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INVESTIGATION OF THE HYPERBOLIC TYPE INTEGRO-DIFFERENTIAL EQUATION IN A SQUARE BY THE FOURIER METHOD

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Annotation*. A two-dimensional integro-differential wave equation in a bounded region is considered. First, the uniqueness of the solution of the direct problem is established using the completeness property of the system of eigenfunctions of the corresponding homogeneous Dirichlet problem for the Laplace operator, then the existence of a solution to the direct problem is proved.*

Methods. *To solve the problem, the method of separation of variables (Fourier method), Gronoullo's inequality, Bessel's inequality, and the method of estimating integrals are used.*

Results. *The paper investigates the solvability of the so-called direct problem — the initial-boundary value problem for an integro-differential wave equation in a quadratic domain, when the integral term integral kernel is a known function. The uniqueness theorem and the existence theorem for the problem posed are proved.*

Conclusion. *Summing up, we see that the two-dimensional integro-differential wave equation in the quadratic domain has a unique solution. To determine the unknown function, we apply the method of separation of variables. Using the completeness of the orthogonal system of eigenfunctions, the uniqueness theorem is proved, and in order to show we prove the uniform convergence of the functional series representing the solution of the problem.*

Keywords. *Integro-differential equation, Fourier method, eigenfunctions, eigenvalues, Gronoullo's inequality.*

1. Introduction and problem statement

Integro-differential equations include such functional equations in which the unknown function and its derivatives are both under the integral sign and can be outside it. Mathematical description of laws.

Mathematical modeling of many processes occurring in the real world often leads to the study of initial and boundary value problems for equations that have no analogues in classical mathematical physics. The theory of initial and boundary value problems for partial differential equations, due to its applied importance, is currently one of the most important sections of the theory of differential equations. Problems of gas dynamics, elasticity theory, theory of plates and shells lead to integro-differential partial differential equations.

The functioning of such objects was proposed by V. Volterra in a series of articles [1] and a review [2] based on integral and integro-differential equations, which were later named after him, and remains relevant at the present time. A number of deep results on the correct solvability of first- and second-order Volterra integro-differential equations that are not solvable with respect to the highest derivative, as well as results on the spectrum of the corresponding operator-functions, were obtained by N.D. Kopachevsky and his students[3]–[5]. We also point out the work of L. Pandolfi [6] in which the problem for an equation of the Gurtin-Pipkin type was studied. In [7] and [8], the problems of solvability of the integro-differential equation and the viscoelasticity equation in a domain bounded in a variable (on a segment) are studied.

Various formulations and studies of inverse problems for integro-differential equations in partial derivatives of the second order can be found in [9]-[14]. In particular, in [9]--[11] one-dimensional problems of finding the kernel included in the integro - differential equation with a delta function on the right side, or on the boundary condition. For the problems posed in these papers, existence and uniqueness theorems are proved, and stability estimates are obtained based on the contraction mapping principle. In works [12]-[14] for multidimensional inverse problems of finding the kernel in second-order hyperbolic integro-differential

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equations, theorems of unique local solvability were proved in the class of analytic functions in space and continuous in time variables.

In this paper, we study the solvability of a two-dimensional integro-differential wave equation in a bounded domain (squared).

We consider an integro-differenatial equation in the domain $D = \Omega \times (0,T), \quad \Omega = \{(x,y): 0 < x < l, 0 < y < l\}$

$$u_{tt} - \Delta u = \int_0^t h(\tau) u(x,y,t-\tau) d\tau, \tag{1.1}$$

with initial

$$u|_{t=0} = 0, \quad u_t|_{t=0} = \psi(x,y), \quad 0 \le x, \le l, \ 0 \le y \le l \tag{1.2}$$

and boundary conditions

$$u|_{x=0} = 0, \quad u|_{x=l} = 0, \quad 0 \le y \le l, \quad 0 \le t \le T, \tag{1.3}$$

$$u|_{y=0} = 0, \quad u|_{y=l} = 0, \quad 0 \le x \le l, \quad 0 \le t \le T, \tag{1.4}$$

where $\psi(x,y)$ is the given function.

Finding a function $u(x,y,t)((x,y,t) \in D),$ with a known $h(t)$ one is called a direct problem.

The inverse problem is to determine the unknown coefficient $h(t), t > 0,$ from the available additional information about the solution of the direct problem

$$u(x_0, y_0, t) = f(t), \quad 0 \le t \le T, \tag{1.5}$$

where (x_0, y_0) is a fixed point belonging to $D,$ $f(t)$ is a given function.

In this article, we will study only the direct problem.

2. Metods and results.

Before proceeding to the study of the problem, consider the following auxiliary problem for the function $v(x,y)$:

$$\Delta v + \lambda^2 v = 0, (x, y \in \Omega,)$$

$$v|_{x=0} = 0, \quad v|_{x=l} = 0, \quad v|_{y=0} = 0, \quad v|_{y=l} = 0.$$

Using the Fourier method, we are looking for non-trivial solutions to this problem, which can be represented as $v(x,y) = X(x)Y(y).$ Substituting the function $v(x,y),$ into the equation, dividing the variables, we get:

$$\frac{X''(x)}{X(x)} = -\lambda - \frac{Y''(y)}{Y(y)} = -\mu.$$

Hence, taking into account the boundary conditions, we obtain the following two problems

$$X''(x) = -\mu X(x), \quad X(0) = X(l) = 0;$$

$$Y''(y) = -\nu Y(y), \quad Y(0) = Y(l) = 0.$$

Thus, we have obtained two Sturm-Liouville problems on a segment. In the second equation, the difference $\lambda - \mu.$ is denoted by ν. It is known that [15] the eigenfunctions and the corresponding eigenvalues of these problems have the form:

$$X_m(x) = \sqrt{\frac{2}{l}} \sin \lambda_m x, \quad \lambda_m = \frac{\pi m}{l}, \qquad Y_n(y) = \sqrt{\frac{2}{l}} \sin \lambda_n y, \quad \lambda_n = \frac{\pi n}{l}.$$

Hence,

$$v_{mn}(x,y) = \frac{2}{l} \sin \lambda_m x \sin \lambda_n y, \tag{2.1}$$

$$\lambda_{mn}^2 = \lambda_m^2 + \lambda_n^2; \qquad m, n \in N.$$

Theorem 2.1. *If problem (1.1)-(1.4) has a solution such that:*

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$$\lim_{x\to 0+} u_x \sin\lambda_m x = \lim_{x\to l-} u_x \sin\lambda_m x = 0, \qquad 0\le y\le l, \qquad 0\le t\le T; \tag{2.2}$$

$$\lim_{y\to 0+} u_y \sin\lambda_n y = \lim_{y\to l-} u_y \sin\lambda_n y = 0, \qquad 0\le x\le l, \qquad 0\le t\le T, \tag{2.3}$$

then this solution is unique.

Proof. Let a function $u(x,y,t)$ be a solution to problem (1.1)–(1.4) satisfying conditions (2.2) and (2.3). Let us introduce into consideration, as in [16], the following integral:

$$u_{mn}(t) = \iint_{\Omega} u(x,y,t)v_{mn}(x,y)dxdy. \tag{2.4}$$

Denote by $u_{mn}^{\varepsilon,\delta}(t)$ the integral over the region $\Omega^{\varepsilon\theta} = \{(x,y): \varepsilon\le x\le l-\varepsilon, \theta\le y\le l-\theta\}$:

$$u_{mn}^{\varepsilon,\theta}(t) = \iint_{\Omega^{\varepsilon\theta}} u(x,y,t)v_{mn}(x,y)dxdy, \tag{2.5}$$

where $\varepsilon > 0$ and $\theta > 0-$ small enough real numbers.

Differentiating equation (2.5) two times with and using (1.1) we obtain:

$$\left(u_{mn}^{\varepsilon,\theta}(t)\right) = \iint_{\Omega^{\varepsilon\theta}} u_{tt}(x,y,t)v_{mn}(x,y)dxdy =$$

$$\iint_{\Omega^{\varepsilon\theta}} \left[\Delta u + \int_0^t h(\tau)u(x,y,t-\tau)d\tau\right] v_{mn}(x,y)dxdy =$$

$$\iint_{\Omega^{\varepsilon\theta}} u_{xx}v_{mk}(x,y)dxdy + \iint_{\Omega^{\varepsilon\theta}} u_{yy}v_{mn}(x,y)dxdy +$$

$$+ \iint_{\Omega^{\varepsilon\theta}} \left[\int_0^t h(\tau)u(x,y,t-\tau)d\tau\right] v_{mn}(x,y)dxdy. \tag{2.6}$$

Let 's introduce the notation:

$$J_1 = \iint_{\Omega^{\varepsilon\theta}} u_{xx}v_{mk}(x,y)dxdy,$$

$$J_2 = \iint_{\Omega^{\varepsilon\theta}} u_{yy}v_{mn}(x,y)dxdy,$$

$$G_{mn}^{\varepsilon\theta}(t) := \iint_{\Omega^{\varepsilon\theta}} \int_0^t h(\tau)u(x,y,t-\tau)v_{mn}(x,y)d\tau dxdy. \tag{2.7}$$

Integrating by parts the integrals J_1 (twice over x) and J_2 (twice over y), we have:

$$J_1 = \int_\theta^{l-\theta} dy \int_\varepsilon^{l-\varepsilon} u_{xx}v_{mn}(x,y)dx = \int_\theta^{l-\theta} dy \left(u_x v_{mn}(x,y)\,|_\varepsilon^{l-\varepsilon} - \int_\varepsilon^{l-\varepsilon} u_x \left(v_{mn}(x,y)\right)_x dx\right) =$$

$$\int_\theta^{l-\theta} dy \left(u_x v_{mn}(x,y)\,|_\varepsilon^{l-\varepsilon} - u(x,y,t)(v_{mn}(x,y))_x\,|_\varepsilon^{l-\varepsilon} + \int_\varepsilon^{l-\varepsilon} u(x,y,t)\left(v_{mn}(x,y)\right)_{xx} dx\right);$$

$$J_2 = \int_\varepsilon^{l-\varepsilon} dx \int_\theta^{l-\theta} u_{yy}v_{mn}(x,y)dy = \int_\varepsilon^{l-\varepsilon} dx \left(u_y v_{mn}(x,y)\,|_\theta^{l-\theta} - \int_\theta^{l-\theta} u_y \left(v_{mn}(x,y)\right)_y dy\right) =$$

$$\int_\varepsilon^{l-\varepsilon} dx \left(u_y v_{mn}(x,y)\,|_\theta^{l-\theta} - u(x,y,t)(v_{mk}(x,y))_y\,|_\theta^{l-\theta} + \int_\theta^{l-\theta} u(x,y,t)\left(v_{mn}(x,y)\right)_{yy} dy\right).$$

If in integrals and J_1 and J_2 passes to the limit at $\varepsilon\to 0, \theta\to 0$, then using formulas (1.3), (1.4), (2.1) and (2.2) from (2.6) we obtain:

$$u_{mn}''(t) = -\lambda_{mm}^2 \iint_{\Omega} u(x,y,t)v_{mn}(x,y)dxdy + G_{mn}(t) = -\lambda_{mn}^2 u_{mn}(t) + G_{mn}(t), \tag{2.8}$$

where

$$G_{mn}(t) := \iint_{\Omega} \int_0^t h(\tau)u(x,y,t-\tau)v_{mn}(x,y)d\tau dxdy. \tag{2.9}$$

Equation (2.8) is equivalent to the following integral equation:

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$$u_{mn}(t)=\frac{1}{\lambda_{mn}}\int_0^t \sin\lambda_{mn}(t-s)G_{mn}(s)ds+\left(C_{mn}^1\cos\lambda_{mn}t+C_{mn}^2\sin\lambda_{mn}t\right), \tag{2.10}$$

where $C_{mn}^i, i=1,2,$ arbitrary constants. Using the initial conditions (1.2) from formula (2.4) we obtain

$$u_{mn}(0)=\iint_\Omega u(x,y,0)v_{mn}(x,y)dxdy=\iint_\Omega 0\cdot v_{mn}(x,y)dxdy=0, \tag{2.11}$$

$$u'_{mn}(0)=\iint_\Omega u_t(x,y,0)v_{mn}(x,y)dxdy=\iint_\Omega \psi(x,y)v_{mn}(x,y)dxdy=\psi_{mn}, \tag{2.12}$$

From (2.10),(2.11) and (2.12) it follows that $C_{mn}^1=0, C_{mn}^2=\frac{1}{\lambda_{mn}}\psi_{mn}$. Thus (2.10) can be written as follows:

$$u_{mn}(t)=\frac{1}{\lambda_{mn}}\psi_{mn}\sin\lambda_{mn}t+\frac{1}{\lambda_{mn}}\int_0^t \sin\lambda_{mn}(t-s)G_{mn}(s)ds, \tag{2.13}$$

Hence it follows that the solution to problem (1.1)–(1.4) is unique, because for $\psi(x,y)\equiv 0$ we obtain the identities $\psi_{mn}\equiv 0$. Then it follows from formula (2.13) that $u_{mn}\equiv 0$, u_{mn} since it is a solution of the homogeneous equation:

$$u_{mn}(t)=\frac{1}{\lambda_{mn}}\int_0^t u_{mn}(\tau)d\tau\int_0^{t-\tau}\sin\lambda_{mn}(t-\tau-s)k(s)ds.$$

Substituting $u_{mn}\equiv 0$ into equality (2.4) we obtain

$$\iint_\Omega u(x,y,t)v_{mn}(x,y)dxdy=0.$$

Since the system v_{mn} is complete in the space $L_2(\Omega)$, the function $u(x,y,t)=0$ is almost everywhere in Ω and for any $t\in[0,T]$. Since the function $u(x,y,t)\in C^2(D_{Tl})$ we conclude that $u(x,y,t)\equiv 0$ on D. Thus, we have proved the uniqueness of the solution of problem (1.1)–(1.4).

Here it should be noted that the conditions (2.2) and (2.3) mean that the derivatives u_x, u_y can have singularities of order less than unity near the corresponding faces of the parallelepiped D. Before turning to proving the existence of a solution, we prove the following two lemmas.

Here we present Gronwall's lemma, which we will refer to in the future.

Lemma 2.1. *Let* $u(t)\ge 0$ *and* $f(t)\ge 0$ *at* $t\ge t_0$ *and* $u(t), f(t)\in C[t_0,\infty)$ *at* $t\ge t_0$ *the inequality is fulfilled*

$$u(t)\le c+\int_{t_0}^t f(\tau)u(\tau)d\tau,$$

where $c-$ *is a positive constant. Then, when* $t\ge t_0$ *there is an inequality*

$$u(t)\le \exp\int_{t_0}^t f(\tau)d\tau.$$

The proof of this lemma can be found in many books, for example [17], [18].

3. Discussion.

Lemma 3.1. *For sufficiently large and, the following estimates hold:*

$$|u_{mn}|\le H_1\left(\frac{1}{\lambda_{mn}}|\psi_{mn}|+\frac{1}{\lambda_{mn}}|G_{mn}(t)|\right), t\in[0,T], \tag{3.1}$$

$$|u''_{mn}|\le H_2\left(\lambda_{mn}^2|\psi_{mn}|+\lambda_{mn}|G_{mn}(t)|\right), t\in[0,T], \tag{3.2}$$

where H_1, H_2- constants that depend only on T.

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Proof. Changing the order of integration into expression (2.9), we get

$$G_{mn}(t) := \iiint_{\Omega}\int_0^t h(\tau)u(x,y,t-\tau)v_{mn}(x,y)d\tau dxdy = \int_0^t h(t-\tau)d\tau \iint_{\Omega} u(x,y,\tau)v_{mn}(x,y)dxdy =$$

$$= \int_0^t h(t-\tau)u_{mn}(\tau)d\tau.$$

Then the expression for takes the form:

$$u_{mn}(t) = \frac{1}{\lambda_{mn}}\psi_{mn}\sin\lambda_{mn}t + \frac{1}{\lambda_{mn}}\int_0^t \sin\lambda_{mn}(t-s)ds\int_0^s h(s-\tau)u_{mn}(\tau)d\tau\,.$$

From here,

$$|u_{mn}(t)| \le \frac{1}{\lambda_{mn}}|\psi_{mn}| + \frac{1}{\lambda_{mn}}\int_0^t ds\int_0^s |h(s-\tau)u_{mn}(\tau)|\,d\tau.$$

Next, using the Gronwall inequality, we obtain the estimate (3.1). To obtain the estimate (3.2), we differentiate (2.13) and the resulting expression will be evaluated in the same way. The lemma is proved.

Lemma 3.2. *If* $\psi(x,y) \in C^2(\overline{\Omega})$ *and the conditions of the*

$$\psi(0,y) = \psi(l,y) = 0,\ 0 \le y \le l,\ \psi(x,0) = \psi(x,l) = 0,\ 0 \le x \le l, \tag{3.3}$$

are satisfied, then the following representations take place:

$$\psi_{mn} = \frac{\psi_{mn}^{(2)}}{\lambda_m\lambda_n}, \tag{3.4}$$

here $\psi_{mn}^{(2)}-$ function expansion coefficients $\psi_{xy}(x,y)$ in a Fourier series with respect to the system of functions $\{\frac{1}{l},\frac{2}{l}\cos\lambda_m x\cos\nu_n y\}, m \ge 0, n \ge 0$ such that

$$\sum_{m,n=1}^{\infty} |\psi_{mn}^{(2)}|^2 \le \iint_{\Omega}\left(\psi_{xy}(x,y)\right)^2 dxdy, \tag{3.5}$$

Proof. Integrating equations (2.12) by parts twice (once over X and once over Y), taking into account conditions (3.3), we obtain formulas (3.4). Inequality (3.5) are the Bessel inequalities with respect to the orthonormal system

$$\left\{\frac{1}{l},\frac{2}{l}\cos\lambda_m x\cos\lambda_n y\right\}, m \ge 0, n \ge 0.$$

The lemma is proven.

In the future we will deal with double Fourier series. Therefore, we present some facts about these rows.

Definition. A double series $u(x,y,t) = \sum_{m,n=1}^{\infty} c_{mn}g_{mn}(x,y)$ is called a double Fourier series of a function $f(x,y)$, by a system of functions $g_{mn}(x,y)$.

The coefficients (Fourier) of this series are determined by the formula:

$$c_{mn} = \iint_{\Omega} f(x,y)g_{mn}(x,y)dxdy.$$

Various systems of functions $g_{mn}(x,y)$ can be taken as an orthonormal system when decomposing functions into a double Fourier series. In particular, we can take an orthonormal system of trigonometric functions. The resulting double Fourier series is called a trigonometric double Fourier series.

Next, we will talk only about such double Fourier series. The question of the convergence of the double Fourier series of a function to this function $f(x,y)$ is quite complicated. Its solution resembles the solution of the convergence of a simple Fourier series. We will confine ourselves to pointing out some sufficient conditions for the convergence of the Fourier series at a point (x,y) to the value of the function $f(x,y)$ at this point:

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1) The first partial derivatives exist and are bounded everywhere $\frac{\partial f}{\partial x}$ and $\frac{\partial f}{\partial y}$.

2) In some neighborhood of a point (x, y) there is a second mixed derivative $\frac{\partial^2 f}{\partial x \partial y}$ or $\frac{\partial^2 f}{\partial y \partial x}$ continuous at this point.

It should be noted that in some cases, Bessel functions are taken as an orthonormal system when decomposing functions into a double Fourier series. In [19], Fourier–Bessel series are used.

Many formal properties of simple Fourier series are preserved with appropriate reformulations and for double Fourier series [20]. So, you can "shift" the rectangle of the decomposition of the function along the coordinate axes, as well as change the lengths of its sides.

The solution of problem (1.1)–(1.4) will be sought in the form of a double Fourier series

$$u(x,y,t) = \sum_{m,n=1}^{\infty} u_{mn}(t) v_{mn}(x,y). \tag{3.6}$$

Formally differentiating the series (3.6) term by term, we obtain the following series,

$$u_{tt} = \sum_{m,n=1}^{\infty} u''_{mn}(t) v_{mn}(x,y), \tag{3.7}$$

$$u_{xx} = \sum_{m,n=1}^{\infty} \lambda_m^2 u_{mn}(t) v_{mn}(x,y), \tag{3.8}$$

$$u_{yy} = \sum_{m,n=1}^{\infty} \lambda_n^2 u_{mn}(t) v_{mn}(x,y). \tag{3.9}$$

The series obtained by Lemma 3.1 are majorized by the numerical series:

$$\sum_{m,n=1}^{\infty} H_3 \left(\lambda_{mn} |\psi_{mn}| + \lambda_{mn} |g_{mn}(t_0)| \right). \tag{3.10}$$

Lemma 3.3. *Let* $\psi(x,y) \in C^3(\overline{\Omega})$ *besides*

$$\psi(0,y) = \psi_{xx}(0,y) = \psi(l,y) = \psi_{xx}(l,y),\ 0 \le y \le l,$$
$$\psi(x,0) = \psi_{yy}(x,0) = \psi(x,l) = \psi_{yy}(x,l),\ 0 \le x \le l.$$

Then we get the following representations for the $|\psi_{mn}|$

$$|\psi_{mn}| = \frac{|\psi_{mn}^{(3,0)}| + 3|\psi_{mn}^{(2,1)}| + 3|\psi_{mn}^{(1,2)}| + |\psi_{mn}^{(0,3)}|}{(\frac{\pi}{l})^3 (m+n)^3} = \frac{1}{(\frac{\pi}{l})^3 (m+n)^3} \sum_{i+j=3} \binom{3}{j} |\psi_{mn}^{(i,j)}|, \tag{3.11}$$

and hence,

$$\sum_{m,n=1}^{\infty} |\psi_{mn}^{(i,j)}|^2 \le \iint_{\Omega} \left(\frac{\partial^3 \psi(x,y)}{\partial x^i \partial y^j} \right)^2 dxdy,\ i + j = 3, \tag{3.12}$$

where

$$\psi_{mn}^{(2,1)} = -\frac{2}{l} \iint_{\Omega} \psi_{xxy}^{(2,1)}(x,y) \sin \lambda_m x \cos \nu_n y dxdy,$$
$$\psi_{mn}^{(1,2)} = -\frac{2}{l} \iint_{\Omega} \psi_{xyy}^{(1,2)}(x,y) \cos \lambda_m x \sin \nu_n y dxdy,$$
$$\psi_{mn}^{(0,3)} = -\frac{2}{l} \iint_{\Omega} \psi_{yyy}^{(3)}(x,y) \sin \lambda_m x \cos \nu_n y dxdy.$$

Proof. Integrating (2.12) by parts (2.12) three times over the x, taking into account the conditions of the lemma, we obtain

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$$\lambda_m^3 \psi_{mn} = \frac{2}{l} \iint_{\Omega} \psi_{xxx}^{(3)}(x,y) \sin \lambda_m x \sin \lambda_n y dxdy = \psi_{mn}^{(3,0)}.$$

Integrating by parts (2.12) twice over X and once over Y (once over X twice over Y, etc.), using the conditions of the lemma, we have

$$\psi_{mn}^{(2,1)} = \lambda_m^2 \lambda_n \psi_{mn},$$
$$\psi_{mn}^{(1,2)} = \lambda_m \lambda_n^2 \psi_{mn},$$
$$\varphi_{mn}^{(0,3)} = \lambda_n^3 \psi_{mn}.$$

Substituting these expressions into the right side of (3.11), we are convinced that this equality is correct. Inequality (3.12) are the Bessel inequalities.

The lemma is proven.

Relations (3.11)–(3.12) imply the convergence of series (3.10). Therefore, the series (3.7)–(3.9) converge uniformly.

Thus, we have proved the following theorem.

Theorem 2.2. *Let* $h(t) \in C[0,T]$. *If the* $\psi(x,y)$ *function satisfies the conditions of Lemma 3.3, then there exists a unique solution to problem (1.1)–(1.4).*

4. Conclusion

In this paper, we investigate direct two dimensional spatial dependent source problems for a two-dimensional integro-differential wave equation. The existence and uniqueness for the direct problem is proved. The method of separation of variables are used to solve the problems. The conditions of unique solvability of a solution to the direct problem are obtained.

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ОБРАТНАЯ ЗАДАЧА ДЛЯ ПСЕВДОПАРАБОЛИЧЕСКИХ ИНТЕГРО-ДИФФЕРЕНЦИАЛЬНЫХ УРАВНЕНИЙ

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Аннотация. *В данной работе рассматриваются нелинейные обратные задачи для псевдопараболического интегро-дифференциального уравнения. Доказываются соответствующие теоремы об однозначной разрешимости рассматриваемых обратных задач. Задача нахождения ядра интегрального члена псевдопараболического интегро-дифференциального уравнения распределения теплоты относится к области обратных задач математической физики, и в данной статье рассматривается задача нахождения ядра, зависящего от временной переменной t под интегралом. Задача Коши для уравнения теплопереноса считается корректной.*

Полученные результаты. *В данной работе получена теорема существования и единственности решения обратной задачи по определению ядра интегрального члена псевдопараболического интегро-дифференциального уравнения с условием переопределения во внутренней точке отрезка.*

Обсуждение*. Изучение прямых и обратных задач, поставленных для задачи Коши, является одним из передовых критических и бурно развивающихся направлений мировой науки. Их численная реализация даёт прикладное применение для изучения этих задач. В данной работе теоретически исследуется задача Коши, поставленная для модельного псевдопараболического интегро-дифференциального уравнения. Доказана теорема существования и единственности прямых и обратных задач.*

Ключевые слова: *обратная задача, псевдопараболическое уравнение, уравнение Вольтерра, условия переопределения, интегро-дифференциал, однородное уравнение*

INVERSE PROBLEM FOR PSEUDOPARABOLIC INTEGRODIFFERENTIAL EQUATIONS

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Annotation. *In this paper, we consider nonlinear inverse problems for a pseudo-parabolic integro-differential equation. The corresponding theorems on the unique solvability of the considered inverse problems are proved. The problem of finding the kernel of the integral term of the pseudoparabolic integro-differential heat distribution equation belongs to the field of inverse problems of mathematical physics, and in this article the problem of finding the kernel that depends on the time variable t under the integral is studied. The Cauchy problem for the heat transfer equation is considered correct.*

Results. *In this paper, we obtain an existence and uniqueness theorem for the solution of the inverse problem of determining the kernel of the integral term of a pseudoparabolic integro-differential equation with the overdetermination condition at an interior point of a segment.*

Discussions. *The study of direct and inverse problems posed for the Cauchy problem is one of the advanced critical and rapidly developing areas of world science. Their numerical implementation provides an applied application for studying these problems. In this theoretical paper, we study the Cauchy problem posed for a model pseudo-parabolic integro-differential equation. The theorem of existence and uniqueness of direct and inverse problems is proved.*

Keywords: *inverse problem, pseudoparabolic equation, Volterra equation, redefinition conditions. integro-differential, homogeneous equation*

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PSEVDOPARABOLIK INTEGRODIFFERENTSIAL TENGLAMALAR UCHUN TESKARI MASALA

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Annotatsiya. *Ushbu maqolada biz psevdoparabolik integrodifferensial tenglama uchun chiziqli bo'lmagan teskari muammolarni ko'rib chiqamiz. Ko'rib chiqilayotgan teskari masalalarning yagona yechilishi haqidagi tegishli teoremalar isbotlangan. Psevdoparabolik integro-differensial issiqlik tarqalish tenglamasi integral hadi yadrosini aniqlash masalasi matematik fizikaning teskari masalalar sohasiga tegishli bo’lib, ushbu maqolada integral ostidagi t vaqt o’zgaruvchiga bog’liq bo’lgan yadroni topish masalasi o’rganilgan. To’g’ri masala sifatida issiqlik o’tkazuvchanlik tenglamasi uchun Koshi masalasi qaralgan.*

Natijalar.*Ushbu ishda biz segmentning ichki nuqtasida ortiqcha aniqlanish sharti bilan psevdoparabolik integrodifferensial tenglamaning integral hadining yadrosini aniqlashning teskari masalasini hal qilish uchun mavjudlik va yagonalik teoremasini olamiz.*

Munozaralar. *Koshi muammosiga qo'yilgan to'g'ridan-to'g'ri va teskari muammolarni o'rganish jahon fanining ilg'or muhim va tez rivojlanayotgan yo'nalishlaridan biridir. Ularning raqamli amalga oshirilishi ushbu muammolarni o'rganish uchun amaliy dasturni taqdim etadi. Ushbu nazariy maqolada biz psevdoparabolik integrodifferensial tenglama uchun qo'yilgan Koshi muammosini o'rganamiz. To'g'ridan-to'g'ri va teskari masalalarning mavjudligi va yagonaligi teoremasi isbotlangan*

Kalit so'zlar: *teskari masala, psevdoparabolik tenglama, Volterra tenglamasi, qayta aniqlash shartlari, integrodifferensial, бир жинсли тенглама*

Известно немало случаев, когда потребности практики приводят к задачам определения коэффициентов или правой части дифференциального уравнения по некоторым известным данным от его решения. Такие задачи получили название обратных задач математической физики. Обратные задачи представляют собой активно развивающийся раздел современной математики [1]. Теория обратных задач для дифференциальных уравнений и различные методы их решения, а также современное состояние теории обратных задач с обширной библиографией отражены в монографиях А.Л.Бухгейма [2], С.И.Кабанихина [3], М.М.Лаврентьева, В.Г.Романова, С.П. Шишатский [4], Ю.Я.Белова [7] и Б.С.Аблабекова [9].

Вместе с тем, обратные задачи для псевдопараболических уравнений развиты слабее, чем для уравнений математической физики второго порядка. Объясняется это тем, что исследование обратных задач для дифференциальных уравнений тесно связано с решением соответствующей прямой задачи. А теория прямых задач для псевдопараболических уравнений ещё далека от завершения.

С другой стороны, псевдопараболическими уравнениями описываются многие процессы, например, уравнение вида [6]:

$$\frac{\partial u}{\partial t} = \frac{\partial}{\partial x}\left(D(u)\frac{\partial u}{\partial x}\right) + A\frac{\partial^3 u}{\partial x^2 \partial t},$$

описывает процесс капиллярных, где u −влажность в долях единицы, x −глубина, t −время, $D(u)$ −коэффициент диффузивности и A − варьируемый коэффициент.

Целью данной работы является доказательство теоремы существования и единственности решения обратной задачи определения ядра в псевдопараболическом интегро-дифференциальном уравнении третьего порядка с переопределениям во внутренней точке.

Исследование проводится в два этапа. Первый этап включает в себя приведение обратной задачи к интегральному уравнению типа Вольтерра с применением предварительных результатов соответствующих прямых задач. На втором этапе доказана теорема существования и единственности решения соответствующей обратной задачи.

Рассмотрим в области $Q_T := \{(x,t)\colon\ x \in R,\ t \in (0,T]\}$ псевдопараболическое интегро-дифференциальное уравнение

$$u_t - u_{xxt} - u_{xx} = \int_0^t k(t-\tau)(u_{xxt} + u_{xx})(x,\tau)d\tau. \qquad (1)$$

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Введём необходимые обозначения и пространства. Обозначим через $C_b(\bar{Q}_T)$ −банахово пространство непрерывных и ограниченных на $\bar{Q}_T$ функций с нормой $||v||_{C_b} = \sup\limits_{(x,t)\in\bar{Q}_T} |v(x,t)|$; $C_b^{(n,m)}$ − пространство функций $v(x,t)$ таких, что $\frac{\partial^{i+j}v}{\partial x^i \partial t^j} \in C_b$ для $0 \le i \le n, 0 \le j \le m$ с нормой:

$$||v||_{C_b^{(n,m)}} = \sum_{i=0}^{n}\sum_{j=0}^{m} ||\frac{\partial^{i+j}v}{\partial x^i \partial t^j}||_{C_b}$$

Задача Коши: Найти функцию $u(x,t)$, принадлежащую $C_b^{(2,1)}(\bar{Q}_T)$, удовлетворящую в классическом смысле уравнению (1), и начальное условие:

$$u(x,0) = u_0(x), \quad x \in R. \tag{2}$$

Обратная задача. Найти ядро $k(t),\ t \in [0,T]$, если решение задача Коши (1), (2) задано для фиксированного $x_0 \in R$:

$$u(x_0,t) = f(t),\ \ t \in [0,T]. \tag{3}$$

Уравнение (1) является интегральным уравнением Вольтерского типа второго рода относительно выражения $u_{xxt} + u_{xx}$. Поэтому мы преобразуем это уравнение так, чтобы оно не содержало под знаком интеграла выражение $u_{xxt} + u_{xx}$.

Нетрудно проверить прямыми вычислениями, что уравнение (1) имеет следующий эквивалентный вид [10]:

$$u_t - u_{xxt} - u_{xx} = r(0)u - u_0(x)r(t) + \int_0^t r'(t-\tau)u(x,\tau)\,d\tau, \tag{4}$$

где

$$r(t) = k(t) + \int_0^t k(t-\tau)r(\tau)d\tau. \tag{5}$$

Запишем уравнение (4) в виде:

$$u_t(x,t) - u_{xxt}(x,t) - u_{xx}(x,t) = f(x,t), \qquad (x,t) \in Q_T\,, \tag{6}$$

где через $f(x,t)$ обозначена правая часть уравнения (4).

Положим $v = u_t + u$. Тогда уравнение (6) имеет вид:

$$Lv \equiv -v_{xx} + v = u + f(x,t), \qquad (x,t) \in Q_T\,. \tag{7}$$

Известно, что [9] фундаментальное решение оператора L имеет вид:

$$\varepsilon(x) = \frac{1}{2}e^{-|x|}.$$

Если существует свёртка $\varepsilon * [u+f]$, то решение уравнения (7) даётся формулой:

$$u_t + u = \int_R \varepsilon(x-\xi)[u(\xi,t) + f(\xi,t)]d\xi\,. \tag{8}$$

И задача (4), (2) сводится к задаче Коши для интегро-дифференциального уравнения (8) с начальным условием (2), решение которого эквивалентно интегральному уравнению:

$$u(x,t) = e^{-t}u_0(x) + \frac{1}{2}\int_0^t d\tau \int_R e^{-|x-\xi|}\,e^{-(t-\tau)}[u(\xi,\tau) + f(\xi,\tau)]d\xi$$

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или

$$u(x,t) = e^{-t}u_0(x) + \frac{1}{2}\int_0^t d\tau \int_R e^{-|x-\xi|}\, e^{-(t-\tau)}[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi. \quad (9)$$

Таким образом, задача (1), (2) сведена к интегральному уравнению, решение которого естественно считать ограниченной функцией $u \in C_b(\bar{Q}_T)$.

Лемма 1. Пусть $r(t) \in C^1[0,T]$, $u_0(x) \in C_b(R)$. Тогда интегральное уравнение (9) имеет единственное решение, удовлетворяющее условую (2), такое, что $u(x,t) \in C_b(\bar{Q}_T)$.

Доказательство. Используем для этого метод последовательных приближений, представив $u(x,t)$ в виде:

$$u(x,t) = \sum_{n=0}^{\infty} u_n(x,t)\ , \quad (10)$$

где $u_n(x,t)$, $n \geq 1$ находятся по формулам:

$$u_n(x,t) = \frac{1}{2}\int_0^t d\tau \int_R e^{-|x-\xi|}\, e^{-(t-\tau)}[(r(0)+1)u_{n-1}(\xi,\tau) + \int_0^\tau r'(\tau-\alpha)u_{n-1}(\xi,\alpha)d\alpha]d\xi \quad (11)$$

$$u_0(x,t) = e^{-t}u_0(\xi) - \frac{1}{2}\int_0^t r(\tau)d(\tau)\int_R e^{-|x-\xi|}\, e^{-(t-\tau)}u_0(\xi)d\xi\ . \quad (12)$$

Обозначим $V_n(t) = \sup_{(x,t)\in\bar{Q}_T} |u_n(x,t)|$, $0 \leq t \leq T$. Тогда из (12), имеем:

$$V_0(t) = \sup_{x\in R}|u_0(x,t)| \leq Me^{-t} + r_0M(e^{-t}-1)\,. \quad (13)$$

Далее,

$$V_n(t) = \sup_{x\in R}|u_n(x,t)| \leq r_{00}\int_0^t e^{-(t-\tau)}\, V_{n-1}(\tau)d\tau, \quad 0 \leq t \leq T\,, \quad (14)$$

где $M = \sup_{x\in R}|u_0(x)|$, $r_{00} := ||r||_{C^1[0,T]} + T + 1$.

Здесь мы учли равенство $\frac{1}{2}\int_R e^{-|x-\xi|}d\xi = 1$.

Применяя оценку (14) последовательно для $n = 1,2,\ldots$, получим

$|V_1(\tau)| \leq r_{00}\ \int_0^t e^{-(t-\tau)}V_0(\tau)d\tau \leq$

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$$\leq r_{00}\int_0^t e^{-(t-\tau)}\left(Me^{-\tau}+Mr_0(e^{-\tau}-1)\right)d\tau = r_{00}M\int_0^t e^{-t}\,d\tau +$$

$$+ r_{00}Mr_0\int_0^t e^{-t}d\tau - Mr_0r_{00}\int_0^t e^{-(t-\tau)}d\tau =$$

$$= r_{00}Me^{-t}\tau|_0^t + r_{00}Mr_0e^{-t}\tau\left|_0^t - Mr_0r_{00}e^{\tau-t}\right|_0^t =$$

$$= r_{00}Me^{-t}t + r_0r_{00}Mte^{-t} - Mr_0r_{00}(1-e^{-t}) = Mte^{-t} + Nte^{-t} + N(e^{-t}-1),$$

$$|V_2(t)| \leq r_{00}\int_0^t e^{-(t-\tau)}V_1(\tau)d\tau =$$

$$= r_{00}\int_0^t e^{-(t-\tau)}[M\tau e^{-\tau} + N\tau e^{-\tau} + N(e^{-\tau}-1)]d\tau =$$

$$= r_{00}[\int_0^t e^{-t}M\tau d\tau + \int_0^t e^{-t}N\tau d\tau + \int_0^t e^{-t}Nd\tau - \int_0^t Ne^{-(t-\tau)}d\tau] = r_{00}[M\frac{\tau^2}{2}e^{-t}|_0^t$$

$$+ N\frac{\tau^2}{2}e^{-t}\left|_0^t + Ne^{-t}\tau\right|_0^t - Ne^{\tau-t}\left|_0^t\right] = r_{00}\left[M\frac{t^2}{2}e^{-t} + N\frac{t^2}{2}e^{-t} + Ne^{-t}t - N(1-e^{-t})\right]$$

$$\leq M\frac{t^2}{2}e^{-t} + N\left(t+\frac{t^2}{2!}\right)e^{-t} + N(e^{-t}-1),$$

— – – – – ————

$$|V_n(t)| \leq M\frac{t^n}{n!}e^{-t} + N\left(1+t+\frac{t^2}{2!}+\cdots+\frac{t^n}{n!}\right)e^{-t} - N.$$

Тогда

$$u(x,t) = \sum_{n=0}^{\infty}u_n(x,t) \leq Me^{-t}\sum_{n=0}^{\infty}\frac{t^n}{n!} + Ne^{-t}\sum_{n=0}^{\infty}\left(\sum_{k=0}^{n}\frac{t^k}{k!}\right) - N$$

или

$$u(x,t) = \sum_{n=0}^{\infty}u_n(x,t) \leq M + N. \qquad (15)$$

Оценка (15) показывает, что ряд (10) сходится равномерно на $\bar{Q}_T$. Это решение единственно, так как однородное уравнение, отвечающее (9):

$$u(x,t) = \frac{1}{2}\int_0^t d\tau\int_R e^{-|x-\xi|}e^{-(t-\tau)}\,[(r(0)+1)u(\xi,\tau) +$$

$$+\int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi \qquad (16)$$

имеет только нулевое решение. В самом деле, если $\sup_{x\in R}|u(x,t)| = V(t), 0 \leq t \leq T$, то из (16) вытекает:

$$V(t) \leq r_{00}\int_0^t e^{-(t-\tau)}V_n(\tau)d\tau\,, \qquad 0 \leq t \leq T. \qquad (17)$$

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Хорошо известно, что решение интегрального неравенства (17) может быть только одно: $V(t) \equiv 0,$ и, следовательно, $u(x,t) \equiv 0, \quad (x,t) \in \bar{Q}_T$. Теперь найдём формулы для производных:

$$\frac{\partial u}{\partial t} = -e^{-t}u_0(x) + \frac{1}{2}\int_R e^{-|x-\xi|}\,[u(\xi,t) + r(0)u(\xi,t) - u_0(\xi)r(t) + \int_0^t r'(t-\alpha)u(\xi,\alpha)d\alpha]d\xi -$$

$$-\frac{1}{2}\int_0^t \int_R e^{-|x-\xi|}\,e^{-(t-\tau)}\,[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi d\tau,$$

$$\frac{\partial u}{\partial x} = e^{-t}u_0'(x) + \frac{1}{2}\int_0^t e^{-(t-\tau)}[u(x,\tau) + r(0)u(x,\tau) + u_0(x)r(\tau) + \int_0^t r'(\tau-\alpha)u(x,\alpha)d\alpha]d\tau$$
$$-\frac{1}{2}\int_0^t e^{-(t-\tau)}[u(x,\tau) + r(0)u(x,\tau) - u_0(x)r(\tau) + \int_0^t r'(\tau-\alpha)u(x,\alpha)d\alpha]d\tau -$$

$$-\frac{1}{2}\int_0^t \int_{-\infty}^x e^{-(x-\xi)}e^{-(t-\tau)}[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi d\tau +$$

$$+\frac{1}{2}\int_0^t \int_x^\infty e^{-(\xi-x)}e^{-(t-\tau)}[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi d\tau =$$

$$= e^{-t}u_0'(x) - \frac{1}{2}\int_0^t \int_{-\infty}^x e^{-(x-\xi)}e^{-(t-\tau)}\,[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi d\tau +$$

$$+\frac{1}{2}\int_0^t \int_x^\infty e^{-(\xi-x)}e^{-(t-\tau)}[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi d\tau,$$

$$\frac{\partial^2 u}{\partial x^2} = e^{-t}u_0''(x) - \frac{1}{2}\int_0^t e^{-(t-\tau)}[u(x,\tau) + r(0)u(x,\tau) - u_0(x)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(x,\alpha)d\alpha]d\xi d\tau$$
$$-\frac{1}{2}\int_0^t e^{-(t-\tau)}[u(x,\tau) + r(0)u(x,\tau) - u_0(x)r(\tau) - \int_0^\tau r'(\tau-\alpha)u(x,\alpha)d\alpha]d\xi d\tau +$$

$$+\frac{1}{2}\int_0^t \int_{-\infty}^x e^{-(x-\xi)}e^{-(t-\tau)}[u(\xi,\tau) + r(0)\,u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(x,\alpha)d\alpha]d\xi d\tau$$

$$+\frac{1}{2}\int_0^t \int_x^\infty e^{-(\xi-x)}e^{-(t-\tau)}\,[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(x,\alpha)d\alpha]d\xi d\tau$$

$$= e^{-t}u_0''(x) - \int_0^t e^{-(t-\tau)}[u(x,\tau) + r(0)u(x,\tau) - u_0(x)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(x,\alpha)d\alpha]d\xi d\tau$$

$$+\frac{1}{2}\int_0^t \int_R e^{-|x-\xi|}e^{-(t-\tau)}[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(x,\alpha)d\alpha]d\xi d\tau,$$

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$$\frac{\partial^3 u}{\partial x^2 \partial t} = -e^{-t}u_0''(x) - [u(x,t) + r(0)u(x,t) + u_0(x)r(t) + \int_0^t r'(t-\alpha)u(x,\alpha)d\alpha]d\xi +$$

$$+\int_0^t e^{-(t-\tau)}[u(x,\tau) + r(0)u(x,\tau) - u_0(x)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(x,\alpha)d\alpha]d\xi d\tau +$$

$$+\frac{1}{2}\int_R e^{-|x-\xi|}[u(\xi,t) + r(0)u(\xi,t) - u_0(\xi)r(t) + \int_0^t r'(t-\alpha)u(\xi,\alpha)d\alpha]d\xi -$$

$$-\frac{1}{2}\int_0^t \int_R e^{-|x-\xi|}e^{-(t-\tau)}[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(x,\alpha)d\alpha]d\xi d\tau.$$

Найденные выражения для производных подставляем в уравнение (4), получим:

$$u_t(x,t) - u_{xxt}(x,t) - u_{xx}(x,t) =$$

$$= -e^{-t}u_0(x) + \frac{1}{2}\int_R e^{-|x-\xi|}[u(\xi,t) + r(0)u(\xi,t) - u_0(\xi)r(t) + \int_0^t r'(t-\alpha)u(\xi,\alpha)d\alpha]d\xi -$$

$$\frac{1}{2}\int_0^t \int_R e^{-|x-\xi|}e^{-(t-\tau)}[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi d\tau + e^{-t}u_0''(x) +$$

$$+[u(x,t) + r(0)u(x,t) - u_0(x)r(t) + \int_0^t r'(t-\alpha)u(x,\alpha)d\alpha]d\xi -$$

$$-\int_0^t e^{-(t-\tau)}[u(x,\tau) + r(0)u(x,\tau) - u_0(x)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(x,\alpha)d\alpha]d\xi +$$

$$+\frac{1}{2}\int_0^t \int_R e^{-|x-\xi|}e^{-(t-\tau)}[u(\xi,\tau) + r(0)u(\xi,\tau) + \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi d\tau -$$

$$-\frac{1}{2}\int_R e^{-|x-\xi|}[u(\xi,t) + r(0)u(\xi,t) - u_0(\xi)r(t) + \int_0^t r'(t-\alpha)u(\xi,\alpha)d\alpha]d\xi - e^{-t}u_0''(x) +$$

$$+\int_0^t e^{-(t-\tau)}[u(x,\tau) + r(0)u(x,\tau) - u_0(x)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(x,\alpha)d\alpha]d\xi -$$

$$-\frac{1}{2}\int_0^t \int_R e^{-|x-\xi|}e^{-(t-\tau)}[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi d\tau =$$

$$= r(0)u(x,\tau) - u_0(x)r(t) + \int_0^t r'(t-\tau)u(x,\tau)d\tau.$$

Итак, мы показали, что решение интегрального уравнения (9) удовлетворяет уравнению (4). Из (9) также следует, что $u(x,0) = u_0(x)$.

