical analysis to our young students from an early age, we believe that these students will become the leading cadres of our country in the future.

The creative sources of critical thinking go back to ancient times. In the works of medieval thinkers living and working in the Near and Middle East, we see a serious interest in various aspects of science, its principles, structure, criteria, the relationship of science to human intellectual development and education. Khorezmi,

A characteristic feature of the epistemological views of Farobi, Beruni, Ibn Sina, their comrades and followers is that the process of abstraction of the image of the object in the human mind has always attracted their attention, as a result of which the concept of the essence and specificity of the object was developed. formed.

In the study of students' critical thinking, modern didactics uses the achievements of educational psychology, which deals with students' mental critical thinking in the learning process.

Methods for developing critical thinking in students in the education system were developed as part of the Reading and Writing for Critical Thinking project implemented by the Consortium for Democratic Education, which uses active methods of critical thinking. following in development stems from the basics: What is critical thinking?

Thinking is a process similar to reading, writing, speaking and listening. It is an active, coordinating process that embraces ideas about a reality. Thinking is not an out-of-context skill. Critical thinking is not an event that should be studied in a context that is far removed from the curriculum or the general context of daily life. Brown (1989) argues that learning skills separated from task and real-life goals may enable learners to pass objective tests well, but they may not be able to apply these skills in new situations. [2.,233]

According to Rixier, the definition of study and thinking is based on the results of research in the field of cognitive psychology, philosophy and multimedia culture education. [3.,16]

Critical thinking and learning take place only when educators understand and appreciate the diversity of ideas and experiences. Critical thinking does not occur in the process of adopting a "single correct answer."

Developing critical thinking is not an easy task. It is also not a task that is completed and forgotten at a certain age. However, there is no perfect way to think critically. But there is a set of specific learning conditions that help shape critical thinkers. For him:

- give time and opportunity to gain experience in critical thinking;
- giving students the opportunity to think;
- acceptance of various ideas and opinions;
- Ensuring the active participation of students in the learning process;
- Students should be reassured not to laugh;
- to inspire confidence in the ability of each student to think critically;
- The emergence of critical thinking should be appreciated.

In this regard, students:

- gain self-confidence and understand the value of their thoughts and ideas;
- active participation in the learning process;
- listen carefully to different opinions;
- be ready to formulate their own judgments and to withdraw from them.

Time. Critical thinking takes time. Pearson, Hansen, and Gordon (1979) argue that the creation of one's own ideas seems to lead to an archaeological study of earlier ideas, imaginations, encounters, and experiences. [4]

Therefore:

- express their opinions in their own words;
- exchange of critical opinions;
- be able to express their ideas and respond to constructive suggestions;
- to be able to implement ideas in the form of specific ideas, in a comfortable environment and to fully and clearly express their ideas.

For freedom of critical thinking, students need permission to say, think, and create positive and negative things. Once students understand the permissible situations, they are actively engaged in critical analysis. Permission for critical analysis is based on the principle of consciousness.

In doing so, the difference between analysis and exaggeration must be determined. Permission for critical thinking is granted in a friendly and productive environment where genuine purpose for thinking lies.

Variety. As students think, different thoughts and ideas emerge. Colorful thoughts and ideas only emerge when the notion that there is a single answer is eliminated. When expressions are restricted, students' thinking is restricted. From different tools and processes if there is only one answer.

It should be used so that students can find this answer. Activity. Critical thinking is directly related to the activity of students connected. Usually, students are slow listeners because the teacher is knowledgeable or the text reflects his or her knowledge, which leads to the belief that their knowledge is the responsibility of the teacher. They are responsible for the active participation and learning of students in the learning process readiness to give the expected results in critical thinking. A pedagogical approach, such as encouraging students to think and share their ideas and opinions,

increases their activism. Mikhail Chikjentsmikhali (1975) states that if students actively participate in the learning process at that complex level, they will benefit greatly from their participation in the learning process and will feel a deep sense of satisfaction. [5.,79]

Conclusion

Risk. Free thinking is based on risk. His knowledge it is permissible to encourage people who take risks without fear in their activities. In the process of thinking, "stupid ideas" can also be cases in which unreasonable connections and concepts are put forward. The teacher should explain this to the students as a natural state of the learning process. [6]

It is important to make sure that students think in an environment that is risk-free, that is, where ideas are valued, and where students can actively motivate their active participation in thinking activities.

- Encourages effective discussion;
- Helps students to formulate their own questions and ask them in the form of questions;
- Helps students to express their personal knowledge;
- Supports the motivation of students to read personally;
- creates a sense of respect for any opinion;
- Helps to increase the suffering of students and young people;
- creates conditions for thinking, which is valued by students;

The most important thing is to be able to focus and motivate their critical thinking, to be able to actively manage their desires, to appreciate the time to use every minute to improve their personality.

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Rezyume: *Insoniyat jamiyatida eng muhim bo'g'ini hisoblangan ta'lim tizimini takomillashtirish, uni jamiyat manfaatlariga xizmat qilishga yo'naltirish eng muhim vazifadir. Ta'lim insoniyat jamiyati taraqqiyotining asosidir. O'quvchilarning mustaqil ijodiy fikrlash ko'nikmalarini shakllantirishda o'quvchilarning tanqidiy tafakkurini, ularning o'z ishiga munosabatini o'zgartirish katta ahamiyatga ega.*

Резюме: *Важнейшая задача – усовершенствовать систему образования, считающуюся важнейшим звеном в мире человечества, и направить ее на служение интересам общества. Образование является основой развития человеческого общества. Изменение критического мышления учащихся и отношения к своей работе имеет большое значение в формировании у учащихся навыков самостоятельного творческого мышления.*

Kalit so'zlar: *talabalar, konsortsium, vaqt, tanqidiy fikrlash, tanqidiy tahlil, ijodiy, fikrlash, mahorat, globallashuv, madaniyat, axborotni qo'llab-quvvatlash, yordam berish, universallashtirish.*

Ключевые слова: *студенты, консорциум, время, критическое мышление, критический анализ, креатив, мышление, мастерство, глобализация, культура, информационное обеспечение, помощь, универсализация.*

**PHYSICAL OR MENTAL COERCION OR INTIMIDATION AS A CIRCUMSTANCE
EXCLUDING THE CRIMINALIZATION OF THE ACT**

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Supreme Court of the Republic of Uzbekistan

Summary: *This article describes the issues of whether physical or mental coercion or intimidation is a condition that excludes the criminality of an act.*

Also, in the article, mental coercion is understood as forcing a person to commit a crime by threatening to kill or physically rape, rape, or violate any of his vital interests, and this definition

The decision of the Plenum of the Supreme Court of the Republic of Uzbekistan No. 38 of December 20, 1996 "On some issues related to the practice of applying the laws of responsibility for public riots by the courts of the Republic" justified the need to define both physical and mental coercion.

In the article, based on the amendments and additions made to the Law of the Republic of Uzbekistan No. ORQ-459 dated January 9, 2018, and in connection with the proposal of Article 412 of the Criminal Code, the act listed in the ninth paragraph of the decision of the Plenum of the Supreme Court of the Republic of Uzbekistan dated May 23, 2014 "On the verdict" It is also based on the fact that physical or mental coercion or intimidation and incitement to crime should be included among the circumstances excluding criminality.

Keywords: *Physical, mental, coercion, intimidation, act, punishment, confrontation, criminal, exclusionary, status.*

One of the urgent issues in legislation is to clearly distinguish the circumstances that exclude the criminality of the act, to determine their legal significance, the limits of their application, and to study the legal significance of the circumstances that exclude the criminality of the act in the criminal and penal institution, and to determine the role of these circumstances in protecting human rights and freedoms, the interests of society and the state. and one form of it is physical or mental coercion or intimidation.

The issue of liability for damage to legal and legally protected interests as a result of physical or mental coercion was initially regulated by the fifth part of Article 38 of the Criminal Code, and the President of the Republic of Uzbekistan dated January 9, 2018 No. ORQ-459 "Amendments and additions to certain legal documents of the Republic of Uzbekistan According to the Law on "Introduction" [1], this situation was developed as a separate article and included in the Criminal Code with Article 41¹ as a special type of situations that exclude the criminality of the act. According to Article 41¹ of the Criminal Code, it is not considered a crime if a person is unable to control his actions as a result of damage to the rights and interests protected by this Code as a result of physical or mental coercion or threats to use such coercion. That is, in this case, if a person who commits actions directed against the aggressor in order to protect himself as a result of regular physical, mental pressure and coercion or threat of physical or mental coercion is unable to control his actions at the same time, these actions of his may exclude criminality.

he issue of criminal liability for damage to the rights and interests protected by this Code as a result of physical or mental coercion or intimidation with the use of such coercion, if as a result of such coercion or intimidation a person retained the ability to control his actions (inaction), the provisions of Article 38 of this Code taken into account. That is, the legislator meant that when a person commits a socially dangerous act through such a reason, his awareness of his actions and his ability to control or not control this type of socially dangerous act is qualified as the last necessity according to Article 38 of the Code. On the other hand, in cases where a person is unable to control his actions, the situation of causing harm as a result of physical or mental coercion or threats to use such coercion should be qualified by Article 41¹ of the Criminal Code.

Also, this situation is reflected in the Law of the President of the Republic of Uzbekistan No. ORQ-459 of January 9, 2018 "On Amendments and Additions to Certain Legislative Documents of the Republic of Uzbekistan" is also reflected in the Code of Administrative Responsibility of the Republic of Uzbekistan, and a separate norm under the name of Physical or mental coercion or intimidation is included in this Code as Article 21¹ entered as. However, before the amendment to the Law, the issue of administrative responsibility for this type of offense was regulated by Article 19 (Last Necessity) of the Code.

In this regard, the Plenum of the Supreme Court of the Republic of Uzbekistan also gave a legal explanation, and according to the Plenum's Decision "On the Judgment" of May 23, 2014 (this decision can be applied to this situation, in our opinion), in a state of strong emotional excitement caused by aggression, the defendant is always Courts should take into account the inability to clearly understand the nature of the danger and the inability to choose the appropriate method of protection against aggression»[2]. That is, we must understand from this that the issue of responsibility for harming rights and interests protected by law as a result of physical or mental coercion is resolved taking into account the provisions of this article.

Referring to the concept of physical or mental coercion in this regard, for example, according to R.D. Sharapov, "coercion is understood as the actions of one person against the will of another person" [3]. In our opinion, he failed to fully define the concept of violence. When the author defined violence, he derived its two main signs: "against the will" and "compulsion". While he rejects "illegality" as a sign of violence, he interprets the concept of violence very broadly and even considers this concept to be of educational importance. An example of this is forcing the child to sit in a chair or to sleep. In his opinion, "it can be done with the help of means of influence of spiritual force. It is not always possible to determine the level of such situations according to the sign of threat, we cannot include them in physical violence, so a broad concept of violence is necessary here»[4].

F.Takhirlov emphasized that "violence is one of the necessary signs of sexual violence, and it can be expressed in the form of threatening to kill or inflicting light, moderate and severe injuries on the body, inflicting physical pain, sexual violence can be committed with the use of physical and mental violence" [5] promotes. In our view, this definition of rape only defines the scope and boundaries of sexual crimes.

According to L.V.Serdyuk, "violence is an illegal influence by a person against another person (a group of persons) that can cause organic, physical or mental injury and restricts his will or actions or his will" [6]. M. Musaev[7] specifically notes that violence is unlawful and illegal.

It should be noted that the concept analyzed in the literature is expressed in the form of "coercion" in some literature, and "compulsion" in most literature. Coercion is a concept that expresses the forced implementation of a specific activity or behavior [8].

According to some scientists, coercion can be expressed by using violence against the victim's relatives, by destroying or damaging property, by threatening to disclose information that should be kept secret, etc. [9]. In other literature to this concept coercion is defined as forcing a person to perform undesirable tasks, depriving him of his free will in some way[10].

To excellence V.M. This definition is also given in Artyomov's works, that is, "coercion is always committed by restricting the right to choose in one way or another" [11].

S.N. Abeltsev in defining violence "emphasizes that it can be at the individual, family and community level, and it is difficult and even impossible to define such a complex, multifaceted concept as criminal violence." Therefore, the author tries to distinguish between physical and mental violence by enumerating the methods of their execution. "Physical violence at the individual level is usually manifested in the use of sambo, karate and other fighting methods, tying the person with ropes, wires, chains, etc. will be "Physical violence is any physical impact on a person, which is done by hurting one of his organs and causes the corresponding consequences." Mental violence at the individual level, in his opinion, is "the use of violence, the threat of using weapons, and

intimidation. There are many methods of such violence, and all of them cause mental pressure on a person»[12].

In addition, when defining the concept of coercion, it is necessary to pay attention to its necessary sign, such as "against the will". The use of this sign in relation to power is important. The concept of "against the will" means that mental or physical harm is inflicted on the victim, actions are taken openly against his will, but this definition does not include concepts such as restricting a person's freedom without using force (cheating) or touching the honor of a vulnerable woman [13].

It is also necessary to pay attention to the physical and psychological forms of violence when defining the violence used on the victim. As noted by M. Musaev, illegal violence in criminal law can be physical or mental. This violence may have been applied directly to the perpetrator or his relatives, loved ones or strangers [14].

According to M. Rustamboev, mental violence is the use of physical violence against the victim, threats to destroy or damage his property, and to disclose information that the victim wants to be kept secret, etc. [15].

As a form of psychological oppression, violence against the person's loved ones can be used. They may be kidnapped, sexually assaulted, or physically abused[16].

Physical and mental violence differ from each other according to the methods and means of committing. In particular, physical violence causes bodily injury or restricts a person's behavior and freedom of movement, and may cause organic or functional changes in his body. Mental coercion directly affects a person's psyche and causes mental injury or overcomes his freedom of will [17].

Therefore, physical violence is defined as a physical effect (forcibly entering a closed room, hitting and hitting) aimed at depriving a person of his free will to do or not to do a certain action, i.e. control his behavior and behavior. . In such a situation, the coerced person becomes a weapon in the hands of another person and is therefore not subject to criminal liability. If the person who is physically forced has retained the ability to control his actions, then the criminal responsibility for the damage caused is decided taking into account the circumstances of Article 38 of the Criminal Code[18]. If the intensity of the physical coercion (for example, a light slap to the face) is low and easy to cope with, and because of this the person subjected to the coercion is able to neutralize or cope with it, then in such a situation he has the opportunity to make a conscious choice to act. The subject's selective act does not exempt him from criminal liability and he may be held liable for it[19]. In our opinion, the nature of physical violence is almost identically interpreted in all literature.

Mental coercion means killing a person or forcing him to commit a crime by threatening him with physical violence, rape or violation of any of his vital interests.

In our view, violence is defined very broadly in the Decision of the Plenum of the Supreme Court of the Republic of Uzbekistan No. 38 of December 20, 1996 "On some issues related to the practice of applying the laws of responsibility for public riots by the courts of the Republic." According to him, "the use of violence against a person should be understood as harming the victim's body and any other actions that limit his freedom and prevent the exercise of his legal rights"[20].

In conclusion, together with the definition of coercion, physical or mental coercion should also be defined in this Plenum decision. This makes it possible to distinguish between mental and physical coercion in practice.

In addition, it is listed in the ninth paragraph of the decision of the Plenum of the Supreme Court of the Republic of Uzbekistan dated May 23, 2014 "On the judgment" in connection with the amendments and additions made to the Law of the Republic of Uzbekistan No. physical or mental coercion or intimidation and provocation should be included among the circumstances excluding the criminality of the act.

Changes like the above serve as an important factor in ensuring human rights and freedoms, the interests of society and the state. However, in this case, it is important that citizens and members of society fully understand the normative limits of the circumstances that exclude the criminality of the act, the signs and characteristics that are characteristic of them in social life, and the origin of the wrong interpretation of the law in this society, and the origin of abuses in self-defense when committing a crime in such a case. helps prevent In this regard, it is of positive importance that the

state, in particular, HMQO bodies, take measures aimed at increasing the legal awareness of the population more effectively.

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Rezyume: *Ushbu maqola jismoniy yoki ruhiy majburlash yoki qo'rqitish qilmishning jinoiyligini istisno qiluvchi shartmi, degan savollarga javob beradi.*

Shuningdek, ushbu moddada ruhiy majburlash deganda shaxsni o'ldirish yoki jismonan zo'rlash, zo'rlash yoki uning har qanday hayotiy manfaatlarini buzish bilan tahdid qilish orqali jinoyat sodir etishga majburlash tushuniladi va bu ta'rif

O'zbekiston Respublikasi Oliy sudi Plenumining 1996 yil 20 dekabrda "Respublika sudlari tomonidan ommaviy tartibsizliklar uchun javobgarlik to'g'risidagi qonunlarni qo'llash amaliyoti bilan bog'liq ayrim masalalar to'g'risida"gi 38-sonli farmoni qonun hujjatlarida belgilangan tartibsizliklarni aniqlash zarurligini asoslab beradi. ham jismoniy, ham ruhiy majburlash.

Maqolada O'zbekiston Respublikasining 2018 yil 9 yanvardagi ORK-459-son Qonuniga kiritilgan o'zgartish va qo'shimchalar asosida hamda Rossiya Federatsiyasi Jinoyat kodeksining 412-moddasi taklifi munosabati bilan O'zbekiston Respublikasi Oliy sudi Plenumining 2014-yil 23-maydagi "Hukm to'g'risida"gi qarorining to'qqizinchi bandida sanab o'tilgan dalolatnoma ham jismonan yoki ruhiy majburlash yoki qo'rqitish va da'vatni o'z ichiga olishi shartligidan kelib chiqadi. jinoiyatga, jinoiy javobgarlik bundan mustasno.

Резюме: *В данной статье рассматриваются вопросы о том, является ли физическое или психическое принуждение или запугивание условием, исключаящим преступность деяния.*

Также в статье под психическим принуждением понимается принуждение лица к совершению преступления путем угрозы убийством или физическим изнасилованием, изнасилованием либо нарушением каких-либо его жизненных интересов, и данное определение

Постановлением Пленума Верховного суда Республики Узбекистан от 20 декабря 1996 года № 38 «О некоторых вопросах, связанных с практикой применения судами Республики законов об ответственности за массовые беспорядки» обоснована необходимость определять как физическое, так и психическое принуждение.

В статье на основании изменений и дополнений, внесенных в Закон Республики Узбекистан № ОРК-459 от 9 января 2018 года, и в связи с предложением статьи 412 УК РФ деяние, перечисленное в девятой абзац постановления Пленума Верховного суда Республики Узбекистан от 23 мая 2014 года «О приговоре» также основан на том, что к обстоятельствам следует отнести физическое или психическое принуждение либо запугивание и подстрекательство к преступлению исключая уголовную ответственность.

Kalit so'zlar: *Jismoniy, ruhiy, majburlash, qo'rqitish, harakat, jazo, qarama-qarshilik, jinoiy, to'xtatib turish, maqom.*

Ключевые слова: *Физическое, психическое, принуждение, устрашение, деяние, наказание, очная ставка, преступник, отстранение, статус.*

AS A WEAK POINT OF THE DEPOSITOR-CONTRACT

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Summary: *This article examines in detail the protection of the rights of the depositor in relation to his deposits in the bank, the legal status of the depositor-citizen, the depositor-citizen as a weak side of the contract.*

Keywords: *depositor-citizen, weak side of the agreement, consumer, bank deposit agreement, guarantee*

In civil-legal relations, the protection of the rights of the depositor-citizen in relation to his deposits in the bank is directly related to the legal status of the depositor-citizen as a party to the contract in any case. In this regard, it is important to study the depositor-citizen as a weak point of the contract in order to protect the rights and interests of depositors-citizens protected by law.

From this point of view, when theoretically analyzing the depositor-citizen as a weak side of the contract, it is necessary to first study the opinions and views of legal scholars in this regard. In particular, different authors have different opinions on the concept of weak aspects of the contract in the legal literature.

For example, S.A. Khokhlov describes the debtor as a weak subject in this obligation due to the fact that the creditor has lost something that belongs to him, and emphasizes the importance of applying some privileges to the debtor and that this situation occurs due to social factors. In addition, emphasizing that the existing rights (that is, the debtor's rights) need protection, S.A. Khokhlov concludes that the creditor should not be protected by law at all.

This opinion is somewhat controversial, because if we take the example of bank deposit obligations, as a weak point of the contract, the debtor is recognized as the user of certain rights, and not the person who fulfills the contractual obligations towards the creditor. In this regard, the principle of freedom of contract and the rights arising from it may apply to all participants before the formation of contractual relations [1].

According to M.I. Braginsky and V.V. Vitryansky, counterparties are divided into active and passive parties according to the contract, that is, according to the authors, the division of counterparties into active and passive can be applied to contracts that are not provided for by the current civil legislation. Based on this approach, the active party in the contract, that is, the party that needs to provide products, perform work, and provide services, is the strong party, and the weak counterparty is the passive party, that is, the entity that needs certain products, work, and services [2].

O.N. Zimenkova points out some situations that create a risk of violation of their rights due to certain unfair conditions in the contract when concluding contracts with consumers, namely:

- there are cases where the consumer, as a rule, signs this contract without knowing the terms and conditions of the general (standard) contract developed by the chambers of commerce, companies, or without fully understanding its content, which means that the above-mentioned chambers of commerce based on its relevant clauses in this contract, can create an opportunity for companies to unilaterally make changes that lead to the violation of consumer rights;

- even if the consumer has the opportunity to get acquainted with the full text of the contract, but the appearance and size of the contract provisions are in a non-standard form, small notes or in an incomprehensible state, it may lead to a situation where the consumer usually restricts his desire to carefully read the contract and signs this contract [3];

- in many cases, the consumer signing the contract without understanding the contents of the text, due to the fact that he is not an expert in the field of jurisprudence and in the field of trade and services, may lead to the occurrence of illegal situations by the other party in the future;

- even if the consumer understands the contents of the contract, he may sign the contract, believing that the situation related to the liability of the counterparty, who is considered the other party to the contract, will not arise;

- the consumer is sometimes not able to make changes to the contract, because the seller or the employee of the company performing the work (services) does not have the authority to make changes to the contract [4].

The occurrence of at least one of the above-mentioned reasons for the conclusion of the contract in unfavorable conditions for the consumer is the reason for the recognition of the consumer as one of the parties to the contract, and in connection with our research work, the depositor-citizen is recognized as a weak party in the contract.

In addition, in legal literature, as a contracting entity, the consumer's lack of necessary information can make him a weak party in the contract [5].

Therefore, the concept of "weak side of the contract" is a relatively new concept in civil law. This concept began to be reflected in the general content of the relevant contract rules and norms in the continental legal system from the 19th century, that is, when the ideas of freedom of contract and the equality of its parties emerged as a principle in the science of civilization, and later in specific legal documents.

The concept of a weak party in a contract cannot be considered a fully formed concept, because until now in the science of civil law, it is difficult to find a unified opinion about which subject of contractual relations is recognized as a weak part of the contract and what the weakness of one of the parties should look like.

For example, Yu.S. Gambarov called the category of disabled, partially disabled or disabled persons, i.e. young, minors and mentally ill persons as weak [6]. Thus, he emphasized the weakness of the indicated subjects not only in contractual, but also in any civil-legal relations.

Another aspect of the weakness of one of the subjects of the relevant contract, highlighted in the legal literature, is explained by the inequality of the social and property status of the participants of legal relations, and the economic dependence of one subject on the other.

In the works of L. Ennexas, economically weaker sections of the population were recognized as needing additional protection in civil-legal relations. In the works of O. N. Sadikova, M. I. Braginsky, and V. V. Vitryansky, one can find opinions that the property situation is the cause of the weakness of one of the parties to the contract [7].

As a conclusion, we can explain the essence of the sentence "Weakness of the contract" on the following grounds:

First, contractual relations, unlike other relations, for example, financial or corporate relations, clearly express the will of civil law subjects and the possibility of applying the principle of freedom of contract at a high level. In this case, the application of these principles in order to protect the weaker party in the contract does not allow the second party to use its rights to the detriment of the weaker party. Therefore, the principle of freedom of contract, which must be followed by each of the counterparties, can affect the other party in the form of a certain prohibition on his illegal behavior as a binding rule.

Secondly, the protection of the weak party in contractual legal relations is distinguished by its relativity to the protection of weak subjects of other civil-legal relations. That is, the condition of the rule on the protection of the weak party in the contract is explained by the need to put an end to illegal behavior (inaction) that the strong counterparty can use, and thereby eliminate the real weakness of one party to the contract.

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Rezyume: Ushbu maqolada omonatchining bankdagi omonatlariga nisbatan huquqlarini himoyalash, omonatchi-fuqaroning shartnoma tarafi sifatidagi huquqiy maqomi, omonatchi-fuqaroni shartnomaning zaif tomoni sifatida atroflicha tadqiq qilingan.

Резюме: В данной статье подробно исследуется защита прав вкладчика в отношении его вкладов в банке, правовой статус вкладчика-гражданина, вкладчика-гражданина как слабой стороны договора.