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Лемма 2. *Пусть выполнены условия* $u_0(x) \in C_b(R)$; $f(t) \in C^{(2)}[0,T]$. *Тогда обратная задача (4), (2), (3) для* $(x,t) \in Q_T$ *эквивалентна следующей задаче: нахождения функции* $u(x,t)$, $u_t(x,t)$, $r(t)$, $r'(t)$ *из системы уравнений*:

$$u(x,t) = e^{-t}u_0(x) + \frac{1}{2}\int_0^t d\tau \int_R e^{-|x-\xi|}\, e^{-(t-\tau)}[u(\xi,\tau) + r(0)u(\xi,\tau) - u_0(\xi)r(\tau) + \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)d\alpha]d\xi, \tag{18}$$

$$u_t(x,t) = -e^{-t}u_0(x) + \frac{1}{2}\int_R e^{-|x-\xi|}\big(1 + r(0)\big)u(\xi,t)d\xi$$

$$-\frac{1}{2}\int_0^t d\tau \int_R e^{-|x-\xi|}e^{-(t-\tau)}\big(1 + r(0)\big)u(\xi,t)d\xi d\tau + \frac{1}{2}r(t)\int_R u_0(\xi)e^{-|x-\xi|}d\xi +$$

$$+\frac{1}{2}\int_0^t r(\tau)e^{-(t-\tau)}d\tau \int_R u_0(\xi)e^{-|x-\xi|}d\xi + \frac{1}{2}\int_R e^{-|x-\xi|}r(0)u(\xi,t)d\xi - \frac{1}{2}\int_R e^{-|x-\xi|}r(t)u(\xi,0)d\xi -$$

$$-\frac{1}{2}\int_R e^{-|x-\xi|}d\xi \int_0^t r(t-\tau)u_\tau'(\xi,\tau)d\tau - \frac{1}{2}\int_0^t \int_R \int_0^\tau r'(\tau-\alpha)u(\xi,\alpha)e^{-|x-\xi|}e^{-(t-\tau)}d\xi d\tau d\alpha, \tag{19}$$

$$\int_R u_0(\xi)e^{-|x-\xi|}d\xi = \theta$$

$$r(t) = \frac{1}{\theta}\Bigg[-f'(t) - e^{-t}u_0(x_0) + \left(\frac{1}{2} + r(0)\right)\int_R u(\xi,t)e^{-|x_0-\xi|}d\xi - \int_0^t \int_R e^{-|x_0-\xi|}e^{-(t-\tau)}u(\xi,\tau)d\xi d\tau + \theta\int_0^t r(\tau)e^{-(t-\tau)}d\tau - \frac{1}{2}\int_R e^{-|x_0-\xi|}d\xi \int_0^t r(t-\tau)u_\tau'(\xi,\tau)d\tau + \frac{1}{2}\int_0^t \int_R e^{-|x_0-\xi|}e^{-(t-\tau)}\int_0^\tau r(\tau-\alpha)\,u_\tau(\xi,\alpha)d\alpha d\xi d\tau\Bigg], \tag{20}$$

$$r'(t) = \frac{1}{\theta}\Bigg[-f''(t) + e^{-t}u_0(x_0) + \left(\frac{1}{2} + r(0)\right)\int_R u_t(\xi,t)e^{-|x_0-\xi|}d\xi - \int_R u(\xi,t)e^{-|x_0-\xi|}d\xi + \int_0^t \int_R e^{-|x_0-\xi|}e^{-(t-\tau)}u(\xi,\tau)d\xi d\tau + \theta r(t) - \theta\int_0^t r(\tau)e^{-(t-\tau)}d\tau - \frac{1}{2}\int_R e^{-|x_0-\xi|}r(0)u_t(\xi,t)d\xi - \frac{1}{2}\int_0^t \int_R e^{-|x_0-\xi|}r'(t-\tau)u_\tau(\xi,\tau)d\xi d\tau + \frac{1}{2}\int_R e^{-|x_0-\xi|}\,d\xi \int_0^t r(t-\tau)u_t(\xi,\tau)d\tau + \frac{1}{2}\int_0^t \int_R e^{-|x_0-\xi|}e^{-(t-\tau)}\int_0^\tau r(\tau-\alpha)\,u_\tau(\xi,\alpha)d\alpha d\xi d\tau\Bigg]. \tag{21}$$

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Доказательство: Уравнение (18) совпадает с (9). Дифференцируя это уравнение по t, мы получим (19). Полагая в (19) $x = x_0$ и используя дифференцированное по t дополнительное условия (3) $f'(t) = \frac{\partial u}{\partial t}(x_0, t)$, путём несложных вычислений приходим к (20). Вычисляя производную от (20) по t, получим (21).

Теорема. *Пусть выполнены условия леммы 1 и 2, а также равенство* $u_0(x_0) = f(0)$. *Тогда для достаточно малого* $T > 0$ *решение обратной задачи (1)-(3) в классе* $k(t) \in C^1[0,T]$ *существует и единственно.*

Доказательство. Представим систему (18)-(21) в виде операторного уравнения

$$\psi = A\psi, \tag{22}$$

где ψ вектор-функция с компонентами:

$\psi = \big(\psi_1(x,t), \psi_2(x,t), \psi_3(x,t), \psi_4(x,t)\big)$

$\psi_1(x,t) = u(x,t);\ \psi_2(x,t) = u_t(x,t) - \frac{1}{2}\int_R u_0(\xi)e^{-|x-\xi|}d\xi \cdot r(t);\ \psi_3(x,t) = r(t);$

$\psi_4(x,t) = r'(t) - \theta r(t),$

а оператор $A = [A_i]_{i=1}^4$ действует на вектор-функции с компонентами $\psi_i \in C[Q_T]$, и в соответствии с уравнениями (18)-(21) задаётся равенствами

$$A_1\psi = \psi_{01}(x,t) + \frac{1}{2}\int_0^t d\tau \int_R e^{-|x-\xi|}\, e^{-(t-\tau)}[\big(1 + r(0)\big)\cdot\psi_1(\xi,\tau) -$$

$$-u_0(\xi)\psi_3(\tau) + \int_0^\tau \big(\psi_4(t-\tau) + \theta\psi_3(t-\tau)\big)\cdot$$
$$\psi_1(\xi,\alpha)d\alpha]d\xi, \tag{23}$$

$$A_2\psi = -\psi_{01}(x,t) + \frac{1}{2}\int_R e^{-|x-\xi|}\big(1 + r(0)\big)\psi_1(\xi,t)d\xi -$$

$$-\frac{1}{2}\int_0^t d\tau \int_R e^{-|x-\xi|}\, e^{-(t-\tau)}[\big(1 + r(0)\big)\cdot\psi_1(\xi,\tau)d\xi d\tau +$$

$$+\frac{1}{2}\int_0^t \psi_3(\tau)e^{-(t-\tau)}d\tau \int_R u_0(\xi)e^{-|x-\xi|}\,d\xi +$$

$$+\frac{1}{2}\int_R e^{-|x-\xi|}r(0)\psi_1(\xi,t)d\xi - \frac{1}{2}\int_R e^{-|x-\xi|}\psi_3(t)u_0(\xi)d\xi - \frac{1}{2}\int_R e^{-|x-\xi|}d\xi - \int_0^t \psi_3(t-\tau)\cdot[\psi_2(\xi,\tau)$$
$$+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1 \cdot \psi_3(\tau)]d\tau$$
$$-\frac{1}{2}\int_0^t \int_R \int_0^\tau \big(\psi_4(t-\tau) + \theta\psi_3(t-\tau)\big)\psi_1(\xi,\alpha)e^{-|x-\xi|}e^{-(t-\tau)}\,d\alpha d\xi d\tau \tag{24}$$

$$A_3\psi = \psi_{03}(t) + \frac{1}{\theta}\left(\frac{1}{2} + r(0)\right)[\int_R e^{-|x_0-\xi|}\psi_1(\xi,t)d\xi - \int_0^t \int_R e^{-|x_0-\xi|}\, e^{-(t-\tau)} \times$$

$$\cdot\,\psi_1(\xi,\tau)d\xi d\tau + \theta\int_0^t \psi_3(\tau)\, e^{-(t-\tau)}d\tau\ - \frac{1}{2}\int_R e^{-|x_0-\xi|}\int_0^t \psi_3(t-\tau)[\psi_2(\xi,\tau) +$$

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$$+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1\psi_3(\tau)]d\xi d\tau+\frac{1}{2}\int_0^t\int_R e^{-|x_0-\xi|}\,e^{-(t-\tau)}\int_0^\tau \psi_3(\tau-\alpha)[\psi_2(\xi,\alpha)+$$

$$+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1\psi_3(\alpha)]d\alpha d\xi d\tau \qquad (25)$$

$$\begin{aligned}A_4\psi = \psi_{04}(t)+\frac{1}{\theta}&\cdot\left(\frac{1}{2}\right.\\&\left.+r(0)\right)\left[\int_R e^{-|x_0-\xi|}[\psi_2(\xi,t)+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1\psi_3(t)]d\xi\right.\\&-\int_R e^{-|x_0-\xi|}\psi_1(\xi,t)d\xi-\int_0^t\int_R e^{-|x_0-\xi|}\,e^{-(t-\tau)}\cdot\psi_1(\xi,t)d\xi d\tau-\theta\int_0^\tau\psi_3(\tau)\,e^{-(t-\tau)}d\tau\\&-\frac{1}{2}\int_R e^{-|x-\xi|}r(0)\cdot[\psi_2(\xi,t)\\&+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x_0-\alpha_1|}d\alpha_1\psi_3(t)]d\xi\\&-\frac{1}{2}\int_0^t\int_R e^{-|x_0-\xi|}\cdot(\psi_2(\xi,\tau)\\&+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1\psi_3(\tau))\big(\psi_4(t-\tau)+(\theta-1)\psi_3(t-\tau)\big)d\xi d\tau\\&-\frac{1}{2}\int_0^t\int_R e^{-|x_0-\xi|}\,e^{-(t-\tau)}\int_0^\tau\psi_3(\tau-\alpha)[\psi_2(\xi,\alpha)\\&\left.+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1\psi_3(\tau)]d\alpha d\xi d\tau\right],\end{aligned} \qquad (26)$$

где также введены следующие обозначения:

$$\psi_0=\big(\psi_{01}(x,t),\psi_{02}(x,t),\psi_{03}(t),\psi_{04}(t)\big),$$

$\psi_{01}(x,t)=e^{-t}u_0(x)$; $\psi_{02}(x,t)=-\psi_{01}(x,t)$; $\psi_{03}(t)=\frac{1}{\theta}[-f'(t)+e^{-t}u_0(x_0)$; $\psi_{04}(t)=\frac{1}{\theta}[-f''(t)+e^{-t}u_0(x_0)$.

Рассмотрим функциональное пространство вектор-функций $\psi\in C(Q_T)$, где $Q_T:=\{(x,t)|\ x\in R,\ t\in(0,T]\}$. Введём обозначения: $B_d(\psi_0)$ −множество функций, для которых справедливо:

$$||\psi-\psi_0||_{C(\bar{Q}_T)}\le d.$$

Очевидно, что $||\psi||\le d+||\psi_0||$. Докажем, что оператор A является сжимающим на множестве $B_d(\psi_0)$, если число T достаточно мало. Напомним, что оператор называется сжимающим на множестве $B_d(\psi_0)$, если выполнены следующие два условия:

1) если $\psi\in B_d(\psi_0)$ то $A\psi\in B_d(\psi_0)$,
2) если ψ^1,ψ^2 произвольные элементы $B_d(\psi_0)$, то
$\big||A\psi^1-A\psi^2|\big|_T\le\kappa\big||\psi^1-\psi^2|\big|_T$ в котором $\kappa<1$.

Проверим выполнение первого из этих условий. Пусть $\psi\in B_d(\psi_0)$. Кроме того, для $(x,t)\in Q_T$ имеют место оценки:

$$||A_1\psi-\psi_{01}||=\big||\psi_1-\psi_{01}|\big|_{C(\bar{Q}_T)}=||\frac{1}{2}\int_0^t d\tau\int_R e^{-|x-\xi|}\,e^{-(t-\tau)}[\big(1+r(0)\big)\cdot\psi_1(\xi,\tau)-$$

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$$-u_0(\xi)\psi_3(\tau)+\int_0^{\tau}\big(\psi_4(t-\tau)+\theta\psi_3(t-\tau)\big)\cdot\psi_1(\xi,\alpha)d\alpha]d\xi\,||=$$

$$=\max_{(x,t)\in Q_T}|\frac{1}{2}\int_0^t d\tau\int_R e^{-|x-\xi|}\,e^{-(t-\tau)}[\big(1+r(0)\big)\cdot\psi_1(\xi,\tau)-u_0(\xi)\psi_3(\tau)$$

$$+\int_0^{\tau}\big(\psi_4(t-\tau)+\theta\psi_3(t-\tau)\big)\cdot\psi_1(\xi,\alpha)d\alpha d\xi|\le\frac{1}{2}[|\big(1+r(0)\big)|d_0$$

$$\cdot\left|\int_0^t d\tau\int_R e^{-|x-\xi|}\,e^{-(t-\tau)}d\xi\right|+\gamma_0 d_0\left|\int_0^t d\tau\int_R e^{-|x-\xi|}\,e^{-(t-\tau)}d\xi\right|+$$

$$+(1+\theta d_0)d_0\left|\int_0^t d\tau\int_R e^{-|x-\xi|}\,e^{-(t-\tau)}\int_0^{\tau}d\alpha d\xi\right|]$$

$$\le|1+r(0)|d_0|1-e^{-t}|+\gamma_0 d_0|1-e^{-t}|+(1+\theta d_0)d_0|t-1+e^{-t}|$$

$$\le 2d_0(1+r(0)+\gamma_0)+(1+\theta d_0)d_0T\le\beta_1(T)\le d \qquad (27)$$

$$\big||A_2\psi-\psi_{02}|\big|=\big||\psi_2-\psi_{02}|\big|_{C(\bar{Q}_T)}=$$

$$=\max_{(x,t)\in Q_T}|\frac{1}{2}\int_R e^{-|x-\xi|}\big(1+r(0)\big)\cdot\psi_1(\xi,t)d\xi-\frac{1}{2}\int_0^t d\tau\int_R e^{-|x-\xi|}\,e^{-(t-\tau)}\big(1+r(0)\big)\cdot\psi_1(\xi,\tau)d\xi d\tau+$$

$$+\frac{1}{2}\int_0^t\psi_3(\tau)e^{-(t-\tau)}d\tau\cdot\int_R u_0(\xi)e^{-|x-\xi|}d\xi+\frac{1}{2}\int_R r(0)e^{-|x-\xi|}\psi_1(\xi,t)d\xi-\frac{1}{2}\int_R e^{-|x-\xi|}\psi_3(t)u_0(\xi)d\xi-$$

$$-\frac{1}{2}\int_R e^{-|x-\xi|}d\xi\int_0^t\psi_3(t-\tau)\cdot\left[\psi_2(\xi,\tau)+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1\psi_3(\tau)\right]d\tau-$$

$$-\frac{1}{2}\int_0^t\int_R\int_0^{\tau}\big(\psi_4(t-\tau)+\theta\psi_3(t-\tau)\big)\cdot\psi_1(\xi,\alpha)e^{-|x-\xi|}\,e^{-(t-\tau)}d\xi d\tau d\alpha\,|\le$$

$$\le 3d_0\big(1+r(0)\big)+2\gamma_0 d_0+(r(0)-\gamma_0)d_0+d_0^2T(1+\gamma_0)(1+T)\le\beta_2(T)\le d \qquad (28)$$

$$||A_3\psi-\psi_{03}(t)||=||\psi_3-\psi_{03}||_{C(\bar{Q}_T)}=$$

$$=\max_{(x,t)\in Q_T}|\frac{1}{\theta}\left(\frac{1}{2}+r(0)\right)[\int_R e^{-|x_0-\xi|}\psi_1(\xi,t)d\xi-\int_0^t\int_R e^{-|x_0-\xi|}\,e^{-(t-\tau)}\cdot\psi_1(\xi,\tau)d\xi\,d\tau+$$

$$+\gamma\int_0^t\psi_3(\tau)e^{-(t-\tau)}d\tau-\frac{1}{2}\int_R e^{-|x_0-\xi|}\int_0^t\psi_3(t-\tau)\left[\psi_2(\xi,\tau)+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1\psi_3(\tau)\right]d\xi d\tau+$$

$$+\frac{1}{2}\int_0^t\int_R e^{-|x_0-\xi|}\,e^{-(t-\tau)}\cdot\int_0^{\tau}\psi_3(\tau-\alpha)\,[\psi_2(\xi,\alpha)+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1\psi_3(\tau)]d\alpha d\xi d\tau\,|]\le$$

$$\le\left|\frac{1}{\theta}\left(\frac{1}{2}+r(0)\right)d_0\right|\cdot|2(1-d_0)+d_0e^{-t}|+\theta d_0|1-e^{-t}|+d_0^2t\left|1+\gamma_0+\frac{t}{2}\right|+$$

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$$+d_0^2\gamma_0|t-1+e^{-t}| \le \frac{1}{\theta}d_0\left(\frac{1}{2}+r(0)\right)\left(2+4d_0+2d_0\theta+d_0^2T\left(\frac{3}{2}+\theta+\gamma_0\right)\right) \le \beta_3(T) \le d \qquad (29)$$

$$||A_4\psi-\psi_{04}(t)|| = \left|\left|\psi_4-\psi_{04}\right|\right|_{C(\bar{Q}_T)}$$
$$\le \left|\frac{1}{\theta}\left(1+r(0)\right)\right|\left[|2d_0(1+\gamma_0)|-d_0+d_0|1-e^{-t}|+\theta d_0|1-e^{-t}|+r(0)|d_0(1+\gamma_0)|\right.$$
$$\left.-\gamma d_0^2\left|t(1-\theta\gamma_0 d_0^2)\right|-d_0^2|t-1+e^{-t}|-d_0^2\gamma_1|t-1+e^{-t}|\right]$$
$$\le \frac{1}{\theta}\left(\frac{1}{2}+r(0)\right)\left(4d_0+2d_0\gamma_0+2d_0\theta+r(0)d(1+\gamma_0)+d_0^2T(\theta-\theta^2\gamma_0d_0^2+1+\gamma_1)\right)$$
$$\le \beta_4(T) \le d \qquad (30)$$

Отсюда ясно, что A осуществляет сжатое отображение множества $B_d(\psi_0)$ на себя, если выполнены условия:

$$2d_0(1+r(0)+\gamma_0)+(1+\theta d_0)d_0T<1,$$

$$3d_0\left(1+r(0)\right)+2\gamma_0d_0+(r(0)-\gamma_0)d_0+d_0^2T(1+\gamma_0)(1+T)<1,$$

$$\frac{1}{\theta}d_0\left(\frac{1}{2}+r(0)\right)\left(2+4d_0+2d_0\theta+d_0^2T\left(\frac{3}{2}+\theta+\gamma_0\right)\right)<1 \qquad (31)$$

$$\frac{1}{\theta}\left(\frac{1}{2}+r(0)\right)\left(4d_0+2d_0\gamma_0+2d_0\theta+r(0)d(1+\gamma_0)+d_0^2T(\theta-\theta^2\gamma_0d_0^2+1+\gamma_1)\right)<1.$$

Теперь проверим выполнение второго условия. Пусть $\psi^k=(\psi_1^k,\psi_2^k,\psi_3^k,\psi_4^k)$ и $\psi^k \in B_d(\psi_0), k=1,2$. Тогда имеем:

$$\left|\left|A_1\psi^1-A_1\psi^2\right|\right| = \left|\left|\frac{1}{2}\int_0^t d\tau\int_R e^{-|x-\xi|}e^{-(t-\tau)}+\int_0^\tau\left(\psi_4^1(\tau-\alpha)\psi_1^1(\xi,\alpha)-\psi_4^2(\tau-\alpha)\psi_1^2(\xi,\alpha)\right)d\alpha d\xi\right]\right|\|$$

$$\le \|\psi^1-\psi^2\|\cdot\left|\int_0^t e^{-(t-\tau)}d\tau\left(1+r(0)-\gamma_0+2d_0\int_0^\tau d\alpha\right)\right| \le \left((1+r(0)+\gamma_0)\cdot 2+2d_0T\right)\|\psi^1-\psi^2\| \le$$

$$\le \kappa_1(T)\|\psi^1-\psi^2\| \qquad (32)$$

$$||A_2\psi^1-A_2\psi^2|| = \|\frac{1}{2}\int_R e^{-|x-\xi|}\left(1+r(0)\right)\left(\psi_1^1(\xi,t)-\psi_1^2(\xi,t)\right)d\xi-$$

$$-\frac{1}{2}\int_0^t d\tau\int_R e^{-|x-\xi|}\,e^{-(t-\tau)}\left(1+r(0)\right)\cdot(\psi_1^1(\xi,\tau)-\psi_1^2(\xi,\tau))d\xi d\tau+$$

$$+\frac{1}{2}\int_0^t(\psi_3^1(\tau)-\psi_3^2(\tau))e^{-(t-\tau)}d\tau\int_R u_0(\xi)e^{-|x-\xi|}\,d\xi+\frac{1}{2}\int_R e^{-|x-\xi|}r(0)\left(\psi_1^1(\xi,t)-\psi_1^2(\xi,t)\right)d\xi-$$

$$\frac{1}{2}\int_R e^{-|x-\xi|}(\psi_3^1(t)-\psi_3^2(t))u_0(\xi)d\xi-\frac{1}{2}\int_R e^{-|x-\xi|}d\xi\int_0^t(\psi_3^1(t-\tau)-\psi_3^2(t-\tau))\cdot[\left((\psi_2^1(\xi,\tau)-\psi_2^2(\xi,\tau)\right)$$

$$+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1\cdot(\psi_3^1(\tau)-\psi_3^2(\tau)]d\tau-$$

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$$-\frac{1}{2}\int_0^t\int_R\int_0^\tau\Big[\big(\psi_4^1(t-\tau)-\psi_4^2(t-\tau)\big)+\theta(\psi_3^1(t-\tau)$$

$$-\psi_3^2(t-\tau)\big)\Big](\psi_1^1(\xi,\alpha)-\psi_1^1(\xi,\alpha))e^{-|x-\xi|}e^{-(t-\tau)}\,d\alpha d\xi d\tau\| \le$$

$$\le \|\psi^1-\psi^2\|\Big[\big|\big(1+r(0)\big)e^{-t}\big|+|\gamma_0(1-e^{-t})+r(0)+\gamma_0|+|4d_0t(1-\gamma_0)|\Big]$$

$$+|4d_0(t-1+e^{-t})(1-\gamma_0)| \le \big(1+2r(0)+3\gamma_0+8d_0T(1-\gamma_0)\big)\|\psi^1-\psi^2\| \le$$

$$\le \kappa_2(T)\|\psi^1-\psi^2\| \qquad (33)$$

$$\big||A_3\psi^1-A_3\psi^2|\big| = \|\frac{1}{\theta}\Big(\frac{1}{2}+r(0)\Big)[\int_R e^{-|x_0-\xi|}(\psi_1^1(\xi,t)-\psi_1^2(\xi,t))d\xi-\int_0^t\int_R e^{-|x_0-\xi|}\,e^{-(t-\tau)}(\psi_1^1(\xi,\tau)$$

$$-\psi_1^2(\xi,\tau))d\xi d\tau+\theta\int_0^t(\psi_3^1(\tau)-\psi_3^2(\tau)\,e^{-(t-\tau)}d\tau-$$

$$-\frac{1}{2}\int_R e^{-|x_0-\xi|}\int_0^t(\psi_3^1(t-\tau)-\psi_3^2(t-\tau))[(\psi_2^1(\xi,\tau)-\psi_2^2(\xi,\tau))+$$

$$+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1(\psi_3^1(\tau)-\psi_3^2(\tau))]d\xi d\tau+\frac{1}{2}\int_0^t\int_R e^{-|x_0-\xi|}\,e^{-(t-\tau)}\int_0^\tau(\psi_3^1(\tau-\alpha)-$$

$$-\psi_3^2(\tau-\alpha))[(\psi_2^1(\xi,\alpha)-\psi_2^2(\xi,\alpha))+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1(\psi_3^1(\alpha)-\psi_3^2(\alpha))d\alpha d\xi d\tau]]|| \le$$

$$\le \|\psi^1-\psi^2\|\cdot\Big|\frac{1}{\theta}\Big(\frac{1}{2}+r(0)\Big)\Big|\,[|e^{-t}+\theta(1-e^{-t})|-|4d_0t(1+\gamma_0)|+|4d_0(1+\gamma_0)(t-1+$$
$$e^{-t})|] \le$$

$$\le (\frac{1}{\theta}\Big(\frac{1}{2}+r(0)\Big)(1+2\theta+8d_0(1+\gamma_0)T)\|\psi^1-\psi^2\| \le \kappa_3(T)\|\psi^1-$$
$$\psi^2\| \qquad (34) \qquad \big||A_4\psi^1-$$
$$A_4\psi^2|\big| = ||\frac{1}{\theta}\Big(\frac{1}{2}+r(0)\Big)[\int_R e^{-|x_0-\xi|}\Big[(\psi_2^1(\xi,t)-\psi_2^2(\xi,t)\Big)+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1(\psi_3^1(t)-$$

$$-\psi_3^2(t))]d\xi-\int_R e^{-|x_0-\xi|}(\psi_1^1(\xi,t)-\psi_1^2(\xi,t))d\xi+\int_0^t\int_R e^{-|x_0-\xi|}\,e^{-(t-\tau)}\cdot(\psi_1^1(\xi,\tau)-\psi_1^2(\xi,\tau))\,d\xi d\tau-$$

$$-\theta\int_0^t(\psi_3^1(\tau)-\psi_3^2(\tau))\,e^{-(t-\tau)}d\tau-\frac{1}{2}\int_R e^{-|x_0-\xi|}r(0)(\psi_2^1(\xi,t)-\psi_2^2(\xi,t))+$$

$$+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x_0-\alpha_1|}d\alpha_1(\psi_3^1(t)-\psi_3^2(t))]d\xi-\frac{1}{2}\int_0^t\int_R e^{-|x_0-\xi|}\cdot\Big(\psi_4^1(t-\tau)-\psi_4^2(t-\tau)\Big)+$$

$$+(\theta-1)\Big(\psi_3^1(t-\tau)-\psi_3^2(t-\tau)\Big)\Big[(\psi_2^1(\xi,\tau)-\psi_2^2(\xi,\tau)\Big)+$$

$$+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1(\psi_3^1(\tau)-\psi_3^2(\tau))]d\xi d\tau-$$

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$$-\frac{1}{2}\int_0^t\int_R e^{-|x_0-\xi|}\,e^{-(t-\tau)}\int_0^\tau(\psi_3^1(\tau-\alpha)-\psi_3^2(\tau-\alpha))[(\psi_2^1(\xi,\alpha)-\psi_2^2(\xi,\alpha)+$$

$$+\frac{1}{2}\int_R u_0(\alpha_1)e^{-|x-\alpha_1|}d\alpha_1(\psi_3^1(\tau)-\psi_3^2(\tau))]d\alpha d\xi d\tau\,||\le$$

$$\le\|\psi^1-\psi^2\|\left|\frac{1}{\theta}\left(\frac{1}{2}+r(0)\right)\right|[|\gamma_0+1-e^{-t}|-|\theta(1-e^{-t})|-|r(0)(1+\gamma_0)|-$$

$$-|4d_0(\theta+\gamma_0+(\theta-1)\gamma_0 t)|-|4d_0(1+\gamma_0)(t-1+e^{-t})|]\le$$

$$\le\left(\frac{1}{\theta}\left(\frac{1}{2}+r(0)\right)\big(\gamma_0+2+2\theta+r(0)\big)(1+\gamma_0)+4d_0\theta(1+\gamma_0T)+4d_0(1+\gamma_0)T\right)\|\psi^1-\psi^2\|$$

$$\le\kappa_4(T)\|\psi^1-\psi^2\| \qquad (35)$$

$\big||A\psi^1-A\psi^2|\big|_T\le\kappa\big|\psi^1-\psi^2|\big|_T$, где $\kappa<1$, если $T>0$ удовлетворяет условиям

$$\big((1+r(0)+\gamma_0)\cdot 2+2d_0T\big)\le\kappa_1<1,$$

$$(1+2r(0)+3\gamma_0+8d_0T(1-\gamma_0))\le\kappa_2<1,$$

$$\big(\tfrac{1}{\theta}\left(\tfrac{1}{2}+r(0)\right)(1+2\theta+8d_0(1+\gamma_0)T)\le\kappa_3<1, \qquad (36)$$

$$\left(\tfrac{1}{\theta}\left(\tfrac{1}{2}+r(0)\right)\big(\gamma_0+2+2\theta+r(0)\big)(1+\gamma_0)+4d_0\theta(1+\gamma_0T)+4d_0(1+\gamma_0)T\right)\le\kappa_4<1.$$

Таким образом, если число T настолько мало, что выполняются условия (31), (36) то оператор A является сжимающим на $B_d(\psi_0)$. Тогда согласно принципу Банаха, существует единственное решение уравнения (22) в $B_d(\psi_0)$.

Заключение. Автор статьи считает, что в данной работе новой является теорема существования и единственности решения обратной задачи по определению ядра интегрального члена псевдопараболического интегро-дифференциального уравнения с условием переопределения во внутренней точке отрезка.

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MECHANICAL AND MICROAGGREGATE COMPOSITION OF IRRIGATED MEADOW SOILS OF THE KARAKUL OASIS

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Abstract. *The article shows the changes in the mechanical and microaggregate composition of the irrigated meadow soils of the Karakol oasis under the influence of anthropogenic factors. Morphological changes in the genetic layers of soils, in particular, the mechanical and microaggregate composition, are represented by methods adopted in soil science.*

The mechanical composition of soils has a significant impact on their following properties: physical, water, chemical, physico-mechanical, biological, thermal, etc. The moisture-retaining and load-bearing capacity of soils, heat transfer, physical and mechanical properties, soil resistivity during its processing, maturation time, viscosity, flexibility, subsidence, etc. directly depend on the mechanical composition. The mechanical composition of the soils in which scientific research is conducted is diverse, which is largely determined by the composition of the soil-forming parent rocks and human activity.

The mechanical and microaggregate composition of soils is the main indicator of morphological, reclamation, water-physical and physico-mechanical bonitation of soils and expresses the specifics for all genetic layers of soils of various types and types. According to the mechanical and microaggregate composition of soils, geomorphological areas with their own specifics are distinguished. These soils are mechanically composed of loam, light, medium, heavy loam.

Keywords: *anthropogenic factor, soil mechanical and microaggregate composition, medium, fine and large sand, large, medium and fine dust, particles*

Introduction. Extensive research work on soil fertility, its management and other properties has been carried out in foreign countries and in our republic. Irrigated meadow soils, common in the Karakul oasis, differ from each other in their textural features not only in soil areas, but also in soil and climatic conditions.

The morphogenetic structure, geographical location and reclamation condition, agrophysical and agrochemical properties of the soils of the Karakul oasis and other territories have been studied by a number of scientists of Uzbekistan.N.Feliciano [15], K.Gafurov, S.Abdullaev [1, 4], R.K.Kuziev [8, 9], L.A.Gafurova [5], N.M.Bobomurodov [3]R.Kurvantaevo [6, 7, 10, 11], M.Umarov [13]H.T.Artikova [2]. S.M. Nazarova [12], O. Scientific research was conducted by Sharipov [14]. However, scientific studies of the agrophysical properties of irrigated meadow soils of the Karakul oasis are currently insufficiently conducted.

Irrigated meadow soils common in the Karakul oasis, located in the lower reaches of the Zarafshan River, were chosen as **objects and methods of research.**

The research was carried out in soil-field and analytical laboratory conditions, using such manuals as “Theory and methods of soil physics”, “Guidelines for conducting chemical and agrophysical analyses of soils during earth monitoring”, “Methods of conducting field experiments”, as well as the reliability of the data obtained is ensured using the Microsoft Excel program.A.Made on the basis of the Dospekhov manual “Field Opita technique".

The results of the study. The mechanical composition of soils has a significant impact on their following properties: physical, water, chemical, physico-mechanical, biological, thermal, etc. The moisture-retaining and load-bearing capacity of soils, heat transfer, physical and mechanical properties, soil resistivity during its processing, maturation time, viscosity, flexibility, subsidence, etc. directly depend on the mechanical composition. The mechanical composition of the soils in which scientific research is conducted is diverse, which is largely determined by the composition of the soil-forming parent rocks and human activity.

The mechanical composition of soils is the main morphological indicator, and for soils of all types, and therefore for all genetic layers that make up it, a specific mechanical composition is characteristic. For

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example, sandy, sandy loam, sandy loam, (light, medium, heavy) and clay (light, heavy) mechanical compositions will be inherent in certain genetic layers and layers.

Of great practical importance is the mapping of meadow alluvial soils by mechanical composition, widespread and irrigated in the Karakul oasis. Meadow alluvial soils in cross section are not only sandy loam, sandy loam, loamy and clayey, but also have an extremely complex mechanical composition of layered-layered structure. As the top layer of the incision becomes heavier or lighter, there is a rapid change of layers. In such complex lithological conditions, a kind of nutrient, water-air and thermal order necessarily arises. In this regard, it is advisable not only to compile soil maps of irrigated lands in the oasis, but also to make maps on the mechanical composition of soils for each farm plot. This, in turn, makes it possible to solve on a scientific basis such a problem as improving the fertility of irrigated soils, especially their reclamation. It should be noted that the chemical composition of the soil, especially its absorption capacity, the amount of humus, etc., of course, strongly depends on the mechanical composition.

The data obtained indicate that according to the mechanical composition of soils, administrative districts and geomorphological areas with their own specifics are distinguished. The soils of the Karakul oasis belong to the soils formed in the lower reaches of the Zarafshan River and, according to their mechanical composition, are sandy loam, sandy loam, light, medium, heavy loam (Fig.).

Analysis of the data obtained shows that while medium and light loamy soils occupy the largest number of land plots (10509 ha), loamy and sandy loam soils ofmechanical composition occupy 1177-1830 hectares. The soil sections of the Karakul oasis, located on the territory of the Lower Zarafshan, can be divided into 5 main groups according to their mechanical composition: uniformly light; uniformly heavy; layered, lightening from bottom to top; weighting soils of various mechanical composition from bottom to top. The change in the mechanical composition of soils in the cross section has a strong effect on the water-physical properties of soils and the salt regime.

Particles of different sizes in the soil vary widely in cross-section. The mechanical composition of irrigated meadow soils common in the Karakul oasis mainly consists of the following particles: coarse-grained sand (1-0.25 mm) up to 0.4-3.6%, medium sand (0.25-0.1 mm) 0.1-0.9%, fine sand (0.1-0.05 mm) 34.4-51.1%. Deposits, of which these soils consist, they also differ in a large content of fine grains of sand, the content of which in individual sections is 46.2-51.1%. The largest number of large dust particles (0.05-0.01 mm) accounts for 34.6-69.2%, the largest number of them scattered in farms is formed in layers with a clay mechanical composition, the smallest-on light soils. The cross-section between large dust particles (0.05-0.01 mm) is up to 32.2-35.6% higher than that of medium and fine dust. Il particles (less than 0.001 mm) make up to 2.7-9.6% and even in layers with heavy mechanical composition make up an insignificant amount. 2010 compared to 2017

from year to year, there is an increase in fine sand particles and a decrease in large dust particles. This is because the dust indicates that its particles were washed out under the influence of irrigation.

The mechanical composition of soils is characterized by:

a) the complete absence of particles larger than 1 mm with a rough skeleton (pebbles) ;

b) excess of the number of particles 0.1-0.01 mm;

c) excess of large dust (0.05-0.01 mm) particles on most soils, the number of which in some cases can reach 35-69 % ;

g) very low (0.1-3.6%) content of silt particles in loamy soils.

The above data indicate that it is clear from the old ones that the mechanical composition of irrigated soils weighs a little. This, of course, occurred as a result of the impact of anthropogenic factors on the surface layers of the soil. Most of the soils common in the farms of the area adjacent to the territory of sandy deserts belong to loamy and sandy loam of mechanical composition, the state of their civilization is somewhat lower.

The number of fine grains of sand (0.1-0.05 mm), in the Dargaly massif of the Karakul district, the above number of particles is distributed unevenly across the cross section. Its number ranges from 7.8 to 41.1% in 2010 to 34.4-51.1% by 2017. It should be noted that the number of particles in the soils listed above is distributed to varying degrees. For example, large dust particles (0.05-0.01 mm) make up 34-69%.

Irrigated soils with a variety of mechanical composition are also common in the Karakul oasis. Due to the fact that irrigated soils in the farms of the Karakul oasis are diverse in mechanical composition, agrotechnical (plowing, irrigation, tillage, fertilization, etc.), reclamation (leaching, installation of a system of collector ditches, registration of the depth of groundwater, etc.) measures carried out must be differentiated by mechanical composition.

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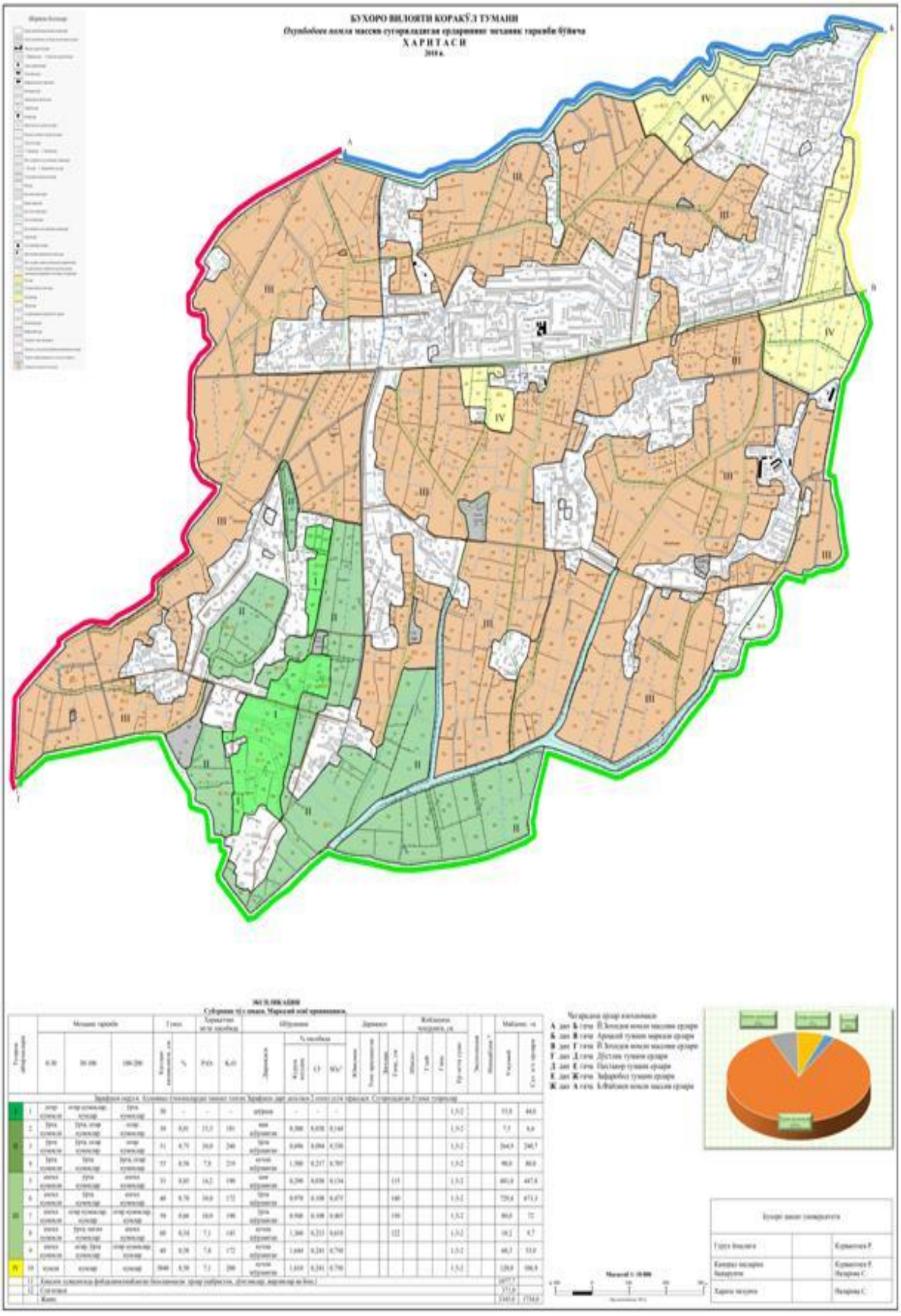

Figure 1. The irrigated map of the mechanical composition of soils of the "Dargali" massif of the Karakul district

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Table 1. Mechanical and microaggregate composition of irrigated meadow soils of the Karakul oasis

Cuts №	Layer depth, cm	Fraction size, mm yes, quantity in %									
		>0,25	0,25-0,1	0,1-0,05	0,05-0,01	0,01-0,005	0,005-0,001	<0,001	Physical clay (<0,01mm)	Current number of units	Dispersion coefficient
In 2010											
8	0-46	0,8	0,2	36,7	39,4	7,8	7,9	7,2	22,9	6,7	41,6
		1,2	0,3	41,3	41,0	6,8	6,4	3,0			
		-0,4	-0,1	-4,6	-1,6	1,0	1,5	4,2			
	46-66	0,7	0,3	13,9	41,8	14,8	20,7	7,8	43,3	23,8	15,3
		1,2	0,3	26,2	48,8	18,8	3,5	1,2			
		-0,5	0	-12,3	-7,0	-4,0	17,2	6,6			
	66-85	0,4	0,1	41,1	34,6	3,6	13,1	7,1	23,8	9,3	40,8
		1,0	0,3	38,9	43,1	3,6	10,2	2,9			
		-0,6	-0,2	2,2	-8,5	0	2,9	4,2			
	85-106	0,8	0,2	17,7	69,2	5,1	4,3	2,7	12,1	7,8	66,6
		0,4	0,1	12,5	77,0	5,1	3,1	1,8			
		0,4	0,1	5,2	-7,8	0	1,2	0,9			
	106-137	0,4	0,1	7,8	60,0	8,0	18,0	5,7	31,7	22,9	14,0
		0,8	0,2	6,6	76,4	14,0	1,2	0,8			
		-04	-0,1	1,2	-16,4	-6,0	16,8	4,9			
	HCP- 613,8 P, %-0,01										
In 2017											
9	0-35	3,6	0,9	46,2	12,3	18,1	13,7	5,2	37,0	12,5	76,9
		0,8	0,2	48,4	22,6	12,4	11,6	4,0			
		2,8	0,7	-2,2	-10,3	5,7	2,1	1,2			
	35-62	0,4	0,1	43,7	26,2	10,6	9,4	9,6	29,6	11,4	43,7
		0,4	0,1	42,3	37,6	6,8	8,6	4,2			
		0	0	-1,4	11,4	-3,8	-0,8	-5,4			
	62-90	0,8	0,2	37,5	32,2	6,9	18,0	4,4	29,3	10,6	63,6
		0,5	0,1	42,4	37,9	6,7	9,6	2,8			
		0,3	0,1	-4,9	-5,7	0,2	8,4	1.6			
	90-115	0,8	0,2	34,4	25,9	9,1	23,9	5,7	38,7	22,5	59,6
		1,2	0,3	44,9	37,4	8,2	4,6	3,4			
		-0,4	-0,1	-10,5	-11,5	0,9	19,3	2,3			
	115-147	0,8	0,2	43,0	35,6	6,3	11,0	3,1	20,4	11,7	70,9
		0,4	0,1	54,7	31,2	5,3	6,1	2,2			
		0,4	0,1	-11,7	4,4	1,0	4,9	0,9			
	147-186	0,8	0,2	51,0	29,7	8,3	6,6	3,4	18,3	16,5	70,5
		1,2	0,3	40,6	39,1	5,2	11,2	2,4			
		-0,4	-0,1	10,4	-9,4	3,1	-4,6	1,0			
	HCP- 423,9 P, %- 0,01										

***Appendix:** the figure of the table shows the mechanical composition of soils, in the denominator-the composition of the microaggregate.*

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Study of the causes of natural soil fertility of the lower reaches of the Zarafshan River.Kurvantaev, 6, 7 showed that the high content of dust particles in these soils with a size of 0.05-0.01 mm and large stable microstructural elements with a size of more than 0.01 mm provides the best capillary pore formation, high moisture capacity and high water permeability.

Meadow soils consist mainly of fine grains of sand (0.1-0.05) and large dust particles (0.05-0.01 mm), microaggregate particles, so it is microstructural, which is characterized by the mobility of high moisture capacity and nutrients that provide the soil with good capillary porosity, a high amount of moisture, which in these cases determines high soil fertility.

When assessing from an agronomic point of view, it is sufficient to know not only the size of the mechanical elements of the soil, but also the presence of micro aggregates formed from some mechanical elements in the soil is characteristic. At the same time, it is important to study the comparative ability of these mechanical elements to wash under the influence of water. The description of sandy and clay soils is one of the important aspects in assessing soil structure, especially water permeability. The global aggregate composition of the soils of the Karakul oasis is diverse, which is associated with their genesis, morphology, soil-forming maternal sex and cultural irrigation activities of people. [12, 11, 14, 8].

Ifod as a result of numerous studies, a large amount of factual data has been collected and the reasons for the formation of macroculture on irrigated soils have been studied through the use of crop rotation, siderates, additional organic and structure-forming substances. Irrigated soils of Uzbekistan are in a state of structure with alfalfa and other perennial herbs. Herbs have been found to have a positive effect.

It was noticed that the information we received, together with the full confirmation of the opinions of the above-mentioned scientists, was significantly divided into some aggregates as a result of irrigation and processing. Coarse sand (1-0. 25 mm) 0.4-1.2%, medium sand (0.25-0.1 mm) 0.1 - 0.3%, fine sand (0.1 - 0.05 mm) 6.6 - 41.3% in 2010 and its amount increased to 40.6-54.7% in 2017. The sediments consisting of these soils are distinguished by the abundance of fine sand particles in the stream. The largest number of large dust particles (0.05-0.01 mm) was 41.0-76.4% in 2010, and by 2017 it was observed that their volume decreased by 22.6-39.1%. It can be seen that the amount of fine dust and silt granules in soils increased by 2017. For example, in the soils of the Dargali massif of the Karakul district in 2010, the content of fine dust was 1.2-10.2% and silt 0.8-3.0%, in 2017, respectively, 2.2-4.2%. As these results show, in the areas of Karakol, an increase in the number of real aggregates can be observed, that is, the process of structuring in the soil.

In short, the mechanical composition of the irrigated soils of the Spruce Oasis is somewhat lighter, the number of microaggregates is slightly smaller, and the decomposition coefficient is high.

The change in the surface layer of irrigated soils depends primarily on irrigation deposits and the composition of these deposits, which were formed as a result of irrigation through the Zarafshan River and the Amu-Karakul channels.

As a result of irrigation with turbid waters and other factors of human activity, a layer of agroirrigation was formed in a short time. It differs from the lower layers not only by its chemical properties, but also by its physical properties.

The mechanical and microaggregate composition of the Spruce Oasis is a key factor in the management of all processes in the soil, which, in turn, serves as a key indicator in the development of necessary measures for the effective use of soils. When processing, watering, fertilizing and placing various crops in the soil, it is necessary to stratify them taking into account their mechanical composition. From these results , the following conclusion can be drawn:

Conclusion. The mechanical and microaggregate composition of soils is the main indicator of morphological, reclamation, water-physical and physico-mechanical bonitation of soils and expresses the specifics for all genetic layers of soils of various types and types. According to the mechanical and microaggregate composition of soils, geomorphological areas with their own specifics are distinguished. These soils are mechanically composed of loam, light, medium, heavy loam.

The mechanical and microaggregate composition of irrigated meadow soils is dominated by the following mechanical elements: fine grains of sand (0.1-0.05 mm), coarse-grained (0.05-0.01 mm) particles, which in the section and geomorphological areas constitute a higher content compared to coarse, medium sand and medium, fine dust. In the farms of the district, where irrigated agriculture is still conducted, one can see some severity of the mechanical composition of distributed soils. This, of course, occurred as a result of the impact of anthropogenic factors on the surface layers of the soil. Most of the soils common in the farms of the area adjacent to the territory of sandy deserts belong to loamy and sandy mechanical composition, the state of their civilization is somewhat lower.

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The mechanical and microaggregate composition of soils is as follows: incomplete content of large particles from 1 mm in a rough skeleton (rocky); a large number of particles 0.1-0.01 mm; excessive content of large dust (0.05-0.01) particles in most soils, the content of which in some cases reaches 35-50%, very small (2.7-6.6%) the number of fine particles. %).

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THE PROBLEM OF DETERMINING THE ONE-DIMENSIONAL KERNEL OF THE VISCOELASTICITY SYSTEM

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Abstract.

Background. *Many physical processes are described by a system of equations of the hyperbolic type of the first order. For example, systems of an incompressible viscoelastic polymeric fluid, etc. It is well known that second-order equations are derived from them with the help of a number of additional restrictions. The solution of inverse problems leads directly to the solution of these systems. Hyperbolic systems of equations of the first order describe many physical processes associated with the propagation of waves of various nature. For example, we can indicate the systems of equations of acoustics, electromagnetic oscillations, the theory of elasticity. Systematic research in this area was carried out in the 1970s by L.P. Nizhnik, S.P. Belinsky, V.G. Romanov and L.I. Slinyuchev began in the work of scientists.*

Methods. *In this work we will use the differential equations, functional analysis, algebraic methods and also the principle of contraction mappings.*

Results. *For the reduced canonical system of integro-differential equations of viscoelasticity, direct and inverse problems of determining the velocity field of elastic waves and the relaxation matrix are posed. The problems are replaced by a closed system of integral equations of the second kind of Volterra type with respect to the Fourier transform in the variables x_1, x_2, for solving the direct problem and unknowns of the inverse problem. Further, the method of contraction mappings in the space of continuous functions with a weighted norm is applied to this system. Thus, we prove global existence and uniqueness theorems for solutions to the problems posed.*

Discussions. *The study of direct and inverse problems posed to a mixed type equation is one of the advanced critical and rapidly emerging areas of world science. Their numerical implementation provides an applied application for the study of these problems. In this paper, we numerically study the boundary value problem posed to a model equation of mixed type. To do this, you need to know the concept of approximation and stability. The stability of the difference scheme has been proven. The order of approximation is calculated in the work. Further, when the stability and approximation are proved, it is possible to show the approximation of the numerical solution to the exact solution.*

Conclusion. *To sum up, we look the kernel is 9×9 dimensional diagonal matrix that depends on time. To define that function, we put initial-boundary conditions on characteristic lines. Proved the theorem of unique solvability. We get the following results, firstly consider the inverse problem of the determination kernel in hyperbolic system of n number first-order integro–differential equations, which is of the form of 9×9 matrices depending on variable t, next obtain the theorem of exists unique solution, finally proved local theorem in a small interval.*

Keywords: *Hyperbolic system, diagonal and inverse quadratic matrices, vector functions, convolution kernel, integral equations of Volterra type, principle of contraction mappings, viscoelasticity, resolvent, inverse problem, hyperbolic system, Fourier transform.*

Introduction.

Let us denote by σ_{ij} the projection onto the x_i axis of the stress acting on the area with the normal parallel to the x_j axis, and $\overline{u}_i$ are the projection onto the x_i axis of the vector particle displacement. In viscoelastic anisotropic media, the stress tensor has the following representation[1]:

$$\sigma_{ij}(\overline{x},t) = \sum_{k,l=1}^{3} c_{ijkl}\left[S_{kl} + \int_0^t K_{ij}(t-\tau)S_{kl}(x,\tau)\right], \qquad i,j = 1,2,3, \qquad (1)$$

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$$S_{ij} = \frac{1}{2}\left(\frac{\partial \overline{u}_i}{\partial x_j} + \frac{\partial \overline{u}_j}{\partial x_i}\right), \qquad i,j = 1,2,3,$$

here $c_{ijkl} = c_{ijkl}(x_3)$ are module of elasticity $K_{ij}(t)$ are functions responsible for the viscosity of the medium and $K_{ij} = K_{ji},\ i,j = \overline{1,3}$.

The equations of motion of a viscoelastic body particles in the absence of external forces have the form[2]:

$$\rho \frac{\partial^2 \overline{u}_i}{\partial t^2} = \sum_{j=1}^{3} \frac{\partial \sigma_{ij}}{\partial x_j}, \quad i = \overline{1,3}, \tag{2}$$

where $\rho = \rho(x_3)$ is medium density and $\rho > 0$,

$\overline{u}(\overline{x},t) = (\overline{u}_1(\overline{x},t), \overline{u}_2(\overline{x},t), \overline{u}_3(\overline{x},t))$ is displacement vector.

Note that (1) can be considered as integral Volterra equations of the second kind with respect to the expression $\sum_{k,l=1}^{3} c_{ijkl}S_{kl}$. For each fixed pair (i,j) solving these equations, we get

$$\sigma_{ij}(\overline{x},t) = \sum_{k,l=1}^{3} c_{ijkl}S_{kl} + \int_0^t r_{ij}(t-\tau)\sigma_{ij}(\overline{x},\tau)d\tau, \tag{3}$$

where r_{ij} are the resolvents of the kernels K_{ij} and they are related by the following integral relations [3]:

$$r_{ij}(t) = -K_{ij}(t) - \int_0^t K_{ij}(t-\tau)r_{ij}(\tau)d\tau, \quad i,j = \overline{1,3}. \tag{4}$$

From the condition $K_{ij} = K_{ji}$ implies the $r_{ij} = r_{ji}$.

Differentiating (3) with respect to t and introducing the notation $u_i = \frac{\partial}{\partial t}\overline{u}_i$, we get

$$\frac{\partial}{\partial t}\sigma_{ij}(\overline{x},t) = \sum_{k,l=1}^{3} c_{ijkl}\left(\frac{\partial u_k}{\partial x_l} + \frac{\partial u_l}{\partial x_k}\right) +$$

$$r_{ij}(0)\sigma_{ij}(\overline{x},t) + \int_0^t r'_{ij}(t-\tau)\sigma_{ij}(\overline{x},\tau)d\tau, \qquad i,j = 1,2,3. \tag{5}$$

Let's $c_{ijkl} = c_{jikl} = c_{ijlk} = c_{klij}$. The symmetry of the stress tensor reduces the number of independent elastic module from 81 to 21. If we assume that $c_{\alpha\beta} = c_{ijkl}$, where $\alpha = (ij)$ and $\beta = (kl)$, in accordance with the notation $(11) \to 1$, $(22) \to 2$, $(33) \to 3$, $(23) = (32) \to 4$, $(13) = (31) \to 5$, $(12) = (21) \to 6$, then the matrix of independent elastic module can be given the form of a 6×6 symmetrical matrix. We will consider anisotropic media with a matrix of independent elastic module of the following form[4]:

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$$c_{\alpha\beta} = \begin{pmatrix} c_{11} & c_{12} & c_{13} & 0 & 0 & 0 \\ c_{12} & c_{11} & c_{13} & 0 & 0 & 0 \\ c_{13} & c_{13} & c_{33} & 0 & 0 & 0 \\ 0 & 0 & 0 & c_{44} & 0 & 0 \\ 0 & 0 & 0 & 0 & c_{44} & 0 \\ 0 & 0 & 0 & 0 & 0 & \frac{c_{11}-c_{12}}{2} \end{pmatrix}.$$

Then the system of equations (1) and (2) for the velocity u_i and strain $\sigma_{ij}\left(\sigma_{ij} = \sigma_{ji}\right)$ in view of (3)-(5) can be written as a system of first-order integro-differential equations.

$$\left(A\frac{\partial}{\partial t} + B\frac{\partial}{\partial x_1} + C\frac{\partial}{\partial x_2} + D\frac{\partial}{\partial x_3} + F\right)U(\overline{x},t) = \int_0^t R(t-\tau)U(\overline{x},\tau)d\tau, \quad (6)$$

where $U = (u_1, u_2, u_3, \sigma_{11}, \sigma_{12}, \sigma_{13}, \sigma_{22}, \sigma_{23}, \sigma_{33})^*$, $*$ is the transposition sign,

$$A = \begin{pmatrix} \rho I_{3\times3} & O_{3\times6} \\ O_{6\times3} & I_{6\times6} \end{pmatrix},$$

$$B = \begin{pmatrix} & O_{3\times3} & & -1 & 0 & 0 & 0 & 0 & 0 \\ & & & 0 & 0 & 0 & -1 & 0 & 0 \\ & & & 0 & 0 & 0 & 0 & -1 & 0 \\ -c_{11} & 0 & 0 & & & & & & \\ -c_{12} & 0 & 0 & & & & & & \\ -c_{13} & 0 & 0 & & & & & & \\ 0 & -c_{44} & 0 & & & O_{6\times6} & & & \\ 0 & 0 & -c_{44} & & & & & & \\ 0 & 0 & 0 & & & & & & \end{pmatrix},$$

$$C = \begin{pmatrix} & O_{3\times3} & & 0 & 0 & 0 & -1 & 0 & 0 \\ & & & 0 & -1 & 0 & 0 & 0 & 0 \\ & & & 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & -c_{12} & 0 & & & & & & \\ 0 & -c_{11} & 0 & & & & & & \\ 0 & -c_{13} & 0 & & & & & & \\ -c_{44} & 0 & 0 & & & O_{6\times6} & & & \\ 0 & 0 & 0 & & & & & & \\ 0 & 0 & \frac{c_{11}-c_{12}}{2} & & & & & & \end{pmatrix},$$

$$D = \begin{pmatrix} & O_{3\times3} & & 0 & 0 & 0 & 0 & -1 & 0 \\ & & & 0 & 0 & 0 & 0 & 0 & -1 \\ & & & 0 & 0 & -1 & 0 & 0 & 0 \\ 0 & 0 & -c_{13} & & & & & & \\ 0 & 0 & -c_{13} & & & & & & \\ 0 & 0 & -c_{33} & & & & & & \\ 0 & 0 & 0 & & & O_{6\times6} & & & \\ -c_{44} & 0 & 0 & & & & & & \\ 0 & \frac{c_{11}-c_{12}}{2} & 0 & & & & & & \end{pmatrix},$$

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$$F=\begin{pmatrix} 0_{3\times3} & O_{3\times6} & & & & & \\ & -r_{11}(0) & 0 & 0 & 0 & 0 & 0 \\ & 0 & -r_{22}(0) & 0 & 0 & 0 & 0 \\ & 0 & 0 & -r_{33}(0) & 0 & 0 & 0 \\ 0_{6\times3} & 0 & 0 & 0 & -r_{12}(0) & 0 & 0 \\ & 0 & 0 & 0 & 0 & -r_{13}(0) & 0 \\ & 0 & 0 & 0 & 0 & 0 & -r_{23}(0) \end{pmatrix},$$

$$R=R(t)=\begin{pmatrix} O_{3\times3} & O_{3\times6} & & & & & \\ & r'_{11} & 0 & 0 & 0 & 0 & 0 \\ & 0 & r'_{22} & 0 & 0 & 0 & 0 \\ & 0 & 0 & r'_{33} & 0 & 0 & 0 \\ O_{6\times3} & 0 & 0 & 0 & r'_{12} & 0 & 0 \\ & 0 & 0 & 0 & 0 & r'_{13} & 0 \\ & 0 & 0 & 0 & 0 & 0 & r'_{23} \end{pmatrix}. \qquad (7)$$

The system (6) can be reduced to a symmetric hyperbolic system [5],[6].

We reduce the system (6) to canonical form with respect to the variables t and x_3. To do this, multiply (6) on the left by A^{-1} and compose the equation

$$|A^{-1}D-\lambda I|=0, \qquad (8)$$

where I is the identity matrix of dimension 9. The last equation with respect to λ has following solutions:

$$\lambda_1(x_3)=-\sqrt{\frac{c_{33}}{\rho}},\quad \lambda_2(x_3)=-\sqrt{\frac{c_{44}}{\rho}},\quad \lambda_3(x_3)=-\sqrt{\frac{c_{11}-c_{12}}{2\rho}},\quad \lambda_{4,5,6}=0, \qquad (9)$$

$$\lambda_7(x_3)=\sqrt{\frac{c_{11}-c_{12}}{2\rho}},\quad \lambda_8(x_3)=\sqrt{\frac{c_{44}}{\rho}},\quad \lambda_9(x_3)=\sqrt{\frac{c_{33}}{\rho}}. \qquad (10)$$

Now we choose a nondegenerate matrix $T(x_3,t)$ so that the equality

$$T^{-1}A^{-1}DT=\Lambda \qquad (11)$$

is hold, where Λ is a diagonal matrix, the diagonal of which contains the eigenvalues (for each fixed x_3) (9)-(10) of the matrix $A^{-1}D$ that is

$$\Lambda=diag\left(-\sqrt{\frac{c_{33}}{\rho}},-\sqrt{\frac{c_{44}}{\rho}},-\sqrt{\frac{c_{11}-c_{12}}{2\rho}},0,0,0,\sqrt{\frac{c_{11}-c_{12}}{2\rho}},\sqrt{\frac{c_{44}}{\rho}},\sqrt{\frac{c_{33}}{\rho}}\right).$$

From the formula (11) implies the equality

$$A^{-1}DT=T\Lambda,$$

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which means that the column with the number i of the matrix T is an eigenvector of the matrix $A^{-1}DT$, corresponding to the eigenvalue λ_i. Direct calculations show that the matrix T, satisfying the above conditions, can be chosen as (not uniquely)

$$T(x_3) =$$

$$= \begin{pmatrix} 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ -c_{13}\sqrt{\dfrac{\rho}{c_{33}}} & 0 & 0 & 1 & 0 & 1 & 0 & 0 & c_{13}\sqrt{\dfrac{\rho}{c_{33}}} \\ -c_{13}\sqrt{\dfrac{\rho}{c_{33}}} & 0 & 0 & 0 & 1 & 0 & 0 & 0 & c_{13}\sqrt{\dfrac{\rho}{c_{33}}} \\ -\sqrt{c_{33}\rho} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & -\sqrt{c_{33}\rho} \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & -\sqrt{c_{44}\rho} & 0 & 0 & 0 & 0 & 0 & \sqrt{c_{44}\rho} & 0 \\ 0 & 0 & -\sqrt{(c_{11}-c_{12})\rho} & 0 & 0 & 0 & \sqrt{(c_{11}-c_{12})\rho} & 0 & 0 \end{pmatrix}.$$

We introduce the vector function U by the equality

$$U = T\vartheta.$$

Making this change in the equation (6) and then multiplying it on the left by $T^{-1}A^{-1}$, then we get

$$\left(I\frac{\partial}{\partial t} + \Lambda\frac{\partial}{\partial x_3} + B_1\frac{\partial}{\partial x_1} + C_1\frac{\partial}{\partial x_2} + F_1\right)\vartheta = \int_0^t R_1(t-\tau, x_3)\vartheta(\overline{x},\tau)d\tau, \qquad (12)$$

where

$$B_1 = T^{-1}A^{-1}BT = (b_{ij}), \qquad C_1 = T^{-1}A^{-1}CT = (c_{ij}),$$

$$F_1 = T^{-1}A^{-1}D\frac{\partial T}{\partial x_3} + T^{-1}A^{-1}FT = (p_{ij}),$$

$$R_1 = (\tilde{r}_{ij}) = \begin{pmatrix} \tilde{r}_{11} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \tilde{r}_{19} \\ 0 & \tilde{r}_{22} & 0 & 0 & 0 & 0 & \tilde{r}_{28} & 0 & 0 \\ 0 & 0 & \tilde{r}_{33} & 0 & 0 & 0 & 0 & \tilde{r}_{37} & 0 \\ \tilde{r}_{41} & 0 & 0 & \tilde{r}_{44} & 0 & \tilde{r}_{46} & 0 & 0 & \tilde{r}_{49} \\ \tilde{r}_{51} & 0 & 0 & 0 & \tilde{r}_{55} & 0 & 0 & 0 & \tilde{r}_{59} \\ 0 & 0 & 0 & 0 & 0 & \tilde{r}_{66} & 0 & 0 & 0 \\ 0 & 0 & \tilde{r}_{73} & 0 & 0 & 0 & 0 & \tilde{r}_{77} & 0 \\ 0 & \tilde{r}_{82} & 0 & 0 & 0 & 0 & \tilde{r}_{88} & 0 & 0 \\ \tilde{r}_{91} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \tilde{r}_{99} \end{pmatrix}, \qquad (13)$$

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where $\tilde{r}_{11} = \tilde{r}_{99} = -\tilde{r}_{19} = -\tilde{r}_{91} = \frac{r'_{33}}{2}$, $\tilde{r}_{22} = \tilde{r}_{88} = -\tilde{r}_{28} = -\tilde{r}_{82} = \frac{r'_{13}}{2}$, $\tilde{r}_{33} = \tilde{r}_{77} = -\tilde{r}_{37} = -\tilde{r}_{73} = \frac{r'_{23}}{2}$, $\tilde{r}_{41} = -\tilde{r}_{49} = \frac{c_{13}}{\lambda_1}(r'_{11} - r'_{33})$, $\tilde{r}_{44} = r'_{11}$, $\tilde{r}_{46} = r'_{11} - r'_{12}$, $\tilde{r}_{51} = -\tilde{r}_{59} = \frac{c_{13}}{\lambda_1}(r'_{22} - r'_{23})$, $\tilde{r}_{55} = r'_{22}, \tilde{r}_{66} = r'_{12}$.

The purpose of this article is to study the direct and inverse problems for the system (11). Moreover, the direct problem is an initial-boundary value problem for this system in domain $(x_1, x_2) \in \mathbb{R}^2, x_3 \in (0, H), t > 0$, and in the inverse problem, the elements of the matrix R are assumed to be unknown, which are included in the definition of the matrix R_1 (12).

The outline of this paper organized as follows. Section 1 presents the formulations of the direct and inverse problems and investigates the direct problem. In Section 2, the inverse problem is reduced to solving of an equivalent closed system of integral equations. In Section 3, we present the formulation and proof of the main result, which consists in the unique global solvability of the inverse problem. At the end there is a list of literatures used in the article.

1. Set up problems and investigation

Consider the system of equations (12) in the domain

$$D = \{(x_1, x_2, x_3, t): (x_1, x_2) \in \mathbb{R}^2, x_3 \in (0, H), t > 0\}, \quad H = const,$$

with a bounded $\Gamma = \Gamma_0 \cup \Gamma_1 \cup \Gamma_2$:

$$\Gamma_0 = \{(x_1, x_2, x_3, t): (x_1, x_2) \in \mathbb{R}^2, 0 \le x_3 \le H, t = 0\},$$

$$\Gamma_1 = \{(x_1, x_2, x_3, t): (x_1, x_2) \in \mathbb{R}^2, x_3 = 0, t > 0\},$$

$$\Gamma_2 = \{(x_1, x_2, x_3, t): (x_1, x_2) \in \mathbb{R}^2, x_3 = H, t > 0\}.$$

For this system **direct problem** we pose as follows: determine the solution of the system of equations (12)

$$\vartheta_i|_{t=0} = \varphi_i(\overline{x}), \quad i = \overline{1,9}, \tag{14}$$

$$\vartheta_i|_{x_3=H} = g_i(x_1, x_2, t), \quad i = \overline{1,3}, \quad \vartheta_i|_{x_3=0} = g_i(x_1, x_2, t), \quad i = \overline{7,9}. \tag{15}$$

Here $\varphi_i(\overline{x})$, $g_i(x_1, x_2, t)$ are given functions. It is known that [6] the problem (12), (14), (15) is posed well.

The inverse problem is to determine the nonzero components of the matrix kernel R, that is $r_{ij}(t)$, $i, j = \overline{1,3}$ (R is included in R_1 according to the formula (12)) in (12) if the following conditions are known:

$$\vartheta_i|_{x_3=0} = h_i(x_1, x_2, t), \quad i = \overline{1,6}, \tag{16}$$

where $h_i(x_1, x_2, t)$, $i = \overline{1,6}$, are the given functions.

In the inverse problem, the numbers $r_{ij}(0)$, $i, j = \overline{1,3}$ are also considered to be given.

Recently, there has been an increased interest in hyperbolic systems of integro-differential equations containing integrals of the convolution type. Such equations describe processes with memory (with aftereffect) or, as they are also called, eridite processes [7, p. 180-189]. Such processes are characterized by the fact that the change in their state at each moment of time depends on the history of the process. Examples of such processes are the deformation of a viscoelastic medium [2, p. 449-453], the processes of propagation

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of electromagnetic waves in media with dispersion [8, p. 357-392] and dynamics of coexistence and development of animal and plant populations of various species [7, p. 193-195].

Inverse problems for hyperbolic integro-differential equations have been studied by many authors, we note the works [9]–[21] closest to the topic of this article. In works [9]–[11], one-dimensional problems of finding the convolution kernel were studied: from the general wave equation [9] and from the viscoelasticity equations [11]–[19]. The main results of these works are theorems on the unique solvability of the problems posed. In [20], [21], results were obtained on the existence and uniqueness of solutions to some multidimensional inverse problems of determining the kernel from second-order hyperbolic integro-differential equations.

It seems completely natural to study inverse problems on the determination of the kernels of integral terms of a system of integro-differential equations directly in terms of the system itself. This article is a natural continuation of this circle of problems and to a certain extent generalizes the results of [22] to the case of a three-dimensional system of viscoelasticity equations (1), (2).

Let functions $F_1(\overline{x},t)$, $\varphi(\overline{x})$, $g_i(x_1,x_2,t)$ included in the right-hand side of (12) and the data (14), (15) are compact support in x_1, x_2 for each fixed x_3,t. From the existence for the system (12) of a compact support domain of dependence and compact support with respect to $x_1,\ x_2$ of the right-hand side (12) and data (14), (15) implies the compact support in $x_1,\ x_2$ solutions to the problem (12) - (15).

Let us study the property of solution to this problem. More precisely, we restrict ourselves to studying the Fourier transform in the variables $x_1,\ x_2$ of the solution. In what follows, for convenience, we put $x_3 = z$ and introduce the notation

$$\hat{\vartheta}(\eta_1,\eta_2,z,t) = \int\limits_{\mathbb{R}^2} \vartheta(x_1,x_2,z,t)e^{i[\eta_1x_1+\eta_2x_2]}dx_1dx_2,$$

$$\hat{F}(\eta_1,\eta_2,z,t) = \int\limits_{\mathbb{R}^2} F_1(x_1,x_2,z,t)e^{i[\eta_1x_1+\eta_2x_2]}dx_1dx_2,$$

where η_1,η_2 are transformation parameters.

In terms of the function $\hat{\vartheta}$ we write the problem (12)-(15) as

$$\left(\frac{\partial}{\partial t}+\nu_j\frac{\partial}{\partial z}\right)\hat{\vartheta}_j(z,t) = \sum_{k=1}^{9}\hat{p}_{jk}(z)\hat{\vartheta}_k(z,t) +$$

$$+\int\limits_0^t\sum_{k=1}^{9}\tilde{r}_{jk}(z,\tau)\hat{\vartheta}_k(\eta_1,\eta_2,z,t-\tau)d\tau, \quad j=\overline{1,9}, \tag{17}$$

where $\hat{p}_{jk} = -i\eta_1b_{jk} - i\eta_2c_{jk} - p_{jk}$.

We fix η_1, η_2 and for convenience, we introduce the notation $\hat{\vartheta}(\eta_1,\eta_2,z,t) = \hat{\vartheta}(z,t)$. We will use a similar notations for the Fourier images of functions included in the initial, boundary and additional conditions(14)-(16):

$$\hat{\vartheta}_i|_{t=0} = \hat{\varphi}_i(z), \quad i=\overline{1,9}, \tag{18}$$

$$\hat{\vartheta}_i|_{z=H} = \hat{g}_i(t), \quad i=\overline{1,3}, \quad \hat{\vartheta}_i|_{z=0} = \hat{g}_i(t), \quad i=\overline{7,9}, \tag{19}$$

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$$\hat{\vartheta}_i|_{z=0} = \hat{h}_i(t), \quad i = \overline{1,6}. \tag{20}$$

Where $\hat{\varphi}_i(z)$, $i = \overline{1,9}$, $\hat{\psi}_i(t)$, $i = 1,2,3,7,8,9$ are the Fourier images of the corresponding functions from (14), (15) for $\eta = 0$. We also denote by D_H the projection of D onto the plane z, t. In what follows, we will consider the system of equations (17) in the domain $D_H \cup \tilde{\Gamma}$ under the conditions (18) and (19). Where $\tilde{\Gamma}_0 = \{(z,t):\ 0 \le z \le H, t = 0\}$, $\tilde{\Gamma}_1 = \{z,t): z = 0, t > 0\}$, $\tilde{\Gamma}_2 = \{(z,t): z = H, t > 0\}$.

Let us pass from the equalities (17)-(20) to the integral relations for the components of the vector $\hat{\vartheta}$ with integration flux along the corresponding characteristics of the equations of the system (17). We denote

$$\mu_9(z) = -\mu_1(z) = \int_0^z \frac{\sqrt{\rho(\beta)}}{\sqrt{c_{33}(\beta)}} d\beta, \qquad \mu_8(z) = -\mu_2(z) = \int_0^z \frac{\sqrt{\rho(\beta)}}{\sqrt{c_{44}(\beta)}} d\beta,$$

$$\mu_7(z) = -\mu_3(z) = \int_0^z \frac{\sqrt{\rho(\beta)}}{\sqrt{(c_{11} - c_{12})(\beta)}} d\beta, \quad \mu_4(z) = \mu_5(z) = \mu_6(z) = 0.$$

Inverse functions to $\mu_i(z)$, $i = \overline{1,9}$, will be denoted by $z = \mu_i^{-1}(t)$, $i = \overline{1,9}$. Using the introduced functions, the equations of characteristics passing through the points (z,t) on the plane of variables ξ, τ can be written in the form

$$\tau = t + \mu_i(\xi) - \mu_i(z), \quad i = \overline{1,9}. \tag{21}$$

Consider an arbitrary point $(z,t) \in D_H$ on the plane of variables ξ, τ and draw through it the characteristic of the i th of the system (17) equation tell to intersection in the domain $\tau \le t$. The intersection point is denoted by (z_0^i, t_0^i). Integrating the equations of the system (17) along the corresponding characteristics from the point (z_0^i, t_0^i) to the point (z,t) we find

$$\hat{\vartheta}_i(z,t) = \hat{\vartheta}_i(z_0^i, t_0^i) + \int_{t_0^i}^t \sum_{k=1}^9 \hat{p}_{jk}(\xi)\hat{\vartheta}_k(\xi,\tau)|_{\xi=\mu_i^{-1}[\tau-t+\mu_i(z)]} d\tau +$$

$$+ \int_{t_0^i}^t \int_0^\tau \sum_{k=1}^9 \tilde{r}_{jk}(\xi, \tau-\alpha)\hat{\vartheta}_k(\xi,\alpha) d\alpha|_{\xi=\mu_i^{-1}[\tau-t+\mu_i(z)]} d\tau, \quad i = \overline{1,9}. \tag{22}$$

We define in (22) t_0^i. It depends on the coordinates of the point (z,t). It is not difficult to see that $t_0^i(z,t)$ has the form

$$t_0^i(z,t) = \begin{cases} \begin{cases} t - \mu_i(z) + \mu_i(H), & t \ge \mu_i(z) - \mu_i(H) \\ 0, & 0 < t < \mu_i(z) - \mu_i(H), \end{cases} & i = 1,2,3, \\ 0, & i = 4,5,6, \\ \begin{cases} t - \mu_i(z), & t \ge \mu_i(z), \\ 0, & 0 < t < \mu_i(z), \end{cases} & i = 7,8,9. \end{cases}$$

Then, from the condition that the pair (z_0^i, t_0^i) satisfies the equation (22) it follows

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$$z_0^i(z,t)=\begin{cases}H, & t\geq\mu_i(z)-\mu_i(H),\\ \mu_i^{-1}(\mu_i(z)-t), & 0<t<\mu_i(z)-\mu_i(H),\end{cases} i=1,2,3,$$

$$z_0^i(z,t)=z,\ i=4,5,6,$$

$$z_0^i(z,t)=\begin{cases}0, & t\geq\mu_i(z),\\ \mu_i^{-1}(\mu_i(z)-t), & 0<t<\mu_i(z),\end{cases} i=7,8,9.$$

The free terms of the integral equations (22) are defined through the initial and boundary conditions (18) and (19) as follows:

$$\hat{\vartheta}_0^i(z_0^i,t_0^i)=\begin{cases}\hat{g}_i(t-\mu_i(z)+\mu_i(H)), & t\geq\mu_i(z)-\mu_i(H),\\ \hat{\varphi}_i\left(\mu_i^{-1}(\mu_i(z)-t)\right), & 0<t<\mu_i(z)-\mu_i(H),\end{cases} i=1,2,3,$$

$$\hat{\vartheta}_0^i(z_0^i,t_0^i)=\hat{\varphi}_i(z),\quad i=4,5,6,$$

$$\hat{\vartheta}_0^i(z_0^i,t_0^i)=\begin{cases}\hat{g}_i(t-\mu_i(z)), & t\geq\mu_i(z),\\ \hat{\varphi}_i\left(\mu_i^{-1}(\mu_i(z)-t)\right), & 0<t<\mu_i(z),\end{cases} i=7,8,9.$$

We require that the functions $\hat{\vartheta}_i(z_0^i,t_0^i)$ be continuous in the domain D. Note that for the fulfillment of these conditions, the given functions $\hat{\varphi}_i$ and $\hat{g}_i$ must satisfy the matching conditions at the corner points of the domain D, that is

$$\hat{\varphi}_i(0)=\hat{g}_i(H),\quad i=1,2,3,\qquad \hat{\varphi}_i(0)=\hat{g}_i(0),\quad i=7,8,9. \tag{23}$$

Here and below, the values of the functions $\hat{g}_i$, $i=1,2,3,7,8,9$ at $t=0$ and functions $\hat{\varphi}_i$, $i=1,2,3,7,8,9$ at $z=0$ and $z=H$ are understood as the limit at these points when the argument tends from the side of the point where these functions are defined.

Suppose that all given functions included in (22) are continuous functions of their arguments in D_H. Then this system of equations is a closed system of integral equations of the Volterra type of the second kind with continuous kernels and free terms. As usual, such a system has a unique solution in the bounded subdomain $D_{HT}=\{(z,t):0<z<H,\ 0<t<T\}$, $T>0$ are some fixed number, domain D_H.

Thus, the following statement is hold:

Theorem 1. *Assume functions $F_1(x,t)$, $\varphi(x)$, $x\in\mathbb{R}^3$, $g(x_1,x_2,t)$ are compact support in x_1, x_2 for each fixed x_3, t. Let be $\rho(z),c_{33}(z),c_{44}(z),c_{11}(z),c_{12}(z),\hat{\varphi}(z)\in C^1[0,\infty)$, $\hat{g}(t)\in C^1[0,\infty)$, $\rho(z)>0$, $c_{33}(z)>0$, $c_{44}(z)>0$, $c_{11}(z)>0$, $c_{12}(z)>0$, $r_{ij}(t)\in C^1[0,\infty)$, $i,j=1,2$, and conditions (23) are satisfied. Then there is a unique solution to the problem (17)-(19) in the domain D_{HT}.*

The problem (17)-(19) in the domain D_{HT} is equivalent to a linear integral equation of the second kind of Volterra type with respect to $\hat{\vartheta}$. As follows from the theory of linear integral equations, it has a unique solutions [23]. So we drop it.