Kalit so'zlar: omonatchi-fuqaro, shartnomaning zaif tomoni, iste'molchi, bank omonati shartnomasi, kafolat

Ключевые слова: вкладчик-гражданин, слабая сторона договора, потребитель, договор банковского вклада, гарантия

ISSUES OF ENSURING THE RIGHTS OF THE POPULATION TO CLEAN DRINKING WATER.

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Summary: *In this article has been analysed the legal aspects water use. Issues of rational use of water were considered. Issues of improving water legislation were covered.*

Keywords: *population, law, ecology, law, water.*

Clean drinking water is an important resource for human life. 26 article of the Law of the Republic of Uzbekistan "On Sanitary and Epidemiological Welfare of the Population" [1] sets out the environmental requirements for the provision of drinking and drinking water, according to which the quality of water supplied by legal entities engaged in economic and drinking water supply, norms and standards of hygiene, as well as state standards. In a centralized manner, special sanitary protection zones are established for water pipes supplying household and drinking water and their sources, which are approved by local state authorities. Legal entities and individuals must ensure that the water in water bodies used for economic and domestic purposes, as well as for decentralized water supply, complies with sanitary rules, norms and hygiene standards.

Ensuring the right of the population to clean drinking water today does not mean that it fully meets environmental requirements. In our opinion, the shortcomings are due to the following reasons:

- a) water quality UzDSt 950: 2011 "Drinking water. Hygienic requirements and quality control";
- b) the lack of technology at the old terminals and, as a result, the inadequate treatment of natural water;
- c) water wastage, secondary microbial contamination as a result of emergency water supply networks;
- g) inflow and contamination of improperly treated and untreated wastewater into water bodies as a result of lack of capacity of old technological schemes in the pumping system (or the complete absence of treatment facilities);
- d) gradual introduction of technological processes in the field, which will reduce the volume of wastewater; e) in the absence of high-tech warehouses and landfills for solid and liquid waste discharges.

As rightly pointed out in the specialized scientific literature, in any case, the water intake must meet the following requirements:

- 1) there is no risk of contamination from a sanitary point of view;
- 2) sufficient supply of water to the water supply network in any case;
- 3) water intake facilities and water intake are protected;
- 4) the location of water intake from open water basins is higher than the residential area, the area of wastewater flow;
- 5) when constructing a water supply system, not only the current boundary of the city or towns, but also the boundary of the general design should be considered [2,100].

The article 40 of the Law of the Republic of Uzbekistan "On Water and Water Use" [3] stipulates that water quality must meet established sanitary and hygienic requirements and state standards to meet the needs of the population for clean drinking water, household and other needs. water bodies are separated. The norm strictly stipulates the allocation of water bodies that meet the established sanitary and hygienic requirements and state standards for water quality to meet the needs of the population for drinking water, household needs and other needs, without using the term "possible", which is widely used in the legislation.

The Law of the Republic of Uzbekistan "On sanitary and epidemiological well-being of the

population [1]" plays an important role in determining the requirements for the use of water bodies for consumption, household and other needs of the population. In particular, the article 26 of the law strengthens the "Requirements for household and drinking water supply." According to it, legal entities operating in the field of economic and drinking water supply must ensure that the quality of supplied water complies with sanitary rules, norms and hygiene standards, as well as state standards.

In a centralized manner, special sanitary protection zones are established for water pipes supplying household and drinking water and their sources, which are approved by local state authorities. Legal entities and individuals must ensure that the water in water bodies used for economic and domestic purposes, as well as for decentralized water supply, complies with sanitary rules, norms and hygiene standards.

According to the article 12 of this law, officials carrying out state sanitary control are given the following rights within their competence: new types of raw materials, chemicals, technological equipment, processes, etc., not registered with the Ministry of Health of the Republic of Uzbekistan or recognized as dangerous to human life and health. tools, food raw materials and food products, industrial products, construction materials, sources of ionizing radiation, biological agents, containers used for food raw materials, food products and medicines, plastic, polymeric materials and other materials, Prohibition of production, use and sale of products made from them and other consumer goods; chemicals used in agricultural and drinking water supply practices, in the development and processing of food, agricultural crops and livestock accelerators and regulators, pesticides, perfumes and cosmetics in the event of adverse effects on human health , prohibit the use of tools and methods until the developer has provided scientifically sound information about the safety of these substances, tools and methods; prohibiting the use of water deemed unfit for use for domestic and drinking water supply.

In order to protect the water used for drinking, household and medical needs of the population, sanitary protection zones of water bodies shall be established in accordance with the legislation. Depending on the function, location and technical characteristics of water bodies, a special regime of economic activity is established in water protection zones, coastal zones and sanitary protection zones of water bodies.

105-106 articles of the Law of the Republic of Uzbekistan "On water and water use" [3] protect, prevent and eliminate harmful effects of water, which also applies to the use of water for drinking, household, medical, spa and health purposes and economic measures for the rational use of water, the rational use of water and the protection of water. Determining the quantity and quality of water, which forms a single water fund, information on water use for the needs of the population and sectors of the economy is carried out through the state accounting of water and its use. Water use planning should, first of all, meet the drinking and domestic needs of the population, ensure the scientific distribution of water among water users, protect water and prevent harmful effects of water.

A person should consume clean quality drinking water to feel good. Quality drinking water is water that does not contain harmful compounds for human health. It should be colorless, odorless and safe to consume. According to the World Health Organization, the number of water-borne diseases is the highest, and the impact of the water factor on the health of the population is confirmed by more than a hundred years of water supply practice. Thus, drinking water should be not only bacteriologically clean and free of harmful substances for the human body, but also contain useful minerals.

Chapter 12 of the Law of the Republic of Uzbekistan "On Water and Water Use" [3] deals with the use of water bodies for therapeutic, spa and health purposes, which states in Article 44 that water included in the list of medicinal waters in the prescribed manner. The plants are used primarily for therapeutic and spa purposes. Discharge of wastewater into water bodies included in the list of medicinal waters is prohibited (Article 45).

Ensuring the right of the population to the required amount of clean drinking water In many

respects, comprehensive measures to improve the condition of sanitary protection zones of drinking water supply sources, including: inspection of the condition of the first layer of the sanitary protection zone; implementation of works on elimination of filtration of discharge and sewage of the second and third layers of the sanitary protection zone with wastes of livestock complexes; removal of hazardous contaminants from the second layer of the sanitary protection zone (landfills, solid waste landfills, sand and slag dumps, etc.).

The Law of the Republic of Uzbekistan "On Water and Water Use" [3] establishes sanitary-epidemiological requirements for drinking water and drinking water supply to the population (Article 40). According to him, drinking water should be epidemiologically and radiation-safe, chemically harmless and have optimal properties. However, the problem of providing clean drinking water in the Republic of Uzbekistan remains acute, and the low quality of drinking water has a negative impact on public health. The situation in the lower reaches of the Amudarya, on the shores of the drying Aral Sea, is particularly dire.

It is known that wastewater treatment is often carried out by the chlorination method. From the experience of foreign research, chlorination of wastewater has a toxic effect on aquatic hydrobionts, and when ingested into drinking water, it becomes dangerous to human health. All this makes it expedient to replace chlorination with purer ozonation [4,10], and in modern conditions with UV-irradiation [5,12].

Since 2010, the national standard UzDSt 951: 2011 "Centralized sources of drinking water supply" has been applied in our country [6]. The standard defines the hygienic and sanitary requirements for the selected sources for centralized water supply. The most important thing, of course, is the health of the population as a criterion for their selection. Taking into account the many factors that determine the quality of drinking water, a "safe" water supply can be defined by five key indicators: quality, quantity, continuity, coverage, and price.

Environmental quality standards are established to assess the state of the environment in order to preserve natural ecosystems. Environmental quality standards include standards established in accordance with the chemical, physical, biological indicators of the state of the environment. It is known that environmental quality standards are set in the form of standards for the maximum allowable concentration of harmful substances in the air, soil and water bodies [6]. Traditionally, the highest allowable concentrations have been set for only two types of water use - drinking and domestic water supply and fisheries.

In the field of water use, the maintenance of surface and groundwater in compliance with environmental requirements is ensured by setting and adhering to the highest permissible standards of harmful effects on water bodies. These standards are based on the following: the long-term impact is due to the maximum allowable anthropogenic load that does not lead to changes in aquatic ecosystems, as well as the allowable mass of harmful substances that can enter the water body and its catchment areas [7].

In summary, the current water legislation provides for the status of specially protected water bodies for drinking and domestic water supply sources, the development of special rules for the special use of water from drinking and domestic water supply sources, the regulation of water supply and sewerage organizations in their production activities. It is necessary to introduce rules governing the relationship between the obligation to use global and national best practices, taking into account the interests of advanced technologies and public health and environmental protection.

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Rezyume: Bu maqolada suvdan foydalanishning huquqiy taraflari tahlil qilingan. Suvdan oqilona foydalanish masalalari ko'rib chiqilgan. Suv qonunchiligini takomillashtirish masalalari yoritilgan.

Резюме: В статье проанализирована правовые аспекты водопользование. Были рассмотрены вопросы рационального использования воды, освещены вопросы совершенствования водного законодательства.

Kalit so'zlar: aholi, huquq, ekologiya, qonun, suv.

Ключевые слова: население, право, экология, закон, вода.

THE USE OF DERIVATIONAL MORPHOLOGY IN ENGLISH LANGUAGE

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Summary: *This article is devoted to the use of derivational morphology which contributes to the flexibility, creativity and complexity of oral and written language as it creates changes in meaning, phonology, orthography, grammatical form, and spelling which is important in language learning process in improving the students' vocabulary acquisition through derivational suffixes strategy.*

Key words: *derivational morphology, productivity, derivational suffixes, vocabulary, teaching.*

One most striking attribute as human being is our ability to use language. The study of the nature of language and how language is used are defined as linguistic. The major thing to see the existence of a language is through words. It is almost impossible to learn a language without words because the communication between human beings is based on words. It means that the word has its rule to use the language efficiently. It is categorized as morphology. Morphology is the study of the internal structure of words and the rules of word formation in a language. By learning morphology, students will be able to understand how words enter a language, what they consist of, and how they are formed by combining prefixes, suffixes, and roots. Consequently, morphology can be a valuable instructional tool for students to develop and use vocabulary creatively.

In morphology, *derivation* is the process of creating a new word out of an old word, usually by adding a prefix or a suffix. The word comes from the Latin, "to draw off," and its adjectival form is *derivational*.

Linguist Geert Booij, in "The Grammar of Words," notes that one criterion for distinguishing derivation and inflection "is that derivation may feed inflection, but not vice versa. Derivation applies to the stem-forms of words, without their inflectional endings, and creates new, more complex stems to which inflectional rules can be applied."

According to Steven Pinker, morphology may be divided into derivation—rules that form a new word out of old words, like *duckfeathers* and *unkissable*—and *inflection*—rules that modify a word to fit its role in a sentence, what language teachers call conjugation and declension."

"Derivational prefixes do not normally alter the word class of the base word; that is, a prefix is added to a noun to form a new noun with a different meaning:

Derivational suffixes, on the other hand, usually change both the meaning and the word class; that is, a suffix is often added to a verb or adjective to form a new noun with a different meaning:

- patient: **outpatient**
- group: **subgroup**
- trial: **retrial**
- adjective - cheerful: cheerful**ness**
- verb - govern: govern**ment**
- noun - ward: ward**ship**"

Derivational morphemes are typically choosy about the types of bases they combine with—another word for "choosy" is *selective*, and so we talk about how derivational affixes select the category of their base.

For example, the suffix *-able* combines only with verbs, and always creates adjectives meaning "able to be verb-ed": *avoidable*, *adorable*, *advisable*, *available*, and *googleable* are all possible adjectives in English, even if they don't appear in a dictionary—while the other words in this list probably do show up in most dictionaries, *googleable* might not, because *google* a relatively recent verb (adapted from the name of the company). But as an English speaker I don't need to

check the dictionary to find out if something is a possible English word—if I’m talking to someone and I say that something is “googleable”, I can be confident that they’ll understand me even if they’ve never heard someone use that verb before.

Prefixes, suffixes, and circumfixes always attach to the outer edge of their base. That means that if a word has only suffixes, or only prefixes, there is only one order those affixes could have attached in. It will never be the case that the suffix that was added last appears closer to the root than suffixes that attached earlier.

Consider the word *foolishly*. This has the root *fool* (a noun), the suffix *-ish* (which attaches to nouns to form adjectives), and the suffix *-ly* (which attaches to adjectives to form adverbs). The only way to build this word is to first attach *-ish* to the root *fool*, and then attach *-ly* to the new base *foolish*.

But if a word has both prefixes and suffixes, then it’s slightly more work to figure out what order they attached in. Sometimes the selectional properties of the affixes means that there is only one option. Consider the word *unkindness*. Here we have one prefix and one suffix. So in principle there are two orders in which we could build the word:

- Option 1 would be to first attach *un-* to the Adjective root *kind*, building the Adjective *unkind*, then attach *-ness* to *unkind* to get the Noun *unkindness*
- Option 2 would be to first attach *-ness* to the Adjective root *kind*, building the Noun *kindness*, then attach *un-* to *kindness* to get the Noun *unkindness*

In both these hypothetical derivations the intermediate base—*unkind* in Option 1 and *kindness* in Option 2—is a possible word of English, so from that perspective both derivations seem equally plausible.

But only one of these options matches the selectional properties of the affixes involved.

- If we look at *un-*, we find that it only attaches to verbs (with a reversal reading, like *undo*) and adjectives (with a negative meaning, like *unkind*). It cannot attach to nouns.
- If we look at *-ness*, by contrast, it attaches to adjectives to *create* nouns.
- So if *-ness* attached first in this word, as in 2, it would turn the adjective *kind* into a noun, and *un-* would no longer have the right kind of base to attach to.

This means that it can only be the order in 1, where *un-* attaches before *-ness*, while its potential base is still an adjective, that is the correct one.

N ----- Adj *-ness* Example: *un- kind*(Adj)

The derivation is the process of creating a new word. The new, derived word is related to the original word, but it has some new component of meaning to it, and often it belongs to a new category.

One of the most common ways that English derives new words is by affixing a derivational morpheme to a base. For example, if we start with a verb that describes an action, like *teach* and we add the morpheme *-er*, we derive a morphologically complex noun, *teacher*, that refers to the person who does the action of teaching. That same *-er* morpheme does the same job in *reader*, *baker* and *follower*.

If we start with an adjective like *happy* and add the suffix *-ness*, we derive the noun that refers to the state of being that adjective, *happiness*.

Adding the suffix *-ful* to a noun derives an adjective, like *hopeful*, *careful*.

Adding the suffix *-ize* to an adjective like *final* derives a verb like *idolize*, *socialize*, *modernize*.

Because of versatility of derivation in English, one might have expected that many of the processes involved would have been sufficiently predictable in both their application and their meaning so that the lexemes, thus derived would not count as lexical items. However, only four of the affixes that we have discussed yield large numbers of lexemes that one would not expect to find listed in a dictionary, namely adverb-forming *-ly*, negative adjectival *un-* and nominal *-ness* and *-ing*. It is as if, despite the fact that lexemes are not necessarily lexical items, there is a deep-seated readiness to allow them to become lexical items—that is, to treat the products of all derivational

processes, even the most general and semantically predictable ones, as potentially quirky. Why so? Underlying this puzzle are big questions about the status of the word as a linguistic unit – questions too big and controversial to be tackled here.

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Rezyume: Ushbu maqola og'zaki va yozma tilning moslashuvchanligi, ijodkorligi va murakkabligiga hissa qo'shadigan derivativ morfologiyadan foydalanishga bag'ishlangan bo'lib, u til o'rganish jarayonida muhim ahamiyatga ega bo'lgan ma'no, fonologiya, imlo, grammatik shakl va imloda o'zgarishlar yaratadi. hosila qo'shimchalari strategiyasi orqali o'quvchilarning so'z boyligini oshirish.

Резюме: Эта статья посвящена использованию деривационной морфологии, которая способствует гибкости, творчеству и сложности устной и письменной речи, поскольку она создает изменения в значении, фонологии, орфографии, грамматической форме и правописании, что важно в процессе изучения языка. улучшение приобретения словарного запаса студентов с помощью стратегии словообразовательных суффиксов.

Kalit so'zlar: hosila morfologiyasi, mahsuldorlik, hosila qo'shimchalari, lug'at, o'qitish.

Ключевые слова: словообразовательная морфология, продуктивность, словообразовательные суффиксы, лексика, обучение.

ON THE IMPORTANCE OF TEACHING ENGLISH IDIOMATIC EXPRESSIONS TO STUDENTS

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Summary: *In this article the author stresses the significance of teaching English idiomatic expressions since they are the transmitters of culture. It is obvious that without learning and understanding the English idioms, students will not be able to comprehend lots of the utterances and written expressions totally.*

Keywords: *idiomatic expressions, culture, metaphorical, context, authentic, comprehend.*

One of the greatest demands of our global world mastering at least one foreign language, both teaching and learning foreign languages have great importance when international relations increase in every field of life, such as in trade, education and science. Within this context, the all residents employed at private and state institutions pursue the goals of acquiring foreign language skills.

Obviously, these people feel this necessity of language proficiency to be successful in their careers. Considering this fact, developing these people's foreign language skills has some difficult aspects. This is because the differences that are mentioned compel the learners who are learning foreign languages since composing the meaning orally or in written form is quite uneasy in other languages that have some rules being distinctive. So, carrying out this foreign language learning activity, not only did the learners have to dominate on grammatical or linguistic structures but also they need to get knowledge on culture of the native speakers of the English language that they wish to learn completely.

Specifically, they should enhance idiomaticity as the principal aspect of this language, that is, they should get information on both oral and written expressions, words, phrases and some commonly used idioms and proverbs.

As known, like other foreign languages, learning English as a foreign language doesn't mean only to get information on grammar rules and to memorize the meaning of the certain words or phrases. Learning English inevitably requires knowing the cultural side of this language. Since a language cannot thought separately from the culture of community, the learners who want to learn this language as a foreign language should learn certain word groups and expressions for communicating with the people being members of language of English community. As contacting with foreigners requires both development of foreign language skills, that are speaking, reading, writing and listening and comprehension of various words and idioms that are frequently used in English community, without having the knowledge on culture of that community this foreign language learners cannot dominate this language completely.

Thus, like other foreign languages, learning English can be viewed as learning different usage and meanings of the expressions, words and idioms that have various meanings in different contexts in spoken or written version of this language. Additionally, both enhancing four basic language skills and getting knowledge on cultural aspects of the utterances and expressions provide with an opportunity for learners to keep in touch with the native speakers. This is because; communicating is a different kind of activity that needs understanding the meaning beyond the expressions that have relation with unavoidably the foreign culture. Moreover, since the books that are prepared for teaching English as a foreign language are designed to develop the four basic skills, some commonly used expressions and idioms may place small parts in these books. However acquiring foreign language skills and also developing them is not enough for mastering in this language totally since foreign language cannot be considered without dealing with the cultural influence and living aspects of language in daily life.

Actually, especially idioms that are a English cultural expressions, are used widely in daily life. Since the main aim of teaching any foreign language is to help the learners to communicate using this language, without learning the idioms foreigners cannot comprehend most of the

expressions of the members of the foreign society. We consider, thus, if the lecturers want to teach English to foreigners, they should keep in mind that their only purpose shouldn't be to develop basic skills, they should also have the purpose of giving knowledge on cultural based idioms in English community. As the living language or daily language usage is so important in today's foreign language teaching, without taking this issue into account the instructions will be inadequate. That is why, in daily language the idioms are commonly used structures that have some metaphorical meaning. We believe that having knowledge on these metaphorical structures of English, the learners can enrich their vocabulary and can comprehend their meaning in different social situations or contexts.

To conclude, as learning English as a foreign language means to learn the culture of the people of that language, taking this truth into consideration, especially English idioms reflecting both linguistic and cultural aspects of this language should be taught to the learners who actually want to contact with the native English speakers and to comprehend any written English material. Of course, this instruction is carried out demonstrating these metaphorical structures in different contexts and through various in-class activities, knowledge need of foreigners on them will be fulfilled. Even if not all of the English idiomatic expressions may be taught to these learners, most of them that are commonly used in English and texts written in this language may be taught. So, the learners who wish to learn and master in English will be assisted for communicating and understanding in this language. As mentioned earlier, in this study the idioms that are the units of English will be dealt in terms of their significance in foreign language teaching by handling benefits of this structures transmitting culture, developing basic language skills, supporting communication activities, enriching foreign language vocabulary.

From our perspectives, English idioms are the vital parts of the English language since they demonstrate the foreign language society's identity and of course culture. These features being the items of public culture provides with the information on various beliefs, traditions and life style of the society. As in any language, in English the idiomatic expressions play an important role in regards to their help for expressing oneself in both oral and written explanations.

Additionally, being the references of the culture, the idioms "can help to enhance not only organizational competence but also pragmatic competence" [1.p.97]

This is because; the elements generate the communicative ability of the learners. As the idioms of the any foreign languages are so substantial elements, they should be taught to the foreigners who want to master English. This necessity comes from the facts that they are the structures that are come across in daily language. So, without learning daily language usage of the idioms, the foreign learners may have difficulty in communication with the people who are native speakers of English. This challenge can be overcome by instruction of the idioms that "can lead to improvements in learners' receptive and productive skills in various contexts" [2.p.47]. By the help of this assistance these learners can use these metaphorical units correctly in their expressions orally or in written form. Moreover, since as they are the reflection of English culture "it is impossible for the foreign students not to engage in idioms not only in ordinary speech but even in academic texts" [3.p.7]. Due to this fact, these significant elements of English should be taught to the foreigners as an integral part of teaching process of vocabulary. In order to do this activity, the teachers should expose learners to authentic environment and materials otherwise the learners may consider that the idioms are dealt outside daily life and are not so crucial units for learning English as a foreign language. Adversely, as the culture is inseparable part of any language, reflections of this side should be instructed by integrating the skill development activities while teaching English to the foreigners. If this integration is not carried out successfully, the learners' knowledge on idiom usage in any situation will be inadequate. Therefore, language acquisition totally means to know the meaning and usage of the idioms, as well. Because of these issues, the idioms are seen as important structural units in teaching English as a foreign language and communication in English society.

This is why, if the students do not comprehend the message of the idioms entirely, they may have some challenges in communicating with the native speakers of English.. The benefits of

teaching English idioms to foreigners are mentioned under the headings of culture transmission, language skills development, communication and vocabulary enrichment. As each society has its own culture, its language will absolutely be affected by its culture. In other words, the language is the result of society. This is because, in different cultures the idioms that seems to have same meaning should be used in different contexts by having different meanings that are shaped through cultural values. Thus, during the teaching process of English idioms, the teachers actually give information about cultural aspects of this language to learners.

Due to this issue, learning English cannot be thought as a separable thing from its cultural context. As the native speakers of English uses most of the idioms and metaphorical statements in their oral or written expressions, the meaning of these elements are shaped in terms of cultural values of English society. This is because, daily usage of idioms has various meaning in different contexts and situations. In sum, teaching idioms in teaching English helps to get knowledge on English culture unavoidably. Developing Basic Language Skills Like the purposes of other foreign languages teaching, the main purpose of teaching English is to enhance four language skills that are seen as productive and receptive. Apart from this main purpose, as the result of our modern world, innovative educational approaches and methods, aiding the learners to communicate with native speakers of this language is a significant target.

Achieving this target of communication in English society can be implemented through developing speaking, writing, reading and listening. This development of skills cannot be considered without taking the idiom instruction into account. This is because; the target of communication by way of skills development necessitates the metaphorical meanings of the idioms in different Daily life contexts and situations. Moreover, as the English idioms are the cultural elements that are used by native speakers in Daily life, mastering this language requires knowing their meaning and usage in daily life. Idioms are the parts of living English language, so, to develop comprehension and communication competence that are inseparable parts of foreign language skills development. Thus, learning idioms in teaching English as a foreign language is essential, as it helps the learners to achieve both linguistic competence and communicative competence. Idioms are the significant elements that constitute a large part of the foreign language and that are used in the flow of this language. As it is emphasized, these substantial units of English, the idioms support the learners to develop their four basic skills.

English idioms should be taught as a crucial aspect of the English language as they give learners insight into the English culture and motivate them to interact with indigenous people and become proficient in the target language.

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Rezyume: Ushbu maqolada muallif ingliz tilidagi idiomatik iboralarni o'rganish muhimligini ta'kidlaydi, chunki ular madaniyat tashuvchisi hisoblanadi. Shubhasiz, o'quvchilar ingliz tilidagi idiomalarni o'rganmay va tushunmay turib, ko'p so'z va yozma iboralarni to'liq tushuna olmaydi.

Резюме: В данной статье автор подчеркивает важность изучения английских идиоматических выражений, поскольку они являются носителями культуры. Очевидно, что без изучения и понимания английских идиом студенты не смогут полностью понять многие высказывания и письменные выражения.

Kalit so'zlar: idiomatik iboralar, madaniyat, metafora, kontekst, haqiqiylik, tushunish.

Ключевые слова: идиоматические выражения, культура, метафора, контекст, аутентичность, осмысление.

ENSURING THE RIGHT OF CITIZENSHIP IN THE REPUBLIC OF UZBEKISTAN

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Summary: *The article tells about the right of citizenship in modern society of New Uzbekistan and its role during the development of reforms in the republic is one of the main branches of law. It reflects the legal framework for the activities of the citizenship, its main tasks and powers.*

Keywords: *citizenship, Constitution, law, legal, rights, society,*

Civil rights in Uzbekistan are property, as well as private non-property public equality of relations, inviolability of all forms of ownership and participants, freedom to conclude contracts, a way to arbitrarily interfere is an area of law based on the principles of non-imposition, with personal work. Any person exercising unhindered realization of civil rights to enhance, ensure the restoration of violated rights, their judicial protection is necessary. Civil law is the basis of private law.

The civil rights in modern society: New Uzbekistan and its role during the development of reforms in the republic is one of the main branches of law.

Issues related to citizenship are very relevant today. Not so long ago, the Law "On Citizenship of the Republic of Uzbekistan" in a new edition came into force. According to article 4 of this document, citizenship in the Republic of Uzbekistan determines the permanent political and legal relationship of a person with the state, expressed in the totality of their mutual rights, duties and responsibilities and based on the recognition and respect for the dignity, fundamental rights and freedoms of a person [1, 2020].

Citizens of the Republic of Uzbekistan are equal before the law without distinction of gender, race, nationality, language, religion, social origin, beliefs, personal and social status. In the Republic of Uzbekistan, every person has the right to citizenship. No one can be deprived of the citizenship of the Republic of Uzbekistan, except as provided for by this Law, or the right to change citizenship.

The Republic of Uzbekistan in the person of its bodies and officials is responsible to the citizens of the Republic, and a citizen of the Republic of Uzbekistan is responsible to the state.

The adoption on March 13, 2020 of the Law "On Citizenship of the Republic of Uzbekistan" in a new edition was an important step in ensuring human rights and freedoms. The law defines the procedure for suspending or terminating the consideration of applications for admission to the citizenship of the Republic of Uzbekistan. The execution of decisions on issues of citizenship in relation to persons permanently residing in the Republic of Uzbekistan is entrusted to the Ministry of Internal Affairs and its relevant divisions, and in relation to persons residing abroad, to the Ministry of Foreign Affairs and the relevant consular offices.

Amendments and additions to the existing norm based on the draft law, which were introduced last year and are currently being used in practice, are aimed at further simplifying the procedures for the recognition of citizenship of the Republic of Uzbekistan for stateless persons. In a word, recognition of the citizenship of the Republic of Uzbekistan for stateless persons who have been resident in our country for a certain period of time for fifteen years, according to legal grounds, directly - legal grounds for obtaining the right citizenship will be created.

A very important point in the new law is that in order to realize the constitutional powers of the President to resolve issues of citizenship of the Republic of Uzbekistan for a period of five years, a Commission on Citizenship under the President is formed, which is an advisory and subsidiary body. Its main tasks are consideration of applications on citizenship issues, making proposals to the President, monitoring the execution of decisions on citizenship issues, analyzing the implementation of legislation, making proposals to the President aimed at eliminating identified

problems in this area, studying international practice and best foreign experience on citizenship issues.

The law reflects the legal framework for the activities of the Citizenship Commission by the President of the Republic of Uzbekistan, its main tasks and powers.

In order to ensure interaction between interested state bodies on issues of citizenship of the Republic of Uzbekistan, as well as input, accounting and monitoring of documents and information, an Interdepartmental database on citizenship of the Republic of Uzbekistan is being formed.

The document confirming the citizenship of the Republic of Uzbekistan is a passport of a citizen of the Republic of Uzbekistan or another document containing an indication of the citizenship of the Republic of Uzbekistan.

A document confirming the citizenship of the Republic of Uzbekistan of a child under the age of sixteen years is:

certificate or certificate of birth (regardless of the place of birth of the child) upon presentation of a passport or other document indicating that one of the parents has citizenship of the Republic of Uzbekistan;

certificate or certificate of birth (at the birth of a child in the Republic of Uzbekistan) upon presentation of a residence permit in the Republic of Uzbekistan of both parents (single parent) who are stateless persons.

Also, a child is recognized as a citizen of Uzbekistan, one of whose parents (single father or mother) is recognized as a citizen of Uzbekistan, who has not taken citizenship of a foreign state and lives in Uzbekistan, if he expresses his will.

According to the law, now in the absence of documents confirming the facts for recognizing him as a citizen of Uzbekistan, the applicant can establish these facts in court.

In addition, for stateless persons born and living in the territory of Uzbekistan 5 years before the date of application for admission to the citizenship of Uzbekistan (from the date of obtaining a residence permit for stateless persons), the period of continuous residence has been canceled.

It is appropriate to note that a civil passport is, first of all, a document confirming citizenship, political and legal connection of a person with the state. This connection is manifested in his rights and duties. A civil passport is the property of the Republic of Uzbekistan, its holder is under the protection of the state.

The passport of a citizen of the Republic of Uzbekistan is issued to all citizens who have reached the age of 16, as well as citizens who have received citizenship in accordance with the law on citizenship.

The procedure for issuing, exchanging and using a passport of a citizen of the Republic of Uzbekistan is determined in accordance with the Regulations on the passport system in the Republic of Uzbekistan, approved by decree of the head of state dated January 5, 2011.

The biometric passport system of the Republic of Uzbekistan has strengthened the efficiency and effectiveness of the activities of the country's human rights bodies and simplified the identification of citizens when crossing the state border, ensured the formation of a single database of individuals, which serves to provide interactive public services within the framework of the Electronic Government system.

“On the legal status of foreign citizens and stateless people in the Republic of Uzbekistan” adopted by the Legislative Chamber on March 3, 2021, the following is approved.

Foreign citizens who have citizenship of two or more states are considered in the Republic of Uzbekistan as citizens of that state, according to the documents on belonging to the citizenship (nationality) of which they entered the Republic of Uzbekistan.

Foreign citizens and stateless persons who are on the territory of the Republic of Uzbekistan are provided with rights and freedoms in accordance with the norms of international law. They bear obligations established by the Constitution of the Republic of Uzbekistan, laws and international treaties of the Republic of Uzbekistan.

Foreign citizens and stateless persons who are on the territory of the Republic of Uzbekistan are equal before the law of the Republic of Uzbekistan without distinction of gender, race, nationality, language, religion, social origin, beliefs, personal and social status.

Foreign citizens and stateless persons temporarily residing on the territory of the Republic of Uzbekistan, permanently residing on the territory of other states, are registered at the place of temporary residence [3, 2021].

The procedure for registration of foreign citizens and stateless persons permanently residing in the territory of other states, at the place of temporary stay in the territory of the Republic of Uzbekistan, is determined by the Cabinet of Ministers of the Republic of Uzbekistan.

Also, a new concept of compatriot was introduced into the law, according to which a person who was born in the territory of Uzbekistan or previously lived in its territory, who does not have the citizenship of Uzbekistan, who lives outside the territory of Uzbekistan and according to his family tree It is established that their immediate relatives, provided that their immediate relatives live in the territory of Uzbekistan, they will be treated as citizens.

A simplified procedure for admission to the citizenship of Uzbekistan has been introduced for a citizen who is considered a stateless person. According to it, if a compatriot has a legal source of livelihood, undertakes the obligation to comply with the Constitution of the Republic of Uzbekistan, or knows the state language at the level necessary for communication in accordance with the procedure established by law, the simplified procedure for acceptance into the citizenship of Uzbekistan applies.

Thanks to the cardinal reforms initiated by the President of Uzbekistan, the situation with the elimination of statelessness in our country has changed radically in the next five years. As it is known, in recent years, unprecedented work has been carried out in our country to ensure the constitutional rights of citizens, including the granting of citizenship to stateless persons. For example, until 2016, 482 stateless people received citizenship, and since December 2016, by presidential decree, more than 16,000 citizens have received citizenship of Uzbekistan. In response to the call of UN Secretary-General António Guterres to take tough measures to reduce the number of stateless people, 56,751 people received citizenship of the Republic of Uzbekistan in 2021.

In accordance with the recently updated Law “On Citizenship of the Republic of Uzbekistan”, a new procedure for admission to citizenship has been established for stateless persons who have lived in our country for at least 15 years and are registered at their place of permanent residence.

Citizenship in the Republic of Uzbekistan determines the permanent political and legal relationship of a person with the state, expressed in the totality of their mutual rights, duties and responsibilities and based on the recognition and respect for the dignity, fundamental rights and freedoms of a person.

In the Republic of Uzbekistan, a single citizenship is established for the entire territory of the Republic of Uzbekistan. A citizen of the Republic of Karakalpakstan is simultaneously a citizen of the Republic of Uzbekistan.

Citizenship of the Republic of Uzbekistan is equal for everyone, regardless of the grounds for its acquisition [2, 1992, Article 21].

Decisions on admission to citizenship of the Republic of Uzbekistan, restoration of citizenship of the Republic of Uzbekistan, withdrawal from citizenship of the Republic of Uzbekistan or loss of citizenship of the Republic of Uzbekistan are made by the President of the Republic of Uzbekistan in the form of decrees and come into force from the day they are signed.

The Republic of Uzbekistan guarantees legal protection and patronage to its citizens both on the territory of the Republic of Uzbekistan and abroad.

Reference:

1. Law On citizenship of the Republic of Uzbekistan, dated March 13, 2020 No. ZRU-610.
2. The Constitution of the Republic of Uzbekistan.
3. Law on the legal status of foreign citizens and stateless persons in the Republic of Uzbekistan, dated June 4, 2021 No. ZRU-692.

Rezyume: *Maqolada Yangi O'zbekiston zamonaviy jamiyatida fuqarolik huquqi va uning respublikadagi islohotlarni rivojlantirishdagi roli huquqning asosiy tarmoqlaridan biri haqida hikoya qilinadi. U fuqarolik faoliyati uchun huquqiy asoslarni, uning asosiy vazifalari va vakolatlarini aks ettiradi.*

Резюме: *В статье рассказывается о гражданском праве в современном узбекском обществе и его роли в развитии реформ в Республике, одной из основных отраслей права. Он отражает правовую основу для гражданской деятельности, ее основные обязанности и полномочия.*

Kalit so'zlar: *Fuqarolik, Konstitutsiya, qonun, huquq, huquq, jamiyat,*

Ключевые слова: *гражданство, конституция, закон, закон, закон, общество.*

PROFESSOR K.KURAMBAEV IS A SCIENTIST RESEARCHED TURKIC LITERARY RELATIONS

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Summary: *This article is devoted to the creative path of K. Kurambaev, a famous scientist of Uzbekistan, his place in the literary relations of the Turkic peoples, and the important directions of his scientific work.*

Keywords: *literary communication, beautiful translation, monograph, literary school, literature of Turkic peoples.*

The predominance of the principle of studying the formation and evolutionary development of genres of written literature through the methods of artistic poetic, genetic, typological, and structural analysis in modern world literature became the basis for determining the place of the literary process in the context of national artistic thinking. It is known to all of us that the study of the mutual relations and typological similarities of the literature of peoples that are close to each other from the ethno-cultural point of view has always created relevance in science. At this point, peoples who have common ethnic origin, socio-cultural development, artistic programs, lifestyle, language and national values prove that the genre system of literature has a common basis from the historical-genetic point of view. This means that the variety of song forms in the literature of the Uzbek, Karakalpak, and Turkmen peoples, who have been neighbors since early times in the Aral ethnocultural region of Central Asia, is characteristic of the national nature of literary programs, and the poets of the inventors skills, mutual literary relations, artistic translation and artistic influence in the context of the process creates wide opportunities for research. It is known that such opportunities in the science of literature open a wide way for every writer to study literature in various aspects. However, the language, religion, and ethno-cultural environment of these three nations are homogeneous or close to each other, and the emergence of their national literature in the last 100 years without any connection to each other has determined that it will be difficult to study them together. That's the urgency of this issue...

When we pay attention to the life and work of Karimboy Kurambaev, a well-known literary critic, he studies the issues of friendship and kinship between peoples, literary relations and literary influence between literatures, literary typological similarities, satial-analogy. It can be seen that literary studies entered the science with scientific foundation and comparative disclosure of the issues of literature of related Turkic peoples.

At the same time, K.Kurambaev went deeply into the issues of literary communication, brought out the national and international spirit of fiction, and paid more attention to some issues of creative experience. The professor was born in Turkmenistan, was educated in the environment of Turkmen and Uzbek literature, and studied both of them at almost the same level, but he studied Karakalpak literature very late, that is, after he was formed as a literary critic. Even so, the scientist's intelligence and hard work allowed him to learn the Karakalpak language and literature at a mature level. In this article, we would like to talk about K.Kurambaev's scientific creativity, the scientist's services in the development of literary communication.

When the late Turman scientist Akhmed Mammedov spoke about the issue of literary communication in the literature of related nations, he first mentioned the name of Professor K. Kurambaev and expressed the following opinion about him: "K. Kurambaev knows well which issues of literary communication, literary science, and literary criticism are relevant and need to be studied. Moreover, he did not limit himself by reaching the small goal of science, like some literary critics. His first work - candidate's thesis and book - became of practical importance. But it did not form. He studied a lot and gained experience. Therefore, he went on the "Dromedary" caravan route of rare literary communication, he related his daily worries to the issues of literary communication of literature." Indeed, the scientist K. Kurambaev studied the relations of the literature of related

peoples from all sides, shed sweat in revealing their typology and national characteristics, and remained faithful to the issue of literary relations in science. The scholar's study of literature, especially the literary relations of the Uzbek, Karakalpak and Turkmen peoples, caused him to defend his doctoral dissertation on "Foreign poetic experience and its role in the development of national literatures. (On the material of Turkmen, Uzbek and Karakalpak poetry)" in Ashgabat in 1992. However, the scientist's first articles on the issues of literary communication were published in newspapers and magazines in the 60s of the last century. For example, his scientific articles on the lyrics of Turkmen poets, the work of Turkmen writers Berdi Kerbabaev, Khidir Deryaev, Reyimbay Sabirov, and the literature of related nations are published in Turkmenistan in "Adebiyat ham oner", "Mugh'allimler gazetasy", "Turkmen dunyasy", "Tashao'yz khabarlary"., "Ashkhabat Keshesi", "Turkmen adebiyaty", "Turkmen Tili Ham adebiyaty", "Karakum" newspapers and magazines were published. At the same time, the scientist's scientific essays written in Uzbek, Russian, Karakalpak languages, where the ideas of Uzbek poets Alisher Navoi, Oybek, writers Gafur Gulom, Pirimkul Kadyrov, Abdulla Qadiri, etc. monographic works were well received by readers. For example, "Khydyr Deryaev" (1977), "Khamza and Karakalpak literary center" (1989), "Gafur Ghulam and literary communication" (with Gulandam Qurambaeva, 2006), "From literary influence to creative independence" (2007), "Literary process. The object of creation. Literary relations" (2009).

Professor K. Kurmabaevty's monograph "Keuil-keuilden suu isher..." (1991) devoted to the issues of Karakalpak literature and the literature of classic Karakalpak poets' poems by Otesh, Kunkhoja, Ajiniyaz, Berdaq and 20th century Karakalpak poems and compositions by A.Dabylov, I.Yusupov, T.Kayypbergenov, Sh.Seytov and others, and it is valuable because it includes the history of literature of related peoples. In this monograph, the Turkmen and Karakalpak literary connections were selected for the study of three directions. The first of them is "Historical View of Literary Relations", the second is "Maktymkuly and Karakalpak Poets", and the third is "The new level of Literary Relations". We must say that the scientist emphasized a special idea in this book. He shows the place of Maktymkuly's creativity in literary communications "When talking about the historical information of Turkmen-Karakalpak literary relations, first of all, it is necessary to start with the works of the great poet Maktumkulu. The great poet's lines filled with humanist thoughts, lines filled with exhortation motifs, poetic heritage that bravely highlighted the social issues of the time, has been attracting the attention of Karakalpak poets for many years. "Classical poets such as Berdak, Kunkhoja, Ainiyaz, Otesh considered Maktymkuly as their teacher, paid great respect to his work, and developed progressive ideas in their poetry."

Actually, one of the special directions that created a large field of scientific research on the issues of literary communication of the scientist is the work of the 18th century Turkmen poet Maktumkulu and the literature of related peoples. The reason is that, as mentioned above, among the Turkic peoples, Maktumkulu has great respect and attention, and his work acts as a "bridge" in literary relations. Therefore, the scientist K. Kurambaev studied the similarities in form and content in the literature of related peoples, Alisher Nao'ayy, Maqtymguly, Abay, Ajiniyaz, Berdaq, Furqat, as well as the example of Andalyp's lyrics, and continued to recognize the peculiarities of Maktummguluz's work in Karakalpak poetry and called it "Maktummguluz". faithfully to his programs" studied the example of I. Yusupov's poems and expressed the following opinion: "After I. Yusupov, it became customary to write poems in the Karakalpak literature according to the Maktumgulu method. There are many poets who write like Maktumkulu in modern Karakalpak poetry. Most of them are experienced poets. We will go through some of them. T. Kabulovty's "Maktymkulyga Murajat", U. Pirzhanovty's "Bolmas", J. Izbaskanovty's "Bolama", A. Otepbergenovty's "Bolar Ma", A. Ajiniyazovty's "Bolar", U. Daniyarovty's "Baslady", "Bolar Sen" poems are considered to be poems written as a tribute to Maktummuluz. In these poems, we see a new interpretation of poems written by Maktummulu". The scientist has shown with clear examples that not only the content of Maktumkuluz's works, but also the aspects of the artistic form influenced the Karakalpak poets in these works. In fact, the dimensions of wisdom wrapped in

wisdom in Maktumkulu, the unique rhyme and other poetic factors used to influence the human spirit attract many poets.

Talking about the great poet, the scientist puts these thoughts together and in 2012 publishes the monograph "Maqtumkulu - a source of inspiration" in Tashkent in "Tafakkur" publishing house. In 2012, Professor Bakhadir Karim published an article about this monograph entitled "Waves of the source of inspiration" in the newspaper "Uzbekiston adabiyoti va sanati". In the article, the importance of the monograph and one of its peculiarities is determined as follows: "According to its content, this book is dedicated to the syncretic analysis of Uzbek, Turkmen, Karakalpak literary relations, and with these aspects, it also reveals its own aspects."

After that, scientist A. Fazilov in his article entitled "About Maktumkulu's work and literary relations" talks about the role and importance of the book "Maktumkulu - source of inspiration" in the development of Uzbek, Karakalpak, Turkmen literary relations.

The articles included in the scientist's book "Maqtumkulu - a source of inspiration" were published in Turkmenistan newspapers and magazines. For example, the scientist's "Maktumkulu and Karakalpak Literary Environment" ("Ashkhabat" magazine in Russian, 1992, vol. 7), "Literary traditions of Maqtymkuly in Karakalpak literature" ("Turkmen tili ham adabiyaty" magazine, 1992, vol. 2) issue), "Maqtymquly and karakalpak poets" "Karaqum" magazine, 1992-v. No. 7) and etc.

In 2013, Professor K. Kurambaev's book titled "Maqtumkulu - a source of inspiration" was translated into Turkmen language by the Turkmen scientist and poet Akhmet Mammedov, and it was also published in books under the title "Maqtymquly Garagalpagystanda"..

K. Kurambaev, in his books such as "Translation and translation responsibility", "Maktumkulu - a source of inspiration", thinking about the artistic translations of Maktumkulu's poems in Uzbek, says: "In Uzbekistan, there are many aspirations for the beautiful translation of Maqtymquly's works, but today we have not come across such artistic translations as the works of the great poet, musician, and literary scholar Jumaniyaz Sharipovty." At the same time, the scientist expressed his critical opinion on some literary translations. For example, it can be seen in the places where scientist M. Azimov responded with his critical thoughts in the article entitled "The fruit of labor and skill".

The late famous scientist Bakhtiyar Nazarov, in his foreword to the book "Translation and Translation Responsibility", pointed out that until now there are few scientific studies related to literary translation, and he says that this issue is a very big issue in the attention of the society that will never get old, and The publication of Professor K. Kurambaev's collection of articles as a single book is highly appreciated as "the source of the revival of the issue". From this point of view, Maktumkulu scientist's passionate and truthful opinions about literary translation are of great importance for today's literary studies, literary process, and literary communication. At the same time, as the stated opinions are evident, Maqtymkuly's translations in Uzbek language gained credibility in the current literary process, and undoubtedly motivated its development. The scientist's books "Translation and translation responsibility", "Maqtumqulu - a source of inspiration" are his endless love for Maktumquli's work, the work of a great poet who has a special place in Turkish poetry shows that.

Another of the later published books of Professor K. Kurambayev, the monograph "Inspired by Navoi's creativity" was published in Uzbek in July 2021 at the "Uzbekistan" publishing house in Tashkent. In it, the role of the great classical poet Alisher Navoi in the literature of the Turkic peoples, his role in the development of literary relations, his literary influence, and the outstanding performance of his poetic works are explored in a wide variety of issues. In the book, the problems of literary communication are studied in two ways. The first one is Alisher Navoi's problems related to Turkmen literature, and the second is the continuation of Alisher Navoi's literary styles in Karakalpak literature and the problems of development. At the same time, the book also discussed the continuation and development of Alisher Navoi's literary methods in modern literature. This work is also the fruit of the scientist's many years of work. Because, a real scientist can gather metaphorically like a bee collects nectar, and get a great benefit from it. In general, if the literary

heritage of the Turkish folk literature is the literary heritage created by master poets, it is cultivated by the school, it is cultivated with the scientific researches of literary scholars through the science of literature, and the problem of the translation of the literary works is very interesting. In this case, we should all agree that the multiplicity of literary communication is determined. Therefore, the research conducted by professor K. Kurambaev on Uzbek, Karakalpak and Turkmen literary relations has three main directions: first, to identify the historical roots of the literature of related peoples; Thirdly, the role and service of Maktumkuli's literary school in literary communication issues; the third is known to be literary translation issues.

Another major field of scientific research of Professor K. Kurambaev is his critical service. The scientist evaluates the literary process with great intelligence. Especially in the last 30 years, the role of the scientist in evaluating the literary process of Uzbek and Karakalpak is very important. The hard work recognized by the scientist allows to give a fair assessment to the examples of artistic creativity that appeared in the literary process earlier than others. Another special aspect of him is that he maintains the principle of coolness in evaluating the work. It is obvious that for a scientist, the work is not the sole reputation of the author, but the artistic value of the work is in the first place.

The above-mentioned works were the result of scientific works written by professor K. Kurambaev during his lifetime as a result of his unceasing research to strengthen friendship between peoples and develop communication between literatures. These books are very important for the education of the young generation, which is the guarantee of the development of our country, in the spirit of loyalty to our national values. At the same time, the results of the scientist's scientific research will help to deepen the national-spiritual world view of the young generation, to educate them in the spirit of being loyal to the homeland, valuing friendship, and thinking about the interests of the people.

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Rezyume: *Ushbu maqolada O'zbekistonning atqqli arbobi Q. Quramboyevning adabiy yo'li, turkiy xalqlar adabiy aloqalaridagi o'rni, ilmiy faoliyatining muhim yo'nalishlari haqida so'z boradi.*

Резюме: *В данной статье рассказывается о литературном пути известного деятеля Узбекистана К. Курамбаева, его месте в литературных отношениях тюркских народов, важных направлениях его научных работ.*

Kalit so'zlar: *adabiy muloqot, badiiy tarjima, monografiya, adabiy maktab, turkiy xalqlar adabiyoti.*

Ключевые слова: *литературное общение, художественный перевод, монография, литературная школа, литература тюркских народов.*

THE PROBLEM OF MODALITY IN MODERN LINGUISTICS

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Summary: *The article deals with the problem of modality in modern linguistics. The study of modality in linguistics has become increasingly more popular in recent years. We share the theoretical views of H.Sweet in this article.*

Keywords: *linguistics, modality, denotation, variation, metaphor.*

The study of modality in linguistics, that is, the pragmatic, semantic and syntactic processes involved in its realization, has become increasingly more popular in recent years, paralleling the advent of Cognitive Linguistics as well as constructionalist grammars. Interest in the subject of modality and its implications to language, however, is as ancient as the study of philosophy itself. Modality has enjoyed a long and heavily-debated history as a subject of logical discussion by classical philosophers such as Aristotle and Socrates.

By definition, modality is the denotation of mood, manner or mode. In linguistics, the study of modality concentrates on the means of expressing those qualities and the encoding process involved in that expression. This study can include core or semi-modals which express a range of modal shadings, from personal feelings or attitudes to judgements or assessments based on the speaker's knowledge of the world around her.

Root modality can be divided into root possibility and root necessity, and is usually associated with the "deontic" sense, meaning that the modal verbs in question convey a sense of moral obligation, or the "dynamic" sense in which the modal verbs describe one's ability or opportunity. These two classifications are further divided by some [1, 150], but for the current study, no further distinctions are necessary.

Modality is a useful tool in linguistic hedging and the deontic modals can range from a weak suggestion to a strict command depending upon the modal used, the subject matter discussed and the context in which it is uttered. Instead of asserting absolutely that such and such is the case, a speaker may – perhaps for reasons of uncertainty, tact or politeness – indicate that the truth of what one has to say is by no means assured; that it is based merely on conjecture or that it can be verified only as some point in the future [2, 103].