Let us introduce the vector function $\omega(z,t)=\frac{\partial\hat{\vartheta}}{\partial t}(z,t)$. To obtain a problem for a function $\omega(z,t)$ similar to (17) – (20) differentiate the equations (17) and the boundary conditions (22) with respect to the variable t, and the condition for $t=0$ is found using the equations (17) and the initial conditions (18). In this case, we get

$$\left(\frac{\partial}{\partial t}+\lambda_i\frac{\partial}{\partial z}\right)\omega_i(z,t)=\sum_{k=1}^{9}\hat{p}_{ik}(z)\omega_k(z,t)+$$

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$$+\sum_{k=1}^{9}\tilde{r}_{ik}(z,t)\hat{\varphi}_i(z)+\int_0^t\sum_{k=1}^{9}\tilde{r}_{ik}(z,\tau)\omega_k(z,t-\tau)d\tau,\quad i=\overline{1,9}, \tag{24}$$

$$\omega_i|_{t=0}=\Phi_i(z),\quad i=\overline{1,9}, \tag{25}$$

$$\omega_i|_{z=H}=\frac{d}{dt}\hat{g}_i(t),\quad i=\overline{1,3},\quad \omega_i|_{z=0}=\frac{d}{dt}\hat{g}_i(t),\quad i=\overline{7,9}, \tag{26}$$

where $\Phi_i(z)=-\lambda_i\frac{\partial\hat{\varphi}_i(z)}{\partial z}+\sum_{j=1}^{9}\hat{p}_{ji}(z)\hat{\varphi}_i(z),\ i=\overline{1,9}.$

For functions ω_i additional conditions (20) gets

$$\omega_i|_{z=0}=\frac{d}{dt}\hat{h}_i(t),\quad i=\overline{1,6}. \tag{27}$$

Integration along the corresponding characteristics again brings the problem (24)—(26) integral equations

$$\omega_i(z,t)=\omega_i\left(z_0^i,t_0^i\right)+$$

$$+\int_{t_0^i}^{t}\sum_{k=1}^{9}\hat{p}_{ik}(\xi)\omega_k(\xi,\tau)|_{\xi=\mu_i^{-1}[\tau-t+\mu_i(z)]}d\tau+\int_{t_0^i}^{t}\left[\sum_{k=1}^{9}\tilde{r}_{ik}(\xi,\tau)\hat{\varphi}_i(\xi)+\right.$$

$$\left.+\int_0^{\tau}\sum_{k=1}^{9}\tilde{r}_{ik}(\xi,\tau-\alpha)\omega_k(\xi,\alpha)d\alpha\right]_{\xi=\mu_i^{-1}[\tau-t+\mu_i(z)]}d\tau,\quad i=\overline{1,9}. \tag{28}$$

In equations (28), $\omega_i(z_0^i,t_0^i)$ are defined as follows:

$$\omega_i(z_0^i,t_0^i)=\begin{cases}\dfrac{\partial}{\partial t}\hat{g}_i(t-\mu_i(z)+\mu_i(H)), & t\geq\mu_i(z)-\mu_i(H),\\ \Phi_i\left(\mu_i^{-1}(\mu_i(z)-t)\right), & 0<t<\mu_i(z)-\mu_i(H),\end{cases}\quad i=1,2,3,$$

$$\hat{\vartheta}_0^i(z_0^i,t_0^i)=\Phi_i(z),\quad i=4,5,6,$$

$$\omega_i(z_0^i,t_0^i)=\begin{cases}\dfrac{\partial}{\partial t}\hat{g}_i(t-\mu_i(z)), & t\geq\mu_i(z),\\ \Phi_i\left(\mu_i^{-1}(\mu_i(z)-t)\right), & 0<t<\mu_i(z),\end{cases}\quad i=7,8,9.$$

Let the following conditions hold

$$\left[\frac{\partial\hat{g}_i(t)}{\partial t}\right]_{t=0}=-\lambda_j\left[\frac{\partial\hat{\varphi}_i(z)}{\partial z}\right]_{z=H}+\sum_{j=1}^{9}p_{ij}(H)\hat{\varphi}_j(H),\quad i=\overline{1,3}, \tag{29}$$

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$$\left[\frac{\partial \hat{g}_i(t)}{\partial t}\right]_{t=0} = -\lambda_j \left[\frac{\partial \hat{\varphi}_i(z)}{\partial z}\right]_{z=0} + \sum_{j=1}^{9} p_{ij}(0)\hat{\varphi}_j(0), \quad i = \overline{7,9}. \quad (30)$$

It is easy to see that the conditions for matching the initial and boundary data (25), (26) in corner points of the domain D_H coincide with the relations (29) and (30). Hence it is clear that for the fulfillment of the same equalities (29) and (30) equations (28) will have unique continuous solutions $\omega_i(z,t)$, or the same $\frac{\partial}{\partial t}\hat{\vartheta}_i(z,t)$.

2. Study of the inverse problem

Consider an arbitrary point $(z,0) \in D_{HT}$ and draw through it the characteristics (21) for $i = 1,2,3$, up to the intersection with the left lateral boundary of the domain D_H. Integrating the first three components of the equation (24), we obtain

$$\omega_i(z,0) = \omega_i\left(\gamma_i H, t_1^i\right) -$$

$$-\int_0^{t_1^i} \sum_{k=1}^{9} \hat{p}_{ik}(\xi)\omega_k(\xi,\tau)|_{\xi=\mu_i^{-1}[\tau+\mu_i(z)]} d\tau - \int_0^{t_1^i} [\tilde{r}_{ik}(\xi,\tau)\hat{\varphi}_i(\xi) +$$

$$+\sum_{k=1}^{9} \int_0^{\tau} \sum_{k=1}^{9} \tilde{r}_{ik}(\xi,\tau-\alpha)\omega_k(\xi,\alpha)d\alpha\Big|_{\xi=\mu_i^{-1}[\tau+\mu_i(z)]} d\tau, \quad i = \overline{1,9}. \quad (31)$$

where $t_1^i = \begin{cases}\gamma_i\mu_i(H) - \mu_i(z), & i = 1,2,3,7,8,9,\\ 0 & i = 4,5,6,\end{cases}$ $\gamma_i = \begin{cases}0, & i = 1,2,3,4,5,6,\\ 1, & i = 7,8,9.\end{cases}$

After many simple observation, we taken into account the initial conditions (27), those characteristics that are perpendicular to the OZ axis are differentiable with respect to the variable t, and other with respect to the variable z. Used equality (13), (26), (27) and (31), we get following the integral equation:

$$r'_{11}(t) = M_1 Q_1 - M_1 \int_0^t (r'_{11} - r'_{12})(\tau)\frac{d}{dt}\hat{h}_6(t-\tau)d\tau +$$

$$+\int_0^t r'_{12}(\tau)\frac{d}{dt}\hat{h}_6(t-\tau)d\tau - M_1 \int_0^t \left[\frac{c_{13}}{\lambda_1}(r'_{11} - r'_{33})(\tau)\frac{d}{dt}\left(\hat{h}_1 - \hat{g}_9\right)(t-\tau) +\right.$$

$$\left.+ r'_{11}(\tau)\frac{d}{dt}\hat{h}_4(t-\tau)\right]d\tau + 2c_{13}\int_0^t \frac{\partial}{\partial z}\sum_{j=1}^{9} \hat{p}_{1j}(\xi)\omega_j(\xi,\tau)|_{\xi=\mu_1^{-1}[t-\tau]}d\tau +$$

$$+c_{13}\int_0^t r'_{33}(\tau)\frac{\partial}{\partial z}(\hat{\varphi}_1 - \hat{\varphi}_9)(\xi)|_{\xi=\mu_1^{-1}[t-\tau]}d\tau$$

$$-\frac{c_{13}}{\lambda_1}\int_0^t r'_{33}(\tau)\frac{d}{dt}\left(\hat{h}_1 - \hat{g}_9\right)(t-\tau)d\tau +$$

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$$+c_{13}\int_0^t\int_0^\tau r'_{33}(\alpha)\frac{\partial}{\partial z}(\omega_1-\omega_9)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_1^{-1}[t-\tau]}d\tau, \quad (32)$$

$$r'_{12}(t)=Q_2-[\hat{\varphi}_6(0)]^{-1}\int_0^t r'_{12}(\tau)\frac{d}{dt}\hat{h}_6(t-\tau)d\tau, \quad (33)$$

$$r'_{13}(t)=-2M_2Q_3(z)+2M_2\int_0^t\frac{\partial}{\partial z}\sum_{j=1}^{9}\hat{p}_{2j}(\xi)\omega_j(\xi,\tau)|_{\xi=\mu_2^{-1}[t-\tau]}d\tau+$$

$$+M_2\int_0^t r'_{13}(\tau)\frac{\partial}{\partial z}(\hat{\varphi}_2-\hat{\varphi}_8)(\xi)|_{\xi=\mu_2^{-1}[t-\tau]}d\tau-$$

$$-M_3\int_0^t r'_{13}(\tau)\frac{d}{dt}\big(\hat{h}_2-\hat{g}_8\big)(t-\tau)d\tau+$$

$$+M_2\int_0^t\int_0^\tau r'_{13}(\alpha)\frac{\partial}{\partial z}(\omega_2-\omega_8)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_2^{-1}[t-\tau]}d\tau, \quad (34)$$

$$r'_{22}(t)=M_4Q_4+M_5\lambda_1M_6\int_0^t r'_{23}(\tau)\frac{\partial}{\partial z}(\hat{\varphi}_3-\hat{\varphi}_7)(\xi)|_{\xi=\mu_3^{-1}[t-\tau]}d\tau-$$

$$-M_5\int_0^t r'_{23}(\tau)\frac{d}{dt}\big(\hat{h}_3-\hat{g}_7\big)(t-\tau)d\tau+$$

$$+2M_6\int_0^t\frac{\partial}{\partial z}\sum_{j=1}^{9}\hat{p}_{3j}(\xi)\omega_j(\xi,\tau)|_{\xi=\mu_3^{-1}[t-\tau]}d\tau+$$

$$+M_5\lambda_1\int_0^t\int_0^\tau r'_{23}(\alpha)\frac{\partial}{\partial z}(\omega_3-\omega_7)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_3^{-1}[t-\tau]}d\tau+$$

$$+M_4\int_0^t r'_{23}(\tau)\left[\frac{c_{13}}{\lambda_1}\frac{d}{dt}\big(\hat{h}_1-\hat{g}_9\big)(t-\tau)\right]d\tau+$$

$$+M_4\int_0^t r'_{33}(\tau)\frac{c_{13}}{\lambda_1}\frac{d}{dt}\big(\hat{h}_1-\hat{g}_9\big)(t-\tau)d\tau+$$

$$+M_5\int_0^t r'_{33}(\tau)\frac{\partial}{\partial z}(\hat{\varphi}_1-\hat{\varphi}_9)(\xi)|_{\xi=\mu_1^{-1}[t-\tau]}d\tau+$$

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$$+2M_5\int_0^t \frac{\partial}{\partial z}\sum_{j=1}^{9}\hat{p}_{1j}(\xi)\omega_j(\xi,\tau)|_{\xi=\mu_1^{-1}[t-\tau]}d\tau +$$

$$+M_5\int_0^t\int_0^\tau r'_{33}(\alpha)\frac{\partial}{\partial z}(\omega_1-\omega_9)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_1^{-1}[t-\tau]}d\tau, \qquad (35)$$

$$r'_{23}(t) = -2M_6Q_5(z) + M_6\int_0^t r'_{23}(\tau)\frac{\partial}{\partial z}(\hat{\varphi}_3-\hat{\varphi}_7)(\xi)|_{\xi=\mu_3^{-1}[t-\tau]}d\tau -$$

$$-M_7\int_0^t r'_{23}(\tau)\frac{d}{dt}\big(\hat{h}_3-\hat{g}_7\big)(t-\tau)d\tau +$$

$$+2M_6\int_0^t \frac{\partial}{\partial z}\sum_{j=1}^{9}\hat{p}_{3j}(\xi)\omega_j(\xi,\tau)|_{\xi=\mu_3^{-1}[t-\tau]}d\tau +$$

$$+M_6\int_0^t\int_0^\tau r'_{23}(\alpha)\frac{\partial}{\partial z}(\omega_3-\omega_7)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_3^{-1}[t-\tau]}d\tau, \quad (36)$$

$$r'_{33}(t) = -2M_8Q_6(z) + 2M_8\int_0^t \frac{\partial}{\partial z}\sum_{j=1}^{9}\hat{p}_{1j}(\xi)\omega_j(\xi,\tau)|_{\xi=\mu_1^{-1}[t-\tau]}d\tau +$$

$$+M_8\int_0^t r'_{33}(\tau)\frac{\partial}{\partial z}(\hat{\varphi}_1-\hat{\varphi}_9)(\xi)|_{\xi=\mu_1^{-1}[t-\tau]}d\tau - M_9\int_0^t r'_{33}(\tau)\frac{d}{dt}\big(\hat{h}_1-\hat{g}_9\big)(t-\tau)d\tau$$

$$+M_8\int_0^t\int_0^\tau r'_{33}(\alpha)\frac{\partial}{\partial z}(\omega_1-\omega_9)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_1^{-1}[t-\tau]}d\tau, \quad (37)$$

where, $M_1 = \left[\frac{c_{13}}{\lambda_1}(\hat{\varphi}_1(0)-\hat{\varphi}_9(0)) + \hat{\varphi}_4(0) + \hat{\varphi}_6(0)\right]^{-1}$, $M_2 = \lambda_2[\hat{\varphi}_2(0)-\hat{\varphi}_8(0)]^{-1}$, $M_3 = [\hat{\varphi}_2(0)-\hat{\varphi}_8(0)]^{-1}, M_4 = \left[\frac{c_{13}}{\lambda_1}(\hat{\varphi}_9(0)-\hat{\varphi}_1(0)) + \hat{\varphi}_5(0)\right]^{-1}$,

$M_5 = (1-\hat{\varphi}_5(0)M_4)[\hat{\varphi}_3(0)-\hat{\varphi}_7(0)]^{-1}, M_6 = \lambda_2[\hat{\varphi}_3(0)-\hat{\varphi}_7(0)]^{-1}, M_7 = [\hat{\varphi}_3(0)-\hat{\varphi}_7(0)]^{-1}$, $M_8 = \lambda_1[\hat{\varphi}_1(0)-\hat{\varphi}_9(0)]^{-1}, M_9 = [\hat{\varphi}_1(0)-\hat{\varphi}_9(0)]^{-1}$,

$$Q_1 = M_1\left[\frac{d^2}{dt^2}\hat{h}_5(t) - \sum_{j=1}^{9}\hat{p}_{5j}(0)\omega_j(0,t)\right] - 2c_{13}\left[\frac{\partial}{\partial z}\left[\frac{d}{dt}\hat{h}_1(t_1^3)\right]\frac{\partial}{\partial z}\Phi_1(z) - \frac{1}{\lambda_1}\sum_{i=1}^{9}\hat{p}_{1i}(0)\omega_i(0,t)\right], Q_2 = \frac{d^2}{dt^2}\hat{h}_6(t) - \sum_{j=1}^{9}\hat{p}_{6j}(0)\omega_j(0,t),$$

$$Q_3 = \frac{\partial}{\partial z}\left[\frac{d}{dt}\hat{h}_2(t_1^2)\right]\frac{\partial}{\partial z}\Phi_2(z) - \frac{1}{\lambda_2}\sum_{i=1}^{9}\hat{p}_{2i}(0)\omega_i(0,t),$$

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$$Q_4 = M_4\left[\frac{d^2}{dt^2}\hat{h}_4(t) - \sum_{j=1}^{9}\hat{p}_{4j}(0)\omega_j(0,t)\right] - 2M_5\lambda_1\left[\frac{\partial}{\partial z}\left[\frac{d}{dt}\hat{h}_3(t_1^3)\right]\frac{\partial}{\partial z}\Phi_3(z) - \frac{1}{\lambda_3}\sum_{i=1}^{9}\hat{p}_{3i}(0)\omega_i(0,t)\right],$$

$$Q_5 = -2M_6\left[\frac{\partial}{\partial z}\left[\frac{d}{dt}\hat{h}_3(t_1^3)\right]\frac{\partial}{\partial z}\Phi_3(z) - \frac{1}{\lambda_3}\sum_{i=1}^{9}\hat{p}_{3i}(0)\omega_i(0,t)\right],$$

$$Q_6 = -2M_8\left[\frac{\partial}{\partial z}\left[\frac{d}{dt}\hat{h}_1(t_1^3)\right]\frac{\partial}{\partial z}\Phi_1(z) - \frac{1}{\lambda_1}\sum_{i=1}^{9}\hat{p}_{1i}(0)\omega_i(0,t)\right],$$

$$\frac{c_{13}}{\lambda_1}(\hat{\varphi}_1(0) - \hat{\varphi}_9(0)) + \hat{\varphi}_4(0) + \hat{\varphi}_6(0) \neq 0,\ \hat{\varphi}_2(0) - \hat{\varphi}_8(0) \neq 0, \quad (38)$$

$$\frac{c_{13}}{\lambda_1}(\hat{\varphi}_9(0) - \hat{\varphi}_1(0)) + \hat{\varphi}_5(0) \neq 0,\ \hat{\varphi}_3(0) - \hat{\varphi}_7(0) \neq 0,\ \hat{\varphi}_1(0) - \hat{\varphi}_9(0) \neq 0. \quad (39)$$

The equation $(32) - (3237)$ contains unknown functions $\frac{\partial\omega_j}{\partial z}$, $j = \overline{1,9}$. For them we will receive integral equations from (28) by differentiating them with respect to the variable z. Moreover, we have

$$\frac{\partial}{\partial z}\omega_i(z,t) = \frac{\partial}{\partial z}\omega_i(z_0^i,t_0^i) - \frac{\partial}{\partial z}t_0^i\left[\sum_{k=1}^{9}\hat{p}_{ik}(z_0^i)\omega_k(z_0^i,t_0^i) + \sum_{k=1}^{9}\tilde{r}_{ik}(z_0^i,t_0^i)\hat{\varphi}_i(z_0^i)\right]$$

$$+\int_{t_0^i}^{t}\frac{\partial}{\partial z}\left[\sum_{k=1}^{9}\hat{p}_{ik}(\xi)\omega_k(\xi,\tau) + \sum_{k=1}^{9}\tilde{r}_{ik}(\xi,\tau)\hat{\varphi}_i(\xi)\right]|_{\xi=\mu_i^{-1}[\tau-t+\mu_i(z)]}d\tau +$$

$$+\frac{\partial}{\partial z}t_0^i\int_{0}^{t_0^i}\sum_{k=1}^{9}\tilde{r}_{ik}(\xi,t_0^i-\tau)\omega_k(\xi,\tau)|_{\xi=\mu_i^{-1}[t_0^i-t+\mu_i(z)]}d\tau +$$

$$+\int_{t_0^i}^{t}\int_{0}^{\tau}\frac{\partial}{\partial z}\sum_{k=1}^{9}\tilde{r}_{ik}(\xi,\tau-\alpha)\omega_k(\xi,\alpha)d\alpha|_{\xi=\mu_i^{-1}[\tau-t+\mu_i(z)]}d\tau, \quad i = \overline{1,9}. \quad (40)$$

We require the fulfillment of the matching conditions

$$[-\lambda_j\frac{\partial\hat{\varphi}_i(z)}{\partial z}]_{z=0} + \sum_{j=1}^{9}p_{ij}(0)\hat{\varphi}_j(0) = [\frac{d}{dt}\hat{h}_i]_{t=0}, \quad i = \overline{1,6}. \quad (41)$$

3. Main result and its proof

The main result of this work is the following theorem:

Theorem 2: *Let the conditions of Theorem 1 are satisfaed, besides* $\varphi_i(z) \in C^2[0,H]$, $i = \overline{1,9}$, $\psi_i(t) \in C^2[0,\ \infty)$, $i = 1,2,3,7,8,9$, $h_i(t) \in C^2(0,\infty)$, $i = \overline{1,6}$, *equality (38),(39) and matching conditions (23), (29), (30), (41) hold. Then for any* $H > 0$ *on the segment* $[0,H]$ *there is a unique solution to the inverse problems* (12), (14), (15) *and* (16) *from class* $R_1(z,t) \in C^1[0,H]$.

Proof. Equations (28), (32)–(37) and (40) supplemented by the initial and boundary conditions from the equalities (24) forms a closed system of equations for the unknowns $\omega_i(z,t)$, $i = \overline{1,9}$, $r'_{ij}(t)$, $i,j = \overline{1,3}$, $\frac{\partial}{\partial z}\omega_i(z,t)$, $i = \overline{1,9}$. Consider now a square

$$D_0 := \{(z,t): 0 \le z \le H, \quad 0 \le t \le \mu^0\},$$

where $\mu^0 = \max\limits_{1\le i\le 3,7\le i\le 9}\{\mu_{m(i)}(H)\}$.

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Equations (28), (32)–(37) and (40) show that the values of the functions $\omega_i(z,t),\ i=\overline{1,9}$, $r'_{ij}(t)$, $i,j=\overline{1,3}$, $\frac{\partial}{\partial z}\omega_i(z,t),\ i=\overline{1,9}$ at $(z,t)\in D_0$ are expressed through integrals of some combinations of the same functions over segments lying in D_0.

Let us write down the equations (28), (32)–(37) and (40) in the form of a closed system of integral equations of Volterra type of the second kind. To do this, we introduce into consideration the vector function $v(z,t)=(v_i^1,\ v_j^2,\ v_i^3),\ i=\overline{1,9},\ j=\overline{1,6}$, setting their components by equalities

$$v_i^1(z,t)=\omega_i(z,t),\quad i=\overline{1,9}, \tag{42}$$

$$v_1^2(t)=r'_{11}(t),\qquad v_2^2(t)=r'_{12}(t),\qquad v_3^2(t)=r'_{13}(t),\qquad v_4^2(t)=r'_{22}(t),$$

$$v_5^2(t)=r'_{23}(t),\qquad v_6^2(t)=r'_{33}(t), \tag{43}$$

$$v_i^3(z,t)=\frac{\partial}{\partial z}\omega_i(z,t)-\frac{r'_{33}(t_0^i)}{2}\left(\tilde{\varphi}_1(z_0^i)-\tilde{\varphi}_9(z_0^i)\right)\frac{\partial}{\partial z}t_0^i,\quad i=1,9, \tag{44}$$

$$v_i^3(z,t)=\frac{\partial}{\partial z}\omega_i(z,t)-\frac{r'_{23}(t_0^i)}{2}\left(\tilde{\varphi}_2(z_0^i)-\tilde{\varphi}_8(z_0^i)\right)\frac{\partial}{\partial z}t_0^i,\quad i=2,7, \tag{45}$$

$$v_i^3(z,t)=\frac{\partial}{\partial z}\omega_i(z,t)-\frac{r'_{13}(t_0^i)}{2}\left(\tilde{\varphi}_3(z_0^i)-\tilde{\varphi}_7(z_0^i)\right)\frac{\partial}{\partial z}t_0^i,\quad i=3,8, \tag{46}$$

$$v_i^3(z,t)=\frac{\partial}{\partial z}\omega_i(z,t),\quad i=\overline{4,6}. \tag{47}$$

Then the system of equations (28), (32)–(37) and (40) takes operator-vector form

$$v=Av, \tag{48}$$

where the operator $A=(A_i^1,\ A_j^2,\ A_i^3),\ i=\overline{1,9},\ \ j=\overline{1,6}$, in accordance with the right-hand sides follow equations (28), (32)–(37) and (40). Taking into the equations (28) and the expression of (42), defined as follows

$$A_i^1v=v_i^{01}(z,t)+\int_{t_0^i}^{t}\left[\sum_{j=1}^{9}\hat{p}_{ij}(\xi)v_j^1(\xi,\tau)-\frac{v_6^2(\tau)}{2}(\hat{\varphi}_1-\hat{\varphi}_9)(\xi)\right]|_{\xi=\mu_1^{-1}[\tau-t+\mu_1(z)]}d\tau$$

$$-\int_{t_0^i}^{t}\int_{0}^{\tau}\frac{v_6^2(\alpha)}{2}(v_1^1-v_9^1)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_1^{-1}[\tau-t+\mu_1(z)]}d\tau,\quad i=1,9, \tag{49}$$

$$A_i^1v=v_i^{01}(z,t)+\int_{t_0^i}^{t}\left[\sum_{j=1}^{9}\hat{p}_{ij}(\xi)v_j^1(\xi,\tau)-\frac{v_3^2(\tau)}{2}(\hat{\varphi}_2-\hat{\varphi}_8)(\xi)\right]|_{\xi=\mu_2^{-1}[\tau-t+\mu_2(z)]}d\tau$$

$$-\int_{t_0^i}^{t}\int_{0}^{\tau}\frac{v_3^2(\alpha)}{2}(v_2^1-v_8^1)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_2^{-1}[\tau-t+\mu_2(z)]}d\tau,\quad i=2,8, \tag{50}$$

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$$A_i^1 v = v_i^{01}(z,t) + \int_{t_0^i}^{t} \left[\sum_{j=1}^{9} \hat{p}_{ij}(\xi) v_j^1(\xi,\tau) - \frac{v_5^2(\tau)}{2}(\hat{\varphi}_3 - \hat{\varphi}_7)(\xi) \right] |_{\xi=\mu_2^{-1}[\tau-t+\mu_3(z)]} d\tau$$

$$- \int_{t_0^3}^{t} \int_{0}^{\tau} \frac{v_5^2(\alpha)}{2}(v_3^1 - v_7^1)(\xi, \tau-\alpha) d\alpha |_{\xi=\mu_2^{-1}[\tau-t+\mu_3(z)]} d\tau, \quad i = 3,7, \quad (51)$$

$$A_4^1 v = \int_0^t \sum_{j=1}^{9} \hat{p}_{4j}(z) v_j^1(z,\tau) d\tau + \int_0^t [v_1^2(\tau)\hat{\varphi}_4(z) + (v_1^2 - v_2^2)(\tau)\hat{\varphi}_6(z)] d\tau +$$

$$+ \int_0^t \frac{c_{13}}{\lambda_1}(v_1^2 - v_6^2)(\tau)(\hat{\varphi}_1 - \hat{\varphi}_9)(z) d\tau +$$

$$+ \int_0^t \int_0^\tau \frac{c_{13}}{\lambda_1}(v_1^2 - v_6^2)(\tau)(v_1^1 - v_9^1)(z,\alpha) d\alpha d\tau +$$

$$+ \int_0^t \int_0^\tau [v_1^2(\alpha) v_4^1(z, \tau-\alpha) + (v_1^2(\alpha) - v_2^2(\alpha)) v_6^1(z, \tau-\alpha)] d\alpha d\tau, \quad (52)$$

$$A_5^1 v = \int_0^t \sum_{j=1}^{9} \hat{p}_{5j}(z) v_j^1(z,\tau) d\tau + \int_0^t v_1^2(\tau)\hat{\varphi}_4(z) d\tau + \int_0^t \int_0^\tau v_1^2(\alpha) v_4^1(z, \tau-\alpha) d\alpha d\tau$$

$$+ \int_0^t \frac{c_{13}}{\lambda_1}(v_4^2 - v_5^2)(\tau)(\hat{\varphi}_1 - \hat{\varphi}_9)(z) d\tau +$$

$$+ \int_0^t \int_0^\tau \frac{c_{13}}{\lambda_1}(v_1^2 - v_6^2)(\tau)(v_1^1 - v_9^1)(z,\alpha) d\alpha d\tau, \quad (53)$$

$$A_6^1 v = \int_0^t \sum_{j=1}^{9} \hat{p}_{6j}(z) v_j^1(z,\tau) d\tau +$$

$$+ \int_0^t \int_0^\tau v_2^2(\alpha) v_6^1(z, \tau-\alpha) d\alpha d\tau + \int_0^t v_2^2(\tau)\hat{\varphi}_6(z) d\tau. \quad (54)$$

So taking into the equations (32)–(37) and the expression of (43)–(??), defined as follows

$$A_1^2 v = v_1^{02}(z,t) - M_1 \int_0^t (v_1^2 - v_2^2)(\tau) \frac{d}{dt}\hat{h}_6(t-\tau) d\tau + \int_0^t v_2^2(\tau) \frac{d}{dt}\hat{h}_6(t-\tau) d\tau -$$

$$- M_1 \int_0^t \left[\frac{c_{13}}{\lambda_1}(v_1^1 - v_6^2)(\tau) \frac{d}{dt}(\hat{h}_1 - \hat{g}_9)(t-\tau) + v_1^2(\tau) \frac{d}{dt}\hat{h}_4(t-\tau) \right] d\tau +$$

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$$+2c_{13}\int_0^t \frac{\partial}{\partial z}\sum_{j=1}^{9} \hat{p}_{1j}(\xi)v_j^1(\xi,\tau)|_{\xi=\mu_1^{-1}[t-\tau]}d\tau +$$

$$+c_{13}\int_0^t v_6^2(\tau)\frac{\partial}{\partial z}(\hat{\varphi}_1-\hat{\varphi}_9)(\xi)|_{\xi=\mu_1^{-1}[t-\tau]}d\tau - \frac{c_{13}}{\lambda_1}\int_0^t v_6^2(\tau)\frac{d}{dt}\big(\hat{h}_1-\hat{g}_9\big)(t-\tau)d\tau +$$

$$+c_{13}\int_0^t\int_0^\tau v_6^2(\alpha)\frac{\partial}{\partial z}(v_1^1-v_9^1)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_1^{-1}[t-\tau]}d\tau, \qquad (55)$$

$$A_2^2 v = v_2^{02}(z,t) - [\hat{\varphi}_6(0)]^{-1}\int_0^t v_2^2(\tau)\frac{d}{dt}\hat{h}_6(t-\tau)d\tau, \qquad (56)$$

$$A_3^2 v = v_3^{02}(z,t) + 2M_2\int_0^t \frac{\partial}{\partial z}\sum_{j=1}^{9}\hat{p}_{2j}(\xi)v_j^1(\xi,\tau)|_{\xi=\mu_2^{-1}[t-\tau]}d\tau +$$

$$+M_2\int_0^t v_3^2(\tau)\frac{\partial}{\partial z}(\hat{\varphi}_2-\hat{\varphi}_8)(\xi)|_{\xi=\mu_2^{-1}[t-\tau]}d\tau - M_3\int_0^t v_3^2(\tau)\frac{d}{dt}\big(\hat{h}_2-\hat{g}_8\big)(t-\tau)d\tau +$$

$$+M_2\int_0^t\int_0^\tau v_3^2(\alpha)\frac{\partial}{\partial z}(v_2^1-v_8^1)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_2^{-1}[t-\tau]}d\tau, \qquad (57)$$

$$A_4^2 v = v_4^{02}(z,t) + M_5\lambda_1 M_6\int_0^t v_5^2(\tau)\frac{\partial}{\partial z}(\hat{\varphi}_3-\hat{\varphi}_7)(\xi)|_{\xi=\mu_3^{-1}[t-\tau]}d\tau -$$

$$M_5\int_0^t v_5^2(\tau)\frac{d}{dt}\big(\hat{h}_3-\hat{g}_7\big)(t-\tau)d\tau + 2M_6\int_0^t\frac{\partial}{\partial z}\sum_{j=1}^{9}\hat{p}_{3j}(\xi)v_j^1(\xi,\tau)|_{\xi=\mu_3^{-1}[t-\tau]}d\tau +$$

$$+M_5\lambda_1\int_0^t\int_0^\tau v_5^2(\alpha)\frac{\partial}{\partial z}(v_3^1-v_7^1)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_3^{-1}[t-\tau]}d\tau +$$

$$+M_4\int_0^t v_5^2(\tau)\frac{c_{13}}{\lambda_1}\frac{d}{dt}\big(\hat{h}_1-\hat{g}_9\big)(t-\tau)d\tau + M_4\int_0^t v_6^2(\tau)\frac{c_{13}}{\lambda_1}\frac{d}{dt}\big(\hat{h}_1-\hat{g}_9\big)(t-\tau)d\tau +$$

$$+M_5\int_0^t v_6^2(\tau)\frac{\partial}{\partial z}(\hat{\varphi}_1-\hat{\varphi}_9)(\xi)|_{\xi=\mu_1^{-1}[t-\tau]}d\tau +$$

$$+2M_5\int_0^t\frac{\partial}{\partial z}\sum_{j=1}^{9}\hat{p}_{1j}(\xi)v_j^1(\xi,\tau)|_{\xi=\mu_1^{-1}[t-\tau]}d\tau +$$

$$+M_5\int_0^t\int_0^\tau v_6^2(\alpha)\frac{\partial}{\partial z}(v_1^1-v_9^1)(\xi,\tau-\alpha)d\alpha|_{\xi=\mu_1^{-1}[t-\tau]}d\tau, \qquad (58)$$

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$$A_5^2 v = v_5^{02}(z,t) + M_6 \int_0^t v_5^2(\tau) \frac{\partial}{\partial z}(\hat{\varphi}_3 - \hat{\varphi}_7)(\xi)|_{\xi=\mu_3^{-1}[t-\tau]} d\tau -$$

$$-M_7 \int_0^t v_5^2(\tau) \frac{d}{dt}\left(\hat{h}_3 - \hat{g}_7\right)(t-\tau) d\tau + 2M_6 \int_0^t \frac{\partial}{\partial z} \sum_{j=1}^{9} \hat{p}_{3j}(\xi) v_j^1(\xi,\tau)|_{\xi=\mu_3^{-1}[t-\tau]} d\tau +$$

$$+M_6 \int_0^t \int_0^\tau v_5^2(\alpha) \frac{\partial}{\partial z}(v_3^1 - v_7^1)(\xi, \tau-\alpha) d\alpha|_{\xi=\mu_3^{-1}[t-\tau]} d\tau, \qquad (59)$$

$$A_6^2 v = v_6^{02}(z,t) + 2M_8 \int_0^t \frac{\partial}{\partial z} \sum_{j=1}^{9} \hat{p}_{1j}(\xi) v_j^1(\xi,\tau)|_{\xi=\mu_1^{-1}[t-\tau]} d\tau +$$

$$+M_8 \int_0^t v_6^2(\tau) \frac{\partial}{\partial z}(\hat{\varphi}_1 - \hat{\varphi}_9)(\xi)|_{\xi=\mu_1^{-1}[t-\tau]} d\tau - M_9 \int_0^t v_6^2(\tau) \frac{d}{dt}\left(\hat{h}_1 - \hat{g}_9\right)(t-\tau) d\tau +$$

$$+M_8 \int_0^t \int_0^\tau v_6^2(\alpha) \frac{\partial}{\partial z}(v_1^1 - v_9^1)(\xi, \tau-\alpha) d\alpha|_{\xi=\mu_1^{-1}[t-\tau]} d\tau. \qquad (60)$$

So taking into the equations (40) and the expression of (46)–(47), defined as follows

$$A_i^3 v = v_i^{03}(z,t) +$$

$$+ \int_{t_0^i}^t \frac{\partial}{\partial z}\left[\sum_{k=1}^{9} \hat{p}_{ik}(\xi) v_k^1(\xi,\tau) + \frac{1}{2} v_6^2(\xi,\tau)(\hat{\varphi}_1 - \hat{\varphi}_9)(\xi)\right]|_{\xi=\mu_i^{-1}[\tau-t+\mu_i(z)]} d\tau +$$

$$+ \frac{\partial}{\partial z} t_0^i \int_0^{t_0^i} v_6^2(\xi, t_0^i - \tau)(v_1^1 - v_9^1)(\xi,\tau)|_{\xi=\mu_i^{-1}[t_0^i - t+\mu_i(z)]} d\tau +$$

$$+ \int_{t_0^i}^t \int_0^\tau \frac{\partial}{\partial z}[v_6^2(\xi, \tau-\alpha)(v_1^1 - v_9^1)(\xi,\alpha)] d\alpha|_{\xi=\mu_i^{-1}[\tau-t+\mu_i(z)]} d\tau, \quad i = 1,9, \quad (61)$$

$$A_i^3 v = v_i^{03}(z,t) +$$

$$+ \int_{t_0^i}^t \frac{\partial}{\partial z}\left[\sum_{k=1}^{9} \hat{p}_{ik}(\xi) v_k^1(\xi,\tau) + \frac{1}{2} v_3^2(\xi,\tau)(\hat{\varphi}_2 - \hat{\varphi}_8)(\xi)\right]|_{\xi=\mu_2^{-1}[\tau-t+\mu_2(z)]} d\tau +$$

$$+ \frac{\partial}{\partial z} t_0^i \int_0^{t_0^i} v_3^2(\xi, t_0^i - \tau)(v_2^1 - v_8^1)(\xi,\tau)|_{\xi=\mu_2^{-1}[t_0^i - t+\mu_2(z)]} d\tau +$$

$$+ \int_{t_0^i}^t \int_0^\tau \frac{\partial}{\partial z}[v_3^2(\xi, \tau-\alpha)(v_2^1 - v_8^1)(\xi,\alpha)] d\alpha|_{\xi=\mu_2^{-1}[\tau-t+\mu_2(z)]} d\tau, \quad i = 2,8, \qquad (62)$$

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$$A_i^3 v = v_i^{03}(z,t) +$$

$$+\int_{t_0^i}^{t} \frac{\partial}{\partial z}\left[\sum_{k=1}^{9} \hat{p}_{ik}(\xi) v_k^1(\xi,\tau) + \frac{1}{2} v_5^2(\xi,\tau)(\hat{\varphi}_3 - \hat{\varphi}_7)(\xi)\right]|_{\xi=\mu_3^{-1}[\tau-t+\mu_3(z)]} d\tau +$$

$$+\frac{\partial}{\partial z} t_0^i \int_0^{t_0^i} v_5^2(\xi, t_0^i - \tau)(v_3^1 - v_7^1)(\xi,\tau)|_{\xi=\mu_3^{-1}[t_0^i-t+\mu_3(z)]} d\tau +$$

$$+\int_{t_0^i}^{t}\int_0^{\tau} \frac{\partial}{\partial z}[v_5^2(\xi,\tau-\alpha)(v_3^1 - v_7^1)(\xi,\alpha)]d\alpha|_{\xi=\mu_3^{-1}[\tau-t+\mu_3(z)]} d\tau, \quad i = 3,7, \quad (63)$$

$$A_4^3 v = \int_0^t \frac{\partial}{\partial z}\left[\sum_{j=1}^{9} \hat{p}_{4j}(z) v_j^1(z,\tau)\right] d\tau + \int_0^t \frac{\partial}{\partial z}[v_1^2(\tau)\hat{\varphi}_4(z) + (v_1^2 - v_2^2)(\tau)\hat{\varphi}_6(z)]d\tau +$$

$$+\int_0^t \frac{\partial}{\partial z}\left[\frac{c_{13}}{\lambda_1}(v_1^2 - v_6^2)(\tau)(\hat{\varphi}_1 - \hat{\varphi}_9)(z)\right] d\tau +$$

$$+\int_0^t\int_0^{\tau} \frac{\partial}{\partial z}\left[\frac{c_{13}}{\lambda_1}(v_1^2 - v_6^2)(\tau)(v_1^1 - v_9^1)(z,\alpha)\right] d\alpha d\tau +$$

$$+\int_0^t\int_0^{\tau} \frac{\partial}{\partial z}[v_1^2(\alpha)v_4^1(z,\tau-\alpha) + (v_1^2 - v_2^2)(\alpha)v_6^1(z,\tau-\alpha)]d\alpha d\tau, \quad (64)$$

$$A_5^3 v = \int_0^t \frac{\partial}{\partial z}\left[\sum_{j=1}^{9} \hat{p}_{5j}(z) v_j^1(z,\tau)\right] d\tau +$$

$$+\int_0^t \frac{\partial}{\partial z} v_1^2(\tau)\hat{\varphi}_4(z)d\tau + \int_0^t\int_0^{\tau} \frac{\partial}{\partial z} v_1^2(\alpha)v_4^1(z,\tau-\alpha)d\alpha d\tau +$$

$$+\int_0^t \frac{\partial}{\partial z}\left[\frac{c_{13}}{\lambda_1}(v_4^2 - v_5^2)(\tau)(\hat{\varphi}_1 - \hat{\varphi}_9)(z)\right] d\tau +$$

$$+\int_0^t\int_0^{\tau} \frac{\partial}{\partial z}\left[\frac{c_{13}}{\lambda_1}(v_1^2 - v_6^2)(\tau)(v_1^1 - v_9^1)(z,\alpha)\right] d\alpha d\tau, \quad (65)$$

$$A_6^3 v = \int_0^t \frac{\partial}{\partial z}\left[\sum_{j=1}^{9} \hat{p}_{6j}(z) v_j^1(z,\tau)\right] d\tau +$$

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$$+\int_0^t\int_0^\tau \frac{\partial}{\partial z}v_2^2(\alpha)v_6^1(z,\tau-\alpha)d\alpha d\tau+\int_0^t \frac{\partial}{\partial z}v_2^2(\tau)\hat{\varphi}_6(z)d\tau, \quad (66)$$

where

$$v_i^{01}(z,t)=\omega_i(z_0^i,t_0^i),\quad i=1,2,3,7,8,9,$$

$$v_1^{02}(z,t)=M_1(z)Q_1(z,t),\quad v_2^{02}(z,t)=Q_2(z,t),\quad v_3^{02}(z)=-2M_2(z)Q_3(z),$$

$$v_4^{02}(z,t)=M_4(z)Q_4(z,t),\quad v_5^{02}(z)=-2M_6(z)Q_5(z)\quad v_3^{02}(z)=-2M_8(z)Q_6(z),$$

$$v_i^{03}(z,t)=\frac{\partial}{\partial z}\omega_i(z_0^i,t_0^i)-\frac{\partial}{\partial z}t_0^i\left[\sum_{j=1}^{9}\hat{p}_{ij}(z_0^i)\omega_j(z_0^i,t_0^i)\right],\quad i=1,2,3,7,8,9.$$

Let $C_s(D_0),\ (s\le 0)$ be the Banach space of continuous functions with the ordinary norm, denoted by $\|\cdot\|_s$,

$$\|\ v\ \|_s=\max\{\max_{1\le i\le 9,(z,t)\in D_0}\left|v_i^1(z,t)\right|,\max_{1\le i\le 6,t\in[0,T]}\left|v_i^2(t)\right|,\max_{1\le i\le 9,(z,t)\in D_0}\left|v_i^3(z,t)\right|\}.$$

Obviously, C_s with $s=0$ is the usual space of continuous functions with the ordinary norm, denoted by $\|\cdot\|$ in what follows, because

$$e^{-sH}\ \|\ v\ \|\le\|\ v\ \|_s\le\|\ v\ \|.$$

The norms $\|\ v\ \|_s$ and $\|\ v\ \|$ are equivalent for any $T\in(0,+\infty)$, $H\in(0,\infty)$, where $s\in(0,1)$ and we choose that number later.

Next, consider the set of functions $S(v^0,r)\subset C_s(D_0)$, satisfying the inequality

$$\|\ v-v^0\ \|_s\le r, \quad (67)$$

where r is a known number, the vector function $v^0(z,t)=(v_i^{01}(z,t),\ \ i=\overline{1,9},\ \ v_i^{02}(t),\ i=\overline{1,6},\ \ v_i^{03}(z,t),\ i=\overline{1,9})$, defined by the free terms of the operator equation (48). It is easy to see that for $v\in S(v^0,r)$ the estimate $\|\ v\ \|_s\le\|\ v^0\ \|_s+r\le\|\ v^0\ \|+r:=r_0$. Thus, r_0 is known.