Dynamic modality often subtly hedges a statement of belief, however, just as moral conviction is hedged in deontic modality. For example, sentences below:

a. *Hudson drives.* b. *Hudson can drive.*

The syntactic variation between the sentences in (a) is slight, but the semantic meaning behind the two is vastly different. While (a) asserts that Hudson does drive on a regular basis and in fact, may be currently driving, the dynamic modal verb can in (b) merely indicates that Hudson has the ability to drive, though he may never use this ability for the rest of his life. Sentence (b) serves to affirm the speaker's knowledge of Hudson's possession of the skill of driving, but does not make the further assertion that Hudson ever employs it, and so the speaker is able to commit to a slightly less ambitious statement. If Hudson never actually drives, (b) is still true.

The two types of modality, root and epistemic, can be further delineated with regard to the orientation of the modality occurring in the individual utterance. Agent-oriented modality (AOM) refers to those instances of modality in which the agent performing the action of the clause is influenced in some way. This includes modality of obligation, necessity, ability and desire. Motivation in modality can initiate with the speaker as well. Speaker-oriented modality (SOM) refers to clauses in which the speaker enables the condition, as in instances of directives, imperatives, prohibitions, optatives, admonitions and permissions [3, 214].

The distinctions between AOM and SOM are relevant when considering illocutionary force, or the speaker's combination of grammatical elements, background social or cultural knowledge and awareness of the immediate conversational context. Illocutionary force is regarded as a domain of the pragmatic level of communication and can include communicative encoding of the purposes or aims of the speaker.

Much of the theory involving modality revolves around the "strength" of the modal verbs in question. In these theories, modality serves mainly as a tool of quantification whether universal, in the case of necessity, or existential, in the case of possibility. This is perhaps due to the fact that the primary language of interest in the study of modality has remained within the confines of English. "Confines" seems an appropriate word when considering the fact that in some languages, a "weak" modal, usually associated with existential quantification, can actually embody universal quantification while encoding a limited scope of reference based on their context [4, 187].

Also pertinent to the examination of modality's syntactic representations are the theories surrounding its argument structure. In generative syntax theories, it has been assumed that epistemic modals always take a single propositional argument and that root modals take two propositional arguments. It is true that some modals do display a raising predicate while others employ control predicates, but these distinctions cannot be neatly bound to the root/epistemic division lines. Popular, too, among generative grammarians is the idea that the different semantic categories of modal verbs are realized through different positions in the syntax, and reside at higher or lower positions in the tree structure of the generative grammar formal schemata: specifically, that epistemic modality always exists higher in the structure than root modality [5, 223].

An interesting fact about the root and epistemic types of meaning is that they often tend to be expressed by a single class of modal expression in the languages of the world.

The modals constitute a good area for testing claims about the semantics-pragmatics interface: the root-epistemic alternation has long been at the centre of debates on how best to capture the contextual variability of lexical meaning, while ambiguity, polysemy and unitary semantic analyses have been proposed and defended for modality in English (and other languages). More generally, modality has always been an important area within linguistics, philosophy and psychology. In linguistics, modality epitomises a number of concurrent developments from language acquisition to language change. Furthermore, modal concepts are a cornerstone of human cognition and reasoning, so that theories of their lexicalization and use in natural language span a spectrum of different psychological and philosophical perspectives on the fundamental relation between language and thought [6, 309].

Modality being such a well-documented area, there is a wealth of empirical material which requires explanation. However, modal data contain a notorious amount of idiosyncratic detail, which often makes the possibility of comprehensive analyses seem formidably elusive. Many linguistic treatments of the English modals use as a starting point the traditional categories of epistemic and deontic modality, and supplement them with a range of additional types to capture the full range of meanings natural language modals may express. Consequently, English modals come out as multiply ambiguous items; moreover, their candidate meanings seem to proliferate almost freely towards increasingly fine-grained classes.

There are more concrete arguments that this intuition points in the right direction. The categories introduced by the ambiguity view do not really correspond to distinct senses for the modals, among which it is always possible to choose. For one thing, the distinction between the two kinds of simple root modality is far from clear.

One thing you want to avoid, if you possibly can, is a present from my mother (CDBH, 654).

Coates' account again suffers from an excessive reliance on semantics to provide the whole array of meanings communicated by the modals; as a result, she constantly has to expand the semantic component so that it includes information about the degree of subjectivity or strength of

the modality. Coates is primarily worried by the inadequacy of semantic labels to yield an empirically satisfactory analysis of the modals: however, no problem would arise if this indeterminacy were seen as resulting from the flexibility of pragmatic interpretation [7, 116].

Sweet H. places her discussion of modality within a more general study of polysemy in natural language. Adopting a broader Cognitive Linguistic framework, she claims that polysemy is often motivated by a metaphorical mapping from the concrete, external world of socio-physical experience to the abstract, internal world of reasoning and of mental processes in general. She argues that motion verbs expressed modality display a similar, motivated polysemy, thus rejecting the 'standard' view that they are ambiguous between unrelated senses [8, 408].

Sweet H. believes that an account based on 'modality in two worlds' explains the acquisitional and historical priority of the root over the epistemic meanings of the modals. However, although her approach correctly moves in the direction of supplying motivation for the systematic relation between root and epistemic uses of modal expressions, it cannot avoid some of the criticisms directed against the ambiguity view. For instance, distinctions between root/epistemic or ability/potentiality readings imply, first, that it is always possible to choose between them, and second, that cases of gradience or merger should be more difficult to comprehend; we saw that neither of these conclusions is warranted [8, 409].

In the second place, even if one adopts the idea of a metaphorical mapping among modal concepts, this mapping will come out as very different from other examples of metaphorical mapping which have been claimed to motivate lexical polysemy. Consider the case of perception terms, which have displayed a cross-linguistic tendency to develop meanings related to mental processes (cf. see, view, etc.). According to Sweet H., this can be explained in terms of a metaphorical construal of the internal world delivered by reasoning on the basis of the external world delivered by perception: the semantics of perception terms thus includes a metaphorical mapping which relates two independent and distinct senses. A third problem for the proposal based on a metaphorical extension of modal meanings is that its application is constrained in various ways. An obvious case is positive can, which is not normally used epistemically. Sweet's account cannot handle similar examples, as she herself acknowledges [8, 411]. Sweet H. tries to turn this into an argument against a unitary semantic approach to the modals: It is not the case (as we might expect if the modals were simply monosemous) that all root modals must/can have epistemic uses - this is neither historically true for the English modals nor a cross-linguistic universal [8, 412]. It is not necessary, however, for a monosemous account to make such an assumption; on the contrary, a single semantics for the modals could leave room for a pragmatic explanation of the gaps in their distribution. It seems, therefore, that the historical development of the meanings of the modals cannot be explained in terms of a simple metaphorical mapping along the lines proposed by Sweetser. In any case, the extent to which diachronic evidence is relevant for a synchronic analysis of linguistic competence is a fairly controversial issue. Even if root meanings were the first to appear, the semantics of the English modals may well have developed towards a unitary meaning.

To summarize although the fundamental point of the ambiguity-based approach is the rigid distinction between (roughly) the epistemic and non-epistemic 'meanings' of the modals, both Palmer, Coates and Sweetser are forced to recognize a wide range of intermediate cases, where for a variety of reasons the proposed semantic distinctions prove inert, indistinguishable or insufficient. These cases, however, may be viewed as a threat to the overall validity of the ambiguity position. A more viable alternative, which already hinted at, would explore the view that traditional categories of modality are effectively byproducts of the comprehension process rather than stable and basic semantic information guiding pragmatic interpretation.

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Rezyume: *Maqolada zamonaviy tilshunoslikdagi modallik muammosi ko‘rib chiqiladi. Tilshunoslikda modallikni o‘rganish so‘nggi yillarda tobora ommalashib bormoqda. Biz ushbu maqolada X.Svitning nazariy qarashlari bilan o‘rtoqlashamiz.*

Резюме: *В статье рассматривается проблема модальности в современном языкознании. Изучение модальности в лингвистике становится все более популярным в последние годы. В этой статье мы разделяем теоретические взгляды Х.Свита.*

Kalit so‘zlar: *lingvistika, modallik, denotatsiya , xilma-xillik, metafora.*

Ключевые слова: *лингвистика, модальность, денотат, вариация, метафора.*

**DISCUSSION OF LEXICOLOGICAL ISSUES IN THE HISTORY OF UZBEK
LINGUISTICS IN THE 1920S
(ON THE EXAMPLE OF THE MAGAZINE "EDUCATION AND TEACHER")**

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Summary: *This article deals with the first discussion of lexicological issues in the history of Uzbek linguistics in the 1920s. These issues are mainly analyzed in the example of the magazine "Education and Teacher", published in the early twentieth century, and look at the historical roots of our modern language.*

Keywords: *dictionary, linguistics, vocabulary, lexicography, etymology*

In world linguistics in the twentieth century, the study of the laws of development of each nation's language, the definition of development processes, and the study of communicative possibilities has reached a new stage. The fact that every national language in the world reflects the spirit, linguistic thinking, history, culture, science, customs, traditions, vital values of the people is one of the important factors that ensure the historical development of the language. It is necessary to study the socio-political, economic, spiritual and educational changes in society in the XXI century, the structural features of each language, the historical development based on new scientific and theoretical approaches and methods, and to inform the world scientific community.

In world linguistics, a lot of research has been done on the study of the history of linguistic teachings and the gradual development of languages, the establishment of theoretical laws, and the formation of the scientific paradigm of science. The dynamics of the formation and development of languages was carried out on a phonetic-phonological, morpheme-morphological, lexical-semantic and syntactic basis, based on written sources and factual materials in their existing editions. The history of the study of spelling, Lionization policy, phonetics, vocabulary, grammar, dialectology, which has undergone reforms in the world's languages, eliminates all the views in the field of science on the basis of reliable sources. As a result, it is possible to draw new scientific conclusions in determining the history of languages and their stages of development.

In the 1920s, the magazine (Journal of Education and Teacher) took the lead in publishing articles on the serious reform of the national language. Dictionaries are sometimes published in the pages of the magazine, but we did not find any scientific comments on the vocabulary of the language. Only an article by Ahmad Ahmadi entitled "Turkish Moon Horses" was published in the March 1926 issue of Education and Teacher. He pointed out that the word (s) and (s) in his word (s) were derived from the change in his word, and that he was right in his current mind.

Irresistible Such a nomination is followed by the arrival of April in the days when there will be no time to think.

Kukuk. This indicates that it was derived from the name Sassikpushak. In the tenth of May, the bird came and began to sing. In Uzbek, it refers to kakku (kakuk in DPT).

Chilla. It connects the word with the middle word. According to him, the sky and the seasons are 6 thoughts, and the two seasons are in full swing. It also shows the existence of a variant of the word child. This is due in June.

Sorcha. He is thought to have survived an earlier attempt to oust him following Mr Jiang's intervention. "It simply came to our notice then. Everything on earth turns yellow "(Ahmadiyya Ahmad, p. 41). Dirty bush. Preventing this word from escaping (multiplying) the sheep is linked to the fact that in August, it is associated with the hatchling of sheep and goats.

Mezom. In September, some plants were "tied to a cotton ball with a bullet." Koracha. In October, the insects (korasha, beetle) roamed the foothills, unable to withstand the cold.

Kozon. In November, after the cows were weaned, in November, with the addition of lambs in the household, the game was called firewood.

Kangs. Indicates that the fire was caused by the burning of fires. This December comes to mind.

Okpon. In January, there was a lot of coughing.

Nowruz. He was arrested on suspicion of felony criminal mischief for firing on a sculpture with a shotgun, according to Flathead County, Arkansas Sherriff Jim

It is clear that the names of these months are not used in the modern Uzbek language, but the Kazakh people and the Uzbek cattle-breeding population use the same words. Of course, the names of these months can be subjected to linguistic analysis. However, some extra linguistic analyzes are not far from the truth. For example, meson, kantar. However, the use of Navruz in relation to February is corrected by a different interpretation, which is that it was "the horse of March in the old Iranian language" (Ahmadiyya A.)

Ahmadi explains the four seasons (he calls it the season) as follows:

Spring. In March, April, and May, "there is a time in the spring when the world is burning, when the sky is blue, when there are children, when everything is closed and expanded. In this regard, this period is called spring." (Ahmadi).

Write. According to him, the grazing of cattle in June, July and August is also explained by "idle, idle walking - slow walking." The Kazakhs also associate it with the name of the Kyrgyz season called.

Autumn. The removal of sheep in late August and early September is associated with the so-called carcass.

Winter. In December, January and February, "freedom" and "prosperity" decreased, and "the country is in crisis." In this regard, it is said that "except for the Cossacks, they used the word" s "instead of" sh ". Of course, other than the interpretation of spring, it requires scientific accuracy. Unfortunately, we did not find a semantic interpretation of these words in Sh. Rakhmatullayev's "Etymological Dictionary of the Uzbek language".

Some semantic and etymological ideas were also published in the magazine. On July 7-8, 1927, Soliev Bulot in his article "A Reflection on Khorezm" quoted the famous historian Veselovsky as saying that Bugro, Aski, Zhomuk, Shovsh (Chovsh), Zhovshopor (Zhovchopor), Turksamoshi (Turkish water head), Arsamuk (Ershamug) explains. According to him, the names Jamuk and Shamuk are still in Kazakh and Nogay, Turkish water chief, Chovsh means military position. He mentions that "ar" in Arsamuk is derived from the word "er" and that in Khorezm they used to say to dig a high (here a big) ditch and to find a small ditch. It is known that the dialectal features of the words arna, yob (yap) have been solved in our science, but the study of other words has not been carried out by B. Soliev or later by others.

At the same time, Elbek's lexicographical work (100 words) was published in issues 2,3,5-6 of the magazine. It reveals the semantics of words that are difficult to understand in the history of the language, in the press and in other works.

Elbek's interpretation of the words is based on the following principles:

Explains words in common language and dialects: top-koptok, telba-jinni, tuganmak-tamam bolmak, etc.

Explains words (Turkish) in Arabic and Persian words: heel-witness, witness; birth; equal, equal; sink-sink and so on.

In the interpretation of some words, it means what it means: inquiry-address and question, filthy-filthy, khan capital.

Elbek clarifies the meaning of most words by pointing to their sources. For example: tarmac - to be patient (as an example: "Every time he suffers, he endures; every kind of misfortune, salt" quotes from the poem). Cake is a gift (I have made these cakes for my guest).

The magazine was published in 9-10 issues of 1925 by V.M. The initial person (probably Wadud Mahmud) gives a dictionary on "Turkish words and terms in Turkish history" by Rizo Nurbek in the "Dictionary and terms" section. In fact, V.M. He does not call himself an author, but a "copyist." This dictionary includes some place names (for example: Fergana, Altai, Bukhara),

mountain names (Himalayas), river names (Amu Darya, Zerafshan), concepts of geography (tundra), concepts of natural phenomena (buzkir, shondo, saulusi-geology). The meanings of the words shed light on some etymological aspects. Almost all interpretations are far from scientific interpretations, and these dictionaries can be used by critics of etymology as critical material.

In general, the magazine "Education and Teacher" was of great importance as the only magazine that covered the first scientific and practical issues of the Uzbek language.

In the pages of the journal he carried out extensive work to identify the features of the Uzbek literary language and carried out all the preparatory work on the phoneme system, lexicology, morphology and spelling of the literary language.

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Rezyume: *Ushbu maqolada 1920-yillarda o'zbek tilshunosligi tarixida leksikologik masalalarning birinchi muhokamasi haqida so'z boradi. Bu masalalar, asosan, XX asr boshlarida nashr etilgan "Maorif va o'qitg'uchi" jurnali misolida tahlil qilinib, hozirgi tilimizning tarixiy ildizlariga nazar tashlang.*

Резюме: *В данной статье речь идет о первом обсуждении лексикологических вопросов в истории узбекского языкознания в 1920-х гг. Эти вопросы в основном разбираются на примере журнала «Образование и учитель», издававшегося в начале XX века, и смотрят на исторические корни нашего современного языка.*

Kalit so'zlar: *lug'at, tilshunoslik, leksika, leksikografiya, etimologiya*

Ключевые слова: *Словарь, языкознание, лексика, лексикография, этимология.*

**ON THE CONDITIONS FOR INTRODUCING WORDS BORROWED FROM
FOREIGN LANGUAGES INTO THE KARAKALPAK LANGUAGE**

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Summary: *The article deals with the conditions and penetration of borrowed words into the Karakalpak language. The types of conditions of borrowed words in the Karakalpak language are interpreted through written and oral speech. And also we are talking about the reasons for borrowing with their examples related to cooking, which entered the Karakalpak language through Russian and other foreign languages. A phonetic review of some sounds between the two languages is considered.*

Keywords: *Borrowed words, terms of borrowing, semantics, lexical unit, communication, affix*

If we refer to the "linguistic encyclopedic dictionary", the term "acquisition" is used as a lexical unit transferred from one language to another as a result of language connections, and also as a process of transferring these lexical units [5:158].

It is considered characteristic of all languages. In this work, the vocabulary changes more actively. Bilingualism of the speaker is considered as the basic condition of communication, and therefore, when switching from one language to another language, each person freely interacts with the sound decoration of that unit, leaving the internal content of the communication unit unchanged and bringing it to its outer layer, i.e. its distribution. With the passage of time, etymology fades away, semantics may change, but name remains.

"However, at the time we determined, there should be some criteria to be guided by, it was possible to separate a word from the lexicon of another language, to recognize whether it is a related word or not a related word" [2:5-9] - L.P. Krysin notes. Referring to the conditions for the introduction of foreign words into the receiving language, we determine the following reasons [1:19].

1. The degree or frequency of use of a foreign language word in one's own language, which caused it to be included in the list, remains an important factor. In other words, the lexical unit should be understandable to the language representative and should be used in at least two genres. The number of pronunciations of foreign language words is small, and they have a narrow scope of functionality as part of the terminological system. If we look beyond the boundaries of the system, they are more often included in the group of analogies, but remain in the local sense and function in the language in at least two different versions: in a narrowly defined and more understandable language.

At the same time, words have a different meaning (semantic difference), and their connection with other words has expanded a lot. As an example, the word "lemonade", which came from the French language, was originally used in the sense of a lemon juice drink, and nowadays it is used in the sense of a carbonated drink. In this case, we can talk about the semantic acquisition of the word, but not about its semantic peculiarity, because the next concept is the first. We can talk about peculiarity only when the word that enters the language together with the reality does not have a doublet similarity in the receiving language.

2. We can confirm that the lexical unit has passed to the degree of variation only when we have established its mutual relationship with the grammatical categories (primarily morphological) in the respective language. If we look at the formation of a foreign language word from the point of view of its origin, it is complete (the unit clearly belongs to the group of a word, it can have the categories of face, number, participle, location, mood and others). For example: *burgers, noodles,*

cream, sauce, salad, etc. can be partly without any categorical lines. For example: *eskimo, ragu, sushi, entreme*, etc.

3. The word-forming activity of a foreign language is considered one of the decisive factors in the language, which determines whether a certain unit of the language has changed or not. To the extent that the word-forming addition to the root is developed in the community, the more it is used by the representatives of the language and is considered successful for the majority of the speakers. In the role of a word-forming component, roots, like foreign language affixes, can also participate, and the interaction can be of any kind.

4. One of the criteria for acceptance of a foreign language word based on variation is its degree of phonetic variation. The words of a foreign language define everything in the clear signs that are not characteristic of the respective language: the combination of two vowels in the root (спекулаас, руилле, айоли), the combination of two identical consonants (капучино, рикотта, буррито), combination of these letters *ню, вю, бю, дж, кз, кз* as in the example (пюре, джем) and so on. Over time, words may be affected by norms (in this case, the influence of the phonetic norms of the language being used). In such cases, the softness form of the consonant letter which is followed by the vowel is reduced, and in unstressed cases, the vowels are reduced.

5. As far as possible, the use of sounds and the full range of letters is considered an important condition for the entry of words into the language system, and the introduction of graphic tools to the target language brings it closer to the original speech.

Under specific social conditions, borrowed words can accept other language units. This, in turn, leads to acceptance conditions, and the most important in the adaptation process is the condition of bilingualism. That is, Karakalpak and Russian bilingualism in the former Soviet Union can be evidence.

The second condition for the integration of one language unit into another language is good neighborly relations among people who speak different languages in the same territory. This is confirmed by the Russian language and the words that entered the Karakalpak language from other languages based on the Russian language.

The next condition for the transfer of words from one language to another is political and economic relations. This is proved by several words borrowed from the English language, which entered the Karakalpak language through the Russian language. In other words, all forms of communication between two languages are cultural connections.

Trade relations between countries can also cause words to change from one language to another. In particular, the exchange of import and export goods, the untranslated status of goods entering our country can be an example of this.

A special place in the acceptance of foreign language words by a second language is occupied by the spread factor of a certain religion in any country. It should be noted that as a result of the adoption of Islam by the Muslim people, many meanings of Arabic words were changed by the people who accepted the Islam religion. In addition, the emergence of Christian churches in our country led to the use of words related to churches (church, pastor, temple, cathedral, etc.) in a wide range. In its own right, this is considered a form of exchange conditions.

One of the later stages of the history of independence is the years after Uzbekistan achieved its neutrality. In other words, fashionable words, jargonisms in the language are also terminological complements of one language due to other language units.

The transfer of units of one language to another takes place in two ways: 1) oral, 2) written [3:26].

The first method involves direct communication between bilinguals. These contacts usually occur in bilingual conditions or as a result of good neighborly relations between people. This is one of the most common and effective ways of implementing the change process. This method has deep historical roots, but at the same time it has not lost its importance. The difference of written style from oral is that it has a recent history, which grows stronger as the development of science, technology and economy of any country increases and continues this trend. Some people get new

concepts and terms from written data and means of communication from other people who have developed science and technology.

Performing a communicative function, language is a means of communication that occurs in two ways (oral or written). This transition of one language unit to another language occurs in the process of oral communication between representatives of one language and representatives of another language. This type of acquisition is called oral acquisition. Due to the fact that oral acquisition is more frequent than written acquisition, the transfer of words and units of one language to another language is usually done in oral form. This, in turn, shows how representatives of one language interact with representatives of another language. In our opinion, such a situation occurs in the context of bilingualism and good neighborly relations among people who speak two languages.

As we mentioned earlier, the trade relations between the two countries are a factor of change from one language to another. The passage of language units in this way is carried out freely and is not related to the intention of a certain person to transfer the words of his native language to another language.

The written transfer of words and other units from one language to another is not an everyday occurrence. This process takes place in much less time than verbal communication. Most of the written communication is found in the translated literature, which can be explained by several reasons.

For example, the representatives of one language were forced to use the terminology of the language they developed in their own language due to the absence of such terms in their native language. Here we can introduce the terms *subject*, *object*, *predicate*, *synchrony*, *diachrony*, which are widely used in the Karakalpak language. Such units do not serve the success of all representatives of the Karakalpak language.

Dozens of terms from European languages entered the medical field in written form. For example: *x-ray*, *diagnosis*, *aspirin*, *paracetamol*, *fluorography*, *diphenhydramine*. Words of this category were first used in medical subjects, and then gradually entered the oral form of the Karakalpak language. However, they are not widely used by all representatives of the Karakalpak language. That's why we can say that words of this type are "owned, but not appropriated" according to A.A.Reformatsky [4:542].

The second way of transferring words from one language to another language in a written way is when translating artistic and scientific texts in a foreign language, which are used to give a special color in written communication. As an example, if we look at the Karakalpak language, they are the words like **audit**, **server**, **paynet**, etc.

Undoubtedly, these words were first used in literary works and gradually began to be used by a certain part of the population speaking the Karakalpak language. We can say that the lexical units of this category are "owned, but not appropriated". The next method of type in the form of writing is carried out with the help of communication tools, in particular, worldwide channels are shown in every house with a *digital antenna*, *parabola*, and *tuner*, as a result of which Karakalpak language **shows**, **comedy clubs**, **bulletins**, **price lists**, **agents**, **concepts**, **funds** have been created. started using words. When did these words enter the Karakalpak language and we can consider them as their own.

The third method of change in writing is the adoption of new scientific terms. The development of science and technology is connected with the emergence of new scientific terms, new terms related to each topic.

If we are to say in a logical way, we can consider that the changes in the written form are not effective. This is because foreign language words may not be changed by all representatives of that language as a result of entering a language.

There are clear conditions for the lexical unit defined in this way to be independent and to be implemented in the language system. Fulfillment of the full set of signs is optional. One of the main and mandatory conditions is the mutual connection of a clearly denotated lexeme, the frequent use

of a lexical unit aimed at mastering the subject or appearance of modern culture, its use in speech. Other factors are less conditional, many words have not been learned in the Karakalpak language from a graphic, phonetic, grammatical point of view, but they are adapted to our language and are being actively used by its representatives.