Let us introduce the following notation:

$$\varphi_0:=\max_{i=1,9}\|\ \hat{\varphi}_i\ \|_{C^2[0,H]},\quad g_0:=\max_{i=1,2,3,7,8,9}\|\ \hat{g}_i\ \|_{C^2[0,\infty)},\quad h_0:=\max_{i=1,6}\|\ h_i\ \|_{C^2[0,\infty)},$$

$$M^1=\max_{i,j=1,9}\|\ M_i(z)\ \|_{C[0,H]},M^2=\max_{i,j=1,9}\|\ \hat{p}_{ij}(z)\ \|_{C[0,H]},$$

$$M^3=\max_{i=1,3}\|\ \frac{c_{13}(z)}{\lambda_i(z)}\ \|_{C^1[0,H]},\qquad M^4=\max\|\ c_{13}(z)\ \|_{C^1[0,H]},$$

$$M^5=\max_{i=1,3}\|\ \lambda_i(z)\ \|_{C^1[0,H]},M^6=\max_{i=\overline{1,3,7,9}}\|\ \frac{\partial t_1^i}{\partial z}\ \|_{C[0,H]},$$

$$M^0=\max_{i=1,6}\|\ M^i,[\hat{\varphi}_6(0)]^{-1}\ \|.$$

Note that the operator A maps the space $C_s(D_0)$ into itself. Let us show that for a suitable choice of s (recall that $H>0$ is an arbitrary fixed number) it is on the set $S(v^0,r)$ a contraction operator. First, let us

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make sure that the operator A takes the set $S(v^0,r)$ into itself, that is, it follows from the condition $v(z,t) \in S(v^0,r)$ that $Av \in S(v^0,r)$, if s satisfies some constraints. In fact, for any $(z,t) \in D_0$ and $v \in S(v^0,r)$ the following inequalities hold:

$$\left\|A_1^1 v - v_1^{01}\right\| = \max\left|(A_1^1 v - v_1^{01})e^{-st}\right| \leq$$

$$\leq \left| \int_{t_0^1}^{t} \left[\sum_{j=1}^{9} \hat{p}_{1j}(\xi) v_j^1(\xi,\tau) e^{-s\tau} + \frac{v_6^2(\tau)e^{-s\tau}}{2} (\hat{\varphi}_1(\xi) - \hat{\varphi}_9(\xi)) \right] e^{-s(t-\tau)} |_{\xi=\mu_1^{-1}[t-\tau+\mu_1(z)]} d\tau + \right.$$

$$\left. + \int_{t_0^1}^{t} e^{-s(t-\tau)} \int_0^{\tau} \frac{v_6^2(\alpha)e^{-s\alpha}}{2} (v_1^1(\xi,\tau-\alpha) - v_9^1(\xi,\tau-\alpha)) e^{-s(\tau-\alpha)} d\alpha |_{\xi=\mu_1^{-1}[t-\tau+\mu_1(z)]} d\tau \right| \leq$$

$$\leq (9M^0 \parallel v \parallel_s + \varphi_0 \parallel v \parallel_s + \parallel v \parallel_s \parallel v \parallel_s) \int_{t_0^1}^{t} e^{-s(t-\tau)} d\tau \leq$$

$$\leq \frac{r_0}{s}(9M^0 + \varphi_0 + r_0) := \frac{\gamma_{11}}{s}.$$

Using similar calculations, for the remaining equations, we obtain

$$\|Av - v^0\| \leq \frac{1}{s} \max\left\{ \max_{j=1,9}\{\gamma_{1j}\}, \max_{j=1,6}\{\gamma_{2j}\}, \max_{j=1,9}\{\gamma_{3j}\} \right\} := \frac{1}{s}\gamma^0,$$

where

$$\gamma_{1j} := r_0(9M^0 + \varphi_0 + r_0), \quad j = 2,3,7,8,9,$$

$$\gamma_{14} := r_0(9M^0 + 4M^0\varphi_0 + 4M^0 r_0 + 3r_0 + 3\varphi_0),$$

$$\gamma_{15} := r_0(9M^0 + \varphi_0 + r_0 + 4M^0\varphi_0 + 4M^0 r_0),$$

$$\gamma_{16} := r_0(9M^0 + r_0 + \varphi_0),$$

$$\gamma_{21} := r_0(6M^0 h_0 + 3M^0 g_0 + 2M^0\varphi_0 + h_0 + 36M^0 + 2M^0 r_0),$$

$$\gamma_{22} := r_0 M^0 h_0, \qquad \gamma_{2i} := r_0 M^0(18 + 2\varphi_0 + + h_0 + g_0 + 2r_0), \quad i = 3,5,6$$

$$\gamma_{24} := 2M^0 r_0((M^0)^2\varphi_0 + g_0 + h_0 + \varphi_0 + 18 + M^0 r_0 + r_0 + 2M^0 + M_0 h_0 + M^0 g_0),$$

$$\gamma_{3j} := 2r_0(9M^0 + \varphi_0 + r_0 + M^0 r_0 + 2r_0), \quad j = 1,2,3,7,8,9,$$

$$\gamma_{34} := r_0(9M^0 + 12M^0 r_0 + 3\varphi_0(12M^0 + 3) + 6r_0),$$

$$\gamma_{35} := r_0(18M^0 + r_0 + \varphi_0 + 12M^0\varphi_0 + 12M^0 r_0),$$

$$\gamma_{36} := r_0(18M^0 + r_0 + \varphi_0).$$

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Choosing $s > (1/r)\gamma^0$, we get that the operator A maps the set $S(v^0, r)$ into itself.

Now, let v and $\tilde{v}$ be two arbitrary elements in $S(v^0, r)$. Using the obvious inequality

$$\left|v_i^k v_i^l - \tilde{v}_i^k \tilde{v}_i^l\right| e^{-st} \le \left|v_i^k - \tilde{v}_i^k\right| \left|v_i^l\right| e^{-st} + \left|\tilde{v}_i^k\right| \left|v_i^l - \tilde{v}_i^l\right| e^{-st} \le 2r_0 \parallel v - \tilde{v} \parallel_s, \quad (z,t) \in D_T,$$

after some easy estimations, we find that for $(z,t) \in D_T$,

$$\left\|A_1^1 v - A_1^1 \tilde{v}\right\| = \max\left|(A_1^1 v - A_1^1 \tilde{v}) e^{-st}\right| =$$

$$\int_{t_0^1}^{t} \left[\sum_{j=1}^{9} \hat{p}_{1j}(\xi)\left(v_j^1(\xi,\tau) - \widetilde{v_j^1}(\xi,\tau)\right) + \frac{v_6^2(\tau) - \widetilde{v_6^2}(\tau)}{2}\left(\hat{\varphi}_1(\xi) - \hat{\varphi}_9(\xi)\right)\right]\Big|_{\xi=\mu_1^{-1}[t-\tau+\mu_1(z)]} d\tau +$$

$$+ \int_{t_0^1}^{t} \int_{0}^{\tau} \frac{1}{2}\left(v_6^2(\alpha) v_1^1(\xi, \tau-\alpha) - \widetilde{v_6^2}(\alpha)\widetilde{v_1^1}(\xi,\tau-\alpha) - v_6^2(\alpha) v_9^1(\xi,\tau-\alpha)\right) d\alpha\Big|_{\xi=\mu_1^{-1}[t-\tau+\mu_1(z)]} d\tau +$$

$$+ \int_{t_0^1}^{t} \int_{0}^{\tau} \frac{1}{2}\widetilde{v_6^2}(\alpha)\widetilde{v_9^1}(\xi,\tau-\alpha) d\alpha\Big|_{\xi=\mu_1^{-1}[t-\tau+\mu_1(z)]} d\tau \le$$

$$\le \frac{1}{s}\left[\|v-\tilde{v}\|_s (9M^0 + \varphi_0) r_0 + 4r_0 \|v-\tilde{v}\|_s\right] \le \frac{\|v-\tilde{v}\|_s}{s}\left[9M^0 + \varphi_0 + 4r_0\right] := \frac{1}{s}\gamma_{41}$$

and hence we have

$$\|Av - A\tilde{v}\| \le \frac{1}{s}\max\left\{\max_{j=1,9}\{\gamma_{4j}\}, \max_{j=1,6}\{\gamma_{5j}\}, \max_{j=1,9}\{\gamma_{6j}\}\right\} := \frac{1}{s}\gamma^1,$$

where

$$\gamma_{4j} := \|v-\tilde{v}\|_s (9M^0 + \varphi_0 + r_0), \quad j = 2,3,7,8,9,$$

$$\gamma_{44} := \|v-\tilde{v}\|_s (9M^0 + 4M^0\varphi_0 + 4M^0 r_0 + 3r_0 + 3\varphi_0),$$

$$\gamma_{45} := \|v-\tilde{v}\|_s (9M^0 + \varphi_0 + r_0 + 4M^0\varphi_0 + 4M^0 r_0),$$

$$\gamma_{46} := \|v-\tilde{v}\|_s (9M^0 + r_0 + \varphi_0),$$

$$\gamma_{51} := \|v-\tilde{v}\|_s (6M^0 h_0 + 3M^0 g_0 + 2M^0\varphi_0 + h_0 + 36M^0 + 2M^0 r_0),$$

$$\gamma_{52} := \|v-\tilde{v}\|_s M^0 h_0,$$

$$\gamma_{54} := \|v-\tilde{v}\|_s 2M^0((M^0)^2\varphi_0 + g_0 + h_0 + \varphi_0 + 18 + M^0 r_0 + r_0 + 2M^0 + M_0 h_0 + M^0 g_0),$$

$$\gamma_{5j} := \|v-\tilde{v}\|_s M^0(18 + 2\varphi_0 + + h_0 + g_0 + 2r_0), \quad j = 3,5,6$$

$$\gamma_{6j} := 2\|v-\tilde{v}\|_s (9M^0 + \varphi_0 + r_0 + M^0 r_0 + 2r_0), \quad j = 1,2,3,7,8,9,$$

$$\gamma_{64} := \|v-\tilde{v}\|_s (9M^0 + 12M^0 r_0 + 3\varphi_0(12M^0 + 3) + 6r_0),$$

$$\gamma_{65} := \|v-\tilde{v}\|_s (18M^0 + r_0 + \varphi_0 + 12M^0\varphi_0 + 12M^0 r_0),$$

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$$\gamma_{66} := \|v - \tilde{v}\|_s (18M^0 + r_0 + \varphi_0).$$

Choosing now $s > \gamma^1$, we get, that the operator A compresses the distance between the elements $v, \tilde{v}$ to $S(v^0, r)$.

As follows from the performed estimates, if the number s is chosen from conditions $s > s^* := max\{\gamma^0, \gamma^1\}$, then the operator A is contracting on $S(v^0, r)$. In this case, according to the principle Banach the equation [24, page 87-97] (48) has the only solution in $S(v^0, r)$ for any fixed $H > 0$. Theorem 2 is proved.

By the found functions $r'_{ij}(t),\ i,j = \overline{1,3}$ the functions $r_{ij}(t),\ i,j = \overline{1,3}$ are found by the formulas

$$r_{ij}(t) = r_{ij}(0) + \int_0^t r'_{ij}(\tau)d\tau, \quad i,j = \overline{1,3}.$$

Note that by the functions $r_{ij}(t),\ i,j = \overline{1,3}$, the functions $K_{ij}(t),\ i,j = \overline{1,3}$, are defined as solutions of integral equations (4).

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IMPORTANCE OF HYDROGEN ENERGY AND SOME METHODS OF ITS PRODUCTION

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Abstract. One of the main tasks of modern physics is providing energy to mankind. Currently, hydrogen energy is considered the best source for both economic and environmental applications. Hydrogen has served as the simplest and most understandable model for the analysis of many theoretical data in both physics and chemistry. A simple explanation of the atomic structure is carried out using the Bohr's postulates of the hydrogen atom. Several physical and chemical properties of hydrogen indicate that it can be the basis of high energy supply. Although all processes from hydrogen generation to its delivery have already been studied, several failures or almost useless results are observed in practice. First of all, in addition to the large economic costs of hydrogen production itself the high energy demand somewhat dims the attractiveness of hydrogen power. It is no exaggeration to say that the solution of many such theoretical and practical problems is on the list of modern energy problems. Serious research is being conducted with hydrogen energy at the world's leading scientific institutions. In our country, the ground is currently being prepared for extensive research on hydrogen energy. Based on these, the author talks about the simplest and most important concepts about hydrogen energy in this article. First, the content of hydrogen energy and its importance will be introduced. Then several methods of hydrogen production are described and some problems in hydrogen production are discussed. The article concludes with important conclusions at the end.

Keywords: Hydrogen energy, ecofriendly fuel, fuel cells, electrolysis, methane pyrolysis, thermochemical reaction, solid carbon, energy carrier.

Introduction. Innovations in physics will undoubtedly lead to the emergence of new innovative projects in engineering, manufacturing and industry. Therefore, it is important to solve existing problems with the help of physical knowledge. One of the biggest challenges facing the world community right now is achieving the most optimal energy resources. Current issues such as declining oil and gas reserves, air pollution, and global warming require a source of quality energy that is both technically and also ecofriendly. Many scientists believe that hydrogen energy has such properties. Several countries around the world have developed their own strategic projects on the use of hydrogen energy and have implemented some of these plans. A number of state-level projects on hydrogen energy are also planned in our country. These include promising plans to increase the energy efficiency of the economy by 20% by 2026 and reduce emissions by 20% through the active introduction of "green economy" technologies in all sectors.

At present, the task of meeting the energy needs of mankind through scientific advances is one of the most pressing issues. One way to solve this problem is using hydrogen energy. Hydrogen energy has a high energy efficiency, environmental and social benefits, as well as the use of hydrogen and or hydrogen-containing compounds for energy production for all practical purposes necessary with economic competitiveness.

In each period of the energy revolution, one can observe large innovative programs that have had a profound impact on human life. In the 21st century, humanity is at the forefront of new energy and can overcome it through a series of unidentified innovations. It is known from history that scientists were the main source of innovative ideas and revolutionary solutions in the field of energy. It is difficult to imagine future energy without alternative energy, and in this sense the greatest hopes can be pinned on hydrogen energy. Scientific and technical directions of the concept of hydrogen energy were developed in the 70s of the last century. In this direction, the replacement of fossil fuels with a new energy carrier, hydrogen, in all areas of their use, during combustion, only water is formed, and there is almost no harmful waste. The world is currently experimenting with ways to use hydrogen energy efficiently in all areas, including energy production, storage and distribution: the supply of electricity, heat and cooling for buildings and households is organized through hydrogen energy; industry; it is hydrogen energy that is used in transportation and the production of various raw materials, and there are many such applications. Energy efficiency and sustainability form the basis for the transition from the current fossil fuel-based economy to an economy based on renewable sustainable fuel use cycles based on high-efficiency engineering and energy technology selection. At present, advanced technological options for hydrogen production and methods and prospects of its application in major energy networks for the full implementation of the use of hydrogen energy

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technologies are widely discussed by experts. An unexpected opportunity to find and accumulate natural hydrogen on Earth, which was once considered non-existent, has been opened up and analyzed to understand possible geological interpretations to manage the future activities of sustainable and perennial fuels. Most experts and scientists note that the hydrogen industry is expected to form the basis of a future globalized economy. Hydrogen replaces modern coal, oil and natural gas. According to various forecasts, this situation will begin to develop by 2040.

Methods. One of the reasons that hindered the development of hydrogen technology in the twentieth century was that its production technology became more expensive. However, now, with the use of high technology, these processes are becoming cheaper, and another important aspect is that it is an environmentally friendly product. This means that today the role of hydrogen is invaluable in fulfilling the obligations of states to combat climate change. At a time when the world's population is growing rapidly, attention is being paid to hydrogen as a solution to the problem of energy supply to buildings, transport networks and industry. The main task for the next decade is to create a completely new industry and market for hydrogen technology. This requires the production of environmentally friendly "green" hydrogen, large scale storage and transportation of thousands of kilometers by pipeline and tanker, as well as the development of energy, transport, industrial and household applications.

In recent years, much research has been conducted around the world on the efficient use of alternative energy. In particular, the use and improvement of hydrogen energy is one of the most important and topical issues in the focus of scientists. In the last two centuries, methods of using energy from substances such as oil and gas, fuel and nuclear energy for the benefit of mankind have been discovered and put into practice. However, these methods of energy production, which are now widely used, are increasing the demand for new types of energy due to declining mineral resources, environmental pollution and declining economic efficiency. Hydrogen energy has many advantages and is currently the most optimal solution to meet energy needs. Therefore, a lot of work has been done in this area recently.

In its free state and under normal conditions, hydrogen is a colorless, odorless, and tasteless gas. The density of hydrogen relative to air is 1/14. Hydrogen can react with other substances, such as oxygen in water, carbon in methane, and organic compounds. Because hydrogen is so chemically active, it rarely exists as an unbound element. Hydrogen sold up to the liquid state occupies 1/700 of the gas state. Hydrogen has a maximum binding energy of 120.7 GJ/t per unit mass when combined with oxygen. The low molecular weight and high energy generating properties were the basis for the use of hydrogen as a fuel for rockets, an energy source quality for spacecraft. Also, when hydrogen is used, no hot gases are formed and the water quality in nature is not affected.

The chemical element hydrogen was discovered in 1766 by the British scientist Henry Cavendish. In 1800, the method of obtaining hydrogen from water by electricity was invented, and in the middle of the 19th century, an electrochemical device was developed to generate electricity from hydrogen without combustion. In the first half of the twentieth century, experimental devices for the production of hydrogen from methane were launched. At present, about 55-65 million tons of hydrogen gas are produced annually, mainly due to hydrocarbons. Hydrogen is mainly used in oil refining and in the chemical industry for the production of ammonia and methanol. Currently, only 1-2% of the total hydrogen is used in energy. Global energy is undergoing a global transformation process to reduce emissions. Leading developed countries are pursuing goals in their development strategies to combat climate change, including reducing greenhouse gas emissions under the Intergovernmental Agreement on Climate Change. Renewable energy sources play an important role in achieving these goals. The International Energy Agency forecasts that by 2040, solar and wind power will account for 20-35 percent of the world's electricity generation. In this development, the demand for energy storage and rapid compensation technologies will increase.

Hydrogen energy is an effective tool that creates long-term energy storage opportunities. In this case, the technology of hydrogen production from water can be used, using excess energy from solar and wind sources. More than 20 countries and more than 50 corporations have adopted long-term strategies for the development of hydrogen technology, and these programs are being implemented rapidly through various incentives. For example, Japan has set itself the goal of building "hydrogen society" and has launched inter-continental projects to import hydrogen from countries such as Australia and Norway to use hydrogen in households. Japan has also set a target of 10 million tons of hydrogen per year by 2050 in its Strategic Roadmap for Hydrogen and Fuel Cells. The U.S. Hydrogen Program has been running under various names since the 1970s. In the 21st century, the program is experiencing a renaissance - the US DOE Hydrogen and Fuel Cells Program is funded annually by $ 120 million. The United States has enacted a “comprehensive national energy strategy” (the future of hydrogen) developed by the Department of Energy. The law stipulates that fuel cells should be recognized as key elements in the development of hydrogen energy

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technologies, and adopted a multi-year research plan proposed by the US Department of Energy. The single state of Hawaii is also implementing its hydrogen program and intends to export hydrogen and hydrogen energy carriers in the future. In addition to the United States, these industries are the fastest growing in Canada, Japan and other developed countries. Along with large-scale research, active work is being done here on the commercialization of hydrogen energy. The Fuel Cells and Hydrogen Joint Undertaking (FCH JU) program was launched in the EU in 2017. According to the program, by 2023, 1.8 euros billion will be allocated for the development of hydrogen technology.

Solar and wind energy in Uzbekistan have great potential, but one of the main obstacles to their development is the dependence of these energy routes on climate change and day and night shifts. Wind generators operate only at wind speeds above 5-6 m/s and provide an average of 3200-4300 hours of power per year in areas of Uzbekistan with high wind potential, with an annual duration of 8760 hours. Solar photovoltaic plants operate only during the day, in cloudless and low-cloud conditions, and provide an average of 1,500 to 2,200 hours of energy per year in areas of Uzbekistan with high solar potential. At night, during cloudy or windless times, the amount of energy produced by variable renewable energy sources decreases, and this decrease needs to be compensated for by other sources. For this purpose, the use of thermal power plant blocks, chemical accumulators leads to a significant increase in the cost of each kWh of electricity supplied. When the amount of energy from variable renewable energy sources is large, hydrogen can be obtained at the expense of excess energy, stored for a certain period of time, and used as a source of compensation for energy shortages. The main consumers of hydrogen are the chemical industry (hydrogen is mainly used in the production of ammonia and methanol), as well as the petrochemical industry. In oil refining, it is used to purify various petroleum products from sulfur compounds. In energy, hydrogen is used to cool high-capacity turbogenerators. In ferrous and nonferrous metallurgy, hydrogen is used to obtain pure metals that recover from oxides. In particular, high purity hydrogen is required for the production of chemically pure copper, tungsten and molybdenum. In the radio engineering industry, hydrogen is used in the manufacture of semiconductor equipment. The combustion temperature of hydrogen in oxygen is about 3,000 degrees, and in special burners it can produce up to 4,000 degrees. Therefore, hydrogen is used to weld refractory metals. It is also used as liquid hydrogen - rocket fuel. It should be noted that in recent years, the world community has faced the problem of global warming. According to some estimates, a further increase in the global average temperature by another 2 degrees will lead to an irreversible rise in temperature and the destruction of all life on the planet. In order to prevent an irreversible rise in global average temperatures, the Paris Agreement was adopted by consensus on December 12, 2015, within the framework of the UN Framework Convention on Climate Change. It envisages measures to reduce carbon dioxide in the atmosphere by 2020, to keep global average temperature rise below 2 °C and to make efforts to limit temperature rise to 1.5 °C. Maintaining global average temperature growth can be achieved, including by expanding the use of renewable energy sources and shifting to energy-saving and energy-efficient technologies. In recent years, the use of hydrogen fuel, green hydrogen, which can be used as an energy accumulator, has begun to develop. This green hydrogen is produced by breaking down water molecules into 2 hydrogen atoms and an oxygen atom using electrolysis or pyrolysis technology, using the excess energy produced at renewable energy sources. This process is environmentally friendly and involves only the release of pure oxygen into the atmosphere. The extracted hydrogen is stored in special tanks until it is used. For example, attraction of hydrogen is apparent as a chemical energy agent, possessing among the highest energy density content of various common fuels, whose combustive “waste” is simply water. It could be transferred via cryogenic tubes being liquid at temperatures ~18–26 K. Superconductors are used to store and transport liquid hydrogen. Hydrogen can also be delivered to the destination both through pipelines and in cisterns mounted on vehicles [1].

Hydrogen can be used in our country in the following ways:

a) as ecfriendly fuel. Duoring the combustion of hydrogen, only water vapor is released, and heat and electricity can be produced during combustion.

b) as fuel cells. This produces electricity directly from hydrogen without combustion, resulting in only pure water. These elements are also used in hydrogen cars. From the point of view of green energy, the efficiency of hydrogen fuel cells is very high: 70-90%. For comparison: the best internal combustion engines’ efficiency is 35-40% and or solar photovoltaic plants, only 15-20%, depending on weather conditions. The efficiency of the best wind power plants is up to 40%, but wind farms also require favorable weather conditions and costly maintenance. In order to develop the hydrogen energy sector in the country, the Ministry of Innovative Development has developed a proposal to establish "Scientific and Practical Innovation Center for Hydrogen Energy Technology." The center will conduct research on the extraction, storage and use of hydrogen. On July 10, 2020, the Resolution of the President of the Republic of

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Uzbekistan No. PP-4779 which is named as "On additional measures to reduce the dependence of the economy on fuel and energy products by increasing energy efficiency and attracting available resources" including The Roadmap for improving efficiency and saving fuel and energy resources was approved. Paragraph 15 of the Roadmap sets the task of "developing a long-term national strategy for the development of hydrogen energy" [2,3,13,15].

It is well-known fact that hydrogen energy is formed by obtaining hydrogen. There are several ways to obtain hydrogen:

- Electrolysis from water;
- Using methane pyrolysis;
- Industrial methods;
- By thermochemical reactions;
- Through many other ways [12].

Results. Some methods of producing hydrogen are introduced below:

I.Electrolysis. Electrolysis of water is a simple method of obtaining hydrogen. An electric current is passed through the water and gaseous oxygen is formed at the anode and gaseous hydrogen at the cathode (Figure1). Typically, in the production of hydrogen for storage, the cathode is made of platinum or other inert metal. However, if a certain gas is to be ignited at the site to obtain hydrogen, oxygen will be required to burn, and therefore both electrodes are made of inert metals. For example, iron is oxidized, thereby reducing the amount of oxygen released. Theoretically, the maximum efficiency (relative to the energy value of the electricity produced and the hydrogen produced) would be in the range of 88-94%. The method of electrolysis of hydrogen from water is based on the following reaction equation:

$$2H_2O \rightarrow 2H_2 + 2O$$

Many fuel cells have been developed to produce hydrogen by electrolysis [4]. Hydrogen energy from water electrolysis is deeply understood in [5].

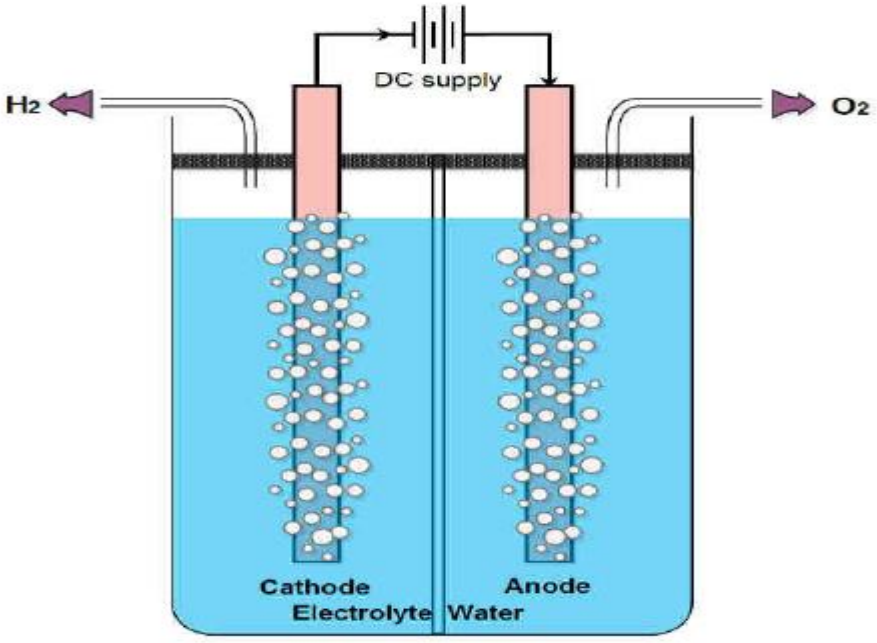

Figure 1. The fundamental of water electrolysis process [5].

II. Methane pyrolysis. Hydrogen production from natural gas using methane is a single-stage process that does not produce harmful gases called greenhouse gases. Increasing the volume of hydrogen production using this method will ensure a faster reduction of carbon emissions through the use of hydrogen in industrial processes, improve the quality of fuel transmission processes and have a wide effect in the production of electricity from gas. A simple example of methane pyrolysis is the extraction of methane (C) foamed at H_4 at 1340 K (1070^0C) through a metal catalyst containing molten nickel . Methane pyrolysis leads to the decomposition of methane into hydrogen gas and solid carbon without other by-products according to the following formula (Figure 2) :

$$CH_4 \rightarrow C + 2H_2$$

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Solid carbon used in industry and produced from the above reaction can be sold as a raw material for production or placed in permanent special containers that do not emit into the atmosphere and do not pollute the water. Methane pyrolysis is produced and is considered suitable for mass hydrogen production for commercial purposes. The German chemical company BASF Group is experimenting with the production of methane pyrolysis on a large scale. Similar research is being conducted in several laboratories, including the Karlsruhe Liquid Metals Laboratory (KALLA) and the Chemical Engineering Laboratory at the University of California, Santa Barbara, which could serve to further improve hydrogen uptake. Readers may see additional information about methane pyrolysis in [11].

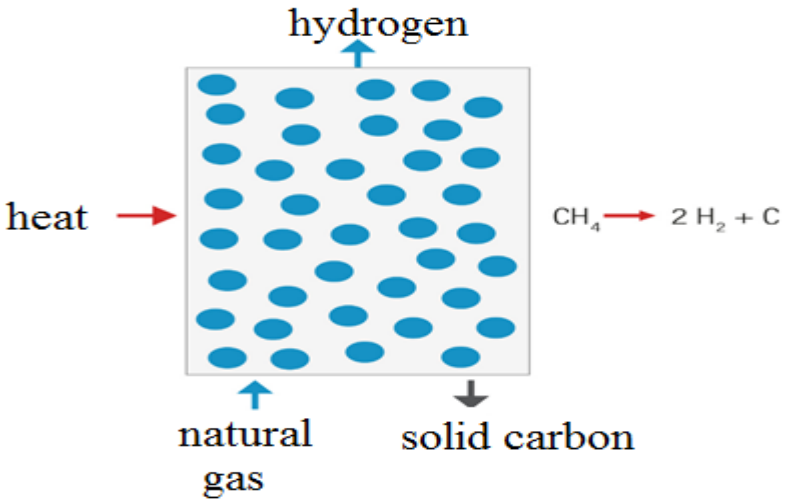

Figure 2. Schematic representation of hydrogen production using methane pyrolysis [14].

III. Steam reforming. Hydrogen is often formed by the reaction of water with methane and carbon monoxide, in which hydrogen is separated from hydrocarbons at very high temperatures and 48% of the hydrogen is obtained by steam processing. Water vapor reacts with carbon monoxide to form water vapor, which oxidizes it to carbon dioxide and converts water to hydrogen. Commercially available hydrogen is typically produced by processing natural gas vapor into atmospheric greenhouse gas or by extracting and storing carbon, mitigating climate change . Steam processing is also known as chemical reactions known as the General process and is widely used in the production of hydrogen for industry.

At high temperatures (1000–1400 K), steam (water vapor) reacts with methane to form carbon monoxide and hydrogen:

$$CH_4 + H_2O \rightarrow CO + 3H_2$$

This reaction occurs at low pressures, but is still carried out at high pressures (2.0 MPa, 20 atm or 600 mm Hg). This is because high pressure H_2 is the most sought after product and pressure variable cleaning systems work better at high pressures. The product mixture is called “synthesis gas” because it is often used to produce methanol and related compounds. Hydrocarbons other than methane can be used to produce synthesis gas with different product ratios. One of the effects of this highly optimized technology is the formation of coke or carbon:

$$CH_4 + H_2O \rightarrow C + 2H_2$$

Thus, steam generation usually requires excess H_2O. Additional hydrogen can be recovered from the vapor through the gas exchange reaction of water using carbon monoxide, especially using an iron oxide catalyst. The following reactions are also a common source of carbon dioxide :

$$CO + H_2O \rightarrow CO_2 + H_2$$

One of the other main methods for the production of CO and H_2 involves the partial oxidation of hydrocarbons:

$$2CH_4 + O_2 \rightarrow 2CO + 4H_2$$

There is also a coal reaction that can be a prelude to the above shear reaction:

$$C + H_2O \rightarrow CO + H_2$$

IV. Industrial process. Hydrogen is sometimes produced and consumed in the same industrial process, without separation. Ammonia functional as a news release so-called hydrogen in the process natural from gas yield will be electrolysis of salt water to obtain chlorine also produces hydrogen as a by-product.

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Many metals react with water to form hydrogen gas. But the rate of hydrogen formation depends on a number of other factors in the metal. Often acids play a key role in hydrogen uptake. Reacts easily with alkaline and alkaline soil metals, aluminum, zinc, manganese and ferrous aqueous acids. This reaction forms the basis of the Kipp apparatus, which was once used as a laboratory gas source :

$$Zn + 2\ H^{+} \rightarrow Zn^{2+} + H_2$$

Hydrogen production from acid-free reactions is somewhat slower. Because iron is a common building material, its corrosion causes the formation of hydrogen:

$$Fe + 2\ H_2O \rightarrow Fe\ (OH)_2 + H_2$$

Many metals, such as aluminum , react with water because they form passive coatings of oxides. But an alloy of aluminum and gallium reacts with water. Under certain conditions, hydrogen can be formed using aluminum :

$$2Al + 6\ H_2O + 2\ OH^{-} \rightarrow 2Al\ (OH)^{-4} + 3\ H_2$$

Some metal-containing compounds react with acids to form hydrogen. Under corrosion conditions, iron hydroxide ($Fe(OH)_2$) can be oxidized by water protons to form magnetite and hydrogen . This process is characterized by Schikorr reaction politics :

$$3\ Fe\ (OH)_2 \rightarrow Fe_3O_4 + 2H_2O + H_2$$

This process occurs in the corrosion of iron and steel in oxygen -free groundwater and in the reduction of soils below the water level.

V. Thermochemical reactions. More than 200 thermochemical cycles can be used to separate the water . Many cycles, such as the iron oxide cycle , the series of oxide (IV) or series of oxide (III) cycle, the zinc oxide cycle, the sulfur-iodine cycle, the copper-chlorine cycle and the hybrid sulfur cycle are thermochemical processes through electric energy without using water and from the heat hydrogen and oxygen functional is removed. It is developing thermochemical methods for obtaining hydrogen from solar energy and water in a number of laboratories (including France, Germany, Greece, Japan and the United States).

In deep geological conditions far from the Earth's atmosphere, hydrogen (H_2) is formed during the serpentine process. In this process, water protons (H^{+}) decreased by iron (Fe^{2+}) ions provided by fayalite (Fe).

$$3Fe_2SiO_4 + 2H_2O \rightarrow 2\ Fe_3O_4 + 3\ SiO_2 + 3H_2$$

fayalite + water → magnetite + quartz + hydrogen

This reaction represents the uptake of hydrogen from the interaction of iron hydroxide with water [12].

VI. Photoelectrolysis method. Photoelectrolysis is one of the renewable ways of hydrogen production, exhibiting promising efficiency and costs, although it is still in the phase of experimental development and it is the least expensive and most effective method of hydrogen production from renewable resources at the moment. The photoelectrode is a semiconducting device absorbing solar energy and simultaneously creating the necessary voltage for the direct decomposition of the water molecule into oxygen and hydrogen. Photoelectrolysis is a complex of the solar energy collection and water electrolysis into simple semiconducting photoelectrodes. This apparatus removes the need for an independent generator and electrolyzer feeding, which leads to a reduction of the overall costs and increase of the efficiency of the process [6].

VII. Biomass method. Biomass is the oldest form of energy used by humans. This renewable energy resource can be directly used by burning it or can be converted to other forms of energy like ethanol and biodiesel, for example. Currently, the production of hydrogen from biomass can be divided into thermochemical and biological categories, as Table 1.

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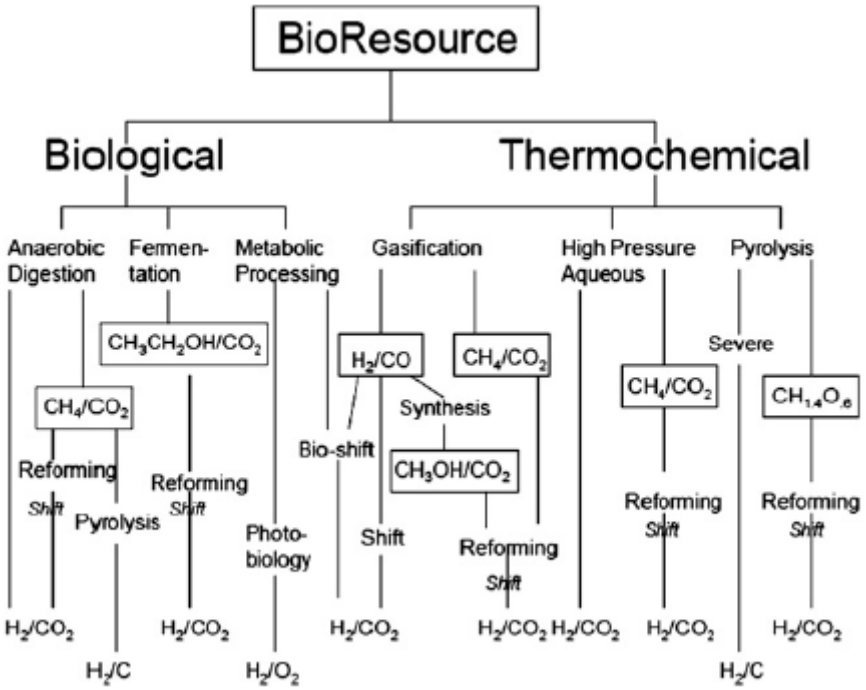

Figure 3: Pathways from Biomass to Hydrogen [7].

Discussion. Although hydrogen energy is recognized as the energy of the future, it has a number of pressing problems that make it difficult for hydrogen to become the number one energy source [8]. For example, we have often said that the use of hydrogen in transport is the most technologically sound idea. But there are technical problems with the use of hydrogen in transportation. Also, the use of hydrogen for heating requires a radical modernization of all gas distribution networks. In addition, heating is not needed throughout the year and a number of technical problems occur when hydrogen is turned on. This results in the use of hydrogen as a local or centralized energy reserve with only 35% efficiency.

Although we accept that the conversion of electricity into hydrogen is 100% and the conversion of hydrogen into electricity is 100% efficient, we cannot ignore the fact that green or renewable energy itself has major shortcomings and limitations.

Hydrogen uptake alone is at the expense of large losses. Researchs show only how much energy the starting product has and how much energy the resulting hydrogen does, without taking into account the energy required to carry out the reaction to obtain hydrogen. Hydrogen-derived energy, even if it is derived from hydrocarbons, is 1.5 times more expensive than the energy of primary hydrocarbons, regardless of the cost of the reaction itself. If the price of gas is 50 units, then hydrogen is 75 units, if gas is 200 units, then hydrogen is 300 units. The table shows that the first 3 production methods are not environmentally friendly, as carbon monoxide is formed, which must be burned and CO_2 is formed. That is, everything will be the same, it will burn fossil fuels and only hydrogen will be formed by burning coal separately. Hypothetical reactions of gas or oil deposits are, if possible, environmentally beneficial only if the "sediment" coal is preserved without burning. However, in this case it will be necessary to extract 1.5 times more gas and 2 times more oil. In the current situation, there is a need to limit coal mining economically, technologically and ecologically.

Conclusions. We have seen above that the methods of hydrogen production are chemical, electrolytic and electrochemical. Each method requires the use of natural resources, so all three methods are economically and environmentally useless because natural resources are depleted. The problem of hydrogen energy is twofold: there is a high risk of waste and explosion to other energy sources (oil, electricity, gas) to produce this substance. In addition, as noted above, there is no clearly defined and cost-effective mechanism for obtaining hydrogen energy, although experts are actively developing options for the production of hydrogen fuel. But there are difficulties in getting it. More attention is being paid to the extraction of hydrogen from water in an effort to find ways to overcome the shortcomings. In this regard, the water potential of the hydrogen energy source is taken into account.

Along this path, two urgent tasks are set: to invent the latest equipment for the production of hydrogen and to reduce the cost of the process of obtaining energy carriers, to reduce the cost of gas.

Many are successful in using hydrogen energy although results have been achieved, there are still some issues that need to be addressed. We will mention the most important of them:

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1. Identify low-cost methods and technologies for hydrogen production.
2. Overcoming the problem of long-term storage of hydrogen.
3. Improving the methods of obtaining hydrogen based on its physical and chemical properties.
4. Development of special equipment that allows the transport of large volumes of hydrogen.
5. Research of new substances as a source of hydrogen [9,10].

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СУКУТДА ИЧКИ НУТҚНИНГ ВОҚЕЛАНИШИ

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Аннотация. *Нутқий мулоқот фикр баён қилиш жараёни бўлиб, шубҳасиз, кўп ҳолатларда лисоний имкониятларнинг ёзма ёки оғзаки шаклда моддий воқеланиши билан боғлиқ. Лекин лисоний бирликларнинг воқеланиши билан боғлиқ бўлмаган мулоқот турлари ҳам оз эмас. Шунга кўра лисоний воситаларнинг моддий шаклда воқеланмаган мулоқот турлари сўзсиз мулоқот деб баҳоланади. Шундай нутқий мулоқот кўринишларидан бири сукутдир. Сукутда ички нутқнинг юзга яқин маънолари воқеланишини кузатиш мумкин.*

Калит сўзлар*: нутқий мулоқот, лисоний омиллар, нолисоний омиллар, вербал ва новербал, сукут*

ВОЗНИКНОВЕНИЕ ВНУТРЕННЕЙ РЕЧИ В МОЛЧАНИИ

Аннотация. *Речевое общение представляет собой процесс выражения мыслей, который, несомненно, связан с материальной реализацией языковых возможностей в письменной или устной форме во многих случаях. Но также существует множество видов общения, не связанных с возникновением языковых единиц. Соответственно, виды общения, не овеществленные средствами языка, оцениваются как невербальное общение. Одной из таких форм речевого общения является молчание. Около сотни значений внутренней речи можно наблюдать в тишине.*

Ключевые слова*: речевое общение, языковые факторы, невербальные факторы, вербальные и невербальные, молчание*

THE ORIGINATION OF INTERNAL SPEECH IN SILENCE

Annotation. *Verbal communication is a process of expressing thoughts, which, of course, is associated with the material realization of linguistic possibilities in written or oral form in many cases. But there are also many types of communication that are not related to the emergence of language units. Accordingly, types of communication that are not materialized by means of language are evaluated as non-verbal communication. Silence is one such form of verbal communication. About a hundred meanings of inner speech can be observed in silence.*

Keywords*: verbal communication, language factors, non-verbal factors, verbal and non-verbal, silence*

Кириш. Ҳар бир давр илм-фанининг ўзига хос тадқиқ объекти ва таҳлил усуллари бор. Ўзбек тилшунослигида Маҳмуд Кошғарийнинг «Девони луғатит турк» асари яратилган даврдан бошлаб темурийлар ҳукмронлиги пайтида мир Алишер Навоийнинг «Муҳокамат ул луғатайн»; Абулғози Баҳодирхоннинг «Шажараи турк», «Шажараи тарокима», Мунисниng «Саводи таълим», XX аср бошларида жадид намояндалари А.Фитратнинг «Сарф», «Наҳв» асарлари; М.Беҳбудийнинг «Икки эмас, тўрт тил лозим» мақоласи, Элбек, Ботуларнинг тил луғатлари; XX асрнинг 40-йилларида профессор Айюб Ғуломов раҳбарлигида шаклланиб 70-йилларда ўз такомилини топган анъанавий тилшунослик нутқий босқич ҳодисалари тадқиқи билан шуғулланди.

Ўтган асрнинг 70-90-йилларида тилшуносликка оид субстанциал тадқиқотлар марказида *тил-лисон-нутқ трихотомияси* турганлигига гувоҳ бўламиз. Жаҳон тилшунослигида тил ва нутқни ўз эгаси билан бирга ўрганиш, тил ҳодисаларига шахс нутқи орқали кириб бориш масаласига кенг эътибор қаратилмоқдаки, ҳозирда ўзбек тилшунослиги ҳам шу таҳлил намуналари асосида иш кўришни бошлади. Бозор иқтисодиёти талаблари асосида нутқнинг лисоний имкониятлардан фойдаланиш жараёнида инсоний фаолиятнинг самарадорлигини таъминлаш, сўз таъсирчанлигини ошириш йўлларини излаш ва уни амалиётга татбиқ этишга эътиборнинг кучайиши табиий, албатта.

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Асосий қисм. Субстанциал тилшунослик ўзаро ўхшаш, бир-бирини тақозо этувчи ҳодисалар сирасини ажратди, ахборот қиймати, лисоний тизимдаги мавқеи, бажарадиган вазифаси бир хил ёки ўзаро яқин бўлган ҳодисаларни лисоний парадигмаларга бирлаштирди, синтагматик қаторларни эътироф этди, иерархик муносабатлар тизимида ассоциативликни аниқлади. Тил тизимида бир ҳодиса учун бир неча бирликнинг мавжудлиги унинг имконият эканлигини асослайдики, бу бирликлар, албатта, қайсидир жиҳати билан умумий ўхшашлик ҳосил қилиши билан бирга, қайси жиҳати билан бир-биридан фарқланади. Бу парадигматик муносабатларнинг юзага келишида зарурий шарт бўлиб қолаверади. Баъзан айтилган фарқлар лисоний тизим, лисоний маъно, лисоний қиймат билан алоқадор бўлмаслиги ҳам мумкин. Зеро, маълум бир ахборотни тингловчига етказиш учун "муайян ҳолатда" тил тизимида мавжуд бўлган бир неча тенг қийматли ҳодисалардан, одатда, айнан "биттаси"дан фойдаланилади ва кўп ҳолларда нега айнан тенг қийматли лисоний бирликларнинг "шуниси" қўлланилди, деган саволга лисоний тизим жавоб бера олмайди. Бу нолисоний омиллар – нутқ шароити, воситаси, мулоқот жараёни, сўзловчи ва тингловчининг контакт ва дистант вазияти, уларнинг олдиндан таниш ёки нотанишлиги, руҳий ҳолати, ўзаро муносабати, савияси, миллий-маданий дунёқараши, ёши, жинси каби жиҳатлар билан боғлиқ бўлади. Жумладан, ўзбек тилида мурожаат шакллари парадигматик қаторидан юзга яқин лексик бирликлар ўрин олади: [*дўстим*], [*ошна*], [*ўртоқ*], [*азизим*], [*жоним*], [*меҳрибоним*], [*отахон*], [*онахон*], [*акажон*], [*опажон*], [*укажон*], [*бошлиқ*], [*бебаҳогинам*], [*қадрдоним*], [*замондош*], [*синфдош*], [*сирдошим*] ва ҳ.

Ички ҳовлидан Қутлуғ Нигор хоним чиқди:

– Бобуржон, ҳаммамиз нажотни сиздан кутмоқдамиз! Дарвишона юришларни энди бас қилинг. Ҳамма сизни қувғиндаги шоҳ деб билур, бошқа гапга ҳеч ким ишонмагай. Хон кишилари ҳам сизни тахтга даъво қилиши мумкин бўлган бир шаҳзода деб излаб юрурлар. Даҳкатликлар ҳам шунча вақт бизга нону туз бердилар. Энди бу қишлоқни хавф-хатардан қутқариш ҳам сизнинг бурчингиздир, ***жоним****!* (П.Қодиров. Юлдузли тунлар, 157-б.)

Тоҳир унинг сариқ атлас кўйлаги устидан елкасини силаб:

–Робиям, ***жоним****! – деди. – Хайрият, ўзинг ҳам тирик экансен! Мен сени олти йил изладим, қаерларда юрдинг? Нима бўлди? Робия Фозил тархоннинг еттинчи хотини бўлиб ўтказган йилларини эсладию, бирдан орқага силтаниб, Тоҳирнинг қўлларидан юлқиниб чиқди:*

–Мени қучманг, Тоҳир оға! Мен сизга муносиб эмасмен! (П.Қодиров. Юлдузли тунлар, 124-б.)

Ҳар иккала мисолда ҳам нима сабабдан мурожаат бирликларидан [*жоним*] шакли қўлланилганлигини нутқий вазиятда адресат ва адресант орасидаги қавм-қариндошлик ёки интим муносабат шу бирликни тақозо этишини фақат нолисоний омилларгина изоҳлаб бера олади, холос.

Нолисоний омиллар субстанциал тилшуносликнинг тадқиқ объектига киритилган эмас. Тилшуносликда гоҳ нолисоний, экстралингвистик, паралингвистик, гоҳ нолингвистик ҳодисалар сифатида баҳоланиб келган бирликлар аксарият ҳолларда коммуникация жараёнида, нутқий фаолиятда лисоний бирликлардан кўра самарадорлик, таъсирчанлик нуқтаи назаридан кўпроқ аҳамият ва қиймат касб этишини кузатамиз. Масалан,

– Ғамхўрлигингиздан миннатдормен, ҳазрат бегим, – деди Бобур.–Фақат менинг бир андешам бор.

– Қандай андеша, амирзодам?

– Фақирни маъзур тутинг.

Бобур ***сукут қилиб, ерга қаради****. У гапини фақат Хадича бегимнинг ўзига айтмоқчи эканини сезган аёллар таъзим қила-қила чиқиб кетдилар.* (П.Қодиров. Юлдузли тунлар, 174-б.)

Шу нутқий вазиятда ***сукут қилиб, ерга қарамоқ***нинг ўзи ҳар қандай лисоний бирликдан кўра қийматлироқ.

Лисоний восита ва ҳодисалар сираси субстанциал тилшунослик таянувчи диалектик категориялар негизидаги тадқиқ тамойиллари асосида етарли даражада аниқланди ва шу асосдаги тасниф ҳамда тавсифлар берилди. Ўзбек тилшунослигининг XXI аср бошларидан изчил таҳлилга киришган антропоцентрик йўналиш ҳозирда асосий эътиборни лисоний ва нолисоний бирликларнинг нутқий қўлланилиши ҳамда улардан самарали ва ўринли фойдалана олиш йўлларини аниқлашга қаратмоқда.

Бугунги тилшуносликка оид замонавий илм-фан (антропоцентрология) фақат нутқий босқични ёки соф лисоний тизимни ўрганиш ёхуд тил ва нутқ дихотомияси тадқиқини соҳага бир томонлама ёндашиш деб ҳисоблайди ҳамда тил ва унинг нутқий воқеланишини шу тил эгасининг нутқини кузатиш, таҳлилларда шу тилда сўзлашувчиларнинг кундалик нутқий фактларига таяниш, шунингдек, таҳлил ва тадқиқда моҳиятга кишиларнинг ўзаро мулоқот табиати мақсади нуқтаи назаридан ёндашиш зарурлигини таъкидлайди. Бу борада Н.Д.Арутюнова, Е.В.Падучева (Новое в

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зарубежной лингвистике. М.: Прогресс, 1985.), Т.Я.Андрющенко, В.И.Батов, В.П.Белянин (Общение текст высказывание. М.: Наука, 1989.), А.Вежбицкая (Слова и смыслы, 1985.), Т.Г.Винокур, М.Я.Головинская, Е.И.Голанова (Русский язык в его функционировании: Коммуникативно-парагматический аспект. М.: Наука, 1993.), Г.П.Грайс (Логика и речевое общение. М.: Прогресс, 1985.), В.И.Жельвис (Эмотивный аспект речи. Ярославль: ЯРГУ, 1990.), П.В.Зернецкий (Единицы речевой деятельности в диалогическом дискурсе. Калинин, КГУ, 1987.), М.Н.Кожина (Истоки и перспективы речеведения. М.: Наука, 1987.), Г.В.Колшанский (Коммуникативная функция и структура языка. М.: Наука, 1984) каби хориж олимларининг эътиборга молик қарашлари бор. Улар томонида нутқий фаолият муаммосига бағишланган бир қатор тадқиқотлар амалга оширилди. Аммо таъкидлаш жоизки, юқорида санаб ўтилган ишларда мулоқот жараёнида яхлит бир бутунлик сифатида воқеланувчи ва лингвоэтник, лингвопсихологик, лингвоситуацион омиллар мажмуи бўлган мулоқот бирликларидан фақат оғзаки ёки ёзма нутқ шаклида воқелана оладиган соф нутқий бирликларнигина тилшуносликнинг тадқиқ бирлиги сифатида ажратиб олдилар ҳамда шу асосда тадқиқ ишларини амалга оширдилар.

Нутқ ўзига хос система бўлиб у фақат лисоний бирликларнинг ўринли ва вақтида воқеланишинигина таъминлаш билан кифояланмайди. Нутқда бунёдкорлик, лисоний ҳодисаларга хос имкониятларни нолисоний бирликлар орқали ифодалаш, қўшимча қилиш, лисоний ҳодисалар сирасини тўлдиришга хизмат қила олиш каби хусусиятларга ҳам эга. Зеро, бугун ўзбек тилшунослигида нутқий жараённи тадқиқ этиш, ўрганиш *амалий тилшунослик* номи остида олиб борилмоқда. Тилшунослик прагматикаси (амалий тилшунослик) лисоний ва нолисоний бирликларининг фаолиятини ҳаётий коммуникатив жараёнларда ўрганишни тақозо этади. Тадқиқотчилар қизиқиш доирасига мулоқотнинг турли жиҳатлари билан боғлиқ муаммолар киради. Бундай муаммолардан бири сукутни коммуникатив ҳодиса сифатида ўрганишдир.

Шу ўринда эътироф этиш зарурки, нутқий мулоқот(русча: “речевое общение”, инглизча: “дискурс”)нинг таркиби, аввало, икки қисмга ажратилиши керак. Буни қуйидагича ифодалаш мумкин (Қаранг: 1-чизма):

1-чизма

Нутқий мулоқотнинг таркибий қисмлари

Нутқ таркибининг лисоний омиллари деганда фонема, морфема, лексема, фразема, сўз бирикмаси ва гап қолипларининг нутқий воқеланишлари назарда тутилса, нолисоний омиллар деганда имо-ишоралар, маъно ифодаловчи турли ҳаракатлар, белги(рамз)лар, оҳанг, сукут кабилар назарда тутилади. Зеро, нутқни жараён сифатида ўрганиш фақат мулоқот (сўзловчи ва тингловчи орасида ўзаро ахборот алмашиш, саволга яраша жавоб бериш) ҳолатидагина тадқиқ этилиши, шу жараёндагина лисоний ва нолисоний омилларнинг воқеланиши хусусида мулоҳаза юритиш мумкин. Демак, нутқий мулоқот мазмунан миллий, маданий, маиший, маърифий, этнографик, тарихий, этик, эстетик, психологик, фалсафий, ҳуқуқий жиҳатларни ифодаловчи, шаклан ички ва ташқи омилларга таянувчи лисоний ва нолисоний омилларнинг мураккаб системасидир.

Нутқий мулоқотнинг нолисоний омиллари (имо-ишоралар, маъно ифодаловчи турли ҳаракатлар, оҳанг, сукут) баъзан нутқий жараённинг таъсирчанлигини оширишда лисоний омилларга ҳамроҳ вазифасини бажаради (масалан, “Ассалому алайкум” деган каломга қўшимча тарзда қўлини кўксига қўйиш, “Хайр” деганда қўл силкаб қўйиш ва ҳ.), баъзан эса нутқий жараён тўлалигича соф

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нолисоний омиллардан иборат бўлади (масалан, “*Айвонда атрофни кузатиб турган Ҳусайн Бойқаро сарой ҳовлисига кириб келаётган мир Алишер Навоийга кўзи тушди. Мир Алишер Навоий тўхтади, шоҳ томонга қараб енгил таъзим қилди. Бошини бироз эгилишига мос тарзда кўзларини юмиб очган шоҳ ўнг қўлини боши устига қўйди. Унга жавобан вазир оғзини ярим очиб кўрсаткич бармоғи билан тилига ишора қилди. Ҳусайн Бойқаро “тушунарли” дегандек бош иргади ва ичкарига кириб кетди.*” Бу ўринда шоҳ вазиридан имо-ишора орқали “Бошга келадиган бунча ташвишларнинг сабаби нима?” деб сўради. Доно вазир эса “Бошга келар балоларнинг асосий сабабчиси – тил”, дея жавоб қайтарди.

Суқротдан “Дунёда энг қийин ва оғир иш нима?” деб сўраганларида олим: “Сўзлаш”, деб жавоб берган экан. Сўзловчи нимани кимга қандай айтиш кераклигини ҳисобга олиши зарур, акс ҳолда ўз бошига ўзи ташвиш келтириши бор гап.).

Фикр баён қилиш жараёни, шубҳасиз, кўп ҳолатларда лисоний имкониятларнинг ёзма ёки оғзаки шаклда моддий воқеланиши билан боғлиқ. Лекин лисоний бирликларнинг воқеланиши билан боғлиқ бўлмаган мулоқот турлари ҳам оз эмас. Шунга кўра, лисоний воситаларнинг моддий шаклда воқеланмаган мулоқот турлари нутқсиз мулоқот деб баҳоланади. Анъанамизда, ҳатто шариат аҳкомларида “Сукут – аломати ризо” этик-эстетик тамойили ҳам мавжуд бўлиб, у ҳам сўзсиз мулоқотнинг бир кўриниши сифатида баҳоланиши лозим. Ёзувчи Тилаволди Жўраевнинг “Шароит” номли ҳикоясига эътибор қаратсак:

…машинада алланечук сукунат зоҳир эди. Бу асло араз, гина, ўпка, таъна, маломат сукути эмасди. Бу сукут – роз сукути эди…(Жўраев Т. Қишлоқликлар, 15-б.)

Мулоқот кўп ҳолларда вербал, яъни сўз, лисоний воситалар орқали ва новербал, сўзсиз – новербал воситалар (имо-ишора, ҳар-хил белги, нишона, рамз, символлар) орқали ахборот бериш билан боғлиқ бўлиб, бир-бирига таъсирига кўра вербал ёки новербал мулоқот сифатида тасниф қилинади.

Халқда: “Гапирсанг – гапингга қулсан, гапирмасанг – қиролсан” деган мақол бежизга айтилмаган. Сукутда ҳикмат кўп. У инсон ички нутқнинг воқеланиш шакли ҳамдир. Бу борада мисолларга мурожаат этамиз. Жумладан,

ички иккиланиш маъносида: *Болохонадаги йигитнинг «Бек акам жанозага кетганлар» дейиши юрагидаги хавотир учқунини ўт олдирди.*

–Кимнинг жанозаси?– деб сўради овози титраб.

Йигит «бу шумхабарни айтиш мумкинми ё йўқми?» деган мулоҳазада ***сукут сақлади****. Аслида у «Бек акам йўғидилар-а», деб гапни қисқа қилмоғи жоиз эди. Хаёли кутилмаган фожиа билан банд бўлгани учун беихтиёр равишда «жанозага кетганлар» деб юборган эди.* (Т.Малик. Шайтанат.4-китоб. Т., 2008. 4-б.);

сўзсиз тасдиқ маъносида*:* Персонажнинг сукут сақлаши савол берувчининг сўроғи мағзидаги маънони тасдиқлаб туради.

–Кимнинг жанозаси?–деб қайта сўради Манзура.

–Маҳмуд акамники, – деди йигит бир оз довдираган ҳолда.

–Қайси Маҳмуд? – Манзура «Қайси Маҳмуд» эканини англаган бўлса-да, «ишқилиб мен танимайдиган бошқа одам бўлсин», деган илинжда қайта сўради. Йигитнинг навбатдаги ***сукут****и бу илинжга қувват бергандай бўлиб, сўнг эса гиппа бўғиб қўя қолди: Чувриндининг фожиаси ҳақидаги шумхабар ҳушини олди.* (Т.Малик. Шайтанат.4-китоб. Т., 2008. 4-б.)

“эшитганларингни мулоҳаза эт” маъносида*:* Одатда, сукутда жимликдан аввал гапирилган гапларни, билдирилган мулоҳазаларни “ҳазм қил”, “мағзини чақ” деган мазмун ҳам зоҳир бўлади. Масалан,

Моштабиб «Бу ҳикматларнинг маъносини қалбингизга сингдириб олишингиз учун фурсат бераман», дегандай сўздан тўхтади. Бу ***сукут*** *Зоҳидга асқотди. У айрим издиҳомларда, баъзан ёши улуғларнинг суҳбатларида шунга ўхшаш ҳикматларни эшитиб қолар, бироқ, «Яхши гап экан», демоқликдан нарига ўтмасди.* (Т.Малик. Шайтанат.4-китоб. Т., 2008. 100-б.)

“ҳаяжонини босиб олмоқ” маъносида: Одатда, сўзловчи тингловчи билан мулоқотга киришиш олдидан сукут сақлайди. Суҳбатдошининг мулоқот жараёнига тайёр бўлишини кутади.

Сўрайдиганингизни сўранг. Зоҳид, прокуратура терговчиси, гумондаги шахсдан «сўранг» деган ижозатни олса-да, дарров сўроққа тутмади. «Зарипова ҳаяжонини босиб олсин», деб ***сукут*** *сақлади, худди савол ахтараётгандай кўрсаткич бармоғи билан чаккасини силади. Зариповага бу сукут ёқмай «сўрамайсизми?» деган маънода тикилгач, Зоҳид дастлабки саволини берди...* (Т.Малик. Шайтанат.4-китоб. Т., 2008. 184-б.)

суҳбатни учинчи кишидан яширин сақлаш маъносида: Бунда, одатда, суҳбатдошлар мулоқотига нохос аралашиб қолган кейинги кишига суҳбат мазмунини тегишли деб ҳисобламаслик, ундан сир тутиш, баъзан учинчи кишини суҳбат мазмунидан асраш ёки айтилаётган гапларнинг четга чиқишини истамаслик каби маънолар сукут орқали ифодаланади.

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–Сезиш нима экан, кўриб-билганман. Сизни ўйласам ҳукамолардан мерос бир ривоят ёдимга тушаверади. Буни сиз биларсиз, ўрни келиб қолди, бу иниларимизга ибрат сифатида айтайин. Абдураҳмон табибнинг набираси дастурхон, катта патнисда мева-чева кўтариб киргани учун бир оз ***сукут*** *сақланди.* (Т.Малик. Шайтанат.4-китоб. Т., 2008. 184-б.)

қаттиқ ранжиш маъносида: Бирор воқеа-ҳодисадан ёки кишилардан қаттиқ ранжиш оқибатида сукут сақлаш назарда тутилади. Баъзан бундай сукут бир умр давом этиши ҳам мумкин. Бундай ҳолат, кўпинча, инсон ўзини мағлуб сезганда, интилган нарсасига етиш учун ўзида имкон топмаганда ёки ўзини иложсиз ҳис этганда, бирор нарсадан ёки "яқини" деб ҳисоблаганидан буткул воз кечганда рўй беради.

Мен сендан интизор мактублар кутдим,
Ёзмадинг, бунчалар оғир бу ***сукут.***
Самарқанднинг узун хотирларидан...
Наҳот қувилганман, бўлганман унут.
Ёзмадинг. Самарқанд боғларида ***жим,***
Кузнинг хаёллари ётарму маҳзун.
Таниш дарвозанинг тутқичларига
Дардкаш термуларми менсиз қолган кун. (Ҳ.Аҳмедова шеъридан)

Аслида, сукут қилган хотиржам, деб ўйлайсизми? Сукут учун сарфланган куч гапиришга сарфланган кучдан анча кўп бўлади. Сукут билан жазоланиш – энг оғир жазо.

қаттиқ танқид маъносида: Ч.Бакстон шундай ёзади: "Баъзан сукут ҳам энг қаттиқ танқид ўрнига ўтади". Шунингдек, нафратли сукутдан ортиқ хўрловчи жавоб бўлмайди. Масалан,

Отабек бу чўлтоқ супургини таниди ва унинг истеҳзоларини пайқади. Ул бундан сўнгги кўргулигини тамом маъноси билан онглаб, маъносиз бу саволларга жавоб бериб ўлтуришдан ***сукут****ни хайрлик топди. Гўё ўзининг бу* ***сукути*** *билан Мусулмонқулга маънолик бир жавобни ифода қилар эди.*

Чиндаи ҳам Мусулмонқул бу ***сукут****дан таҳқирланди, тутуни кўкка кўтарилар экан бақирди:*
– Нега жавоб бермайсан?! (А.Қодирий. Ўткан кунлар. Т., 1994. 123-б.)

сукут – кучли андиша белгиси: Ўзбекона тарбия, каттага ҳурматда, кичикка иззатда бўлиш, баъзан ноҳақ бўлишса-да, ота-онага гап қайтармаслик – сукут сақлаш кучли андиша белгисини ифодалайди.

Отабек ҳамон ***сукут****да, а Ўзбек ойим бўлса боши билан "шундоғ" ишорасини берар эди. Юсуфбек ҳожи юқорида ўткан гапларни қуруқ ва асоссиз сўзламаган, балки шу турмушнинг рукн ва асосини бир даража айтиб ўткан, Отабек эса буни шу муҳитнинг бир ўғли бўлиб эшиткан эди. Тўғриси ҳам ул дадаси томонидан сўзланган ҳалиги қонунга қарши чиқиш учун лозим бўлған кучка молик эмас; бас, кучсизликнинг натижаси эса* ***сукут*** *эди.* (А.Қодирий. Ўткан кунлар. Т., 1994. 136-б.)

Баъзан сўзловчи тингловчилар унга хайрихоҳ эмаслигини сезганда ҳам сукут сақлайди. Зеро, бундай шароитда «сукут ҳар қандай гапдан ҳам маъноли бўлади». (Монтескье)

Ҳожи ***сукут*** *қилди, ўзининг шунчалик гапларини ҳавога кетиб турганини, мажлиснинг Ниёз қушбеги руҳида борганлигини яхши сезди. Мундан бошқа Ниёз қушбегининг бундай бир фикрга келиши учун уни нима мажбур қилган – буни ҳам очиқ онглади.* (А.Қодирий. Ўткан кунлар. Т., 1994. 275-б.)

Хулоса. Нутқий мулоқотда лисоний бирлик ва унинг турли ҳамроҳлари – жуда кўп ҳолларда моҳиятан нолисоний бирликлар – биргаликда, маълум бир мақсадга эришиш учун қўлланилишини юқоридаги мисолларда сукут орқали кўриб ўтдик. Гарчи нолисоний бирликларнинг миқдори ва тури лисоний бирликлардан кўп бўлса ҳам, барибир лисоний бирлик марказда туради, шунинг учун нутқий мулоқот таркибий қисмларини ўрганувчи турли фанлар ичида тилшунослик фанининг ҳиссаси кўпроқ ва етакчидир – мулоқот лисоний бирликнинг амалий қўлланилиши ва унинг самарасидир.

Кузатишларимиз асосида айтишимиз мумкинки, *сукутда ички нутқнинг юзга яқин маънолари воқеланади.* Шундай экан, сукут бирлигига ўта мураккаб, ўзига хос ситуативлик (онийлик), муайян коммуникантлар, замон ва макон, нутқий шарт-шароит, вазият, мақсад, истак, сабаб ва оқибат билан узвий боғланган ўта қисқа бир замонда содир бўладиган прагматик система ҳисобланган нутқий мулоқотнинг асосий таркибларидан бири сифатида қаралиши тўғри йўлдир.

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ЎЗБЕК ТИЛШУНОСЛИГИДА КЎЧИРМА ВА ЎЗЛАШТИРМА НУТҚНИНГ ТАЛҚИНУ ТАВСИФИ

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Аннотация. *Ўзбек адабий тилида ўзлаштирмалик нафақат синтактик, балки феъл ўзаги+ -(и)бди, -ади (-йди), -ган, -ган экан, -(а)р экан, -(а)р эмиш, -син экан, -син эмиш ва б. каби морфологик воситалар орқали ифодаланади. Ўзлаштирмаликни ифодаловчи морфологик воситаларни бетараф, қулай ойдинлаштирувчи ва таъкидловчи матнда таҳлил қилиш орқали бу воситаларда эшитилганлик маъноси бир хил эмаслиги аниқланди. Мақолада ўзбек тилида ўзлаштирмаликни ифодаловчи морфологик воситаларнинг ўзлаштирмаликни билдирувчи синтактик воситалар билан ўзганинг нутқини ўзлаштириб баён этиши жиҳатидан ўхшашлиги, морфологик воситаларнинг синтактик воситалардан хабар манбаининг кўрсатилмаслиги ва нутқ феълларининг қўлланмаслиги билан фарқланиши кўрсатилган.*

Калит сўзлар: *ўзга нутқ, кўчирма нутқ, ўзлаштирма нутқ, матн, микроматн, макроматн, муаллиф нутқи, хабар манбаи, эшитилганлик семаси, синтактик восита, морфологик восита, нутқ феъли, тил қурилиши, тежамкорлик.*

ОПИСАНИЕ И ТОЛКОВАНИЕ ПРЯМОЙ И НЕСОБСТВЕННО-ПРЯМОЙ РЕЧИ В УЗБЕКСКОМ ЯЗЫКОЗНАНИИ

Аннотация. *В узбекском литературном языке косвенная речь выражается не только синтаксическим, но и с помощью морфологических средств, таких как глагол+ -(и)бди, -ади (-йди), -ган, -ган экан, -(а)р экан, -(а)р эмиш, -син экан, -син эмиш и т.д. Анализируя морфологические средства, выражающие уподобление косвенной речи в нейтральном, благоприятном, уточняющем и подчеркивающем контексте, было установлено, что значение слышимости в этих средствах неодинаково. В статье показано сходство морфологических средств выражения косвенной речи в узбекском языке с синтаксическими средствами ассимиляции в плане передачи чужой речи, а также отличие морфологических средств от синтаксических средств тем, что источник сообщения не указывается и речевыеглаголы не используются.*

Ключевые слова: *чужая речь, прямая речь, косвенная речь, текст, микротекст, макротекст, авторская речь, источник сообщения, сема слышимости, синтаксические средства, морфологические средства, речевой глагол, языковая конструкция, экономия.*

DESCRIPTION AND INTERPRETATION OF DIRECT AND INDIRECT SPEECH IN UZBEK LINGUISTICS

Abstract. *In the Uzbek literary language, indirect speech is obtained not only by syntax, but also by means of morphological means, such as the verb + -(и)бди, -ади (-йди), -ган, -ган экан, -(а)р экан, -(а)р эмиш, -син экан, -син эмиш etc. Analyzing the morphological means expressing the similarity of indirect speech in a neutral, favorable, corrective and underline context, it was found that the meaning of rumors in these means is not the same. The article shows the similarity of morphological means of expressing indirect speech in the Uzbek language with syntactic means of assimilation in terms of transferring someone else's speech, as well as the difference between morphological means and syntactic means in that the source of the message is not indicated and speech verbs are not used.*

Key words: *foreign speech, direct speech, indirect speech, text, microtext, macrotext, author's speech, message source, audibility seme, syntactic means, morphological means, speech verb, language construction, economy.*

Кириш. Замонавий тилшуносликда ўзга нутқнинг асосан икки тури, яъни кўчирма ва ўзлаштирма нутқ (гап ёки жумла) ажратилади. Уларга бағишланган кўплаб тадқиқот амалга оширилган. Адабиётларда ҳар қайси тур алоҳида мавзу қилиб кетма-кет берилади. Бу жиҳатдан улар

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бир-биридан фарқланмайди. Фарқ шундаки немис ва рус тилларида ўзга нутқ воситаларининг семантик функционал бошқача айтганда парадигматик ва синтагматик хусусияти (яъни шакли, тузилиши, мазмуни ва қўлланиши) мазкур тилларнинг қурилиши (*нем.* Bau, *рус.* строй)га тўла мос келади. Афсуски ўзбек тили ҳақида ҳам шу фикрни айта олмаймиз. Негаки замонавий ўзбек тилшунослиги ва адабий тили 20-асрнинг биринчи ярмида рус тилшунослиги асоси ва таъсирида шаклланган. Амалга оширилган тадқиқотларда асосан рус тили қурилишига хос хусусият инобатга олинади ва шу асосда тил меъёрлари белгиланиб қоидалаштирилади. Натижада айрим мавзуда ўзбек тили қурилишининг ўзига хос хусусияти акс этмайди, айрим мавзуда ифода воситаларининг барчаси қамраб олинмайди, тадқиқотчининг назаридан четда қолади ва ҳоказо. Ўзга нутқ мавзуси ҳам шу сирага киради.

Асосий қисм. Маълумки шўро тузуми даврида ўзбек адабий тили грамматик ҳодисаларини тадқиқ қилишда кўп ҳолда русча қолип ва андозалар асос қилиб олинган. Шу боис *ўзлаштирмаликнинг иккинчи тури,* яъни морфологик йўл билан ҳосил бўладиган узоқ вақт тилшунослар эътиборидан четда қолди. Негаки бу тур ўзбек адабий тили қурилишининг ўзига хос хусусияти билан узвий боғланган.

Биринчи босқичда ўзга нутқ юқорида айтилганидек гап доирасида шаклдан мазмунга тамойили асосида тадқиқ талқин қилинади. Натижада илмий мақола, монография, рисолаларда турли даражада ёритилади[11]. Ўзлаштирмаликнинг ўзбек тили синтактик қурилишига хос-хос эмаслиги масаласида баҳслашилди [5; 8]. Мазкур ишларда ўзга гапнинг тузилиши, мазмуни ва қўлланишига нисбатан муаллифларнинг муносабати бир хил эмас. Чунончи, айрим тилшуноснинг фикрига кўра, баъзи кўчирма гап автор гапига нисбатан мустақиллигини сақлайди. Шу боис уни боғланган қўшма гап дейиш мумкин. Иккинчи хил кўчирма гап эса автор гапини изоҳлаб келади ва унга нисбатан эргаш гап вазифасини бажаради. Бинобарин, бундай кўчирма гап эргаш гапга айланган бўлади [4, 9]. Академик Ғ. Абдураҳмонов фикрига кўра, ўзлаштирмаликнинг биринчи тури зоҳиран содда, мазмунан қўшма гапга тенг келади. Шунга кўра, унда иккита фикр ифодаланади. Бу, ,айниқса,, ноқардош тиллар билан қиёслаганда яққол сезилади: *Китоб олганини айтди. – Он сказал, что (он) покупал книгу. – Er sagte, daß er ein Buch gekauft hat*. Ўзлаштирма гапнинг олий ўқув юрти дарслигида содда гап шаклида бўлиши эътироф этилади-ю қўшма гап баҳсида берилади [11]. Бу рус тилига тақлид оқибатидир. Чунки рус тилида ўзлаштирма гап эргашган қўшма гап шаклида бўлади.

Ўзбек тилининг 1966 йилда нашр этилган академик грамматикасида ушбу мавзу кўчирма ва ўзлаштирма гап сарлавҳаси остида берилган бўлиб проф. А.Н. Нурмахонова томонидан ёзилган [12, 490-504]. Олиманинг кўчирма гап хусусида баён қилган қуйидаги фикри диққатга сазовор. Кўчирма гапли жумла икки қисм (муаллиф гапи ва кўчирма гап)дан иборат. Кўчирма гап алоҳида грамматик қоидалар асосида тузилади. Кўчирма гапни ифодалаш учун лексик, грамматик, интонацион воситалар қўлланиб унинг ўзига хос конструкцияси бор. Кўчирма гап билан муаллиф гапи орасида узвий алоқа мавжуд. Муаллиф гапи кўчирма гапни маълум жумлага киритиб қолмасдан уни бошқа гаплардан ажратиб ҳам туради. Муаллиф гапи билан кўчирма гап бирга қўлланиши натижасида қўшма гап конструкцияси келиб чиқади. Бу конструкцияда кўчирма гап ўз мустақиллигини сақлайди; муаллиф гапи аксинча мустақилликка эга эмас. Бу ҳол, айниқса, у кўчирма гапдан ажратиб олинганда яққол сезилади [12, 495]: *Жуда тўғри қилибсан, – деб унинг сўзини бўлди чол* (Н. Сафаров).

Сўзловчи нутқининг сўзма-сўз берилишига эҳтиёж бўлмаганда деб ёзади проф. А.Н. Нурмахонова *ўзлаштирма гап* қўлланади. Ўзлаштирма гап турмушда кўп ишлатилади. Чунки ўзга гапнинг бу тури катта жумлаларни қисқартириб айтишга қулайлик туғдиради. Натижада кўчирма гап муаллиф томонидан иккинчи марта ўзгартирилади. Муаллиф биринчи марта кўчирма гапни ўз гапи ичида ўзгартирмай қўлласа иккинчи марта у кўчирма гапни гапига едириб ўз услубида қайтадан ишлаб чиқади. Бу ўзгариш натижасида кўчирма гап таркибидаги кишилик олмошлари берилмай, феълнинг шахс, сон категориялари кўрсатилмайди, бутун гап муаллиф номидан учинчи шахс орқали ифодаланади. Тадқиқотчининг якуний хулосаси шуки кўчирма ва ўзлаштирма гаплар коммуникатив вазифани юзага чиқарувчи воситалардан биридир [12, 504].

1976 йилда нашр этилган академик грамматикада мазкур мавзунинг талқини акад. М. Асқарова қаламига мансуб. Мавзу *кўчирма гапли конструкциялар* деб номланган [10, 457-473]. Сарлавҳа шундай номланган бўлса ҳам ўзга гапнинг учала тури назарда тутилган. Унга шундай таъриф берилади. Ўзганинг гапи маълум шахснинг фикрини автор (ҳикоя қилиб берувчи)нинг гапи орқали ифодаланишидир. Ўзганинг гапини баён қилиб берувчи автор, унинг гапи автор гапи дейилади. Гапи ифодаланаётган шахс сўзловчи ҳисобланади [10, 458].

Сўнгра кўчирма гапли қўшма гап билан қўшма гапнинг бошқа турлари орасида мавжуд бўлган ўхшаш ва фарқли томонлар баён қилинади. Масалан *автор гаписиз қолган ўзгаларнинг гапи кўчирма*

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гап эмас дейилади. Бунинг изоҳи шундай. *Звонок чалинди ва дарс бошланди* гапини иккига ажратсак, маълум даражада тўла мазмун ифодаловчи, икки содда гап ҳосил бўлади. Аммо кўчирма гапни автор нутқидан ажратиб, ,айниқса, автор нутқини кўчирма гапдан ажратиб *(... деди раис* ёки *Раис деди* шаклида) икки алоҳида содда гап шаклида ишлатиб бўлмайди [10, 459]. Бу фикр академик В.В. Виноградов таҳрири остида нашр этилган рус тили грамматикасидаги фикрга айнан мос. Бу фикрни ўзбек бадиий насрий матн (асар)лари ҳам тўла тасдиқлармикин?

Сўнгра турли стилистик талабга кўра кўчирма ва автор гапининг ўрни ҳақида кенг маълумот берилади. Уларнинг бир-бирига нисбатан жойлашуви тўрт хил бўлиши алоҳида-алоҳида баён қилинади. Назарий фикрлар бадиий насрдан олинган мисоллар билан далилланади. Таҳлилга тортишда амалий аҳамиятга молик қуйидагича хулоса чиқарилади. Кўчирма гапнинг автор гапидан кейин ёки унинг ҳар икки томонида келиши жонли тилда камроқ, адабий тилда кўпроқ учрайди. Унинг автор гапидан олдин ёки ўртасида келиши эса жонли тилда кўпроқ учрайдиган ҳодисадир [10, 467]. Диалогда кўчирма гаплар автор гаписиз берилиши мумкин. Бундай ҳолда фикр ёки гапнинг кимга қарашли эканлиги нутқ жараёнида маълум бўлади деб қуйидаги мисол берилган:

– Дада, ғўзамиз кўп зарарландими?

– Ҳа, қизим, кўп зарарланди. Жуда кўп зарарланди!

– Уни сақлаб қолиш мумкинми?

– Дарҳақиқат, бир вақтлар даданг дўл урган ғўзани даволаган эди... (Ш. Рашидов).

Отаю фарзанд ўртасида бўлган суҳбатда луғавий тежамкорлик зуҳур бўлган. Бу усул рус тилидан ўтган бўлса ҳам ўзбек тили қурилишининг ўзига хос хусусиятига мос келади. Шу муносабат билан тиниш белгиларининг ишлатилишидаги нотежамкорликни бугунги кунда, истиқлол даврида ҳам давом эттираверамизми ёки ислоҳ қиламизми деган табиий савол туғилади.

Илмий грамматикада ўзлаштирма гап талқинига ҳам кенг ўрин ажратилган [10, 468-473]. Унинг барча хусусияти кўчирма гап билан қиёслаб баён қилинади. Бош хусусияти ҳақида шундай дейилган. Ўзлаштирма гап кўчирма гап ва автор гапининг аралаштирилиб, ёйиқ тўлдирувчили содда гапга айланган шаклидир. Ўзлаштирма гапда автор гапидаги эга, кесим муносабати сақланса ҳам, кўчирма гап *содда гап* шаклига келтирилади. Яна: Кўчирма гап бирдан ортиқ содда гапдан ташкил топган бўлса ҳам, уларнинг ҳар бири бирикмали тўлдирувчини ташкил этади [10, 469]. Шу муносабат билан дарҳол савол туғилади. Модомики ўзлаштирма гап содда гап экан нега синтаксиснинг қўшма гап қисмида берилган? Ўзимиз жавоб берадиган бўлсак рус тилининг таъсирида шундай қилинган деймиз. Чунки рус тилида ўзлаштирма гап ҳам *эргаш гапли қўшма гап* шаклида бўлади.

Маълум бўладики ўзбек тилида кўчирма гапни ўзлаштирма гапга айлантириш жараёнида юқори даражада шаклий (синтактик) эврилиш рўй беради. Аниқроқ қилиб айтганда фикр ифодаловчи восита шаклан мураккаб тушунча англатувчи воситага ўзгаради. Натижада синтактик тежамкорлик зуҳур бўлади. Айрим ҳолда кўчирма гап ўзлаштирма гапга айланганда унинг стилистик хусусияти ўзгаради. Жумладан сўзловчининг нутқ жараёнига турли муносабатини ифодаловчи сўзлар, ҳис-туйғу билдирувчи сўзлар (айрим кириш сўз, ундов ва б.) кўпинча тушиб қолади. Демак бундай ҳолларда луғавий-услубий тежамкорлик рўй беради. Шу билан бирга ундов гап, атов гап, риторик сўроқ гап ва бошқа шунга ўхшаш гапларни ўзлаштирма гапга айлантириб бўлмайди [10, 469]. Бундан ўзлаштирма гапнинг қўлланиши чекланганлиги англашилади.

Ўзлаштирма гапнинг кўчирма гапдан энг мураккаб фарқи кишилик олмоши ва феъл кесим шахс, сон қўшимчаларининг ўзгаришидир. Шу боис илмий грамматикада улар орасидаги фарқ тўрт саҳифа [10, 470-473]да ўнлаб қоида воситасида қиёслаб берилган. Аввало кўчирма гапда *хабар* ифодаланганда ўзлаштирма гапда қандай ўзгариш рўй берилишига доир қоидалар берилади. Кўчирма гапда қўлланган кишилик олмоши ўзлаштирма гапда тушиб қолади деб жумладан қуйидаги мисол берилган: *Мен айтдим: (Мен) китобни ўқийман. – Мен китобни ўқишлигимни айтдим*. Ҳолбуки биринчи мисолда ҳам сўз тартиби иккинчи мисолдагидек бўлса кўчирма гапдаги кишилик олмоши тушиб қолади: *Мен китобни ўқишимни айтдим*. Бу мисолда аввало кўчирма гап кесимининг синтактик вазифаси ўзгаради яъни у тўлдирувчига айланади. Иккинчидан кесимнинг шакли ўзгаради яъни у ҳаракат номи қўшимчасини олади. Учинчидан шахс маъноси эгалик қўшимчаси асосий восита (феълнинг шахс қўшимчаси) ва битта қўшимча восита (кишилик олмоши) қўлланган. Бундан ташқари ўзлаштирма гапда тўлдирувчи *–лик* қўшимчасини тежаса бўлади. Демак мисолнинг изоҳини тўлиқ дея олмаймиз.

Қуйидаги мисолнинг изоҳи яхши. Аммо кўчирма гапда нега тиниш белгиси қўйилмаган, ўзлаштирма гап содда, автор гапи ичида келган, шу боис нега бош ҳарф ишлатилган, нега ўзлик олмоши қавсга олинмаган каби саволлар туғилади [10, 471]. *Карим айтди / Мен кеч қолдим – Карим / Ўзининг кеч қолган(лиг)ини / айтди.*

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Қуйидаги мисолнинг изоҳи шундай. Гарчи бундай конструкциялар кўчирма гап шаклида тузилган бўлса ҳам, улар кўчирма гап ҳисобланмайди: *Мен айтдим: "Мен кетаман"* эмас, *Мен кетаман дедим*. Мазкур мисолнинг изоҳини тушуниш учун рус тилининг академик В.В. Виноградов таҳрири остида нашр этилган илмий грамматикасига мурожаат қилиш керак.

Мазмунидан сўроқ ва буйруқ англашиладиган кўчирма гаплар ўзлаштирма гапга айлантирилганда рўй берадиган ўзлаштирмалар баёни эътироз туғдирмайди [472-473].