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Rezyume: Maqolada o'zlashgan so'zlarning qoraqalpoq tiliga kirib kelishi, sharoitlari haqida so'z boradi. Qoraqalpoq tilidagi o'zlashgan so'zlarning shart-sharoit turlari yozma va og'zaki nutq orqali izohlanadi. Qoraqalpoq tiliga rus va boshqa xorijiy tillar orqali kirib kelgan pazandachilik bilan bog'liq misollar bilan qarz olish sabablari haqida ham so'z yuritamiz. Ikki til o'rtasidagi ba'zi tovushlarning fonetik tekshiruvi ko'rib chiqiladi.

Резюме: В статье рассматриваются условия и проникновения заимствованных слов в каракалпакский язык. Толкуются виды условия заимствованных слов в каракалпакском языке через письменные и устные речи. А также идет речь о причинах заимствования с их примерами связанные с кулинарии, которые вошли в каракалпакский язык через русского и других иностранных языков. Рассматривается фонетический обзор некоторых звуков между двумя языками.

Kalit so'zlar. O'zlashgan so'zlar, qabul qilish terminlari, semantika, leksik birlik, aloqa, affiks

Ключевые слова. Заимствованные слова, условия заимствования, семантика, лексическая единица, коммуникация, аффикс

FOREIGN EXPERIENCE IN CONDUCTING PUBLIC EXPERTISE OF DRAFT LEGAL ACTS AND ISSUES OF ITS APPLICATION IN NATIONAL LEGISLATION

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Summary: *By studying the problems associated with the public expertise of draft legal acts and the improvement of the mechanisms for its implementation, the experience of conducting public expertise in the practice of foreign countries was analyzed in the article. Also, from a legal point of view, the author studied the issues of introducing advanced aspects of foreign experience of public expertise of draft regulatory legal acts into the national legal reality.*

Keywords: *public expertise, public discussion, normative legal document, democratic state, civil society*

The analysis of the experience of public expertise in the practice of foreign countries and application its advanced aspects to our national legal reality is extremely important in researching the problems related to the public expertise of drafting normative legal acts in our country and the improvement of its mechanisms.

The preparation and adoption rules of drafting normative legal acts in foreign countries, which take into account the opinion of all members of society, especially the category of people who could be affected by the expected draft, have long historical roots.

During the formation of a legal democratic state, there was a necessity to study the experience of the legislative activities of the world countries, to conduct a comparative study of legislative spheres, institutions and individual norms, and to compare them with each other. This allows different countries mutual enrichment and improvement of the legislative activities.

Material and methods

In the preparation of this scientific article, logical and scientific methods, in particular, logical analysis, historical and comparative-legal methods have been applied. Moreover, empirical materials, in particular, statistical data, legislation and practice of foreign countries have been analyzed.

Research results

Countries such as the USA, Canada, Japan, Switzerland, Germany, Poland, the Czech Republic, and Hungary with the formalization rules of drafting normative legal acts, choosing the subject of their regulation and studying their accordance with the current legal system, public opinion and to express them in legislative systems are specifically concentrated. For this purpose, the productivity assessment of legal acts, to conduct legal and public expertise has become an important element of this legal practice. In particular, councils of assessment and expertise in Switzerland are functioning.

At the beginning of the 20th century, American jurist-scientist Horace Fleck studied the quality and scientific basis of law-making in his article, and he paid special attention to not enforcing unnecessary laws. In particular, in his opinion, one of the main shortcomings in the legislative process is that these laws ignore the economic structure of society, politics, and the social situation in the country [1]. As can be seen from these points, the purpose of adopting any normative legal acts must be justified by the benefit it brings to the society.

If we pay attention to the national practice, although there are noticeable changes in the quality of the public expertise of normative-legal acts, until today, unique legal bases or rules in this regard have not been consolidated at the level of the law in a systematic way. In addition, based on the system and legal force of normative legal acts, no specific legal mechanisms have been made for a stratified approach to their public discussion.

In addition, issues related to the status of entities of public expertise and expert conclusions prepared by them are also left out of the scope of legal regulation. It significantly matters in

developing proposals for improving national legislation and practice by studying advanced foreign experience and mastering its positive aspects.

In developed democracies, the expertise of draft laws, in particular the public expertise, is also highly organized. In particular, in the USA, every bill is thoroughly examined through the established information-analytical system. Specialized committees (Committee Stage) and sub-committees play an important role in the lower house of the Parliament (House of Representatives) in conducting various expertise, and additionally appointing expertise. In the discussion of drafts, the responsible committee ensures the involvement of all agencies, departments and committees related to the draft law.

If necessary, the public has the right to send draft laws to public entities in order to ensure that they are examined [2].

In France, more than 300 qualified lawyers participate in the process of drafting law. Laws are not adopted without the State Council and public opinion. A similar body exists in the Netherlands [3].

Sufficient financing of this process is another factor of effective public and expert expertise of normative legal acts. Providing the process of holding public discussions with sufficient information technologies, promotion methods and materials, financial stimulation of these processes, and full reimbursement of expenses related to conducting expertise are widely used in the practice of developed countries. For instance, in Great Britain, despite the development of the research services of the House of Representatives, each of its committees has the right to hire experts, representatives of the public, who could be affected by the subject of the law, within the limits of the established budget. Their number is not limited. In particular, the involvement of foreign experts helps to effectively conduct the expertise of laws related to foreign, political relations and economic relations.

When the bill is discussed in the House of Commons (lower house) and in the responsible committee, independent experts and public representatives who are not part of the parliament often participate. Daily information about the changes and corrections introduced during the discussion is given in periodicals. This is important for the general public's awareness of law-making [4].

The issue of public discussion of draft laws is also important in the experience of foreign countries. For instance, in the United States, public discussions are carried out in combination with the process of agreement on draft laws [5]. In Belgium, in order to get the opinions of the general public and to study their attitude to the draft law, the content and essence of the draft laws are briefly printed on one sheet and distributed among the population. In Latvia, public organizations have the right to participate in open meetings of parliamentary committees and discuss their proposals and recommendations. In Estonia, draft laws are discussed on the official web pages of the parliament. In Russia, the organization of public debates is directly one of the main functions of the Public Chamber. According to Croatian legislation, all draft laws must be discussed on public consultation [6].

In Ukraine, the expertise of draft laws is carried out in the following order: after the draft law is submitted to the Verkhovna Rada of Ukraine by the subject of the right of legislative initiative, the draft is sent to the main (responsible) committee of the Verkhovna Rada Apparatus and the scientific-expert department. Before considering the draft law in the first reading, the scientific-expert department conducts an expertise on its relevance, compliance with the law, and the analysis of the social, economic and other consequences of its adoption. At each stage of these processes, the options of the draft law are presented to the public for discussion. In this, the main attention is paid to the public discussions of the committee and relevant structures on the Internet and social networks [7].

According to the current constitutional law in Sweden, any authority may adopt acts on behalf of the people. According to it, the Swedish parliament, which forms law-making body (Riksdagen) by general and direct election of the citizens, is functioning [8].

In Sweden, as in other countries, public discussion is an integral part of the legal process. This process begins with the establishment of a government committee. However, sometimes it is enough to organize a working group under the relevant ministry. With the establishment of the committee, it may have given a certain freedom to operate. Some controls are limited by the workflow protocol. The composition of the committee may vary depending on the issue. In most cases, the committee consists of several people, but there are also committees made up of one person. Often, the committee includes lawyers and experts from a specific sphere depending on the issue under consideration, members of parliament and ordinary citizens. In many areas, several experts and citizens with different points of view are involved because the opinions of different experts and citizens differ significantly. The committee are entitled to have certain freedom in choosing the method of organizing its activities [9].

In our opinion, the advantage of this legal mechanism is the participation of ordinary citizens in the working group during the initial development of the draft law. This situation helps to prepare the law, which shall be put to public discussion in the future, in a popular form.

In conclusion, to study the foreign experience and practice related to the legal expertise of the drafts normative legal acts and, most importantly, to harmonize their advanced aspects with our national legislation, to increase the effectiveness of the state-legal reforms implemented in our country, every serves as an important factor in the creation of a comprehensive and quality legal system.

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Rezyume: Maqolada normativ-huquqiy hujjatlar loyihalarini jamoatchilik ekspertizasi va uni oʻtkazish mexanizmlarini takomillashtirish bilan bogʻliq muammolarni tadqiq etishda xorijiy mamlakatlar amaliyotida jamoatchilik ekspertizasidan oʻtkazish tajribasini tahlil etilgan. Shuningdek, muallif tomonidan Normativ-huquqiy hujjatlar loyihalarini jamoatchilik ekspertizasidan oʻtkazish boʻyicha xorijiy tajriba ilgʻor jihatlarini milliy huquqiy voqeligimizga tatbiq etish masalalari huquqiy jihatdan oʻrganilgan.

Резюме: В статье при исследовании проблем, связанных с общественной экспертизой проектов нормативно-правовых актов и совершенствованием механизмов ее проведения, был проанализирован опыт проведения общественной экспертизы в практике зарубежных стран. Также автором с правовой точки зрения изучены вопросы внедрения передовых

аспектов зарубежного опыта публичной экспертизы проектов нормативных правовых актов в национальную правовую действительность.

Kalit so'zlar: jamoatchilik ekspertizasi, jamoatchilik muhokamasi, normativ-huquqiy hujjat, demokratik davlat, fuqarolik jamiyati.

Ключевые слова: Общественная экспертиза, общественное обсуждение, нормативный правовой документ, демократическое государство, гражданское общество.

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DEVELOPMENT OF TEACHING CHEMISTRY IN KARAKALPAKSTAN HIGHER EDUCATION INSTITUTIONS IN THE YEARS OF INDEPENDENCE

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Nukus state pedagogical institute named after Ajiniyaz

Summary: *This article provides information about the history of the development of teaching chemistry in higher education institutions of Karakalpakstan during the years of independence. There are given information about the history of the opening of Nukus State University on the basis of the Karakalpak Pedagogical Institute, the first teachers of the Faculty of Chemistry, heads of departments, deans, number of graduates, types of classes, talented scholarship students from higher education institutions specializing in chemistry.*

Keywords: *Karakalpakstan, chemistry, years of independence, Nukus State Pedagogical Institute, Karakalpak State University, faculty, department, professors-teachers, students, HEI, state scholarship.*

During the years of independence, the history of teaching chemistry in higher education institutions of Karakalpakstan was marked by the opening of Nukus State University the faculty of Natural Sciences and Geography continued its activities within the full university with its departments on the basis of the Karakalpak Pedagogical Institute in June 1976. Fully equipped with new types of equipment, the faculty and its departments have the opportunity to develop educational and methodological and research work. In 1976, on the occasion of the opening of Nukus State University, this faculty was reorganized as the Faculty of Chemistry and Biology. In 1991, the Faculty of Chemistry was opened independently. Docents J. Kurbanov (1991-1995), K. Ibraimov (1995-2000), M. Allaniyazova (2000), B. Bektursinov (2000-2005), R. Tlegenov (2005-2006) worked as deans of faculties. One of the manifestations of economic reforms is the launch of the Kungrad soda plant, the Ustyurt gas-chemical complex and large enterprises of the textile industry, which has increased the demand for qualified engineers and technologists who meet modern requirements in these areas. Therefore, on December 12, 2006 the Faculty of Chemistry was reorganized as the Faculty of Chemical Technology in connection with the opening of new educational lines for the training of engineers and technologists and the faculty was headed by associate professors M.Aimbetov (2006-2012), B.Nurimbetov (2012-2013), A.Pirniyazov (2013-2014). Since March 2014, the faculty is headed by Candidate of Chemical Sciences, docent D.Tureniyazova. There are four departments at the faculty: Department of Organic and Inorganic Chemistry (Head of the Department, Candidate of Chemical Sciences, docent K.Uteniyazov), Department of Physics and Colloid Chemistry (Head of the Department, Candidate of Chemical Sciences A.Pirniyazov), Department of Chemical Technology (Head of Department, Candidate of Technical Sciences), docent M.Aimbetov) and the Department of Oil and Gas Technology (Head of the Department, Candidate of Chemical Sciences T.Naubeev).

Undergraduate students of chemistry were taught inorganic chemistry, organic chemistry, physical and colloid chemistry, history of chemistry, chemistry of high molecular compounds, bioorganic chemistry, methods of teaching chemistry, quantum chemistry, coordination chemistry, structure of matter, analytical chemistry. After the independence of the Republic, the establishment of oil and gas companies in the country and the great attention paid to this area have increased the demand for qualified personnel for these departments. Therefore, specialties in the field of oil and gas processing technology, as well as the use and operation of oil and gas fields have been opened at our university. Currently, the faculty prepares specialists in 6 bachelor's degrees.

In the 1990-1991 academic year, ie 14 years later, in order to provide schools of the Republic of Karakalpakstan with highly qualified teaching staff, the “Department of Natural Sciences” was established within the Faculty of Primary Education Methodology in connection with the reorganization of the Nukus State Pedagogical Institute. In 2000, the then rector of the Pedagogical Institute, Ph.D. Under the leadership of Professor J. Bazarbaev, the Department of Chemistry Teaching Methods was organized and the head of the department was U. Asamatdinov. The first candidate of chemical sciences and doctor of chemistry in Karakalpakstan will be U. Asamatdinov, and currently there are six doctors of chemistry in Karakalpakstan (U. Asamatdinov, K. Uteniyazov, A. Aitmambetov, R. Tilegenov, Sh. Turemuratov, A. Abdikamalova). There are more than 30 candidates of science (excluding the field of chemical technology). Professor U. Asamatdinov supervised ten candidates of sciences, K. Uteniyozov nominated four candidates of sciences, Sh. Turemuratov nominated two candidates of sciences. They make a significant contribution to the meaningful study of chemistry in the country, especially in higher education.

Karakalpak State University specializes in chemistry in the following disciplines: Inorganic Chemistry, Organic Chemistry, Analytical Chemistry, Physical and Colloid Chemistry, Quantum Chemistry, Chemistry Teaching Methods, Polymer Chemistry, Chemistry of Heterocyclic Compounds, History of Chemistry, Bioorganic Chemistry, Petrochemistry, High Molecular Compounds chemistry, chemistry of complex compounds, physical chemistry of disperse systems are taught to students [1].

Nukus State Pedagogical Institute offers bachelor's degree in chemistry in the following disciplines: 1st year General Chemistry, Anargonic Chemistry, History of Chemistry, Chemistry at school. 2nd year Organic Chemistry, Analytical Chemistry, Agrochemistry, Quantum Chemistry, Chemistry Teaching Methods. 3rd year Methods of solving problems in Chemistry, Methods of teaching organic chemistry, Methods of teaching inorganic chemistry. In the 4th year, students are taught subjects such as Chemical Technology, Soda Production [2].

From 2002 to 2021, 1103 students graduated from Nukus State Pedagogical Institute with a bachelor's degree in chemistry. In 2019, the Department of “Methods of teaching chemistry” opened a master's degree in 5A110301-methodology of teaching exact and natural sciences (chemistry), and in the 2021-2022 academic year, 4 masters graduated [3].

From 1992 to 2021, 341 specialists and 1143 bachelors graduated from Karakalpak State University with a degree in chemistry, in 1999, the master's degree 5A140501-Chemistry (in the field of science) was opened. From 2021, this 70530101-Chemistry (in the field of science) was renamed as a master's degree, and to date, 59 masters have graduated [4].

According to the Resolution of the Cabinet of Ministers No. 226 (13.10.2008) “On rewarding and financial incentives for talented youth of Uzbekistan”, every year, state scholarship holders of the Republic of Uzbekistan are appointed for students of higher education institutions who study at state higher education institutions with excellent grades and actively participate in scientific (creative) work.

For example, in the 2011-2012 academic year under the direction of Doctor of Technical Sciences, docent, excellence in Public Education of the Republic of Uzbekistan Orazimbetova Gulistan Jaksilikovna, two students of the Nukus State Pedagogical Institute Yuldasheva Nargiza was awarded the President state scholarship (2010), and Shamisheva Aysholpan was awarded Ulugbek state scholarship (2011). In the 2019-2020 academic year, under the leadership of d.t.sc A. Kaipbergenov, Karajanova Shakhnozakhon became the owner of the state scholarship named after Navoi.

From Karakalpak State University in 2010 under the direction of Ph.D., docent Z. Uzakbergenova, Torambetov Batirbay won the State Scholarship Competition named after Ulugbek. In 2017, Aziza Matekeeva was awarded the State Scholarship named after Ulugbek.

In Karakalpakstan, there is very little organizational, research and scientific-practical research on the methods of teaching chemistry. The Bulletin of the Higher Attestation Commission

under the Cabinet of Ministers of the Republic of Uzbekistan rightly admits that dissertations in the field of chemistry, biology and geography teaching methods are not supported (No. 6, 2004).

There are no scientists in Karakalpakstan who have done research on chemical methods, except for two scientists G. Baymuratov and M. Azhieva as well as the preparation of Karakalpak textbooks, manuals, didactic materials. The republican scientific-methodical journals such as "Science and society", "Teacher and continuous education", "Bulletin of Karakalpak State University named after Berdakh" do not publish significant scientific-methodical articles on topical issues of chemistry teaching. It is incomprehensible that the editors of some journals do not include any chemists. However, the chemical science and industry have a long history. There is no information about the history of chemistry in Karakalpakstan, nor about the research work of chemists. On this basis, the use of historical data in the teaching of chemistry increases students' love for chemistry, enthusiasm for chemists, respect for the motherland.

Due to the coronavirus pandemic, quarantine was declared in our country on March 15, 2020. In higher education institutions, the mode of work from a distance - from home. The new topic of online lessons was explained in the module, in the Internet telegram network, students and teachers worked together on homework and checking. During the probationary period in our country, selfless teachers in the field of education have a great responsibility. During the quarantine period, teachers imparted knowledge to the younger generation, who are our future in distance learning, through the use of existing knowledge, creativity, lesson plans, presentations, video lessons. The students were taught lectures, seminars, practical and laboratory classes posted by professors on moodle.karsu.uz and moodle.ndpi.uz using the Internet. From the 2020-2021 academic year, the relevant decision of the government introduced a procedure for the gradual transition of the educational process in higher education institutions of the country to a credit-module system. In the 2021-2022 academic year, the educational process in higher education institutions of the Republic is monitored on the website hemis.uz.

In conclusion, the need to teach chemistry under the influence of factors such as the need to open a higher education institution in Karakalpakstan, polytechnic education and the combination of education and labor, as well as the rapid development of the chemical industry.

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3. Information about the students of "Chemistry" of the Nukus State Pedagogical Institute.
4. Information about the students of "Chemistry" of Karakalpak State University.

Rezyume: Ushbu maqolada mustaqillik yillarida Qoraqalpog'iston oliy ta'lim muassasalarida kimyo fanini o'qitishning rivojlanish tarixi haqida ma'lumotlar berilgan. Kimyo mutaxassisligin tayyorlaydigan oliy ta'lim muassasalaridan Qoraqalpog'iston pedagogika instituti bazasida Nukus davlat universitetining ochilish tarixi, dastlabki kimyo fakul'tetining birinchi muallimlari, kafedra mudirlari, dekanlar, bitirgan talabalar soni, dars turlari, iqtidorli stipendiant talabalar haqida ma'lumotlar keltirilgan.

Резюме: В данной статье представлена информация об истории развития преподавания химии в высших учебных заведениях Каракалпакстана в годы независимости. Сведения об истории открытия Нукусского государственного университета на базе Каракалпакского пединститута, первых преподавателей химического факультета, заведующих кафедрами, деканах, количестве выпускников, типах классов, одарённых стипендиатах высших учебных заведений по специальности химии.

Kalit soʻzlar: *Qoraqalpogʻiston, kimyo, mustaqillik yillari, Nukus davlat pedagogika instituti, Qoraqalpoq davlat universiteti, fakultet, kafedra, professor-oʻqituvchilar, talabalar, OTM, davlat stipendiyasi sohiblari.*

Ключевые слова: *Каракалпакстан, химия, годы независимости, Нукусский государственный педагогический институт, Каракалпакский государственный университет, факультет, кафедра, профессора-преподаватели, студенты, ВУЗ, государственные стипендиаты.*

TOURIST AND RECREATIONAL POTENTIAL OF SURKHANDARYA REGION

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Samarkand State University named after Sharof Rashidov

Summary: *Research of tourist and recreational potential and tourist activity in mountainous regions is of great interest. The mountains have a variety of tourist resources and a wide range of tourist activities. The Republic of Uzbekistan is distinguished by the attractiveness of natural resources. Mountain-valley territories are characterized as a territory with a pronounced tourist potential. The region has developed domestic tourism. At the same time, the region is also attractive for foreign tourists.*

Keywords: *ecological tourism, recreational resource, tourist and recreational potential, tourist resources, World Tourism Organization (WTO).*

Introduction and problem statement. Today, eco-tourism plays a significant role in the global tourism and hospitality industry. According to the forecasts of experts of the World Tourism Organization (WTO), in the XXI century, its growth rates will continue to be high, and the income generated will make a significant contribution to the development of the economies of many countries of the world, especially developing ones. This will stimulate socio-economic growth in backward regions. According to the UN World Tourism Organization (UNWTO), eco-tourism is recognized as one of the promising sectors of the economy. This type is a young but effectively developing industry sector, the income from which leaves the bulk of the GDP of a number of countries around the world.

Recreational service in many countries is a large and independent branch of the economy, in which 10-15% of the employed population participates. The organization of recreational activities is related to the natural and economic conditions of the region, especially the geographical location of the region.

In 2018, the Cabinet of Ministers of the Republic of Uzbekistan adopted Resolution No. 324 dated 3.05.2018 "On measures for the development of tourism in Surkhandarya region". The program provides for a system of measures aimed at improving the territorial organization of tourism in the region, creating favorable conditions for the effective use of the unique historical and cultural heritage of the region, preservation and restoration of historical architectural ensembles and architectural monuments, construction of additional and renovation of existing accommodation facilities, tourist interest and service facilities, development of transport infrastructure, improving the quality of tourist services and visitors, as well as the creation of new jobs.

The program provides for the creation of 3 small tourist zones:

- Boysun small tourist zone - on the territory of the villages of Omonkhana and Darband, the mountainous territory of Zavboshi;
- Sariasia small Tourist Zone - on the territory adjacent to the Khonjiza mountain system and the territory of Sangardak village;
- The Sherabad small tourist zone - on the territory of the village of Shalkon, the Khojaikon salt mine and orchards. [2]

In the planned tourist zones, it is planned to build modern hotel complexes, cultural and recreational, shopping and entertainment and other facilities. To finance investment projects planned for implementation in small tourist zones, it is planned to attract grants and gratuitous financial assistance from international financial institutions, foreign organizations, donor countries and loans from commercial banks.

Currently, the following projects are being developed in Surkhandarya region:

- for the organization of tourist infrastructure facilities;
- organization of guest houses;
- calendar of cultural, entertainment and sports events held in Surkhandarya region.

Thus, the republic has developed a system of measures for planning the development of tourism at the republican and regional levels. An important role in this is played by the policy of the region within the framework of the Action Strategy for the five priority areas of the country's development in 2017-2021. [1]

The study of the problem. The methodological basis was the system-structural approach, the theoretical foundations of recreational geography and tourism, set out in the works of B.C. Preobrazhensky, I.V. Zorin, A.Yu. Alexandrov, V.A. Anuchin, N.S. Mironenko, I.T. Tverdokhlebov, N.M. Stupin, N.P. Shelomov, L.I. Mukhina, Yu.A. Sturmer, G.S. Guzhin, M.Yu. Belikov, B.M. Beroev, A.Yu. Alexandrova, L. Mitchell, R.Smith, A.N. Nigmatov, R. Usmanov, R. Shamuradova, H. Jumaev, etc.

The aim and objectives of the work. - to assess the tourist potential and determine the tourist resource potential in the foothill and mountainous areas of Surkhandarya region. To characterize the main tourist and recreational resources and identify particularly attractive natural landscape zones, to consider the territorial features of existing ecotourist destinations and state policy in the field of ecotourism development in Surkhandarya region.

The main part. Surkhandarya region is extremely rich in recreational natural resources. Clusters of mountain tourism have appeared in Surkhandarya. Majestic mountain peaks, picturesque nature, magnificent waterfalls, transparent and healing springs of Surkhandarya region can charm anyone. Therefore, the development of recreational and ecological tourism in this area is becoming increasingly important today.