Маълумки шўро тузуми даврида ўзбек адабий тили грамматик ҳодисаларини тадқиқ қилишда кўп ҳолда русча қолип ва андозалар асос қилиб олинган. Шу боис *ўзлаштирмаликнинг иккинчи тури,*яъни морфологик йўл билан ҳосил бўладиган узоқ вақт тилшунослар эътиборидан четда қолди. Негаки бу тур ўзбек адабий тили қурилишининг ўзига хос хусусияти билан узвий боғланган. Жумладан академик А.Н.Кононовнинг машҳур илмий грамматикасида[6] на морфология на синтаксисда бу ҳақда бирон бир маълумот йўқ. Айни вақтда проф. А. Ғуломов ва акад. А. Ҳожиев томонидан феълнинг замон шакллари баҳси ва тўлиқсиз феъл мавзусида ўзлаштирмаликка хос маъно ҳақида маълумот берилган. Чунончи А. Ғуломов *-ган* шакли билдирган иш-ҳаракатни сўзловчи бировдан эшитган бўлиши мумкин деб мисол келтиради: *У борган* [11, 399]. Бундан ташқари *-(и)бди* шакли ўтган замон эшитилганлик феъли деб номланиб унинг асосий маъноси сўзловчи иш-ҳаракат бўлганлигини ўз кўзи билан кўрмай бошқа одамдан эшитганлигини ифодалашдир деб ёзади [11, 401]: *борибди – айтишларига қараганда, эшитишимча у борибди*. *Эмиш* формаси эса эшитилганлик маъносини ифодалаш учун ҳам ишлатилади [11, 457].

А. Ҳожиев ҳам мазкур маъно *-ган* ва *-(и)бди* аффикси ёрдамида ясалувчи формалар орқали ифодаланишини мисоллар орқали баён қилади [14, 137]. Шу билан бирга, у тўлиқсиз феълнинг *экан, эмиш* формалари отга ҳам феълга ҳам қўшилишини айтиб улар орқали ифодаланадиган маъноларни кенг тавсифлайди. Жумладан, *экан* ўзи бирикиб келган сўздан англашилган нарса, ҳодиса, белгини сўзловчи ўзгадан эшитиб хабар бериши мумкин деб шундай мисол келтиради [15, 67]: *Бу бир ғариб мусофир экан, борадиган жойи йўқ экан, бирга олиб келдим* (С. Айний). Ушбу мисолда сўзловчи (асар қаҳрамони) тингловчи айтган фикрни ўзлаштириб хабар бераётганлигини ўқувчи қийналмай идрок этади. Бинобарин бу контекстнинг *экан* қўлланган қисмини ўзлаштирма гап деб атаса бўлади. Монография муаллифи тавсифида шу атама етишмайди холос. Бундан ташқари А. Ҳожиев томонидан *эмиш* тўлиқсиз феълли, *-ган экан, -(а)р экан* каби замон шакллари воситасида ифодаланадиган маънолар орасида *эшитилганлик* тутган ўрин аниқланиб баён қилинган назарий фикрлар бадиий адабиётдан олинган мисоллар билан далилланади.

Қисқача шарҳ сўнгида шуни айтиш жоизки юқорида исми шарифи зикр этилган олимлар жаҳон миқёсида *формал тилшунослик* деб аталадиган оқимга мансуб бўлиб *шаклдан мазмунга* тамойили ҳамда тасвирий (тавсифий) методга асосан иш кўради. Бундай ёндашувнинг гносеологик асоси интуитив материализм (эмпиризм) деб аталади.

Ўзбек тилшунослигида формал *(анъанавий)* йўналишнинг давоми сифатида *субстанциал* (формал-функционал, зотий, диалектик, структур) *морфология* [3, 61] ва *синтаксис* [2, 13] шаклланди. Тил қурилиши тадқиқига субстанциал ёндашишни проф. С.Н. Иванов бошлаб берган. У лисоний бирлик моҳиятини очишда диалектик фалсафа нуқтаи назаридан ёндашади. Проф. Ҳ.Ғ. Неъматов эса субстанциал ёндашишнинг методологик асосини тасаввуфнинг зот ва тажалли ҳақидаги таълимоти билан боғлаб баён қилади. Шунга мувофиқ, тил сатҳларининг янгича, миллий моҳиятига асосланган тавсиф ва талқини ишлаб чиқилганлиги уқтирилади [3, 94-95]. Аммо ушбу йўналишга мансуб монографияда фақат ўзлаштирма гап эмас, кўчирма гапли қўшма гап ҳақида ҳам маълумот йўқ. Субстанциал йўналишнинг олий таълимга татбиғи сифатида нашр этилган дарсликда ўзлаштирма гапнинг биринчи тури ҳақида *кўчирма гапли қўшма гап* мавзусида атиги бир банддан иборат маълумотда битта мисол берилган [3, 278]: *Нодира опам бугун бизникига келишларини айтдилар.*

Тилшунослигимиздаги йўналишларидан яна бирида *шаклдан мазмунга* тамойилига асосланилади-ю унинг методологияси бошқа йўналишлардан туб фарқ қилади. Тилшунос Ғ. Зикриллаев томонидан тасаввуф фалсафасининг бош манбаи бўлган Қуръони каримдаги руҳ ва тил таълимоти ҳамда руҳий-ижтимоий хилқат деб қараладиган В. Ҳумболт таълимоти методологик асос сифатида қабул қилинади. Бинобарин, тил қурилишига идеалистик-материалистик дунёқараш нуқтаи назаридан ёндашилади [4, 32-47].

*Тадқиқот методи.*Умумий ва назарий тилшунослик асосчиси В. Ҳумболт халқларнинг *руҳий қуввати* (*нем*. Geisteskraft) ҳар хил бўлгани боис тилларнинг қурилиши (тузилиши, субути) ҳам бир хил бўлмайди дейди[1]. Буни аниқлашда улуғ олим қиёсий-тарихий методдан фойдаланади. Шу муносабат унинг қуйидаги фикри диққатга сазовор. Халқ руҳияти ва маърифатининг шу халқ тили

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грамматик қурилишида тажаллиси (инъикоси)ни ўз тили билан бир қаторда бошқа бир неча тилни биладиган, *бу тиллар қурилишини ўз тили билан қиёслай оладиган киши*гина туя олади. Ғ. Зикриллаев шуларни назарда тутиб ўзбек адабий тили қурилишининг ўзига хос хусусиятини белгилаш мақсадида қиёсий-типологик методга мурожаат қилади. Бунда битта феъл ва битта от ўзагини араб, рус, немис ва ўзбек тилларида қиёсий таҳлил қилади. Таҳлил натижасида ўзбек тилида лисоний бирликларнинг барчасига тежамкорлик хос, араб тилида ҳам шу хусусият устувор, немис ва рус тилларида бунинг акси деган хулосага келади. Шунга кўра ўзбек адабий тили қурилишининг бош хусусияти *тежамкорлик* деб атайди [4, 62-65].

Ана шундай тамойилларга таяниб узвли (компонент) ва контекстуал таҳлилни қўллаш, грамматик маънонинг белгиланганлик даражаси ҳамда сўз ва қўшимча маънодошлигини инобатга олиш Ғ. Зикриллаевга ўзлаштирмаликнинг иккинчи туридан айрим шаклнинг лисоний-нутқий хусусиятини бирмунча аниқ белгилаш имконини беради. Олим ўтган асрнинг 70-йилларидан мазкур шакллар орқали *эшитилганлик* маъноси ифодаланганда *ўзлаштирма гап* ҳосил бўлади деб уқтириб келади. Бундай гапнинг энг кичик кўриниши феълнинг ўзак, негизига қўшимча қўшиш билан ҳосил бўлади. Демак, бундай гапнинг энг ихчам шакли бир сўздан иборатдир [4].

Мазкур ишларда кўрсатилганидек, ўзбек адабий тилида ўзлаштирмаликнинг иккинчи тури, яъни морфологик йўл билан ҳосил бўладиган ўзлаштирмалик ҳам мазмунан уч хил кўринишга эга: 1) ўзлаштирма буйруқ, 2) ўзлаштирма хабар (истак ва ҳоказо), 3) ўзлаштирма сўроқ. Мазкур маъноларни ифодалашда қуйидаги воситалар қўлланади: *-(и)бди, -ади (-йди), -ган, -ган экан, -ган эмиш, -(а)р экан, -(а)р эмиш, -(а)ётган экан, -(а)ётган эмиш, -адиган (-йдиган) экан, -адиган (-йдиган) эмиш, -моқчи экан, -моқчи эмиш, -син экан, -син эмиш* билан ясаладиган феъл кесим шакллари ҳамда *от ва бошқа сўз туркумлари +экан, эмиш тўлиқсиз феъли* орқали ҳосил бўладиган от кесим шакллари ва б.

Тадқиқотимизда мазкур йўналишда илгари сурилган фикрларни тўлиқ эътироф этиб улардан ўрни билан фойдаланамиз. Намуна тариқасида мазкур шакллардан биттаси яъни *-(и)бди* шаклининг узвли ва контекстуал таҳлил натижасини бошқача айтганда тузилиши, мазмуни, синтактик хусусияти ва қўлланишини қисқача баён қиламиз. Ушбу шакл икки қисмдан иборат. Биринчи қисмга ўзак, негиз (ўзак+туркумловчи қўшимча), иккинчи қисмга *хословчи*[1] бошқача айтганда равишдош ясовчи ва кесимлик қўшимчалари киради. Кесимликнинг асосий унсури бўлган шахс семасига кўра уч қаторли тусланиш рўй беради. Қуйидаги жадвалда шу акс этган.

Шахс	Феълнинг ўзак, негизи	Хословчи қўшимча	Шахс, сон ва ҳурмат қўшимчаси
I	ол иш+ла	(и)б	ман, миз
II			сан, санлар, сиз, сизлар
III			ди, дилар
		(и) шибди	

Кўринадики *-(и)бди* шаклининг биринчи қисми икки узвли бўлиб иккинчи қисми икки ёки уч узвдан тузилади. Шаклнинг энг ихчам кўриниши уч узвли (*ол+иб+ди, ол+иб+сан*); энг катта кўриниши беш узвли (*иш+ла+ш+иб+ди*) бўлади.

Шакл мазмуний-синтактик жиҳатдан ҳам икки қисм ва бир неча узвдан тузилган. Биринчи қисм луғавий ва грамматик, иккинчи қисм фақат грамматик маъно ифодалаш учун хизмат қилади. Иккинчи қисм узвлари орқали *хабар*[2]*, ўтган замон, бевосита кузатмаганлик, шахс, сон, ҳурмат* семалари турли даража ёки кўринишда ифода этилади. Бу қисм кесимлик (предикативлик)ни тўлиқ шакллантириб структур-семантик тугаллик (абсолютлик)ни таъминлайди. Бу эса шакл орқали энг ихчам хабар ифодалаш учун етарли бўлади. Аммо маъноларнинг белгиланганлик даражаси турлича бўлиб нутқий мақсаду вазифа ўзгариб турганидан хабар (гап) кўпинча кенгайиб келади.

Нутқий мақсаду вазифага қараб хабар манбаи аниқ бўлиши мумкин: ***Тобингиз қочипти...*** *бизнинг бобой шунақа деб қолдилар* (А. Қаҳҳор, Синчалак). Бу мисолда ҳам ўзлаштирма гап ихчам. Сўзловчининг Козимбек, тингловчининг Саида эканлиги олдинги гапдан маълум бўлади. Хабар

[1] Бу атама проф. Б. Менглиев тадқиқотларида учрайди. Жумладан қаранг: Менглиев Б. Ўзбек тилининг структур синтаксиси. Қарши, “Насаф”, 2003.

[2]Зикриллаев Ғ. дастлаб *реаллик* атамасини қўллайди. Кейинги тадқиқотларида эса ундан воз кечиб шаклнинг модал маъносини *хабар* деб атайди. Натижада акад. А. Ҳожиевнинг *хабар майли* атамаси билан ҳамоҳанглик ҳосил бўлади.

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манбаи аниқ шахс (Қаландаров) бўлиб кейинги гапда сўз бирикмаси (*бизнинг бобой*) билан ифода этилган. Бинобарин сўзловчи ўз отасининг фикрини ўзлаштириб баён қилганлиги англашилади.

Нутқий вазият тақозо қилса ўзак ва қўшимчанинг валентлиги зоҳир бўлади. Натижада ўзлаштирма хабар ҳажман анча кенгаяди: ***Эргаш йигитлари билан ўша кечаси Бувайдадан чиқиб кетибди***. *Бу хабарни бизга Али лайлак етказди* (А. Қаҳҳор, Ўтмишдан эртаклар). Бу мисолда субъект (*Эргаш*)нинг қўлланиши қўшимча валентлиги билан боғлиқ. Аниқроқ қилиб айтганда *-(и)бди* қўшимчаси яъни морфологик восита билан ифодаланган субъект нутқий вазият талаби билан луғавий восита (атоқли от) ёрдамида ойдинлашган. Тўлдирувчи (битта) ва ҳолнинг (иккита) ишлатилиши ўзак валентлигининг намоён бўлиши натижасидир. *Хабар манбаи*нинг ўрни юқори мисолдагидек яъни алоҳида содда гап шаклида келган. Сўзловчи ўзга шахс (Алилайлак)нинг ўзидан эшитган иш-ҳаракат ўзлаштириб баён қилган.

Мақсад ўзга шахснинг икки ва ундан ортиқ иш-ҳаракатини ўзлаштириб баён қилиш бўлса хабар яъни ўзлаштирма дарак гап янада кенгаяди: *Бироқ вофуруш Кулалани бозорда* ***тутиб олибди***, *бир-икки шапалоқ уриб, қўлидаги учта ўроқни* ***тортиб олибди***. *Кулала йиғлаб келди* (А. Қаҳҳор, Ўтмишдан эртаклар). Шуниси диққатга сазоворки бу мисолда ёзувчи хабар манбаи вазифасидаги гапнинг кесими сифатида нутқ феълидан фойдаланмайди. Фақат бош бўлаклардан тузилган гап орқали ёзувчи аввало хабар манбаининг субъектини аниқ кўрсатган (Кулала). Бундан ташқари кесим вазифасида танланган феълда ҳам нутқ феълининг маъносига ишора бор ҳам субъектнинг ҳис-туйғуси намоён бўлган. Бу билан бир жиҳатдан тежамкорликка эришилади, айни пайтда ўзлаштирма фикрнинг тингловчига таъсири ортади. Бу эса ёзувчининг маҳоратидан далолат беради.

Макроконтекст таркибидаги гапларнинг ўрни, ҳажми, сўз қўллаш ва ҳоказода она тили қурилишининг ўзига хос синтактик меъёрларига қатъий риоя қилинса гаплар ихчамлашиб тежамкорликка эришилади: *– Мирза Муҳиддин билан Аббосхон қамалибди. Сиёсий идора қамабди. Марказдан одам келди!* (А. Қаҳҳор, Сароб). Ушбу мисолда таъкидлаш мақсадида объект олдинга кўчирилиб субъект иккинчи гап таркибига ўтказилган. Кесим вазифасидаги айни бир феъл икки нисбатда икки марта такрорланиб иш-ҳаракат ҳам таъкидланган. Макроконтекст охирида гап (*шу айтди*) тежалиб ихчамликка эришилган. Буларга оҳанг (ёзувда икки марта нуқта, бир марта ундов белгиси) қўшилиб гапларда ифодаланган фикр аниқ воқеланиб ҳис-туйғу билан йўғрилади, олдинги ва кейинги макроконтекстлар билан бирга ўқувчига кўзланган таъсирни ўтказади. Бинобарин коммуникатив мақсад амалга ошади.

Юқоридаги микро- ва макрокотекстларда хабар манбаи ўзлаштирма гапдан кейин келган. Нутқий мақсаду вазифа тақозо қилса хабар манбаи ўзлаштирма гапдан олдин туради. Бундай ҳолда аввал нутқий амал чун муҳим (салмоқдор) ҳисобланган бирор воқеа-ҳодиса ҳақида ҳабар берилади, кейин муайян иш-ҳаракат ўзлаштириб баён қилинади: *Шу чоқ эшик худди мушук таталагандай тақиллади-да, секин очилиб, Эшоннинг калласи кўринди.* ***Раис Саидани айттириб юборибди*** (А. Қаҳҳор, Синчалак). Ушбу мисолда хабар манбаи иккита содда гапдан тузилган, ўзлаштирмалик ифодаланган содда гап эса ихчам, нутқ феъли тежалган.

Хабар манбаи ўзлаштирма гапнинг ўзида келади: *Лекин бояги аравакаш бу гапни дадамга* ***айтибди*** (А. Қаҳҳор, Ўтмишдан эртаклар). Бу мисолда макроконтекстнинг олдинги қисми билан алоқани кўрсатувчи восита учта (*лекин, бояги, бу*). Иккита сўз (*гапни, дадамга*) ўзакнинг, битта сўз (*аравакаш*) *-(и)бди* қўшимчаси валентлиги воситасидир. Мазкур сўзлар тушириб қолдирилса ҳам ўзлаштирма хабар англашилаверади (*айтибди*). Нутқий амал учун унинг ўзи етарли бўлмаганидан гап кенгайиб келган. Юқоридаги микроконтекстда хабар манбаи сўз (*аравакаш*) билан ифодаланган. Қуйидаги микроконтекстда бу вазифани сўз бирикмаси бажаради: - ***Унинг айтишига қараганда***, *Зуннунхўжа қулоқ қилинипти* (А. Қаҳҳор, Қўшчинор чироқлари). Бу мисолда олмош билан ифодаланган хабар манбаининг кимлиги аниқ эмас. Олдинги гапдан унинг бир таниш киши эканлиги маълум бўлади. Сўзловчи (Зиёрахон) ва тингловчи (Сидиқжон) ҳам олдинги микроконтекст таркибида келганлигидан ўзлаштирма гап ихчам, атиги уч сўзу икки бўлакдан иборат.

Нутқий мақсаду вазифа тақозо қилмаса хабар манбаи на макро- на микроконтекстда аниқ ифодаланмайди. Бундай ҳолда ўқувчининг диққати ўзлаштирма хабарнинг ўзига жалб қилинади: ***Маълум бўлишича***, *Додархўжа қишлоқдан бадарға қилинибди, отқоровул уни Қўқон йўлининг ярмигача элтиб қўйибди* (А. Қаҳҳор, Ўтмишдан эртаклар).

Бундан ортиқ воқеа-ҳодиса ўзлаштириб баён қилинганда микроконтекст кичиклик қилиши мумкин. Бундай ҳолда ўзлаштирма хабар бир неча дарак гапдан иборат бўлиб макроконтекст ҳосил бўлади. Ўзлаштирма хабар ҳажман янада катта бўлиб макроконтекст бир, икки абзац, ҳатто бир, икки саҳифани банд қилиши мумкин [4, 314].

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Юқоридаги мисолларда III (ўзга) шахснинг фикри ўзлаштириб баён қилинган. Қуйидаги мисолда II шахс (тингловчи)нинг иш-ҳаракати ўзлаштириб баён этилган: – *Бизнинг бобойни жуда яхши* ***билиб олибсиз****. У кишини партия мажлисида интизомга* ***бўйсундирибсиз****. Сизни орқа қилиб, хотинлар у кишини* ***танқид қилишибди****... Аъзамжон билан Тошкентда кўришган эдим, ўша* ***гапириб берди*** (А. Қаҳҳор, Синчалак). Ушбу макроконтекстда сўзловчи (Козимжон) ўзга шахс яъни отаси (Қаландаров) ҳақида бошқа киши (Аъзамжон)дан бошқа шаҳар (Тошкент)да эшитганларини тинловчи (Саида)га гапириб беради. Қуйидаги микроматнда сўзловчи тингловчининг ўзидан эшитган хабарни ўзлаштириб баён қилади: *Шоҳизинда майдонида бўлиб ўтган норозиликни* ***ўзингиз*** *кўрибсиз* (А. Сафаров, Наврўз). Кўриниб турибдики, хабар манбаи микроконтекст яъни содда дарак гапнинг ичида битта сўз (*ўзингиз*) билан ифодаланган. Қуйидаги мисол ҳам микроконтекст яъни битта содда дарак гап. Аммо хабар манбаини ифодалаш учун сўз бирикмаси қўлланган. Сўз бирикмаси гап бошида келган, аниқ шахс, атоқли от билан ифода этилган. Бундан ташқари сўзловчи ўзга шахсдан иш-ҳаракатни ўзлаштириб тингловчига хабар беради: ***Нормурод бойваччанинг айтишларига қараганда,*** *Олмаотадан бинойидек тилмоч бўлиб қайтибсан* (Н. Сафаров, Наврўз).

I шахснинг коммуникатив вазифаси сўзловчи бўлганидан ўзи амалга оширган иш-ҳаракатни ўзлаштириб баён қилиш мантиққа зиддек туюлади. Аммо баъзан ўзи ҳақида ўзганинг фикрини ўзлаштириб баён қилади. Хабар манбаи II ва III шахсдагидек бўлади: ***Ҳикоя қилишларича****, келишимиз билан таппа ташлаб, оч-наҳор ухлаб қолибман* (Н. Сафаров, Наврўз). – ***Қаердан олганингизни ҳам айтди.*** *– Қаердан олибман? – Ўрдадан, Ўрдадаги тилла магазиндан* (Ў. Умарбеков, Ёз ёмғири). Хабар манбаи биринчи мисолда сўз бирикмаси бўлса иккинчи мисолда гап. Хабар манбаи айни пайтда модал сема (эшитилганлик) учун қулайлик туғдиради. Ҳақиқатан шундайлигини билиш учун мазкур воситани тушириб қолдириш керак. Бундан маълум бўладики модал сема II ва III шахсда бетараф (нейтрал) контекстда, I шахсда қулай контекстда намоён бўлади. Бетараф контекст энг кичик гап яъни *-(и)бди* шаклининг ўзи бўлса қулай контекст микро- ва макроконтекст кўринишида бўлади яъни битта содда, битта қўшма ёки икки ва ундан ортиқ гапдан иборат бўлади. Бундан ташқари *-(и)бди* шаклининг модал семаси *ноқулай контекст*да чекинади. Натижада хабар майлининг бошқа айрим шакли билан маънодошлик ҳосил бўлади [4, 121-122].

Тадқиқотимизнинг кейинги босқичида жумладан *-(и)бди* шакли коммуникатив хусусиятининг таржимада берилиши ҳақида фикр юритилади. Шуни инобатга олиб қуйида намуна тариқасида мазкур шаклнинг модал ва коммуникатив семалари намоён бўладиган контекст ва микроматнлардан айрими таҳлилини олиб қараймиз. Олдинги тадқиқотлардан ҳам маълумки бу шакл ўзлаштирма хабарни ифодалайдиган воситалардан энг кўп қўлланадигани. Таҳлилни энг кичик (минимал) контекстдан бошлаймиз:*Ол****ибди***. (Т. Мурод, Отамдан қолган далалар, 8). Қўшимчадан феъл ўзаги англаган ҳаракатнинг ўзга шахс томонидан бажарилганлиги сезилиб турибди. Аммо хабар манбаи яъни сўзловчи уни айнан кимдан эшитиб хабар бераётганлиги аниқ эмас. Шунга кўра макроконтекст ёки микроматнга мурожаат қилишга тўғри келади. Макроконтекстдан яъни олдинги гаплар (7-саҳифа)дан оқпошшо қўшини (лашкарлари) Тошкентни олганлигини аниқлайди. Айни пайтда сўзловчи Салоҳиддин буйруғи, тингловчи Кетмон лақабли деҳқон Жамолиддин, нутқий амал ўрни Фарғона, воқеа жойи Тошкент, воқеа вақти 19-асрнинг охирги чораги эканлигини назарда тутиб сўзловчи *-(и)бди* шакли орқали бировдан эшитган ҳаракат ҳақида хабар бермоқда.

Шуни эътироф этиш жоизки *-(и)бди* қўшимчасига хос маънолар предикативликни шакллантирганлигидан шаклнинг ўзи гап деб қаралади. Унинг охирига нуқта қўйилгани эса бундай гапнинг синтактик жиҳатдан мустақил, тугал эканлигидан далолат беради. Демак бундай ҳолда гапга тугалланганлик хос. Бу хусусиятнинг ифода воситаси оҳангдир.

Юқоридаги мисол эшитилганлик семаси учун бетараф контекст вазифасини бажарган бўлса қуйидаги мисол ойдинлаштирувчи контекст вазифасида келган: *Йиғлапти*. (Ш. Бўтаев, Кайвонининг мангу макони, 314). Шу биргина сўз алоҳида абзац қилиб берилганидан ғайрилисоний омил (абзац) эшитилган хабарни ажратиб кўрсатиш учун хизмат қилади. Шу билан бирга макроматн *эртак-қисса* деб номланганидан *хабар манбаи* аниқ шахс(лар) эмас, ижодкор халқ эканлиги аён бўлади.

Ўзбек адабий тилида ўзга нутқ турларининг тузилиши ҳам грамматик хусусияти ҳам таржима тиллари (немис ва рус тили)дан кескин фарқ қилади. Бу эса фақат билвосита эмас, бевосита таржимада ҳам бир қатор мураккаблик келтириб чиқаради. Кўчирма ва ўзлаштирма гапнинг диалогик нутқ бошқача айтганда асар қаҳрамонлари суҳбатида қўлланишига оид мисоллардан бирини келтирамиз:

– Биров ҳам кирмади! – деди аскар.

– Ана, ҳузурингга биров ҳам кирмабди.

(Т. Мурод, Отамдан қолган далалар, 232).

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Мисолда аввал кўчирма хабар ва муаллиф нутқи берилган. Аскарнинг фикри ўзгартирилмай, кўчириб баён қилинган. Кўчирма хабар ҳис-туйғу билан йўғрилгани учун гап охирига ундов белгиси қўйилган. Сўнгра аскарнинг фикри ўзлаштириб баён қилинган. Хабар манбаи тежалган. Ҳар қайси тур алоҳида абзацни ташкил этади. Бу билан асар муаллифи ихчам ифодаланган кўчирма хабарни ҳам ўзлаштирма хабарни ҳам ажратиб кўрсатишга эришган. Тиниш белгилар (қўштирноқ, вергул)нинг тежалганлиги ҳам ўқувчида фикрнинг таъсир кучини оширишга хизмат қилади.

Муаллиф гапининг эгаси сўзловчи сифатида суҳбатда иштирок этса кесим ўзгармайди яъни аввалги мисолдагидек *-ди* шакли қўлланаверади. Аммо у ўзи бевосита кузатган эмас, бировдан эшитган иш-ҳаракатни баён қилса кўчирма гапдаги кесимнинг шакли ўзгаради яъни *-(и)бди* шакли қўлланиб ўзлаштирма хабар воқеланади. Натижада контекст ўзга нутқнинг аралаш туридан иборат бўлади: *Муқаддам қишлоққа кетибди, – **деди** овози қалтираб. – Бутунлай кет**ибди***. (Ў. Ҳошимов, Баҳор қайтмайди, 247).

Аралаш ўзга гап тузилиши бошқача бўлиши мумкин: *Кейин Нагандан хат олдим. У мени кечирибди: "Келгуси йили бораман, дебди*." (Ш. Холмирзаев, Тупроқ кўчалар, 261). Биринчи гапда хабар манбаи (Наган) ва хабарни етказиш воситаси (хат) ифодаланган. Иккинчи гап Наганнинг ўзлаштириб баён қилган фикридан иборат. Кейин Наганнинг фикри ўзгартирилмай айнан яъни кўчирма хабар шаклида қўштирноқда берилган. Ниҳоят ўзлаштирма хабар субъектининг фикри яна ўзлаштириб баён қилинган (*дебди*).

Юқоридаги макроконтекст ўзлаштирма хабарнинг морфологик восита билан ифодаланган кўриниши ва кўчирма хабардан иборат. Қуйидаги макроконтекстда кўчирма хабар билан бирга ўзлаштирма хабарнинг иккала тури ҳам ўз ифодасини топган: *Хат қисқа эди. Салом-аликдан кейин ҳалиям сапёрлар ротасида хизмат қилаётганлигини айтибди. Охирида: "Раъно, негадир кўнглим ғаш, ўзингни эҳтиёт қил, биласан-ку сени жонимдан ортиқ яхши кўраман", дебди.* (Ў. Ҳошимов, Икки эшик ораси, 245). Ушбу макроконтекст хабар воситаси ифодаланган гап билан бошланган. Кейинги гапдан ўзлаштирмаликнинг иккала тури ўз ифодасини топган. Кўчирма хабар қўштирноққа берилган бўлиб бешта гапдан иборат. Контекст ўзлаштирма хабар манбаини кўрсатувчи бир сўзли гап билан якунланган. Шуни айтиш жоизки кўчирма хабарда тиниш белгиларини ишлатишнинг амалдаги қоидаларига риоя қилингани учун ўзбек адабий тили қурилишининг бош хусусияти бўлган тежамкорликка мос эмас, ислоҳотталабдир.

*Хулоса.*Ўзбек тилида ўзлаштирмалик икки усул билан ифода этилади: бири синтактик, бири морфологик. Синтактик йўл билан ҳосил бўлувчи ўзлаштирмаликнинг энг кичик кўриниши иккита ўзак, негизга қўшимча ёки ёрдамчи сўз қўшиш билан ясалади. Унинг бир неча андозаси бор, барчаси икки қисмдан иборат бўлади. Шулардан бири (ўзлаштирма хабар)нинг биринчи қисми тўрт ёки беш узвдан, иккинчи қисми икки узвдан тузилади. Иккинчи қисм вазифасида қўлланувчи сўзнинг сони чекланган, биринчи қисмда эса морфологик восита сони чегараланган. Жумладан, келишик қўшимчасидан фақат биттаси ёки у билан вазифадош бўлган кўмакчи ишлатилади: *Ол + ган +и+ни айт+ди. Ол+иш+и+ни айт+ди. Ол+моқчи+лиг+и+ни айт+ди. Ол+ган+и ҳақида гапир+ди* ва ҳоказо.

Шўро даврида ўзлаштирмаликнинг асосан ана шу тури назарий жиҳатдан тадқиқ қилиниб, олий ва ўрта таълимга татбиқ этилди, яъни қоидалаштирилиб, кодификация қилинди. Бу тур кўчирма гап билан қиёсан, у билан битта умумий сарлавҳа (ўзга гап) остида ўрганилди. Улар ҳақида докторлик ва номзодлик диссертациялари ёзилди, монографиялар чоп этилди. Ўзлаштирмаликнинг ўзбек тили синтактик қурилишига хос-хос эмаслиги масаласида баҳслашилди. Истиқлол даврида ҳам иккала ҳодиса биргаликда тадқиқ қилиниб, уларнинг қолипи (модели) берилди.

Ўзлаштирмаликнинг иккинчи тури ўзбек тили қурилишининг ўзига хос хусусияти билан боғлиқ бўлиб, унинг энг кичик кўриниши феълнинг ўзак, негизига қўшимча қўшиш билан ҳосил бўлади.Лекин ўзлаштирмаликнинг бу тури махсус тадқиқ қилиниб, назарий жиҳатдан етарли асосланмаганидан бўлса керак, ҳозиргача тилшунослар томонидан етарлича ўрганилмаган.

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THE IMAGE OF A MAN AND A WOMAN IN RUSSIAN AND UZBEK PAROEMIA WITH A GENDER COMPONENT

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Abstract. This article reveals the problem of comparing gender features of the expression of attitude towards a man and a woman on the example of Russian and Uzbek proverbs. The relevance of the topic lies in the fact that the study of gender-marked vocabulary in Russian linguistics is carried out on the basis of phraseological units, while paroemias remain out of sight of linguists, becoming the object of gender research much less often. As you know, paremiology studies proverbs and sayings. From the standpoint of linguistics, a proverb is a text and a sign. On the one hand, a proverb is a phenomenon of language, on the other hand, it is a logical unit expressing a judgment, on the third, it is an artistic miniature. Considering the proverbial fund of the Uzbek and Russian languages, we trace the "image" of the picture of the world and the image of the world through the prism of the proverbs of these peoples, thus revealing the features of material and spiritual culture, the connection of proverbs with the history of the people.

In the Uzbek and Russian linguistic cultures, there are a large number of proverbs with a gender component. Their analysis showed the androcentric nature of the Russian and Uzbek linguistic cultures while maintaining the male vision of the world. At the same time, there is a great paremiological activity of female anthropometric lexemes, as well as a predominantly negative coloring of both female and male images constructed in the structure and semantics of the lexemes of the Russian and Uzbek paremiological funds.

Key words: gender, proverb, saying, mentality, patriarchy, picture of the world, linguistic culture, man, woman

Introduction. At present, the gender aspects of the humanities are attracting more and more attention from foreign and local researchers. Carrying out gender studies, their integration into these sciences contributes not only to the correlation of existing ideas but also involves the solution of little-studied problems, significantly changing the approach to their comprehension. Being a specific area of knowledge, gender issues at the same time have a "smooth" universal meaning, penetrating various sciences and disciplines.

Gender is one of the basic dimensions of the social structure of society, which, along with other parameters, forms a social system. This allows us to consider gender as one of the most important indicators of the social structure of society, which determines the orderliness of the entire social system. Awareness of gender identity is a constructive element of society, based on the differences between the genders formed by society. In the modern sense, gender is not a consequence of individual biology or a predisposition to being this or that type of person. We can say that this is not an individual quality at all, but an order established by society, of which every person is a part.

The close interest of linguists is the problem of comparing the gender characteristics of the expression of an attitude towards a man and a woman on the example of proverbs taken from the Uzbek and Russian languages. The relevance of the topic lies in the fact that the study of gender-marked vocabulary in Russian linguistics is carried out on the basis of phraseological units, while paroemias remain out of sight of linguists, becoming the object of gender research much less often. As you know, paremiology studies proverbs and sayings that briefly and figuratively reflect the traditions, customs, and values of the people, based on their cultural and social experience. The paremiological fund of the Russian and Uzbek languages is part of the world's cultural heritage, contributing to the intercultural dialogue of peoples [4, p.280].

Object and methodology of research. The object of our study is the proverbs of the Russian and Uzbek peoples dedicated to a man and a woman. When selecting linguistic facts, a gender approach was used, that is, orientation in the context to a male and female person. The study of gender representations in accordance with the tasks was carried out on the basis of the use of descriptive and contextual methods, definitional, classification and comparative methods, through the use of modeling techniques.

Results and its discussion. Gender reflects both the process and the result of "embeddings" an individual into a socially and culturally determined model of masculinity or femininity, adopted in a given society at a certain historical stage. Thus, from a conceptual point of view, gender "emphasizes the socio-

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cultural rather than the natural dominant of gender" [5, p.27]. Gender studies are called "Philosophy of genders" since they are supposed to reveal the mechanisms of relationships between the genders, their interaction, identify the social roles of the genders in society, and identify those differences between them that have played a significant role in the historical development of mankind. According to the Uzbek linguist N. Z. Nasrullayeva, gender is a concept or phenomenon of a cognitive nature, manifested in the means of language and the specifics of people's speech behavior in connection with belonging to a particular gender [6,p.42].

The influence of gender on the language system is most clearly expressed in paremiology, a branch that studies proverbs, sayings, and phraseological units. An integral part of the Russian and Uzbek languages are wise sayings passed down from generation to generation. The language is closely connected with the culture and mentality of the Russian and Uzbek peoples and reflects the worldview, moral, domestic, and religious foundations, and traditions.

They are especially clearly presented in proverbs and sayings, which, of course, are a storehouse of wisdom, a source of instructive and instructive information [8, p.1]. Proverbs and sayings are the main types of proverbs. Paroemias is one of the types of speech creativity of the people. Being a ready-made speech stereotype, proverbs seem to impose on the native speaker a ready-made solution to the problem that has arisen, they try to predict the future result of his actions or justify his failures. The proverb is not only "a treasure trove of folk wisdom" [7, p.19]. From the standpoint of linguistics, a proverb is a text and a sign. On the one hand, a proverb is a phenomenon of language, on the other hand, it is a logical unit expressing a judgment, on the third, it is an artistic miniature. Considering the proverbial fund of the Uzbek and Russian languages, we trace the "image" of the picture of the world and the image of the world through the prism of the proverbs of these peoples, thus revealing the features of material and spiritual culture, the connection of proverbs with the history of the people.

All peoples of the world are characterized by the presence of proverbs with a gender bias, i.e. socially oriented. Patriarchy is also a traditional model of Russian and Uzbek linguistic cultures. The essence of patriarchy, characterized by the existence of subordination with male dominance at the base of gender relations, is that the interacting participants are initially recognized as unequal, as opposed to each other according to the criterion of value, and significance. A man in this opposition is considered to have an independent value, important, and is authoritative. The woman is considered only as a moment in the fate of the male spirit: *Знай баба свое кривое веретено* (*Know woman your crooked spindle).*

Proverbs and sayings are excellent examples of cultural stereotypes in which people's experiences and self-awareness are recorded. Of course, in quantitative terms, in Russian paremiology, male triumph is noted. The male picture of the world is filled with: a) power over a woman («*жена не горшок – не расшибешь*»); b) self-importance («*муж пашет, а жена пляшет*»); c) the representation of a woman as a half-man *(«кобыла не лошадь, баба не человек*»).

The female image of the world, reflected in Russian paremiology, testifies to the ambivalence of its gender vector. Unlike Western culture, in which a woman is for the most part presented as a weak and voiceless creature, a Russian woman is not devoid of willpower and determination. However, even here the negative qualities that are attributed to any woman predominate grumpiness, talkativeness, and lack of intelligence. Sayings illustrating these qualities are known to every native speaker of the Russian language since childhood: «бабий язык — помело», «злая жена сведёт с ума».

In the Uzbek and Russian linguistic cultures, there are a large number of proverbs with a gender component. The definition of illustrative material by the method of continuous sampling from the list of Uzbek proverbs confirms this: *Shoshgan qiz erga borsa yolchimas. Zaifa tushi chap. Kampirning dardi g'ozada. Kelinni kelganda ko'r, sepini yoyganda ko'r. Onaning ko'ngli bolada, bolaning ko'ngli dalada*. [9].

Like the Uzbeks, Russians tend to regard idle talk as the main occupation of women, for example: *Бабий язык, куда не завались, достанет*. *Волос долог, а язык длинней* [3]. However, in both languages there are frequent proverbs in which both negative and positive assessments of a woman are given. Russians: *Добрая жена дом сбережет, плохая рукавом растрясет. Хозяйкой дом стоит. Хозяюшка в дому – оладышек в меду. Жёнушка душка, что пуховая подушка*. Узбекские: *To'qqiz qizning to'lg'og'i bir kunda keladi. Suluv suluv emas, suygan suluv.. Chiqishga kelsa er yomon, qo'yishga kelsa — xotin.*

Let's compare proverbs with a gender component that function in both languages.

Uzbek proverb	**Russian equivalent**
Er — bosh, xotin — bo'yin	Муж – голова, жена - душа
Er vaziri — xotin	Без жены, что без ума

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We have noticed that a large number of Russian proverbs dedicated to a woman demonstrate a dismissive attitude and a patronizing tone. Violence against a woman is not condemned, but on the contrary is welcomed: *Баба не бита, что ложка не мыта. Бей жену до детей, бей детей до людей. Бей жену к обеду, а к ужину опять, без боя за стол не сядь. Шубу бей – теплее, бабу бей – милее.* Many Uzbek proverbs dedicated to women have an edifying tone, they clearly show an educational character: *Бола ёшдан, хотин бошдан* (A child must be brought up from an early age, and a wife from the first day). *Буйдоққнинг кўзи билан хотин олма, даллолнинг сўзи билан мол олма* (Do not choose a wife through the eyes of a bachelor, do not buy a cow on the advice of an intermediary).

The national and cultural aspects of the linguistic gender of the Uzbeks are reflected, first of all, in the gender roles traditionally assigned to men and women. So, for example, an Uzbek man is given the role of "head of the family", "breadwinner", "wageworker", "protector" and "adviser". It should be noted that the authority of the husband/father is very high. So, in proverbs, much attention is paid to the position of men in society, the authoritarianism of their behavior, as well as the indispensability of men in the family: *Эр қаерда бўлса, хотин шу ерда* (Где находится муж, там и жена должна быть). *Эр – ярим пир* (A husband is a great authority for his wife).

As can be seen from these examples, the superiority of men over women is confirmed, and sometimes acts as an irrefutable, eternal truth: *Чиққан қиз чийриқдан ташқари* (Married, now you belong to another family). However, Uzbek proverbs also note the most important role of women in maintaining the hearth: *Эрни эр қилган ҳам хотин, қора ер қилган ҳам хотин* (The well-being of a husband depends on his wife). *Сепли бўлмаса, эпли бўлсин* (Let the daughter-in-law come without a dowry, but let her be skillful, quick, dexterous);

However, the status of the mother in the Uzbek mentality as part of the Muslim worldview is the highest and indisputable: *Фарзандига отанинг меҳри кетмонча бўлса, онанинг меҳри* осмонча бор (A father's love for his children is meager compared to a mother's love). *Отанинг аркони давлати билан колгунча, онанинг пилта-савати билан кол* (Better stay with a poor mother than stay with a rich father). These proverbs confirm the opinion of I.E. Gerasimenko that “a woman goes beyond the cultural code outlined by her and acquires a high status, which in itself is, if not a sign of the matriarchal gender model, then a sign of the destruction of the patriarchal one” [2, p.356]. In matters of raising children, there is also a clear division along gender lines: *Арқоғини кўриб, бўзини ол, онасини кўриб, қизини ол* (Choose fabric by thread, choose the bride by her mother). *Қиз бола уйнинг зийнати, ўғил бола уйнинг захмати* (The daughter in the house is an ornament, the son in the house is anxiety).

One of the ways to reflect gender-specific information is the functioning of key zoolexemes in proverbs that nominate biological sex. So, the pairs of *корова – бык, курица – петух, овца – баран, коза – козел, кошка – кот* (a cow - a bull, a chicken - a rooster, a sheep - a ram, a goat - a goat, a cat - a cat) clearly demonstrate a different idea of the position of a man and a woman in the world.