To effectively use such a huge potential of the region and its districts, it is planned to organize three mountain tourism clusters. Thus, it is planned to establish the activities of the Boysun mountain cluster, covering the territories of the villages of Omonkhona and Darband of the Boysun district, as well as the Zovboshi mountain area; the Sariasia mountain cluster, which will include the slopes of the Khonjiza mountain system of the Sariasia and Uzun districts, as well as the territory of the Sangardak village of the Sariasia district; The Sherabad mountain cluster, which will cover the picturesque areas of the village of Shalkon, the area around the Khojaikon salt deposit, as well as pomegranate and other orchards. Tourist and recreational potential of Surkhandarya region in Figure 1

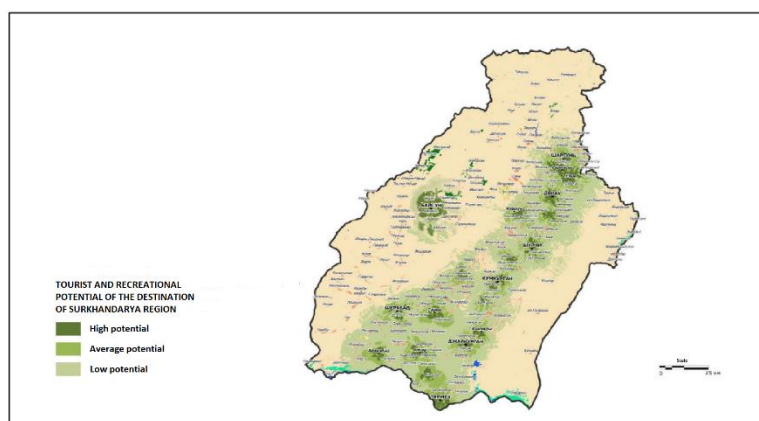


Fig. 1. Tourist and recreational potential of Surkhandara region

To the north of Termez, on the slopes of the Kukhitang ridge, there is a Surkhan Nature Reserve. It was established in 1987 on an area of 24583 hectares. Steppe and forest (juniper) plant communities and typical vegetation of the subalpine belt are represented on the territory of the reserve. Among the many animals, unique representatives of the fauna of Central Asia stand out - the screw-horned goat and the mountain ram. In addition to the rich and diverse flora and fauna, archaeological zones are interesting in the reserve. In the south-east of the reserve, traces of dinosaurs that lived in these parts several hundred million years ago have been found. Also, more than 200 colored rock paintings of the Mesolithic and Neolithic periods have been found on the

territory of the reserve. These examples of ancient rock art are called Zarausay Gallery. The unique resources of these territories are used for the purposes of ecological tourism.

Medical tours to mountain climatic resorts of Southern Uzbekistan are becoming more and more popular. A unique salt sanatorium in the very depths of the Khojaikon salt cave operates in the spurs of the Kukhitangtau ridge of Surkhandarya region. In Southern Uzbekistan, there are a number of climatic and balneological resorts with thermal, chloride-bicarbonate sodium waters for both drinking treatment and therapeutic baths and showers. [4]

In the period from March to November, the mountainous regions of Southern Uzbekistan attract lovers of hiking and mountaineering. The most popular hiking trails of the country pass through the protected areas of the mountains of Surkhandarya region. The slopes of the mountains are covered with juniper and apple forests, thickets of wild rose and barberry, there are stormy mountain rivers and numerous lakes and waterfalls.

Table 1.

Tourist territories and destinations of Surkhandarya region.

Tourist territory	Tourist destination	Type of tourism
Boysun Mountains	Teshik Tash Cave	Medical and wellness. Outdoor recreation.
Boysun Mountains	Surkhob Cave	Medical and wellness. Outdoor recreation.
Surkhantau Ridge	The Cave of Boy-Bulok	Medical and wellness. Outdoor recreation.
Altynsaysky region	Khojaipok Cave	Medical and wellness. Outdoor recreation.
Boysun Mountains	The Boysun gravitational anomaly	Outdoor recreation, rural, religious tourism
Sariasia region	Sangardak Waterfall	Ecological tourism
Sherabad valley	Khojaikon Cave	Sanatorium-resort treatment.
Sherabad valley	Surkhan Nature Reserve	Outdoor recreation, Rural, ecological tourism
Gissar ridge, on the eastern slopes of Kohitang Mountain, Sherabad region	Zarausai rock paintings	Outdoor recreation, Petroglyphs of Zarausai – the oldest rock carvings
Boysun region	Syrob Plane trees	Outdoor recreation, Natural monument
Boysun region	Omonkhona	Medical and wellness (Sanatorium-resort treatment.)
Boysun Mountains	Khoja Gur Gur ata array	Extreme tourism (Outdoor recreation)
Sariasia region	Tupalang Reservoir	Rural, ecological tourism (Outdoor recreation)

Teshiktash Cave is located on the left slope of the Machai–Darya Valley, 3 km south of the village of Yukari-Machai, at the Talverg of the Zauranashsai tract, among ancient limestones. The cave is small, its length is about 20 m, the volume is 420 cubic meters. However, it has gained worldwide fame thanks to priceless archaeological finds – the remains of a Neanderthal man.

Surkhob Cave is located in the Boysun district of Surkhandarya region, on the eastern slope of Mount Surkhob. The cave is laid in limestone; its length is 120 m and the volume is 760 cubic meters. It has three floors of halls and passages between them, a lot of sintering formations – stalactites, stalagmites, on the walls – lime crusts of various bizarre shapes.

The deepest cave in Uzbekistan, as well as in the whole of Asia, is considered to be the Boy-Bulok cave (Bai-Bulak), located in the Surkhandarya mountains – Surkhantau ridge (Chul-Bair mountains – east of Boysuntau). The depth of the cave is 1415 meters. Boy - Bulak is on the 15th place in the world (in depth).

To date, the Boy-Bulok cave is the deepest cave on the Asian continent, its depth is 1,415 m. It was the 11th expedition of Ural speleologists to Uzbekistan, the correspondent reports "UzNews.uz " Marat Najibayev. According to the assurance of the head of the group Vadim Loginov, when combining the caves of Alexander Vishnevsky and Boy-Bulok into a single one, this karst system will enter the top 3 in depth in the world.

Khojaipok cave (Shurchinsky district of Surkhandarya region) is unusual in the presence of a large spring with a flow rate of about 20 liters per second. The cave is located 55 km north-west of the district center of Shurchi, in the valley of the Khojaipok River, the right tributary of the Surkhandarya River. The cave has a length of over 220 m and a volume of 2700 cubic meters. The spring is knocked out from the bottom of the cave, at a distance of 30 m from the entrance; water with the smell of hydrogen sulfide. Rubber-like hydrocarbon residues ("dry oil") were found in the cracks of the limestone composing the cave walls, and crystals of native sulfur and transparent gypsum were found in the limestone in the vicinity of the cave.[6]

Rest and treatment in the ecologically clean cave " Khojaikon " can be combined with a cultural and educational program, because the procedure takes only 2-2.5 hours a day. To date, the problem of improving the effectiveness of the treatment of pulmonological diseases (diseases of the lungs and respiratory tract) is one of the most urgent in modern medicine, due to the increase in the incidence of the population and an increase in the number of patients with forms that are difficult to treat. Due to the insufficient effectiveness of medicines and a high percentage of side effects, non-drug treatment methods are widely used for the treatment of chronic nonspecific lung diseases. Among the latter, speleotherapy attaches great importance to the stay of patients in caves and mines of salt mines.

It should be noted that this area is distinguished by its characteristics, such as the constancy of temperature and humidity, the absence of an allergenic and slightly infected air environment.

The inner part of the salt cave "Khojaikon", which is an object of material cultural heritage, together with a system of art galleries has five rooms-chambers that differ from each other in temperature, humidity, pressure and microclimate. The walls of the cave are peculiarly covered with a layer of salt from one to three centimeters, in the passage there is a healing spring with saline solution. This cave environment contains useful additives for the treatment of allergic respiratory diseases, long-lasting acute and chronic bronchitis, asthma, complications of pneumonia, skin diseases and patients with weakened immunity.

The Sangardak Waterfall can rightfully be considered one of the most picturesque natural attractions of the republic. A striking example of a tourist-attractive waterfall in the Surkhandarya recreational area is the Sangardak waterfall, located 200 kilometers from the regional center – the city of Termez, on the territory of the Saryasi district of the Surkhandarya region.[9]

Passing through the Sangardak gorge, you can hear the noisy hum of the waterfall, which increases as you approach the waterfall. A lot of noise can cause some discomfort, but it's worth it. Having reached the waterfall wall, travelers can enjoy an incredible view of water falling from a height of 150 meters, breaking into myriads of thousands of splashes rising into the air in the form of a light cloud. The view of the waterfall is amazing in its splendor. The moss-covered rocks against the background of falling water have acquired an incredibly deep green color, which is essentially soothing. You can also notice that in many places small colorful pieces of fabric are tied to the moss – this is an old sign: to tie a piece of your clothes as a gift to Sangardak, so that the most cherished wish comes true. Looking at the Sangardak waterfall, you can get a unique feeling of complete peace. In the streams of water, resembling thin spikelets of hair, the rays of the sun are reflected, which makes it seem as if the water shines by itself. Sangardak resembles an organism, it lives, moves, shimmering with all the colors of the spectrum, changes outlines and shades. The

waterfall is no less beautiful in the evening, when it is filled with the light of sunset, resembles a pouring fire. After sunset, in the dead of night, in the light of the moon, the waterfall acquires a silvery glow.

However, there is an anomalous place in Surkhandarya that will interest even skeptics. This place has become known all over the world recently. It is located in the village of Padang, which is on Boysun, thanks to which it received the name "Boysun Gravity Anomaly", which has become one of the mysterious places of natural anomalies. For Uzbekistan, such anomalies are very rare, so such news spread like lightning among the people, and tourists certainly wanted to see a wonderful phenomenon and compare it with other similar ones.[10]

The Boysun anomaly is the only one of its kind in the entire Central Asian region. But similar unusual phenomena have been found in Beit Shemesh (Israel), Devil's Gorge (Jordan), Ladhak (India), Nevyansky district (Russia) and Jeju (Republic of Korea).

The anomaly was discovered by chance, since it manifests itself only in a small segment, where even round objects, contrary to all the laws of physics, roll upwards, the water flows backwards, and the car at neutral speed does not back down the slope, as usual, but vice versa. The exact definition of this anomaly has not yet been sorted out.

Conclusions.

Southern Uzbekistan is provided with natural recreational resources, which allows the effective use of tourist potential. Surkhandarya is famous for its unique and inimitable nature. There are majestic harsh mountains crowned with ever-white caps of glaciers, and fertile plains occupied by endless pastures and fields, luxurious gardens with subtropical fruits and dry low mountains subject to desertification processes. In conditions of rich tourist potential and lack of tourist routes connecting major tourist destinations in the region.

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Rezyume. *Tog'li hududlarda turistik-rekreatsion salohiyat va turistik faoliyatni tadqiq etish katta qiziqish uyg'otmoqda. Tog'lar turli xil turistik resurslarga va turistik faoliyatning keng doirasiga ega. O'zbekiston Respublikasi tabiiy resurslarning jozibadorligi bilan ajralib turadi. Tog'*

- vodiylar hududlari aniq sayyohlik salohiyatiga ega hudud sifatida tavsiflanadi. Viloyat ichki turizmni rivojlantirdi. Shu bilan birga, mintaqada chet ellik sayyohlar uchun ham jozibali hisoblanadi.

Резюме. Исследования туристско-рекреационного потенциала и туристской деятельности в горных регионах представляет большой интерес. Горы имеют разнообразные туристские ресурсы и широкий спектр туристских активностей. Республика Узбекистан отличаются привлекательностью природных ресурсов. Горно-долинные территории характеризуется как территория с ярко выраженным туристским потенциалом. В области развит внутренний туризм. Вместе с тем регион привлекателен и для иностранных туристов.

Kalit so'zlar: ekologik turizm, rekreatsion resurs, turistik va rekreatsion salohiyat, turistik resurslar, Jahon turizm tashkiloti(JTT).

Ключевые слова: экологический туризм, рекреационный ресурс, туристско-рекреационный потенциал, туристские ресурсы, всемирная туристская организация (ВТО).

**PROBLEMS AND PROSPECTS FOR THE DEVELOPMENT OF PERSONAL
SUBSIDIARY FARMS IN UZBEKISTAN**

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Summary: *The article examines the features of the development of personal subsidiary farms in modern conditions, defines their functions in the agricultural economy and in the life of society as a whole.*

Key words: *personal subsidiary farms, agricultural products, production, land, farming, agriculture.*

The land plots provided for auxiliary economic purposes to the rural population in many countries of the world are identical, in some of them they are intended for small-scale production, to satisfy their needs, and some for commercial production are called differently. In this work, taking into account their general purpose - satisfaction of personal family needs in the first place, and based on family labor resources, all of them are conventionally combined under one term personal subsidiary farms (PSF). Private subsidiary farms of the rural population are located on a personal plot of land. Personal subsidiary farms in many countries of the world occupy a significant part of land resources.

It is known that in the scientific literature there are many terms directly related to the formation and development of personal subsidiary farms, such as "household", "private farm", "peasant (farmer) farm", "family farm", "farmland". For example, in the Russian Federation, farms are considered an integral part of agriculture, as well as the economy, they are called "Christian households", and in most studies, such terms as "household population", "Christian subsistence", "Christian household", "personal subsistence farming" are considered to be very close scientific terms. In Russia personal subsidiary farms were run by rural population in the 1930s as a source of "self-sufficiency". Collectivization at the time worsened the situation for thousands of peasant families, and during the famine, the former Soviet government allowed farmers to run their own farms.

In the encyclopedic dictionary by F.A. Brockhaus and I.A. Efron, "Personal subsidiary farms as an economic category is an agricultural enterprise producing small goods based on the labor of the head of the family and its members [1]. "Another encyclopedia states that "Personal subsidiary farms is a form of agricultural production that is mainly based on the joint work of family members on land that has been inherited for life or leased for long-term use [2]." Personal subsidiary farms also belong to the household and are based on the joint work of family members and produce agricultural products. This will meet the demand of family members, as well as the population for agricultural products.

The key to the successful implementation of rational land use is the corresponding interest on the part of land users. By investing in their land plots, private households face economic, legal and administrative problems. Consider the current state and features of the development of private household plots in a number of countries around the world.

The 2016 Agricultural Census Farm Structure Survey covered 12 million family farms operating in the EU. 49% of the observed properties had less than 2 hectares of agricultural land. 325 thousand households, accounting for about 3% of the total number of family farms, owned land plots of up to 100 hectares. Small family farms up to 2 hectares covered only 2% of the EU's total agricultural land.

In Germany, personal subsidiary farms of the population are found in the form of commercial agricultural peasant farms. In Germany, agriculture is based on small and medium-sized commercial peasant family enterprises. In 2018, there were 280,800 farms. Of these, 45.3% have an area of up to 20 hectares, 20-50 hectares in size - 24.4% 50-100 hectares in size - 17.4%;

over 100 hectares - 12.9% of farms. Their effectiveness largely depends on support from the state. They receive 300 euros annually for each hectare of land they cultivate. In May, heads of farms submit applications, and in December, state support funds are credited to their accounts. Currently, this is the only type of state support. It accounts for 70% of the income of the peasants. Its lending system plays an important role in the successful development of peasant farms. It allows them to take loans for up to 50 years at 1%.

A characteristic feature of Canadian agriculture is its high productivity and relatively little use of hired labor in it. Canada is a country of population family farms. On average, 77% of land plots in the country are family property. They grow products for both family needs and marketable products. Most of all farmland is cultivated by the farmers themselves and their families. The average size of family farms is from 32 ha to 103 ha. This is possible thanks to the presence of large families and the extensive mechanization of agricultural labor. Hired labor is mainly used during the harvest. At this time, special harvest excursions run across the country, delivering seasonal workers to various agricultural regions. A large percentage of the seasonal workers are students. The experience of family farms in Canada shows the possibility of using hired labor in the cultivation of agricultural products on the lands of personal subsidiary plots, especially when harvesting [3].

In Japan, personal subsidiary plots of the population are called the dwarf type of peasant farms. Agriculture remains an important industry in the Japanese economy, although its share in GNP has been declining in recent years. The country's agriculture employs 4.1 million people (6.6% of all employed). Small-scale peasant land use predominates. Despite the agrarian reform, a dwarf type of peasant farms prevails in the country (many plots are less than 0.5 hectares). Under these conditions, it is only possible to carry out small-scale mechanization. More powerful mechanization is found on large farms. A distinctive feature of small peasant farms is their placement in small contours in several areas, the widespread use of small-scale mechanization.

The Republic of Uzbekistan is an industrial-agrarian state. 51% of the population lives in rural areas. Farms producing agricultural products in the country are divided into 3 categories. Farms, personal subsidiary farms and organizations engaged in agricultural activities. Farms are organizations with state-registered legal status. Personal subsidiary farms are the rural population with a maximum of 0.5 ha. The third category farms include various agricultural firms. After certain historical processes of formation and development of personal subsidiary farms in the Republic of Uzbekistan, the Law of the Republic of Uzbekistan "On Dehkan Farms" was adopted in 1998. The law defines a farm as "a small family farm, which grows and sells agricultural products on a plot of land given to the head of the family for inherited lifelong possession on the basis of individual labor of family members [4].

Agricultural products are grown on 3309400 hectares of land in the country. Of this, 2623,200 hectares (79.3%) were occupied by farms, 472,900 hectares (14.3%) by personal subsidiary farms, and 213,300 hectares (6.4%) by agricultural organizations. Despite the fact that personal subsidiary farms own small plots of land, they produce about 70% of agricultural production (Figure 1).

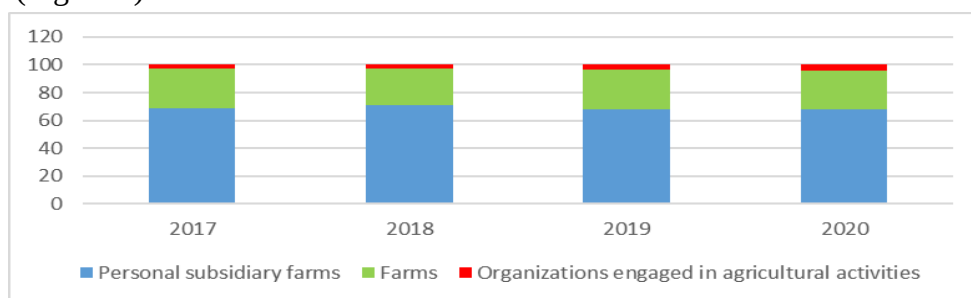


Figure 1. Structure of agriculture production in Uzbekistan

Farms are mainly engaged in growing cotton and cereals. Cotton and grain crops are grown on 75% of the country's agricultural land. More than 90% of livestock products are grown by private subsidiary farms (Figure 2).

Thus, personal subsidiary farms can be considered a promising form of economic activity, which has the right to exist in the future with the condition of organizing following complex measures:[5],[6],[7]

- organization of purchases of agricultural products with the possibility for peasants to conclude contracts for future crops with guaranteed payment at contractual prices and partial crediting;

- organization of mechanized maintenance of field work, satisfaction of other needs of personal subsidiary farms - provision of young stock, veterinary services, artificial insemination, ensuring the availability of loans secured from the expected yield and financial services;

- organization of a marketing service for timely information on market conditions;

- monitoring the observance of labor legislation, primarily when using hired labor.

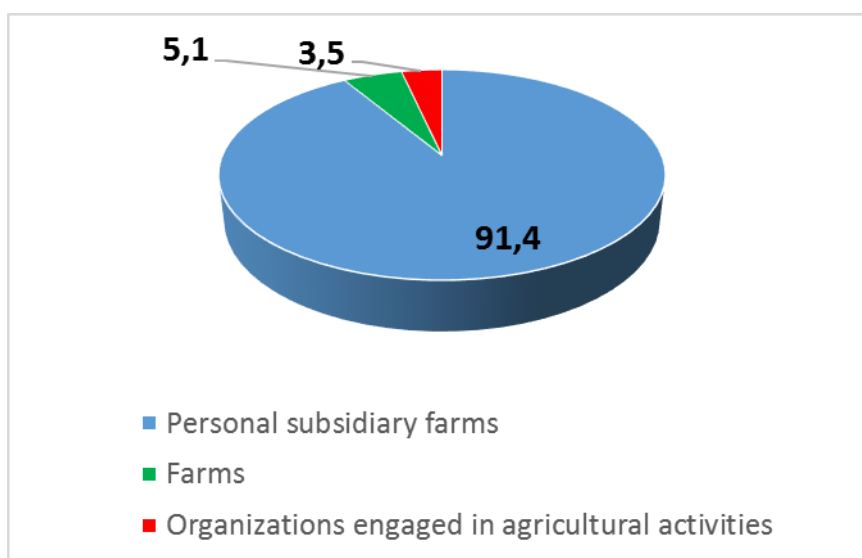


Figure 2. Structure of livestock production in Uzbekistan (2020).

Everywhere, in contrast to agricultural enterprises, where the results of labor are appropriated by workers through the system of its payment, in personal subsidiary farms this assignment is carried out in the form of direct receipt of food and additional cash income from the sale of surplus products. Over the past ten years, personal subsidiary farms, as one of the most widespread forms of economic activity of the population, have become the leading producers of agricultural products in many states, they have taken shape as individual subsidiary agricultural production, complementing the sector of agricultural producers. The peculiarities of the functioning and the role of personal subsidiary farms in the social and economic development of many countries give rise to the formation of a special economic mechanism for their support and development.[8],[9],[10],[11],[12].

An analysis of the experience of different countries of the world, in particular, the functioning of personal subsidiary farms shows that some features of their development can be used in Uzbekistan, including:

- government support of family farms and the credit system, their cooperation.

- development of the multifunctional essence of private household plots.

- owners who effectively use the land and receive high economic indicators of personal subsidiary farms will be provided with the opportunity to allocate additional areas.

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Rezyume: *Maqolada zamonaviy sharoitda shaxsiy yordamchi xo'jaliklarning rivojlanish xususiyatlari ko'rib chiqilib, ularning agrar iqtisodiyotdagi va umuman jamiyat hayotidagi vazifalari belgilab berilgan.*

Резюме: *В статье рассмотрены особенности развития личных подсобных хозяйств в современных условиях, определены их функции в аграрной экономике и в жизни общества в целом.*

Kalit so'zlar: *shaxsiy yordamchi xo'jalik, qishloq xo'jaligi mahsulotlari, ishlab chiqarish, yer, dehqonchilik, qishloq xo'jaligi.*

Ключевые слова: *личное подсобное хозяйство, сельскохозяйственные продукции, производство, земля, фермерское хозяйство, сельское хозяйство.*

“ISHAN-KALA” IN 1917-1920s

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Summary: *Based on the study of archival sources and historical literature, memoirs, the article examines the tragic events of 1917-1920 in the spiritual and cultural center of Karakalpakstan "Ishan kala". The inhabitants of Ishan-kala survived the tragic pages of their history, and as a result of military clashes, the buildings of the greatest historical and cultural complex "Ishan-kala" were damaged.*

Keywords: *historical and cultural complex, "Ishan kala", Khan Maksym, Junaid Khan, military clashes*

The spiritual and cultural center of Karakalpakstan “Ishan-Kala” survived the tragic events in 1917-1920. There were no significant changes in the Amu-Darya district of the Turkestan region at the end of 1917. The Soviet power was established in Tashkent, however, in the Amu-Darya district, former colonizers and royal officials were in power, who defended only their own interests, and the poorest population was both enslaved and left.

On March 25, 1918, the local authorities of the Amu-Darya district decided to implement the “Regulations on the organization of the local Soviets” of the Turkestan Soviet Republic. Until March 30, 1918, elections of deputies to aul, kishlak, volost and district Soviets and to the Council of the Amu-Darya district were held. Residents of Ishan-Kala actively participated in the elections.

In connection with the famine of 1917-1918, the noble people of Ishan-Kala and peasants, when selling bread, did charity in favor of the starving population. At the bazaars, grain growers could sell grain products only upon presentation of a receipt for the obligatory deduction of bread in favor of the poorest population of 14-10 poods per tithe. [1].

In connection with the threat of Junayd Khan’s invasion to the right bank of the Amu-Darya, the inhabitants of Chimbay and Ishan-Kala organized people’s volunteer squads under the leadership of Khan Maksym (Ubaydulla Baueddinov). To strengthen the defense of the Chimbay district, the local authorities of the Amu-Darya district sent a special detachment to Nukus under the command of S.V.Sinebryukov. The detachment consisted of 106 infantrymen with two machine guns and two guns, a telephone team and mounted scouts. Soon, regular units arrived on the ship “Verny” under the leadership of N.A.Shaydakov. [2].

On November 24, 1918, Junayd Khan, having destroyed the telephone connection between Turtkul and Chardjow, launched an attack to the right bank of the Amu-Darya River. One part, having crossed the river at night, attacked the detachment in Ak-Kamysh. Another part crossed over in the Kipchak region and captured Shabbaz and Biybazar.

Having organized the blockade of Turtkul, Junayd Khan robbed and killed the inhabitants of Ishan-Kala, Chimbay, Shabbaz, Shurakhan, surrounding villages and auls, they stole and took away cattle, bread and other property from the Amu-Darya district.

The government of the Turkestan Republic provided great assistance to the inhabitants of the Amu-Darya district. By the order of the Chairman of the CEC of the TASR V.D.Votintsev, reinforcements from Chardjow were sent to Turtkul along the Amu Darya. A. Kalashnikov recalls that a detachment of 180 fighters arrived on the steamer “Tashkent” and the motor ship “Verny”. The arrivals had a three-inch gun and two machine guns. The Red Army detachment was led by A.L.Timoshenko, I.K.Tserpitsky, V.Kempchinsky and others. The detachment broke through the enemy ring and joined the Turtkul garrison, which raised the morale of the city’s defenders. On the 11th day of the siege, the defenders of Turtkul, having beaten off seven attacks of the enemy, launched a counteroffensive. On the evening of December 3, 1918, Junayd Khan, unable to withstand the onslaught of the Soviet troops, retreated in a panic towards Shabbaz. [3].

Junayd Khan was also defeated near Nukus. Here were the 3rd Nukus company of the Red Army and other units. In addition, local workers were mobilized into the Chimbay detachment.

Under the leadership of S.V.Sinebryukov, the 3rd Nukus company and other units, with the active help of the workers, dug trenches, created firing positions for heavy guns and nests for machine guns, prepared firewood, food, etc.

On November 27, 1918, over 1,500 nukers of Junayd Khan, having crossed the Amu-Darya River at the Kipchak and Khodjeily crossings, attacked the city, which was defended by a little over 300 fighters.

The 3rd Zairian Ural Hundred under the command of M.T.Filchev, having learned about the appearance of Junayd Khan, fled to Zaire, capturing Ural Cossacks with their families from Nukus.

About 2 thousand people took refuge in Nukus - Karakalpaks, Uzbeks, Kazakhs, Russians, Tatars, etc. On the 16th day of the heroic defense of Nukus, a detachment of the Red Army arrived from Turtkul. Having broken through the enemy ring, it connected with the defenders of the city. The basmaches were dealt a crushing blow. Pursued by units of the Red Army, they fled in panic, abandoning their weapons and horses.

Ishan-Kala also withstood the onslaught of Junayd Khan. Up to 10,000 refugees gathered here to escape the looting. Local workers selflessly defended themselves from the attack of the basmaches. They provided significant assistance to the small units of the Red Army located on the territory of the Chimbay sector. In mid-December 1918, the population of Chimbay also rebuffed Junayd Khan. In the report of the Amu-Darya military commissar there was noted that "the entire local population immediately joined the Russians ..., in Chimbay ... a general uprising against the Yomuds of the Junayd gang was announced. [4].

During the days of the defense of Ishan-Kala Khan Maksum created a special detachment in the amount of 40,000 people.

On April 2, 1919, the Extraordinary Commission of the TASSR, consisting of V.D.Lutsenko, A.N.Golub and I.I.Fedko, headed by A.N.Khristoforov, arrived in the Amu-Darya district. It carried out energetic work on elections to the aul and volost Soviets of Karakalpakstan. They included representatives of local workers. Thus, Omar Valibaev was elected chairman of the Karakhan Village Council of the Shurakhan Volost, and N.Babamirabov, K.Gurbabaev and Kh.Yakshimuratov were elected as centurions of the Shurakhan Village Committee.

New councils were created on the territories. So, in April 1919, the Council of Workers, Red Army and Dekhkan Deputies was organized in the Chimbay sector.

Mukhamedjan Baldjanov was appointed political commissar of the Chimbay section. He was instructed to organize a district council in Chimbay. On April 6, 1919, M.Baldjanov wrote to the chairman of the Executive Committee of the Council of the Amu-Darya district V.E.Kroshilov that a public meeting was held in Chimbay in honor of the creation of the district council with the participation of more than four thousand people. Local and Russian workers were elected to the Executive Committee of the Soviets of Workers, Red Army and Dekhkan Deputies of the Chimbay sector. [5].

For the quickest liquidation of Junayd Khan, the Revolutionary Military Council (RMC) of the Turkestan Republic on August 16, 1919 issued an order on the coordinated leadership of the military operations of the Soviet troops, as well as the Amu-Darya and Aral military flotillas, which were intended for joint combined strikes against the enemy. RMC of the Turkestan Republic ordered:

"The region of the mouths of the Amu-Darya River to the north of the conditional line Kungrad-Chimbay-Yamankala, as well as the entire region of the Aral Sea, is included in the strip subordinate to the RMC of the Northern Front, with the subordination to the aforementioned Council of both all military forces located in this area, and with the assignment to this Council of the responsibility of organizing its defense and supplying it with the necessary means of defense.

The Amu-Darya region to the south of the indicated conditional line Kungrad-Chimbay-Yamankala remains under the jurisdiction of the commander of the Petro-Alexandrovsky group of the Western Front. RMC of the Western Front is to continue the defense of this sector, organizing both the manpower of the area and the supply of the necessary means of defense.

The Northern and Western fronts, represented by their Revolutionary Military Councils, are obliged to take all measures to coordinate their actions in the border zone, both in the sense of a single political line of conduct and in the operational sense.

The funds of the Amu-Darya Flotilla remain at the disposal of the RMC of the Western Front, the funds of the Aral Flotilla remain at the disposal of the RMC of the Northern Front.” [6].

On August 1, 1919, an Extraordinary Commission consisting of 17 people was sent to the Chimbay sector to disarm the 3rd Zaire squadron of Cossacks and strengthen local Soviet bodies. The commission included: a member of the TurkCEC of Soviets, the plenipotentiary representative of the RSFSR of the Khiva government A.N.Khristoforov (Chairman of the Commission), Chairman of the Amu-Darya Executive Committee of Soviets I.N.Kosyanenko, Chairman of the Amu-Darya Committee of the CPT Frolov, Chairman of the Revolutionary Tribunal and Chairman of the Council of Trade Unions I.I.Brinkman, Head of the Military Department N.Sladkov, Deputy Head of the National Department M.Yunusov, Head of Milicia of the Amu-Darya district Shpenev, authorized food detachment of the Amu-Darya district F.Lipovsky, Head of the Land and Water Department Ute Tynimbaev and others. The commission was instructed to restore Soviet legality in the Chimbay sector and “isolate all harmful and unsuitable elements of the sector, create commissions with emergency powers, such as: with the right to arrest this or that person, organize and reorganize Soviets, create a Revolutionary Committee, etc.”

An international detachment (80 people) led by Zamyslayev and Nikolaev was sent to Chimbay from Turtkul to help the commission.

The Extraordinary Commission dissolved the Chimbay Executive Committee of Soviets and instead created the Revolutionary Committee of the Chimbay sector, headed by Brinkman. The commission suggested that the Zairian Ural Hundred immediately hand over their weapons.

In response to this, on August 14, 1919, the Zaire Hundred, led by Filchev and Salnikov, rebelled and soon captured Chimbay, Nukus, Zaire and Muynak Island. All members of the Extraordinary Commission were brutally killed by the rebels. In addition, 14 Hungarians and Austrians from the international detachment were killed.

On the night of August 15, 1919, in the forest, near the Tazgar tract, the detachment of Zamyslayev and Nikolaev was attacked. After a fierce battle, having lost 18 people killed, the detachment was disarmed. Zamyslayev and Nikolaev were shot.

Filchev was elected head of the “government” of the Chimbay section. Shishenkov, Salnikov, Shevelev, Ibragim Adilov, Inoyat Niyazov, Seytnazar Pirnazarov, Ubaydulla Baueddinov (Khan Maksim) became members of the government.

A detachment headed by N.A.Shaydakov was sent from Chardjow on a steamer, which had arrived in Turtkul on August 17, 1919. On August 21, I.A.Shaydakov assumed the duties of commander of the Khiva Group of Forces of the Transcaspian Front. G.M.Ryzhkov was appointed political commissar of the troops of the Amu-Darya Department. All troops of the Amu-Darya Department were subordinated to the command of the Transcaspian Front. Turtkul and the surrounding areas were declared under military siege.

On August 22, N.A.Shaydakov, leaving a small garrison in Turtkul, went with a detachment to the area of Nukus and Chimbay to suppress the rebellion. On August 25, the fighters of the Shaydakov detachment and the sailors of the Amu-Darya Flotilla occupied Nukus with battles. The rebels suffered heavy losses and retreated to Chimbay and Muynak.

At that moment, it became known that Junayd Khan, with the support of the Emir of Bukhara, was preparing to attack Turtkul. Considering the current situation, the Soviet command stopped the pursuit of the Chimbay rebels, and on September 5, 1919, Shaydakov’s detachment returned to Turtkul.

In his report to the Revolutionary Military Council of the Turkfront, N.A.Shaydakov wrote: “... In Petro-Alexandrovsk, only 150 Muslim people remained in the garrison, who, of course, were not able to protect the city, there was absolutely no coast guard. The Yomuds began to group in large detachments and were terribly interested in the Chimbay business: one had to think that if they

went deeper to Chimbay, one could lose Petro-Alexandrovsk, one can consider the fall of the entire Amu-Darya Department. Based on all these considerations, it was decided not to go any further.” [4].

The command of the Transcaspian Front sent the Northern Regiment of the Revolutionary Committee of Red Army to suppress the rebellion in Muynak. On September 8, 1919, the Northern Regiment, on the ships of the Aral Military Flotilla “Turkestanets” and “Kyrgyz”, after fierce battles, defeated the basmaches in Muynak and neighboring islands.

A Chardjow company, numbering 155 fighters, was sent against the Chimbay rebels.

On the fronts of the civil war in Karakalpakstan, about 300 sailors, commanders and political workers of steamships and barges of the Amu-Darya Flotilla fought selflessly: “Shumilov”, “Moscow”, “Tashkent”, “Neva”, “Khivinets”, “Verny”, “Odessa” and others.

In September 1919, all power in the Amu-Darya Department passed to the newly created Revolutionary Committee. Communist I.A.Shaydakov was appointed chairman of the Revolutionary Committee, Sh.Khasanov was appointed deputy chairman, I.Mitin was appointed secretary, and M.Baldjanov and Vanichkin were members.

In May 1920, the Revolutionary Committee of the Amu-Darya Department called for re-elections of rural and volost executive committees in the Chimbay sector. The working peasantry actively participated in the election campaign. Members of the Revolutionary Committee traveled there to conduct re-elections in the Chimbay district. Re-elections of volost councils were held in Chimbay, as well as in Nukus, Yangibazar, Kegeyly, Kukuzyak, Kukkul, Naupyr, Taldyk, Kungrad, Chimbay, Ishim, Daukara and Beshyab volosts. 167 local workers’ representatives were elected.

On May 31, 1920, the commander of the Amu-Darya group of Soviet troops wrote: “During the elections, strong agitation of two parties was developed: on the one hand, protégés of Khan Maksum and, on the other, the former Chimbay volost governor Chinikul.” [7].

The Volost Congresses of Soviets elected 27 delegates each to the Congress of Soviets of the Chimbay section, which took place on May 12-13, 1920. 243 delegates participated in it. The congress elected the Executive Committee of the Soviets of the Chimbay sector, consisting of seven people.

In June 1920, re-elections were held for all aul and volost soviets of the Chimbay section. 32 people were elected to the volost Councils, 138 to the village councils.

In July 1920, the Soviet authorities of the Amu-Darya Department turned to the central institutions of the Turkestan ASSR with a request to transform the Amu-Darya Department into the Amu-Darya region in order to provide conditions for the further economic, political and cultural development of this region.

On October 10, 1920, to improve administrative management on the territory of the Amu-Darya Department the Central Executive Committee of the Soviets of the Turkestan ASSR decided:

«1. The Amu-Darya Department within the former territory shall be renamed the Amu-Darya region with the assignment of all management rights granted to the regions.

2. The regional city of the Amu-Darya region declare the city Turtkul (former Petro-Aleksanrovsk).

3. The Amu-Darya region is divided into two counties: Shurakhansky and Chimbaysky (former Shurakhansky and Chimbaysky districts) with county centers for the first in the city of Turtkul and for the second - in Chimbay, which is renamed the county town.

4. To manage the Amu-Darya region, temporarily form a Regional Revolutionary Committee consisting of five members appointed by the Central Executive Committee and acting on a common basis.

5. To manage the counties, county revolutionary committees are formed, created and operating in accordance with the “Regulations on county revolutionary committees”. [8].

The formation of the Amu-Darya region as an independent territorial-economic and administrative unit was of great political importance. It contributed to the strengthening of the administration of the region, the achievement of new successes in construction and further

consolidation of the Karakalpak people.

In the Chimbay district, 52 village councils and 12 volost executive committees were organized.

According to the Central Statistical Bureau of the TASSR, in 1920 there were 537 small handicraft establishments in the Amu-Darya Department, in which 625 workers and handicraftsmen were employed. There were 303 handicraft mills operated in Chimbay and Shurakhan districts, serviced by 344 workers. The annual processing of grain at these mills reached approximately 250,000 poods. There were mechanical mills in Turtkul and Chimbay, which were nationalized by the authorities.

Home weaving and spinning were widespread among the population. Up to 480 handicraft enterprises (tandirs) were engaged in the production of food products, etc.

On March 10, 1919, the Executive Committee of the Council of the Amu-Darya Department proposed to the Council of National Economy and Industry to open a House of Labor in Turtkul, bringing together all the handicraftsmen and artisans of the city. This was one of the first attempts to unite disparate handicraftsmen in collective production.

Local authorities took all measures to cooperate with local handicraftsmen and artisans. Thus, the Congress of Soviets of the Chimbay sector, held in May 1920, adopted the following resolution:

«1) in order to raise the existing handicraft production of coarse calico (mats), ask the Revolutionary Committee of the Amu-Darya Department to open a cooperative in the village of Chimbay, allocating 30 million rubles for this; 2) to ask the Revolutionary Committee to hastily open a tannery in the village of Chimbay to process the raw materials available in the district; 3) after the organization of the cooperative and the food department, take vigorous measures to prohibit any export of cereals, mats and livestock from the Amu Darya Department». [9].

On June 1, 1920, the Council of the National Economy began to organize production artels of weavers and spinners. From June 15 to September 14, 1920, 43 fishing artels were created, uniting 568 members. In order to materially interest the weavers and spinners, they were provided with food rations; piecework wages were introduced.

In total, in 1920, 69 cooperative fishing artels were created in the Amu-Darya Department. The co-operation of small handicraftsmen into trade artels (at first through marketing, and then in the area of credit and production) was the first step towards transforming small-scale production into large-scale production.

In the same period, artels of Aral fishermen began to be created. Local authorities supplied the fishermen with the necessary materials, gear and food, gave them perpetual and long-term loans.

In 1919-1920 the largest enterprises of the fishing companies of Enikeev, the Selikhov brothers, Roytman, etc. were nationalized. Control over the fisheries that were in the hands of private individuals increased: F. Makeev, the Trading House of Goncharov, Markov, Filchev, Salnikov, and others.

The first priority was to fight hunger. It is known, for example, that as of May 13, 1919, up to 5,000 starving people were registered in the Shurakhansky section, and 25,000 in the Chimbaysky section.

The Council of People's Commissars of the RSFSR organized the dispatch of a large number of wagons with food and basic necessities to Turkestan. The government of Turkestan, in turn, allocated funds to fight hunger in the Amu-Darya Department. The Executive Committee of the Soviets of the Amu-Darya Department organized extensive assistance to the starving population. The commission sent to the Chimbay section received 50 thousand rubles from the Amu-Darya Executive Committee for storing bread. In the city of Turtkul, a free canteen was opened for disabled citizens, where in April 1919 274 people were fed. In addition, the Executive Committee of Soviets allocated 25 thousand rubles to help the starving city.

The people of the Chimbay district were especially affected by the ruin and robbery of the basmaches. On May 31, 1920, the commander of the Amu-Darya Group of Forces of the Trans-

Caspian Front, Mikhailov, in his report, referring to the difficult situation of the Chimbay section, wrote: "The economic and political situation of the inhabitants of the right bank of the Amu-Darya, and in particular the Chimbay section, is in the most critical and abnormal state ... Their situation worsens from the raids and robberies of the basmaches inhabiting the left bank (Khiva). At present, the inhabitants are completely ruined from these raids, as well as the war of the Zaire Hundred with the Soviet government, and their situation is deplorable. [10].

Thus, the study of archival sources and historical literature, memories, testify that the inhabitants of Ishan-Kala experienced the tragic pages of their history in the 1917-1920s. As a result of military clashes, the buildings of the greatest historical and cultural complex "Ishan-Kala" were damaged.

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Rezyume: *Ushbu maqolada izlanishlar arxiv manbalaridan va tarixiy adabiëtlardan, esga tushirishlarda 1917-1920 yillarda manaviy-madaniy markaz bulgan Korqalpog'istondagi «Ishan kala»dagi xalokatli voqiyalar haqida so'z boradi. «Ishan kala» turg'unlari boshlaridan uzlarining ayanchli tarixiy betlarini utkazdi, natijada h'arbiy toqnashuvda «Ishan kala» tariyxiy-madaniy kompleksi ziën kurdi.*

Резюме: *В статье на основе изучения архивных источников и исторической литературы, воспоминаний рассматриваются трагические события 1917-1920 годов в духовно – культурном центре Каракалпакстана «Ишан кала». Жители Ишан-калы пережили трагические страницы своей истории, и в результате военных столкновений пострадали здания величайшего историко-культурного комплекса «Ишан-калы».*

Kalit so'zlar: *tarixiy-madaniy kompleks, «Ishan kala», Xan Maksim, Djunaïd-xan, xarbiy toqnashuv*

Ключевые слова: *историко-культурный комплекс, «Ишан кала», Хан Максим, Джунaid-хан, военные столкновения*

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INFORMATION WARS AS A SOCIO-PHILOSOPHICAL PROBLEM

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Summary: *this article analyzes a number of problems related to information and communication security. In particular, information wars are widely analyzed from a socio-philosophical point of view as an urgent problem of today. an attempt was made to shed light on the philosophical aspects and specific criteria of information warfare.*

Keywords: *World, state, war, Armed wars, message war, morality, army, education, ideology, cold war, directive, defense, global, infosphere, warning.*

In the 21st century, it seems that the war between the countries of the world has stopped, but in reality it is not like that. In the midst of armed wars, however, it does not appear in the world as it happened in the past. However, it should be expected that a new form of war is rapidly emerging among the world's countries. This war is called information war.

The information war is not a process that appeared today or yesterday, but the effect of information has always existed. Nowadays, information wars are being carried out rapidly as a result of the development of science and technology. In the modern era, legends are considered as the first collection of information. For example, Genghis Khan's troops were chasing rumors of their impossible atrocities, and such a situation severely demoralized their opponents. This helped to raise the military spirit of his troops. He strengthened my faith in his army chief. As a result, the psychological effect of fighting against enemies, defending the Motherland, and winning was the use of ideology and education that corresponded to them.

However, the term "Information War" related to the information war was first used in the middle of the 80s of the 20th century in connection with the new tasks facing the United States after the end of the "Cold War". In 1976, American military historian Thomas Rohn used the concept of "information war" for the first time in his report entitled "Weapon systems and information war". However, in other sources, the term "Information War" was used in 1967 by A. Dulles in the book "Hidden Capitulation". Keinselli began to use this term as "the battle of opposites of the message" and "the psychological battle of the message".[1] Later, these new communication technologies were widely used for military purposes for the first time in 1991 in Iraq during the operation "Desert Storm". The first official document on this problem was given in the directive of the US Defense Ministry on December 21, 1991 entitled "Information War".

In 1995, the US National Defense Institute published Martin Libikid's book "What is Information War?" In this work, he shows about the goals of the war of words:

1) It is focused on the channels of communication between the management and the performers, aiming at the non-management behavior.

2) The purpose of the intelligence war was to collect confidential information from the military.

3) Electronic war, i.e. electronic means of communication - radio communication, radar stations, computer branches aimed at failure.

4) Psychologically, it is intended to bring out the disharmony: Alim divides this war into 4 components - breaking the spirituality of the people, demoralizing the armed forces, destroying the leadership position, and the war of cultures.

5) It aims to create an information war in economic circles: Martin Liebicki shows its two forms - information blockade and information imperialism. It is aimed at creating disturbances in the economic spheres.

Modern scholars show that the tendency to use information as an effective mechanism of global competition in interstate relations has increased. First of all, this is related to the supply and replenishment of the infosphere, information resources, large-scale operation, compactness and speed of data transfer. This shows that the use of various tools of information war and news expansion has become an integral tool for solving major social, economic and political contradictions. That's why the leading countries of the world have always created a group of information on the composition of their armed forces and do not openly express their intentions to use them urgently.

The developed countries of the world, which have the opportunity to implement the global monitoring of the disseminated information, use its results to gain certain advantages in the political, economic, military and other spheres of interstate relations.

Individuals can also participate in the information war in structures created by the government, especially in communities, groups. The information war is conducted not only during wartime and armed forces, but also in peacetime. Information war is considered the most difficult form of information conflict.

A. Manoilo defines the information war as a confrontational process in the environment of human society aimed at achieving other goals on a psychological, political, economic, military or strategic level by influencing the peaceful population, authorities and the armed forces of opposing forces. The purpose of the campaign is to distribute specially selected and prepared information, message materials and fight against such influences in their own way.[2]

"Information war" by N. Viren is considered to be a complex of measures to change people's behavior and impose on them goals that are not included in their goals, and to protect them from such influences.

I. Panarin refers to the "American doctrine" ("Mixed doctrine on message operations"). According to him, information war is defined as a complex influence on the state or military surveillance system or a collection of information business.

In his articles, I. Panarin focuses on the problem of "contrasts of geopolitical information" and identifies it as one of the modern forms of mutual struggle, connecting it with the information war. At the same time, the system of measures implemented by the states to protect against similar actions of the opposite state in order to violate the information security of another state is shown.

Today, the information war threatens the national security of the country. In the information war, the states act on hegemonic behavior. Because of this hegemonic power, any truth can be modeled on the opponent.

It is not necessary that the information war should be conducted only by the armed forces and that they should be directed only at military objects. In addition, state institutions, agencies and organizations, industrial and commercial structures also participate in this fight and independently conduct operations that have a sufficient impact on the course and results of the conflict. Such operations are summed up in terms of "information war" or "news war". From this, it follows that an older person, a military serviceman, or the public is involved in some form of information war or struggle. In connection with this, western khaniges define the information war as "a fight between a person who wants to and a person who wants to".

The information war can be described as a complex of measures and operations aimed at ensuring information superiority over the enemy, conducted by the armed forces and other forces in relation to the national security of the country.

All forms of information warfare are aimed at influencing the information infrastructure, information systems and resources of the opponent with the aim of distorting the received information, depriving it of the possibility of receiving new information or physically destroying its information methods. In addition to this, it also includes measures to protect the information of its own armed forces against such actions of the enemy.

The following forms of information war can be distinguished:

- Radio electronic warfare:

- Psychological warfare:
- The fight to be carried out with the help of intelligence methods:
- Fight against hackers:
- Cybernetic warfare:

The presence of information wars of this type increases the need to preserve and maintain peace between countries. Therefore, provision of information and information security is established as the principles of foreign and domestic policy in the way of state development.

On the one hand, information technology development of the society is related to positive changes for human society, on the other hand, it causes a number of problems, like the examples given here. Therefore, information wars are one of the global problems of today. In order to solve these problems, first of all, it is required to fill people's mind with knowledge base. On the other hand, solving the problem of the need to ensure the realization of universal humanitarian principles among states becomes an important issue.

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Rezyume: *Maqolada axborot va aborot xavfsizligiga oid bir qator muammolar tahlil qilingan. Jumladan, axborot urushlari hozirgi kunning dolzarb muammosi sifatida ijtimoiy falsafiy jihatdan keng tahlil etilgan. Axborot urushlarining falsafiy jihatlari va o'ziga xos mezonlari to'g'risida yoritib berishga harakat qilingan.*

Резюме: *в статье анализируется ряд проблем, связанных с информационной и коммуникационной безопасностью. В частности, информационные войны широко анализируются с социально-философской точки зрения как актуальная проблема современности. Сделана попытка осветить философские аспекты и конкретные критерии информационного противоборства.*

Kalit so'zlar: *Dunyo, davlat, urush, qurolli urushlar, axborot urushi, axloq, harbiy, tarbiya, mafkura, sovuq urush, direktiva, muhofaza, global, infosfera, rivojlanish.*

Ключевые слова: *Мир, государство, война, вооруженные войны, информационная война, мораль, военные, образование, идеология, холодная война, директива, защита, глобальная, инфосфера, развитие.*

**SOME ISSUES IN FURTHER DEMOCRATIZATION AND INCREASING THE
EFFICIENCY OF THE JUDICIAL SYSTEM**

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Summary: *This article deals with the experience of democratic states and the work aimed at strengthening the powers and independence of the judicial bodies in the state administration, ensuring the further increase of the role and importance of the judicial bodies in the reform of the judicial system are highlighted.*

Keywords: *Court, legal system, law, international agreement, human rights, inter-district, district, city courts, appeals of citizens and legal entities.*

INTRODUCTION.

The gradual democratization and liberalization of the judicial system, which is an extremely important branch of state power, aimed at ensuring the primacy of law and legislation, reliable protection of human rights and interests, is the most important priority of the long-term and consistent reform program implemented in our country on the formation and modernization of the legal state. is the direction.

Normative legal documents adopted until today, in particular "On Courts". To the law accordingly, several works are being carried out to implement the constitutional principle of separation of powers, to ensure the independence of the judiciary, to transform it from a weapon of repression and punishment in the past into a truly independent institution under the protection of the law.

We cannot achieve any results without ensuring the role and importance of judicial bodies in state management, strengthening their powers and independence, based on the experience of developed democratic countries and the reform of the judicial system.

As we all know, the main tasks of the court are the citizens of the Republic of Uzbekistan Constitution and other laws, international treaties, as well as international documents on human rights, to protect the rights and freedoms, state and public interests, rights and interests of legal entities and individual entrepreneurs protected by law. The activity of the court is aimed at ensuring the rule of law, social justice, civil peace and harmony.

In accordance with Article 40 of the Law "On Courts" of the Republic of Uzbekistan, the powers of the inter-district, district, city court in civil cases, the district, city court in criminal cases, the inter-district, district, city economic court are defined, i.e. district and city courts for criminal cases handle criminal cases and cases of administrative offenses, as well as the application of preventive measures in the form of imprisonment or house arrest, or the extension of the term of detention or house arrest, the dismissal of the accused, the placement of a person in a medical institution, or the detention of the accused in a medical institution examines petitions for extension of the term of detention, exhumation of the corpse, correspondence of postal and telegraphic dispatches, petitions for the release of a prisoner from punishment based on the amnesty act and other cases included in the scope of his powers by law.

The inter-district, district, city economic court considers disputes arising in civil-legal relations between economic entities and corporate disputes, as well as cases of administrative offenses included in the scope of its powers by law.[1.].

In this way, the independence of the judge or court considering a particular case should be ensured for a fair resolution of the case based on the law. All international human rights instruments provide for the right to a fair trial by "independent and impartial tribunals". The Human Rights Committee has repeatedly stated that the right to an independent and impartial trial is an "absolute right that does not allow for any exceptions"⁵⁰.

A person's right to a fair trial can be respected if there is an independent judge, but the state violates its international obligations if the judiciary is not an independent branch of government. Therefore, independence from this point of view applies to the judge personally, and to the judicial system as a whole[2. 19.p.].

Up to now, fundamental improvement of the system of financing the activities of judicial bodies and strengthening of social protection of judges[3.], as well as PF-6034 No. PF-6034 of the President of the Republic of Uzbekistan dated July 24, 2020 "On additional measures to further improve the activity of courts and increase the efficiency of justice"Decreeexecution is being ensured.

The essential aspect of independence is stated in the UN Basic Principles on the Independence of Judiciary Bodies as follows:

"The independence of the judicial bodies is guaranteed by the state and established in the country's constitution or laws. All state and other institutions must respect and observe the independence of judicial bodies»[4.].

In order to further democratize and liberalize the judicial system, to increase the effectiveness of the court, law enforcement and control bodies, to increase the public's confidence in justice, to ensure the rule of law in society, first of all, to ensure the true independence of the judiciary, the reliable protection of the rights and freedoms of citizens, and also to justice to increase the level of achievement, to define the main priority directions of state policy in the field of further reform of the judicial system, to explain to the population the principle of inevitability of responsibility for interference with the independence of the judiciary and the activities of the administration of justice, to encroach on the rights, freedoms and legal interests of citizens operative implementation in relation to cases,prevention of abuse and other violations among employees, ensuring unconditional observance of the rights and legal interests of citizens, further improvement of advanced scientific and technical tools and information and communication technologies aimed at increasing the efficiency of activity, as well as modern forms and methods of work organization, in accordance with the current era it is necessary to ensure the openness and transparency of an activity, to expand the effective mechanisms of cooperation with civil society institutions, mass media and the population, to review and resolve the appeals of citizens and legal entities of our country in a timely manner, and to ensure the timely execution of the restoration of violated rights, etc. .ensuring unconditional observance of the rights and legal interests of citizens, further improvement of advanced scientific and technical tools and information and communication technologies aimed at increasing the efficiency of activities, as well as modern forms and methods of organizing work, ensuring the openness and transparency of every activity in accordance with the current era, civil society it is necessary to expand the effective mechanisms of cooperation with institutions, mass media and the population, to review and resolve appeals of citizens and legal entities of our country in a timely manner, and to ensure the timely execution of the restoration of violated rights, etc.ensuring unconditional observance of the rights and legal interests of citizens, further improvement of advanced scientific and technical tools and information and communication technologies aimed at increasing the efficiency of activities, as well as modern forms and methods of organizing work, ensuring the openness and transparency of every activity in accordance with the current era, civil society it is necessary to expand the effective mechanisms of cooperation with institutions, mass media and the population, to review and resolve appeals of citizens and legal entities of our country in a timely manner, and to ensure the timely execution of the restoration of violated rights, etc.as well as to further improve modern forms and methods of organizing work, to ensure the openness and transparency of every activity in accordance with the current era, to expand the effective mechanisms of cooperation with civil society institutions, mass media and the population, to consider appeals of citizens and legal entities of our country in a timely manner, and it is necessary to ensure timely implementation of the resolution and restoration of violated rights, etc.as well as to further improve modern forms and methods of organizing work, to ensure the openness and transparency of every activity in accordance with the current era, to expand the

effective mechanisms of cooperation with civil society institutions, mass media and the population, to consider appeals of citizens and legal entities of our country in a timely manner, and it is necessary to ensure timely implementation of the resolution and restoration of violated rights, etc. it is necessary to consider and resolve the appeals of the citizens and legal entities of our country in a timely manner and to ensure the timely execution of the restoration of the violated rights, etc. it is necessary to consider and resolve the appeals of the citizens and legal entities of our country in a timely manner and to ensure the timely execution of the restoration of the violated rights, etc.

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Rezyume: *Ushbu maqolada demokratik davlatlarning tajribasi va sud-huquq tizimini isloh qilish bo'yicha sud organlarining davlat boshqaruvidagi roli va ahamiyati yanada oshirilishini ta'minlash, ularning vakolatlari va mustaqilligini kuchaytirishga qaratilgan ishlar yoritilgan.*

Резюме: *В данной статье освещается опыт демократических государств и работа по реформированию судебно-правовой системы, направленная на обеспечение дальнейшего повышения роли и значения судебных органов в государственном управлении, усиление их полномочий и независимости.*

Kalit so'zlar: *Sud, sud-huquq tizimi, qonun, xalqaro shartnoma, inson huquqlari, tumanlararo, tuman, shahar sudlari, fuqarolari va yuridik shaxslarning murojaatlari.*

Ключевые слова: *Суд, судебно-правовая система, право, международный договор, права человека, межрайонные, районные, муниципальные суды, обращения граждан и юридических лиц.*

CONFLICTS IN INTERETHNIC RELATIONS SPECIFIC ASPECTS OF ELIMINATION

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Summary: *In this article the deep and comprehensive analysis of the origin and causes of social conflicts arising in the society, the important factors of their elimination and the possibilities of a new approach to social conflicts are highlighted.*

Keywords: *conflict, contradictions, ethnos, inter-ethnic relations, inter-ethnic conflict, ethnic conflict, social groups, destructive forces, ethnic symbols, migration processes.*

INTRODUCTION.

Humanity is so wounded that it lives and struggles in the midst of various conflicts. The existence of conflicts, on the one hand, encourages humanity to struggle, to improve its own, society's life, and state activities, on the other hand, it also leads to the activation of various destructive and destructive forces. The parties' lack of understanding of each other, failure to come to any compromise, activates these forces.

Conflict is a complex, multifaceted and multi-level socio-psychological situation. Conflict means, first of all, struggle for values and a certain status, power, resources, material and moral damage by opponents, destruction of the opponent [5]. Individuals, social groups, national-ethnic communities, states, a group of countries, united by one or another topic, interest and interests, participate in conflicts.

Conflicts arise for various reasons, namely: spiritual, material, economic, political, religious disagreements and others. For a deeper understanding of the conflict, it is necessary to study the causes of its origin. For example, if we take the conflicts between husband and wife, first of all, it can be considered that they were brought up in families with different spiritual and material resources in family life, they do not respect and understand each other, husband does not support wife, wife does not support husband, economic deficiency in the family, etc. . In the workplace, conflicts between the leader and the employee in most cases arise from the fact that the leader does not have full knowledge of management, does not know the field, cannot agree with the subordinates, does not understand them or cannot convey his message, etc. Any conflict is based on the action of a party to achieve a certain goal [4]. Therefore, conflict is a characteristic quality of interaction on the way to achieve certain interests and goals.

Any conflict is a product of contradictions in the mental state of people and the individual. Every object and event in existence has contradictions in one form or another [8]. A conflict arises on the basis of the mutual exclusion of opposite properties and characteristics. Conflict, of course, creates the need to move to another state, stage, quality.[8]

What are the signs of conflict? It is determined by the existence of the situation accepted by the participants of the conflict, the contentiousness of the object of the conflict, and the readiness of the participants to engage in conflict to achieve their goals. For many years, organizational conflicts have been viewed as a negative situation and efforts have been made to create a conflict-free organization and a conflict-free team. But today it has been proven that life is not without conflict. Effective management of a group, community, state is manifested in the presence of conflicts, and it helps to bring out shortcomings. In this case, the conflict becomes constructive, creative and serves as a factor in making the right decision. But in this case, the parties to the conflict, that is, the opponents, having their own opinions, should come to a decision without deviating from the moral standards. Dysfunctional (destructive) conflicts lead to a decrease in personal satisfaction, loss of cooperation in the group [4]. This type of conflict arises from one side only approving its own opinion, not wanting to compromise and agree, insulting the other side, not taking his opinion into account, and striving to show its superiority.

Ethnic conflict is a conflict between groups of people belonging to different ethnic groups[5]. This is a specific form of social or political opposition, which has some characteristics:

Ethnic divisions are visible in opposing groups;

Parties seek assistance in an ethnically related or ethnically friendly environment;

In some types of ethnic conflicts, the ethnic factor tends to become politicized;

New participants, even if this position is not close to them, get to know one of the participants of the conflict on the basis of common ethnic identity;

Ethnic conflicts are often not based on values and arise around the interests of specific objects and groups[4].

Conflicts are a process that is characteristic of any development, it is also expressed in inter-ethnic relations. The most important thing is to be able to see the causes, aspects and aspects that cause them and to solve them in a timely manner.

During the period of the former union, the mistakes made in the conduct of national politics, the lack of attention to the problems and the criminalization of any actions related to nationalism in the national issue, and drastic measures were taken, caused dire consequences.

As a result of not taking into account and adequately assessing the negative events accumulated in the national sphere for a long time, bloody events and processes took place in Georgia, Armenia, Azerbaijan, Chechnya and other republics [5].

Due to independence, fundamental qualitative changes taking place in all spheres of our society have created favorable conditions for improvement of relations between nations and nations [1]. At the same time, taking full advantage of them, a lot of positive work is being done on a regular basis to eliminate all existing problems in the field of national and inter-ethnic relations.

The creation and improvement of the legal foundations of the legal, democratic state and civil society in the Republic of Uzbekistan, the goodwill of foreign countries to the reforms implemented in our country, the changes implemented in all spheres of our life create favorable conditions for the improvement of national and inter-national relations [2].

Taking full advantage of them, it is important to immediately identify all existing problems in the field of national and inter-ethnic relations and develop mechanisms for their elimination.

In solving problems in the field of national and inter-ethnic relations, it is very important to take into account the ethnic-population situation in the region, the poly-ethnic structure of the population, the demographic situation and migration processes.

According to the data, the number of permanent population of Uzbekistan reached 35.121 million people as of January 1, 2021, which increased by 545.8 thousand people or 1.7% compared to the beginning of the year[7]. In particular, the number of urban population was 16,238 million people (50.6% of the total population), and the number of rural population was 15,882 million people (49.4% of the total population). During the year, the number of people who immigrated to the republic was 141.7 thousand, and the number of people who emigrated was 168.3 thousand. The migration balance was minus 26.6 thousand people (in 2015 it was minus 29.3 thousand people)[7]. A high level of migration balance was recorded in Tashkent, Samarkand regions and the Republic of Karakalpakstan.

The analysis of migration processes shows that state and civil society institutions should jointly develop a "roadmap" for the solution of socio-economic problems, the main focus of which is to provide employment to the unemployed, legally regulate the activity of the labor market, and compile a list of the population who are able to work but are unemployed. , it is necessary to pay attention to such things as determining the dynamics of unemployment in the regional section and developing the production infrastructure at the same time[2].

In the context of the democratization of society, in the process of improving inter-ethnic relations, such urgent issues as preserving internal national unity, fighting against modern threats, and protecting our future youth from foreign ideas are on the agenda.

Today, within the framework of the idea of "Uzbekistan-our common home", wide-ranging practical activities are being implemented [3]. In these processes, 138 national cultural centers and

34 societies of friendship with foreign countries, operating under the Committee on International Relations and Friendship with Foreign Countries under the Cabinet of Ministers of the Republic of Uzbekistan, play an important role[2].

The needs of nations for mother tongue education are being met. It is based on the principles of social justice in matters of selection and placement of personnel, distribution of culture and spiritual wealth. Newspapers, books, textbooks, training manuals and other literature are published in national languages. Taking into account the needs of many nationalities, television programs and radio broadcasts are being expanded, and national cultural centers are being opened.

«Teaching in state educational institutions is conducted in 7 languages, says Sh. Mirziyoev, - The National Broadcasting Company of Uzbekistan broadcasts its programs in 12 languages, newspapers and magazines are published in more than ten languages."[3].

Identifying national needs in time and providing them in practice is of great importance in preventing the emergence of conflicts.

A deep and comprehensive analysis of the origins and causes of social conflicts in society is an important factor in their elimination.

The democratization of society created a new approach to social conflicts. They consist of:

First of all, he clearly showed the real conflicts, their causes and the ways to eliminate them in all aspects of the democratization of the society, as well as in the field of national and inter-ethnic relations.

Social conflicts are distinguished by their variety and diversity. They are clearly manifested in the sphere of economy, social and national relations, ideological life, as well as in the sphere of culture [5]. In each of these areas, it is important to analyze the scope and manifestation of conflicts.

Secondly, conflicts in society, despite their diversity, do not exist in isolation from each other, but they are related to each other and refine each other. These conflicts and negative processes in the development of productive forces have a direct impact on the aggravation of conflicts in the social sphere.

Conflicts in the social, especially inter-ethnic sphere, in turn, affect the political, economic, and spiritual life of the society, and erode the high moral values characteristic of our nation [3]. As a result, interest in public works fades, indifference that does not correspond to our moral values and other negative processes occur.

Thirdly, conflicts in the field of inter-ethnic relations are also manifested in the activities of people acting in the direction of certain goals and interests. The connection of social conflicts with people's activities, on the one hand, shows their dense subjective side, and on the other hand, the objective side of conflicts.

Inter-ethnic conflict is a form of relations between national units, and it is a process that characterizes the open confrontation and conflict between peoples, nations and peoples, and these conflicts can create the danger of turning into armed conflicts and even open war [5].

The origin of inter-ethnic conflicts is the uneven socio-economic development of the countries of the world, the economic and social backwardness of most countries, the carelessness or deliberate extremist policies of some state leaders, the wrongly implemented policy of forced relocation of some ethnic units, the wrong approaches of some countries in solving national issues, independent factors such as exterminations deliberately organized by "third forces" to draw countries into a vortex of ethnic conflicts[1].

Reflecting on the nature of conflicts, L.S. Sanisteban emphasizes the need to distinguish between conflicts that undermine the foundations of society and those that do not [6].

Agreeing with his opinion, such conflicts can be included only conflicts formed on the basis of social needs and political goals, ethno-confessional and inter-clan conflicts, "managed" conflicts deliberately created for the realization of geopolitical goals.

Consensus plays an important role in resolving social conflicts, including conflicts in the field of inter-ethnic relations. "Consensus" is a Latin word that means "agreement", "unanimity". Consensus is one of the ways to resolve conflicts between opposing forces, parties, social groups,

parties, movements based on common interests [4]. Consensus can serve as a basis for determining mutual agreements, agreements, and mutual obligations in the future.

An important form of consensus is dialogue and round-table discussions, which are widely used to resolve conflicts between different political forces[6]. Another feature of consensus is that it creates an opportunity to eliminate social conflicts by holding referendums (general votes) and discussing draft laws on political, economic, spiritual and other issues important to our society through mass media.

In our opinion, one of the important conditions for achieving peace of citizens of different nationalities is the dialogue between all levels of the people, between different parties and social groups, mass movements. Communication is necessary as a base and foundation of unity. Knowing how to listen and being heard is a virtue of civilized people.

In order for dialogue to be effective, not only activists (scientists, publicists, writers, propagandists, etc.), but also parties and movements, state, organization leaders, and civil society institutions must participate in it [2].

«We have every right to say that 2017 was the year when a new system was created to communicate closely with the people, to effectively solve their pains, concerns, and life problems, Sh.M. Mirziyoev notes, - the basis of this system is the People's Reception Rooms of the President of the Republic of Uzbekistan and the Virtual reception office is proving itself in practice as a unique democratic institution for working with citizens' appeals".[2]

Improving the mechanisms of communication with the people in the process of state administration, this is not unanimity and approval of everything with one voice, but getting rid of the features of rigid thinking and one-sidedness, forming the unity of the state and the people based on the diversity and diversity of opinions, serves to strengthen the trust of the population in the state and society.

Another important factor in ensuring civil peace in society is trust in the authorities [3]. A sufficient level of trust in the authorities is an important factor for any reform to have a positive result, and at the same time, it strengthens the sense of responsibility of the citizens for the fate of the state and society.

In order to eliminate conflicts in the field of international relations, attention should be paid to the following:

- Taking into account that conflicts are formed on the basis of unsatisfied needs in most cases, it is appropriate to establish an effective monitoring service at the republic level to identify needs in time.

- In order to prevent conflicts, it is important to form a sense of national consciousness and national pride in everyone, and especially in young people. In this regard, it is important to pay special attention to the issue of national education, to form high human qualities with the help of interactive methods.

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Rezyume: Ushbu maqolada jamiyatda yuzaga kelayotgan ijtimoiy ziddiyatlarning kelib chiqishi va sabablarining chuqur va har tomonlama tahlil qilinishi ularni barataraf etishning muhim omillari va ijtimoiy ziddiyatlarga yangicha yondashish imkoniyatlari yoritilgan.

Резюме: В данной статье представлен глубокий и всесторонний анализ истоков и причин социальных конфликтов, возникающих в обществе, освещаются важные факторы их преодоления и возможности нового подхода к социальным конфликтам.

Kalit so'zlar: ziddiyat, qarama-qarshiliklar, etnos, millatlararo munosabatlar, millatlararo ziddiyat, etnik nizo, ijtimoiy guruhlar, vayronkor kuchlar, etnik belgilar, migratsiya jarayonlari.

Ключевые слова: конфликт, противоречия, этнос, межнациональные отношения, межнациональный конфликт, этнический конфликт, социальные группы, деструктивные силы, этнические признаки, миграционные процессы.

**FEATURES OF CRIMINAL LIABILITY FOR THE PURCHASE OR SALE OF
PROPERTY FOUND BY CRIME**

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Summary: *The article discusses the most common crimes among crimes not related to the theft of other people's property today - topical issues of committing actions to acquire or transfer property obtained by criminal means.*

Keywords: *crime, property, other people's property, acquisition or transfer of property obtained by criminal means, robbery, property obtained by criminal means.*

In our country, a number of legal acts have been adopted on the issue of criminal liability for the acquisition or transfer of property obtained by criminal means. First of all, we consider it expedient to consider crimes that are not related to the theft of another's property. At the same time, one of the main sources is, of course, "crimes not related to theft of property", which is reflected in the Criminal Code of the Republic of Uzbekistan. This, in turn, includes Article 171, entitled "Economic Offenses". Currently, especially in developed countries, crimes that are not related to theft of property, the acquisition or transfer of property obtained by criminal means, crimes committed in the economic sphere are relevant. When considering this topical issue, first of all, when considering the general content of crimes not related to the theft of other people's property, we will dwell on the concept and content of the acquisition or transfer of property obtained by criminal means. In research work, the damage caused to the state or citizens as a result of economic crimes can be caused not only as a result of theft of someone else's property, but also not related to the illegal possession of someone else's property.

Although there are no cases of direct acquisition or transfer of property, this action has a negative impact on all sectors of the country, creating a serious threat to the illegality of property relations and the property integrity of citizens.

Many of our domestic jurists on criminal liability for the acquisition or transfer of property obtained by criminal means characterize it as "a socially dangerous act of encroachment on property in the absence of signs of theft" [1. B. B. 329.].

In addition to the above point of view, property relations are unambiguously damaged as a result of the commission of crimes not related to the theft of other people's property. At the same time, crimes not related to the theft of other people's property - the Criminal Code of the Russian Federation, causing damage to or destruction of property of enterprises, institutions and organizations, individuals and legal entities, even if signs of looting are not directly visible in the actions of the guilty person Prohibited criminal socially dangerous act (action or inaction).

It was not related to the looting of other people's property. If the special object of the crime is social relations in this economic sphere, its direct object-property relations is a regulatory social relationship.

It was not related to the looting of other people's property by law of the objective party to the commission of the crime is characterized by an action or inaction that may encroach on the interests of the protected. This type of certain consequences as necessary signs of crimes is required to occur (materially) or does not imply the occurrence of such consequences (formal order).

It was not related to the looting of other people's property

socially dangerous acts committed in crimes as well as criminal

it is important to determine the causal link between the outcome. Each case where the causal link is not identified means that the crime structure under analysis does not exist. These types of crimes are committed as a result of intentional negligence on the part of the subject. Most of the elements of the crime under consideration are committed in the form of intent to commit a crime (Articles 170 - 171, 173 of the Criminal Code), except that the crime provided for in Article 172 of

the Criminal Code is committed in the form of negligence. The subject of these crimes can be any person over 16 years of age. Only the age of the subject of the crime provided for in the second and third parts of Article 173 of the Criminal Code is set at 14 years. In the crime specified in Article 172 of the Criminal Code, in addition to identifying the general features of the subject, it is also necessary to identify its additional features provided by law. The subject of this crime is the person charged with the obligation to protect the property.

Among the crimes not related to the looting of other people's property, the most common crime is the acquisition or transfer of criminally obtained property, and Article 171 of the current Criminal Code provides for liability for such acts.

Before analyzing this norm, we consider it expedient to clarify the following concepts. Property, criminally acquired property is the acquisition or transfer of property obtained by criminal means.

The role of people in the creation, distribution and consumption of material goods, the position they occupy in political life, mainly vol. Ch. depending on the ownership of the funds. In the history of the development of society, there are several types of ownership according to the form of ownership: under the primitive collective system, the productive forces were very poorly developed, so people worked together, in groups. It is clear that under such conditions the instruments of labor and the products of labor were the common property of society. With the improvement of tools and labor skills, people began to work alone. As a result of this change, public property was fragmented and turned into private property. Private property is a form of property based on a private method of acquisition. It will be of 2 types:

1) individual - individual private property, that is, property belonging to individuals or families;

2) corporate private property, which is also property owned by individuals, but included in the common property in a joint-stock company. Corporate property is a property that yields dividends. The community is the common property of persons who voluntarily join the community, and the owners of this property are required to work in this community. Here, the owner of the property is also the actual user of that property. State property is state property, monopoly property, which is under the jurisdiction of state authorities. Such an object of ownership can be land, natural resources, fixed assets, buildings, finances, material resources, information, material and spiritual benefits. This property serves to create social benefits.

This content must be defined. Property is the possession and appropriation of material and spiritual goods by certain persons; property rights and economic relations between people on issues of ownership, division and distribution of property. The object of ownership may be land and underground resources, enterprises, buildings, structures, machinery and equipment, finished products, money, securities, works of art and literature, scientific and technical developments. Those who really use material and spiritual benefits are the subjects of property, i.e. their owners. These include individuals, families, communities and, ultimately, the state. Getting benefit from the use of property in practice is the economic use of property.

The right of ownership refers to all items that have a certain value or do not lose their value upon its receipt and the acquisition of property rights to it, since they can be sold and acquired regardless of whether they are outside civil circulation or limited [2. S. 95-98.].

There are private and state forms of ownership (in accordance with Article 167 of the Civil Code of the Republic of Uzbekistan). The subjects of private property are citizens, cooperatives, business companies, societies, social funds and public associations, and other non-state entities. State property is state property, consisting of the property of administrative-territorial units (municipal property) [3].

In view of the above, the state has its own property wherever it exists, but the share of this property in the national economy is different from country to country and depends on the model of the country's economy. Within the framework of civil society, state property is becoming more and more social, that is, aimed at protecting national interests. Public property historically existed in the

former socialist countries. In this case, people are equal as owners, so the position of each in society, the standard of living is determined by his work.

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Rezyume: *Maqolada o'zgalarning mol-mulkini o'g'irlash bilan bog'liq bo'lmagan jinoyatlar orasida eng ko'p uchraydigan jinoyatlar, bugungi kunda jinoiy yo'l bilan olingan mol-mulkni olish yoki o'tkazish bo'yicha harakatlarni sodir etishning dolzarb masalalari ko'rib chiqiladi.*

Резюме: *В статье рассматриваются наиболее распространенные преступления среди преступлений, не связанных с хищением чужого имущества, на сегодняшний день - актуальные вопросы совершения действий по приобретению или передаче имущества, добытого преступным путем.*

Kalit so'zlar: *jinoyat, mulk, o'zgalarning mulki, jinoiy yo'l bilan olingan mol-mulkni qo'lga kiritish yoki o'tkazish, talonchilik, jinoiy yo'l bilan olingan mulk.*

Ключевые слова: *преступление, имущество, чужое имущество, приобретение или передача имущества, добытого преступным путем, разбой, имущество, добытое преступным путем.*