In Russian, the common zoonym cow can be used to refer to a clumsy, untidy, unreasonable, greedy woman: *Пусти бабу в рай, а она и корову за собой ведёт. С другой стороны, корова в русской культуре – кормилица, обозначает житейские трудности: Счастье не корова, не выдоишь; Взял корову – возьми и подойник.* (*Let the woman go to heaven, and she leads the cow with her. On the other hand, a cow in Russian culture is a nurse, it means everyday difficulties: Happiness is not a cow, you can’t milk it; If you take a cow, take a pail.)* Russians associate health and strength with the image of a bull: *Силен как бык, а смирен, как корова.* (Strong as a bull, but humble as a cow.) At the same time, the zoolexeme bull is usually used to characterize a man, and a cow is used to describe the life of a woman and her behavior. In Uzbek proverbs, the zoonym «корова/сигир» is used with a negative connotation: *Сийлаганни сигир билмас, сийпаганни эшак сезмас* (A cow does not understand affection, but a donkey does not understand care). *Кисир сигир кўп маърайди* (Spring cow mooing loudly). *Сузаған сигирга тангри мўгиз бермас* (God does not give a horn to a vigorous cow). A direct comparison of a woman with a cow is found in the following proverb: *Сигиринг хўра бўлса, берди худо, хотининг хўра бўлса, урди худо* (If you got a gluttonous cow, you were lucky, but if you got a gluttonous wife, God punished you). The Uzbek proverb «*Сигирнинг сути оғзида*» has a literal equivalent in Russian «*у коровы молоко на языке* (in the mouth)”.

In Russian paroemias, the frequent and independent word chicken is associated with cunning, dexterity: *Не там курица яйцо снесла, где кудахчет*; the image may be associated with captivity: *Рада б курочка в пир идти, да за хохол тащат*. In the Uzbek language, the zoonym *«курица/товуқ»* also has a pronounced gender character, since it means a woman: *Товуқнинг тушига дон киради (*Chicken dreams of grain*). Товуқнинг угвани томгача* (A chicken can only fly to the roof). Последняя паремия является семантическим эквивалентом русской пословицы (Курица не птица, баба – не человек). The last proverb is the semantic equivalent of the Russian proverb (A chicken is not a bird; a woman is not a person).

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The image of a woman is embodied in the Uzbek paremiological picture of the world and through the zoolexeme «ўрдак /утка»: *Шошган ўрдак ҳам боши шўнғийди, ҳам думи билан* (The hasty duck dives both front and back).

The zoonym **goat** is associated with national cultural connotations “obstinate”, “self-willed” — *От прыткой козы ни забор, ни запор; захочет сена коза — будет у воза*; « worthless man » — *отставной козы барабанщик*. In parallel with the goat, the goat is also used: *Охотой пошел, как коза на веревочке – коза во дворе, так козел через тын глядит*. “The negative assessment of this zoonym is due to the fact that the goat among Russian peasants was the “cow of the poor” and did not play a special role in village life. In Uzbek proverbs, the zoonym «коза/эчки» is found in isolated cases: *Зўрга топган боламни эчки тепиб ўлдирди* (A goat kicked a child to death, which was hardly caught).

The analyzed Russian and Uzbek proverbs with the “animal” component to some extent reflect prejudice against women. In modern society, women receive higher education, can work on an equal basis with men, engage in business and even politics, which was impossible before. In the surviving proverbs, a woman occupies a subordinate position in relation to a man, the negative characteristics of a wife, a woman are mainly expressed, but the mother is always evaluated positively.

So, the analysis of proverbs showed the androcentric nature of the Russian and Uzbek linguistic cultures while maintaining the male vision of the world. As a result of the study, it was possible to establish "great paremiological activity of female anthropometric lexemes" [1, p. 80], as well as a predominantly negative coloring of both female and male images constructed in the structure and semantics of the lexemes of the Russian and Uzbek paremiological funds.

Conclusions. Thus, despite the fact that the Uzbek and Russian languages belong to different groups, that each nation followed its own path of historical development, many folk sayings fully or partially correspond, and some coincide in meaning. Basically, these are international proverbs that reflect views on the relationship between men and women from the standpoint of universal human values. After a comparative analysis of proverbs and sayings in both languages, it turned out that the images of a man and a woman are described almost in parallel in Russian and Uzbek cultures.

Russian and Uzbek proverbs and sayings in gender stereotypes include a variety of gender discrimination. Now the factors leading to discrimination on the basis of sex are becoming less and less, gender-specific information is gradually disappearing in the modern language under the influence of economic, religious, and cultural changes. Language accurately reflects changes in social life. The use of proverbs to characterize the unequal position of women is determined by tradition, the mentality of some regions, both in Russia and in Uzbekistan.

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THE ROLE OF THE CONTEXT AND SITUATION IN THE FORMATION OF ELLIPTICAL STRUCTURES

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Abtract.

Introduction. *The nature and structure of Ellipsis has been studied by the scientists since antiquity. Each language develops in its own way to the existing rational, logical principles. It is felt that the possibilities of using the syntactic structures of languages differ in this. How does context and situation plays role in the functioning of Ellipsis is a matter of discussion.*

Research methods. *The method employed in this research is a conceptual-representative method, which aimed at identifying concepts in dual function - both as operational units of consciousness and as meanings of linguistic signs.*

Results and discussions. *The main reason for the appearance of such problems as to identify the missing fragments of incomplete sentences is the different interpretation of the concept of context. It is known that the term 'concept' is not used in the same way by philosophers, psychics, literary critics and linguists. Even in linguistics, the term 'context' is understood in different meanings. In particular, the representatives of the London School of functional linguistics propose to distinguish between the concepts of 'context of situation' and 'context of culture'.*

In elliptical structures, the excess of information is not felt, the fragments most important for the transfer of accounts and information take a linguistic form and are logically emphasized.

Conclusion. *In the analysis of the Ellipsis phenomenon, such an invariant role is played by a complete, no reduced form of linguistic structures. This form has a core indicator in the derivational environment, and based on this, the Ellipsis result can be understood and interpreted.*

Keywords: *Ellipsis, context and situation, syntax, grammatical form, grammatical and logical ellipsis, implicit meaning, linguistic economy, elliptical structures, cognitive language research, carrier of information, anaphoric zero sign.*

Background. The problem of the Ellipsis as a phenomenon, which has attracted the attention of scientists since antiquity, has not lost its relevance even at the present time. In ancient times, this phenomenon was mainly the focus of representatives of oratory or rhetorical science, who viewed the ellipsis as one of the rhetorical techniques that ensured that speech was short, understandable and attractive. Only by the Middle Ages, some philologists began to study this phenomenon within the framework of syntax. One such was Francisco Sanchez, a Spanish philologist and logician. "Minerva", the most famous work of the scientist was published in 1587, a large part of which was devoted to problems with syntax. After all, according to the scientist, syntax is the most complex and most important part of grammar[3].

According to F. Sanchez, a single principle is in force on the basis of the structure of languages, since thinking proceeds in the same way in all peoples. But each language develops in its own way to the existing rational, logical principles. It is felt that the possibilities of using the syntactic structures of languages differ in this. Against this background, the scientist expresses a tendency to interpret the ellipsis as one of the syntactic figures. The definition given by the Spanish logician who considers ellipsis to be a retreat from the grammatical rule is as follows: "Ellipsis est defectus dictionis vel distionum ad legitimam constructionem"[4] // Ellipsis is a structure or are structures that occur as a result of a violation of constructions of the correct grammatical form (translated by the author).

F.Sanchez was one of the first to propose the idea of dividing the ellipsis into types. According to the scientist's description, the most common type of this phenomenon is *grammatical*, which is easy to restore based on context. Grammatical Ellipsis is especially relevant to the predicate and often omitted completely.

Another type of Ellipsis allocated by the scientist is the *logical* ellipsis. In this case, the composition of the sentence, expressed by the means of the sentence, is not fully realized. F.Sanchez analyzed sentences

[3] Sonnio L.A. A Handbook to Sixteenth Century Rhetoric. –London, 1968.

[4] Малявина Л.А. К теории эллипсиса (Эллипсис в грамматике Фр.Санчеса 1587) // Проблема внутренней и внешней лингвистики. –М.: Наука, 1978. –С.71.

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with the modus of implicit meaning, referring to concepts typical of modern linguistics, describes the inner structure of speech forms and is based on the relationship between modus and dicum in this.[5] It seems that F.Sanchez is most interested in the Ellipsis phenomenon from the point of view of logical syntax, and it proves that this phenomenon has a linguistic essence.

Indeed, the activation of the principle of linguistic economy in relation to syntactic units is manifested in different forms, and as a result, various structural changes in the text of speech communication occur, and the form of information expression is condensed. This is especially true of the role of Ellipsis in the performance of such task of the linguistic economy.

Research methods. To investigate the role of the context and situation in the formation of elliptical structures different research methods are applied. A brief analysis of the methods and techniques used in cognitive language research shows that they are all focused on working with certain language material and focus more on either the cognitive component or the study of the actual semantics of language units.

Within the framework of the conceptual-representative method, conceptual analysis is not just an analysis of concepts and their conceptual characteristics, but is aimed at "identifying concepts in their dual function - both as operational units of consciousness and as meanings of linguistic signs, i.e. as some ideal units objectified in linguistic forms and categories". [6]

Results and discussions. In the structure of the text, sentences are interconnected by entering into syntactic-semantic relation. On the basis of the same relation, elliptical sentences also take up space in the text. E.Kennedy commented that the ellipsis can be described as a state of falling out of one or more words necessary to ensure a complete picture of the sentence. The reason why they do not exist is due to the fact that the meaning and function of the units being spoken are known by themselves.[7]

Speech units subjected to ellipsis are structurally compact, this compactness migrates to preserved fragments and increases their "load" of meaning. If in full sentences each piece is a carrier of information of a certain norm, then in elliptical sentences, the fall of one or another part leads to the distribution of information between the preserved ones. In this case, an attempt to prevent errors in the transmission of information is observed. In elliptical structures, the excess of information is not felt, the fragments most important for the transfer of accounts and information take a linguistic form and are logically emphasized[8].

In elliptic sentences, the linguistic non-realizable units R.Jacobson calls "zero expressive" or "anaphoric zero sign" and notes their easy recovery in a speech situation.[9]

The role of context and speech situation in determining the phenomenon of Ellipsis is emphasized by a number of linguists. In particular, the French scientist Charles Bally[10] divides the ellipsis as the "implied" of the anaphoric elements. Because anaphoric elements make the context realistic, while deictic units refer to the situation.

V.G.Admoni also notes that in the formation and correct understanding of the Ellipsis, the context as well as the situation are the main base points. In his eyes, in some cases, the context and the situation relieve the "load" of the sentence by the fact that certain parts do not find a form expression. However, the reference to this part will be present in the forms of the sentence, which are stored in the composition. And the form in which it is intended takes meaning depending on the situation or context".[11]

A similar opinion is also found in the work of Uzbek linguists[12]. N.Mahmudov has specially studied the cases of expression of the Uzbek language of Ellipsis at the syntactic level, who notes that there are three types of this phenomenon: 1) Ellipsis, which occurs in dialogues; 2) anaphoric Ellipsis; 3) Ellipsis, which forms incomplete sentences[13]. In this study, he also argues that economy does not occur in terms of meaning by forming incomplete sentences when Ellipsis is related to context and situation.

In dictionaries of linguistic terms, the same tradition is continued, in which the context and situation-related Ellipsis are distinguished. David Crystal, in his "A Dictionary of Linguistics and Phonetics"[14], states "the fact that a particular part of a speech structure is dropped in terms of economy, emphasis, or style is an

[5] Балли Ш. Общая лингвистика и вопросы французского языка. –М.: URSS, 2001.
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Ellipsis" and explains that this part can be restored through a detailed acquaintance with the context. The English linguist warns that at the same time sometimes the context cannot help either. For example, to restore the full form of the elliptical sentence of *To town* (*I am going to town*) it is enough to refer to the question of *Where are you going to?* However, it is a problem to identify the missing fragments of incomplete sentences such as *Thank, Yes*. For this reason, it is not always correct to include such statements in the Ellipsis framework.

The main reason for the appearance of such problems is the different interpretation of the concept of context. It is known that the term 'concept' is not used in the same way by philosophers, psychics, literary critics and linguists. Even in linguistics, the term 'context' is understood in different meanings. In particular, the representatives of the London School of functional linguistics propose to distinguish between the concepts of 'context of situation' and 'context of culture'[15].

R.Jacobson, who was one of the first to introduce the concept of 'linguistic context'into consumption interprets the occurrence of a speech act as follows: the addressant (speaker) conveys the message to the addressee (listener), and to grasp this information, a context is needed. For this, the linguistic code that represents information must be equally familiar to the speaker and listener. Finally, the occurrence of interpersonal 'contact', which allows the speaker and listener to enter into communication, is also one of the main conditions.[16] Hence, according to the scientist, the context is a set of units that the speaker and the listener feel.

Cognitive linguists prefer to interpret the concept of context in connection with the expression of meaning. Ronald W. Langacker believes that meaning cannot be defined as a phenomenon that stands apart from other levels of grammar.[17] Other cognitivists, continuing this idea, note that linguistic and non-linguistic knowledge cannot be sharply separated from each other[18]. That is why the concept of cognitive context refers to the need to understand the discourse of knowledge about the world.

From the point of view of linguistics, the phenomenon of context is the sum of the conditions necessary to determine the content of linguistic units, and the form of which is reality. Currently, researchers are in favor of distinguishing between micro- and macrocontexts. They consider the microcontext as a complex that occurs on the scale of structural-semantic relations between parts of the speech structure. And linguistic macrocontext is allocated within the framework of inter-sentence relations that arise in the context of communication[19]. The microcontext ellipsis is widely activated in dialogical speech, and in this case the function of a contextual sign is performed by an interrogative sentence, which is formed mainly by a pronoun:

EN: "***When*** *were you last here?"*
"Two weeks ago" (M.Mitchell. Gone with the Wind);
UZ: - ***Kimdan*** *jahlingiz chiqayapti? – deb so'radi Tal'at, joyiga o'ta turib.*
- *"Nurchi"ning noziri-da.* (Tohir Malik. Talvasa)

In these examples, the presence of a response in the form of an Ellipsis is explained by the fact that it corresponds to the communicative purpose of the previous interrogative sentence. The linguistic realities of the dropped elements would have prevented the interpretation of the rhema part of the information[20].

It is known that rhema is the main or core part of the transmitted information and is perceived differently in the environment of speech activity, and it is activated in the structure of the sentence not only by prosodic and lexico-grammatical means. Rhema also serves as a means of avoiding information redundancy in a part of a sentence that has not found a form expression. This, in turn, signals the harmonization of logical, psychological and linguistic structures in the colloquial linguistic consciousness[21].

[15] Halliday, M. A. K., & Hasan, R. Language, Context, and Text: Aspects of Language in the Social Semiotic Perspective. - Victoria: Deakin University, 1985. – P.99.
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An incomplete sentence that occurs in connection with the context is absorbed into the structure of oral speech and becomes a unit of communication with full meaning. Ellipsis in this case takes grammatical character and follows the laws of the language syntax system.

N.A.Sadullaeva does not approve in some studies that distinguishes dialogical and situational incomplete statements[22]. Dissatisfied with the fact that scientists such as A.hazratkulov who confuses grammatical and logical actions in the analysis of incomplete sentences, the scientist notes that the structure of an incomplete sentence is inextricably linked with the phenomenon of Ellipsis.

English scientist S.Lyons notes that the meaning of the elliptical structure can also be understood from a direct speech situation without resorting to any previous statement[23].

‚The speech act, which is called the situational or, at some point, 'systemic Ellipsis', is often characteristic of the replica of the dialogue. Because it allows you to save a significant part of linguistic expression of information in the process of specific conditions of communication and free communication. For example:

UZ: *"Yaxshimisan ... Ering yaxshimi", dedi Fotima "yarashdingmi" deyolmay.*
*"**Ketib qolgan**, allaqachonlar ketib qolgan. **Leningradda, o'qishda** ..."* (A.Qahhor. Muhabbat).
EN: ***No use making** a disturbance about it* (J. Conrad. Victory.)

Sometimes it is difficult to restore a dropped fragment of elliptical structures based on context, and in such a situation it is necessary to resort to similar complete phrases that exist in the language. Interestingly, these phrases do not have to be used directly in this context. This type of molded expressions is usually included among the phraseologisms of oral speech. to restore the full composition of phrases such as *Thank you // "Raxmat", Glad to see you // "Ko'rganimdan mamnunman", Beg your pardon // "Kechirasiz", Have a good day // "Xayrli kun"*, it is necessary to rely on their alternatives in a full interrogative forms: *I thank you // "Men sizga raxmat aytaman", I am glad to see you // "Men sizni ko'rganimdan mamnunman", I beg your pardon // "Men sizdan uzr so'rayman", You have a good day // "Sizning kuningiz xayrli o'tsin"* and so on.

The authors of the textbook English grammar, intended for students of universities, distinguish between situational and structural types of Ellipsis. In the first of them, the determination of meaning is associated with a extralinguistic context, and in the second, meaning is determined based on a grammatical structure. Scientists have also stated that there is also a 'textual ellipsis', in which the meaning is based on a linguistic context[24]. In our opinion, it is also a difficult matter to draw a sharp line between the situational and structural ellipsis. After all, situational Ellipsis occurs in any case subject to the rules and norms of the language syntax system.

A.M.Mukhin notes that in order to distinguish between elliptical and complete structures, one should definitely rely on syntactic connections. "Because there is no way to learn sentence fragments without identifying syntactic links."[25] The scientist interprets syntactic structures in such a structure as zero-component sentences, separating the sentence fragments that can be restored in content, but the form has not found an expression, as "zero-part". For the interpretation of these types of elliptical structures, the Russian-language statements "*В глубине дверь в переднюю; слева от зрителей дверь во внутренние комнаты"* are analyzed to their junction models.

In these models, the predicate, which has not found a formal expression, is defined as continuous lines.

L.S.Barkhudarov also considers syntactic elements in the form of 'zero's as an indicator of Ellipsis. In order to identify and restore fragments, the scientist uses the method of transformation. The syntagmatic possibilities of elliptical sentences are explained through the study of syntactic connections that are activated in the structure of sentences. In his opinion, any elliptical sentence is a transform of a full-fledged structure[26]. L.S.Barkhudarov who distinguished the syntagmatic and paradigmatic filling of the ellipsis actually recognizes the context and situation (situational) ellipsis. In this case, the Ellipsis phenomenon is analyzed in the direction of the restoration of the dropped element. In our opinion, it is preferable to start the analysis of

[22] Саъдуллаева Н.А. Ўзбек ва инглиз тилларида йиғиқлик ва ёйиқлик ҳосиласи. Филол. фан. доктори ... дисс. автореферати. –Т., 2020. –Б. 24.
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Ellipsis formation from the process of contraction (saving). Such an approach demonstrates the involvement of the activation of the laws of the language system with the context.

In addition to the fact that the processes taking place in the language system look different, the principles of their activation are also diverse. H.Nematov and R.Rasulov emphasize the importance of taking into account the sequence in the subordinate relationship of linguistic units, as well as the fact that they can exist in mutual harmony, when dividing them into paradigmatic, syntagmatic and hierarchical relations, which provide their connection in the form of similarity, step by step, neighborliness, which is experienced in the language system[27].

Sh.Safarov, who carried out valuable research on the methodology of linguistics, notes that any linguistic unit, having entered into relations with other units, to some extent affects the general system. "But these units are, first of all, the unity of the language system, and therefore their linguistic nature is formed within the framework of the general system and develops according to the requirements of this system".[28]

Hence, in the analysis of linguistic phenomena, it is important to find the main sample or invariant unit. In the analysis of the Ellipsis phenomenon, such an invariant role is played by a complete, no reduced form of linguistic structures. This form has a core indicator in the derivational environment, and based on this, the Ellipsis result can be understood and interpreted. In particular, if we analyze the processes of occurrence of an ellipsis at the level of syntax, a complete sentence is selected as an invariant. The full sentence will serve as a basis for the reduction in the next step, and certain fragments of it will take on an implicit appearance. It is for this reason that researchers are used to treating incomplete sentences of dialogical speech as a variant of complete sentences or a synonym in another structure[29].

Conclusion. It is known that in the context of dialogical communication, full and elliptical speech structures are applied to the fold, having the same possibility of activation, and delimiting this possibility of any of them causes only the occurrence of disproportionate cases. For example, it becomes difficult for individuals who communicate when only elliptical structures are involved in the dialogue to understand each other. Because in this case, it becomes a difficult task to restore the lack of information in accordance with the communicative goal. And when dialogue is formed only by means of full-content structures, a state of information redundancy occurs. An excessive increase in information also complicates communication, signs of boredom appear in its participants. For communication to take place evenly, it is important that information is expressed in moderation, and therefore we must not forget that the contribution of the ellipsis to ensuring the communicative effect is special.

It is clear that Ellipsis occurs differently in different structures. But the source of the structures that are being formed, no matter how this process proceeds, is a variant of those that are in full shape. Derivatives are elliptical in different meanings and manifestations, but they all arise under the influence of the principle of linguistic economy. From this point of view, it is noted that any elliptical structure is apart from any feature. From this it becomes clear that the integrity of the shape and content of the elliptical structure is manifested on the basis of comparison with the invariant, which is considered semantic-structurally complete. Full structures, in turn, are distinguished by their volume and are activated in a small amount of dialogical discourse relative to their elliptical alternative. Scientists who have been engaged in the study of features inherent in oral speech argue that elliptical structures are widely used in oral speech not only to reduce energy consumption, but also for purely linguistic reasons. After all, "elliptical structures are an integral part of oral speech, and their non-use is disobedience to language-specific traditions"[30]. The dominance of the ellipsis in the structure of dialogical speech is based on its same feature. In dialogue, replicas not only relate to each other in terms of meaning, but also syntactically adapt among themselves, and structurally one continues the other.

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ДИАЛЕКТИЗМ ҲОДИСАСИ ВА УНИНГ ИНГЛИЗ ТИЛИ ШЕВАЛАРИДА ҚЎЛЛАНИЛИШИ

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Аннотация. *Ушбу мақолада диалектизм мавзуси ўрганилишига қарамай, ўқувчи учун қизиқарли ва маълумотли бўлиб қолмоқда, чунки бу мақолада жуда кўп лингво-маданий, географик ва тарихий материаллар мавжуд. Ва айнан Англия тарихини географик хусусиятлар билан бирлаштириб, асарларда учрайдиган турли диалект ва диалектизмларни таҳлил қилиш ва тавсифлашга ҳаракат қилинди.*

Ушбу иш амалий аҳамиятга эга, чунки чет тилини ўрганишда биз оғзаки ва ёзма нутқда доимо диалект тузилмаларидан фойдаланишга дуч келамиз, бу биз уларни то`лиқ тушунишимиз кераклигини англатади. Йиғилган материаллардан талабалар ва ўқитувчилар инглиз тили дарсларида ва синфдан ташқари ўқишда фойдаланишлари мумкин.

Калит сўзлар: *диалект, диалектизм, шева, ург`у, лаҳжа, Британия инглиз тили, Америка инглиз тили, Кокней лаҳжаси, Скаузи лаҳжаси.*

Аннотация. *В данной статье исследуется тема диалектизма, она остаётся интересной и познавательной для читателя, поскольку данная статья содержит много лингвокультуроведческого, географического и исторического материала. И, соединив историю Англии с географическими особенностями, была предпринята попытка проанализировать и описать различные диалекты и диалектизмы, встречающиеся в произведениях.*

Данная работа имеет практическое значение, так как при изучении иностранного языка мы постоянно сталкиваемся с употреблением диалектных конструкций в устной и письменной речи, а значит, нам необходимо их полностью понимать. Собранные материалы могут быть использованы учащимися и учителями на уроках английского языка и во внеурочное время.

Ключевые слова: *диалект, диалектизм, диалект, акцент, диалект, британский английский, американский английский, диалект кокни, диалект скауса.*

Abstract. *This article explores the topic of dialectism, it remains interesting and informative for the reader, since this article contains a lot of linguistic, cultural, geographical and historical material. And, connecting the history of England with geographical features, an attempt was made to analyze and describe the various dialects and dialectisms found in the works.*

This work is of practical importance, since when studying a foreign language, we are constantly faced with the use of dialect constructions in oral and written speech, which means that we need to fully understand them. The collected materials can be used by students and teachers in English classes and outside of school hours.

Keywords: *dialect, dialectism, dialect, accent, dialect, British English, American English, Cockney dialect, Scouse dialect.*

Кириш. Тил одамларнинг асосий мулоқот воситасидир. Тил ижтимоий ҳодиса сифатида фақат жамиятда ривожланиб, унда содир бўладиган ҳодисаларни акс эттира олади. Жамиятнинг бутун ижтимоий-тарихий тараққиёти давомида сўзларни қўллаш ва талаффуз қилиш, шунингдек, тилнинг грамматик, синтактик ва лексик воситаларидан фойдаланиш бўйича ижтимоий нутқ меъёрларининг шаклланиши ва танланиши содир бўлади. Тил амалиёти жараёнида шаклланган бу меъёрлар луғат ва грамматика маълумотномаларида қайд этилган.

Ҳар бир адабий тил маълум сўзларни қўллаш имконини берадиган маълум меъёрлар тўплами билан тавсифланади.

Адабий тил - маданиятнинг намоён бўлиш тили бўлиб, у оғзаки ифода шаклига эга. Адабий тил доирасида қуйидаги тиллар ажратилади: ёзма ва кундалик мулоқот, расмий иш ҳужжатлари, фан, журналистика, мактаб ва бошқалар. Биз ўз ишимизда бадиий адабиёт тилини кўриб чиқамиз.

Ёзувчиларнинг адабий ижоди дунёга нафақат янги асарлар, балки янги сўзлар, баъзан эса аллақачон мавжуд сўзларнинг янги маъносини беради.

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Бадиий адабиёт тили мазмун жиҳатдан жуда хилма-хилдир. Қаҳрамонлар нутқининг ифодалилигига эришиш учун асарга миллий адабий тилнинг ижтимоий-ҳудудий шеваларидан сўз ва ибораларни киритиш мумкин. Ёзувчилар бадиий тушунчани тўлиқроқ очиб бериш ва асар қаҳрамонларининг характерини тасвирлаш учун кўпинча ҳудудий диалектларнинг лексик ва фразеологик хусусиятларига мурожаат қилишади.

Адабий тилнинг ҳудудий версияси маълум бир ҳудудда маҳаллий аҳоли учун алоқа воситаси сифатида қўлланилади. Сотсиолингвистик атамалар луғатига кўра, ҳудудий диалект - бу миллий тилнинг маълум бир ҳудудга хос фонетик, грамматик, лексик ва синтактик хусусиятлар мавжуд бўлган қисми.

Бадиий адабиётда шевалар муҳим ўрин тутади. Агар XVIII аср ёзувчилари диалектизмлардан асосан қаҳрамонларнинг деҳқон, оддий халқ нутқини тасвирлаш учун фойдаланган, кейин XIX асрдан бошлаб, диалект луғатдан фойдаланишдан мақсад халқ ҳаётини ҳаққоний тасвирлаш, маҳаллий ёрдам бериш, турмуш ва маданиятнинг ўзига хос хусусиятларини кўрсатиш истаги эди.

Бадиий адабиётда диалектизмлардан фойдаланиш матнга ранг-баранглик, ифодалилик ва ўзига хослик беради. Ҳар бир тил, хусусан, инглиз тили алоқа маданиятлари таъсирига дучор бўлади, янги номинациялар ва тузилмалар билан бойитилади, бу бадиий адабиётда намоён бўлади ва қаҳрамонлар нутқига ёрқин индивидуаллик беради. Инглиз тилидаги адабиётда ёзувчилар шотландлар ва ирландларнинг ёрқин қиёфасини яратиш учун ҳудудий диалектлардан фойдаланадилар.

Аксарият сўзлар замонавий ўқувчига тушунарсиз бўлиб, асарда чуқур ғоя ва маъно очилишига тўсқинлик қилади.Шундай қилиб, шевалар ва уларнинг муаммоси аҳамияти ниҳоятда катта бўлади. Ўрганилаётган мавзунинг долзарб ва муҳим эканлигига ҳеч қандай шубҳа йўқ. Шунинг учун асарнинг долзарблиги хорижий ёзувчиларнинг асарларидаги баъзи диалектизмларнинг маъноларини тиклаш ва изоҳлашга уриниш билан боғлиқ.

“Диалект” ва “диалектизм” тушунчаси.

Диалектология - бу тилнинг (диалектларнинг) ҳудудий шевалари ҳақидаги фан. “Диалектология” атамаси юнонча диалектос “суҳбат, диалект” ва logos “тушунча, ўқитиш” сўзларидан келиб чиққан.

Диалект - бу маълум бир тилнинг сўзлашув версияси бўлиб, у ҳудудлар ҳамжамияти томонидан боғланган чекланган миқдордаги одамлар томонидан бир-бири билан доимий ва жонли алоқада фойдаланилади; диалект ўзининг ёзма нормасига эга эмас.

Диалектизмлар - адабий нутққа киритилган ва адабий меъёрдан оғиш сифатида қабул қилинган ҳар қандай ҳудудий диалектларга хос сўзлар, сўз шакллари, синтактик сўз шакллари, фонетик, аксентологик вариантлардир. Адабий тилдаги диалектизмлар стилистик категория сифатида ишлайди, чекланган фойдаланишга эга, бадиий матнларда маҳаллий (диалект) нутқни узатиш учун ишлатилади (асосан фантастика, журналистика, радио- “жонлантириш” нутқ, унинг услубий хилма-хиллиги, шунингдек, номинацияси учун адабий сўз (унинг шева фонетик, морфологик вариант) бир шева синоними сифатида муаллиф нутқида бир белги нутқ ижтимоий-характерологик сифатида адабий мавжуд бўлмаган тил (асосан етнографик, географик тавсифларда).

Белгиланган адабий меъёрлар билан кескин диссонанс диалектизмларнинг ёрқин стилистик ёзувини яратади, матнга услубий хилма-хилликни, халқ сўзлашув нутқини ифодалашни, модал баҳолашнинг тезкорлигини, тегишли мавзуни белгилашда аниқликни, халқ нутқига хос ҳодисаларни, ноанъанавий фикр ифодаси таассуротини киритади.

Лаҳжалар, асосан, қишлоқ аҳолисининг лаҳжалари бўлиб, улар ҳали ҳам ҳар қандай мамлакат аҳолисининг муҳим қисми ўртасида оғзаки алоқа воситаси ҳисобланади.

Инглиз лаҳжалари ва уларнинг ўзига хос хусусиятлари.

Ҳар бир мамлакат ўзининг лингвистик хилма-хиллигига эга. Кўп миллатли давлатда турли тиллар қўлланилади ва бошқа тилларда диалектлар мавжуд. Буюк Британияда мени ҳайратга соладиган нарса, ҳатто битта шаҳар ичида ҳам турли хил лаҳжалар мавжудлиги.

Инглиз тилининг лаҳжалари — бу Британия империясининг кенгайиши ва иккинчи жаҳон урушидан кейин Ақшнинг бутун дунё бўйлаб таъсири натижасида пайдо бўлган Британия ороларида ривожланган лаҳжалар тўплами. Лаҳжалар ва инглиз тилидаги креоллар ва пиджинлар сони жуда катта.

Инглиз тилида унинг ривожланишини мувофиқлаштирувчи Марказий ташкилот мавжуд эмас, масалан, Франция француз Тили Академияси, бу ягона тил нормасининг йўқлигига олиб келади.

Инглиз тилининг энг кенг тарқалган стандартлаштирилган иккита лаҳжаси Жанубий Британия лаҳжасига асосланган “Британия (Қироллик) инглиз тили” ва ўрта Ғарбий Америка лаҳжасига асосланган “Америка (умумий Америка) инглиз тили”. Улардан ташқари, инглиз тилининг бошқа

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минтақавий вариантлари ҳам мавжуд бўлиб, улар ўз навбатида кўплаб субдиалектлар ва лаҳжаларни ўз ичига олади кокни, Скуз ва Георди буюк Британияда; Канададаги Нюфаундленд инглиз тили ёки Ақшда афроамерикалик ва Жанубий Америка инглиз тили.

Британия (Кироллик) Инглиз Тили.

Кироллик инглиз тилининг ҳар бирида тўрт қисмнинг Бирлашган Кироллик гаплашадиган тилдир: Шотландия, Англия, Уэлс ва Ирландия. Буюк Британия тўрт қисмдан ҳар бирида, инглиз тили ўз фарқлари бор.

Шотландия нутқининг асосий хусусиятлари билан тан олиниши мумкин, улардан бири жуда кучли, шов-шувли овоз [r]. Бу баъзан Жанубий Англия аҳолисининг нутқида бўлмаслиги керак бўлган жойда ешитилади. Маълум бир талаффуз хусусиятидан ташқари [p], Уелс, Шотландия ва Ирландия аҳолиси ўз нутқида кўплаб минтақавий сўзлар ва иборалардан фойдаланадилар.

Шотландия нутқини адабиётда, қуйидаги сўзлар ва ибораларда етказиш:

“wee” ўрнига “little”;

“aye” ўрнига “yes”;

“Idinna ken” ўрнига “I don’t know”’;

“ye” ўрнига “you”.

Шунга асосланиб, Шотландиянинг нутқи Англиянинг Жанубий қисмида яшовчига ҳар доим ҳам тушунарли эмас.

Ирландия ва Уэлс аҳолисининг нутқига келсак, улар оҳангдор ва бир хил интонация билан ажралиб туради. Ўз навбатида, ирландиялик томонидан айтилган ижобий жумла инглиз томонидан сўроқ сифатида қабул қилинади.

Уэлсликларнинг нутқини адабиётда, қуйидаги сўзлар ва ибораларни орқали кўриш мумкин:

“look you” ўрнига “do you see”.

“boyo” ўрнига “man”;

Ва ирландияликларнинг нутқида қуйидаги иборалар:

“would you be after wanting for” ўрнига “do you want” сўнгги бир нечта ибораларни такрорланг, масалан, at all, at all;

“begorra” ўрнига “bygod”.

Шунингдек, Буюк Британияда кўплаб минтақавий лаҳжалар мавжуд. Кўплаб йирик шаҳарларда, шунингдек Буюк Британиянинг ҳар бир округида ўз шеваси мавжуд. Энг таниқли ва энг аниқ шаҳар лаҳжаларидан бири бу Лондон ва Ливерпул лаҳжалари.

Кокней Лондон оммавий энг машҳур турларидан бири ҳисобланади, аҳолининг ўрта ва қуйи қатламларидан Лондон маҳаллий камситувчи ва масхара тахаллус номидаги шевадир.

Афсонага кўра, ҳақиқий Кокней Лондон резиденти, Сит черковининг қўнғироқ овози ичида туғилган. Ушбу лаҳжанинг ўзига хос хусусияти ўзига хос талаффуз, нутқнинг тартибсизлиги ва қофияли жаргондир. Шунингдек, баъзи инглиз тилида сўзлашадиган актёрлар кокни нутқига тақлид қилиб, “мокни”деб номланган ҳақиқий бўлмаган шевани ишлатишини пайқаш мумкин.

Кокни нутқининг ўзига хос хусусиятлари:

“not ’alf” ўрнига “nothalf”.

“ain’t” ўрнига “isn’t” ёки “amnot”.

Товушнинг талаффузи [θ] (масалан, “ thousand “ ўрнига “ faas’nd “) ва [ð] (масалан, , “bovver” ўрнига “bother”).

[aʊ] ни [æː], га айлантириш, масалан, “ down “ [dæːn] деб талаффуз қилинади.

Қофияли жаргондан фойдаланиш. Масалан, “feet” ўрнига “plates of meat”,”head” ўрнига “loaf of bread”; баъзан бундай иборалар қисқартирилиб, янги сўз ҳосил қилади: “loaf of bread” ўрнига “loaf”.

Унли ёки сонантлар орасидаги [t] ўрнига томоқдан фойдаланиш (агар иккинчиси урғу қилинмаса): bottle = “бо`л”.

“Жарангсиз” l товушини талаффуз қилиш: Millwall ни [mɪowɔː] «миоуо» деб талаффуз қилиш.

[r] лаб-жағd товуши ўрнига [ʊ] қулоқ билан ўхшаш [w] ни ишлатиш. (“Weally” ўрнига “really”).

Бир сўз охиридаги [t] товушини ўтказиб юбориш, мисол: [ʃui] ўрнига [ʃaɪt].

Яна шундай шевалардан бири-Скауз лаҳжасидир. Скауз тез, жуда таъкидланган нутқ услуби билан ажралиб туради, Шимолий Англиянинг кўплаб лаҳжалари учун одатий бўлмаган бир қатор кўтарилиш ва тушиш оҳанглари билан. Аммо, Скауз шаҳар лаҳжаси бўлишига қарамай, шаҳарнинг турли қисмларида ўзига хос хусусиятлар мавжуд. Масалан, шаҳарнинг Жанубий қисмида шева юмшоқроқ, лирик, шимолда эса қўпол, қаттиқ. Унлиларни талаффуз қилишда асосан маълумотларни фарқлаш мумкин. Шаҳарнинг Шимолий қисмида “book” ва “cook” каби сўзларни меъёрий талаффузга мувофиқ эмас, шаҳарнинг Жанубий қисмида улар қоидаларга мувофиқ талаффуз қилинади. Бир

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вақтлар бундай сўзларда узун [uː] нинг ишлатилиши бутун Буюк Британияда меъёр ҳисобланган, лекин ҳозирги кунда бу талаффуз фақат Шимолий Англия ва Шотландия аҳолиси орасида устунлик қилади.

Америка (Умумий Америка) Инглиз Тили.

Инглиз тилининг Америка варианти Қўшма Штатлардаги асосий тилдир, аммо ушбу вариант ҳамма жойда ишлатилишига қарамай, у ҳали давлат тили эканлиги тўғрисида қонун йўқ.

Америка инглиз тили ёки инглиз тилининг Америка варианти инглиз тилининг инглиз тилидан сезиларли даражада фарқ қилади. Инглиз тилининг Америка вариантини инглиз тилининг соддалаштирилган версияси деб аташ мумкин. Британия вариантидан фарқли ўлароқ, Америка вариантини сезиш осон, шунингдек мослашувчан, ўзгариши учун очиқ.

Вариантлар орасидаги асосий фарқларни кўриб чиқамиз.

Америка вариантидан фарқли ўлароқ, инглиз тилининг инглиз тилидаги вариантида интонация нақшлари устунлик қилади.

Америка инглиз тилидаги урғусиз бўғинларда -our қўшимчаси кўпинча -or билан алмаштирилади: color, labor,flavor, humor, parlor. –re -er билан алмаштирилади: center, meter, liter, theater.

Америкалик инглиз тилида, масалан, traveler, traveling бўлгани каби, икки томонлама ундошларнинг йўқолиши мавжуд.

Америка инглиз тилида имлоси check, cheque эмас, tire, tyre эмас; ct ҳарф бирикмаси x билан алмаштирилади:

connexion (connection),

kerb сифатида curb,

grey сифатида gray.

Сўзларнинг бу имлоси америкалик учун нотўғри кўринмайди, аммо бу британияликлар учун хато.

Шунингдек, Британия инглиз тилида –se — билан тугаган сўзлар феъллар, ин –ce — отлардир (license — лицензия, licence -лицензия). Америка инглиз тилида феъл ва исмнинг барча омонимик жуфтликлари бир хил ёзилади: -se: pretense, practise, devise, advise.

Яна бир муҳим фарқ-бу предлоглар ва артикллардан фойдаланиш. Баъзи ҳолларда предлоглар ва артикллар Америка инглиз тилида йўқ бўлиб, улар одатда Британия инглиз тилида ишлатилади ва аксинча. Масалан, америкаликлар одатда гапиришади:

We work nine through five (Am) — We work nine till/to five (Br);

It’s a quarter of five (Am) — It’s (a) quarter to five (Br);

It’s twenty after five (Am) — It’s twenty past five (Br);

in school, in hotel (Am) — at school, at hotel (Br);

in weeks (Am) — for weeks (Br);

in ages (Am) — for ages (Br);

different to (Am) — different from (Br);

on the street (Am) — in the street (Br);

He’s in the hospital (Am) — He’s in hospital (Br).

Аммо энг катта ва сезиларли фарқ талаффуздир. Буни port, more, dinner. сўзларидаги [r] талаффузида осонгина аниқлаш мумкин. Бу товуш Британия инглиз тилида талаффуз қилинмаса-да, Шотландия аҳолиси бундай товуш нутқда устунлик қилади.

Шунингдек, инглиз тилининг Америка вариантидаги баъзи сўзлар инглиз тилидаги версияга қараганда бошқача шева билан талаффуз қилинади.

Америка инглиз тили “инглиз тилининг Америка вариантининг умумий лаҳжаси” ёки ўрта Ғарбий лаҳжа (Midwestern American), чунки у нафақат мамлакат аҳолисининг аксарияти томонидан ишлатилади, балки миллий телевидениеда ҳам қўлланилади.

Хулосалар. Хулоса қилиб айтганда, Буюк Британия маъмурий ва сиёсий қисмлардан иборат: Англия, Уэлс, Шотландия ва Шимолий Ирландия. Шу муносабат билан Буюк Британияда инглиз тилидан ташқари Кэлт гуруҳига мансуб бошқа тиллар ҳам қўлланилади: Шотландия, Уэлс, Ирланд, Гал ва Корниш.

Диалектизмлар асосан характерларни нутқий тавсифлаш мақсадида уларнинг психологик хусусиятлари нуқтаи назаридан эмас, балки уларнинг маълум бир ижтимоий гуруҳга ёки Англиянинг маълум бир қисмига мансублиги нуқтаи назаридан қўлланилади.

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Ёзувчилар диалектнинг семантик ибораларини ўз тилларига киритадилар, яъни, ўзига хос семантик конструкциялар ва унинг комплекслари натуралистик аниқлик учун эмас, балки тасвирни яратишда энг самарали лингвистик воситаларни қидиришда ишлатилади.

Диалект сўз бойлиги ва бошқа сўз қатламлари ўртасида ўтиб бўлмайдиган чегаралар йўқ ва баъзи диалектизмлар миллий тилга кириб боради. Бунга, айниқса, диалектизмлардан фойдаланган ҳолда ёзувчилар ижоди ёрдам беради. Масалан, кўплаб Шотландия ва бошқа диалектизмлар Валтер Скотт, Жорж Элиот, Томас Харди ва бошқалар туфайли инглиз тилига кириб келган.

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ОНОМАСТИК БИРЛИКЛАРНИНГ ФРАЗЕОЛОГИЗМЛАР ТАРКИБИДАГИ ГЕНДЕР ХУСУСИЯТЛАРИ

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Аннотация. *Ушбу мақолада қардош бўлмаган инглиз, рус ва ўзбек тилларидаги фразеологизмлар таркибида ономастик бирликларнинг гендер хусусиятлари ёритилган. Ономастик бирликлар фразеологизмлар таркибида аёл ва эркаклар исмлари иштирокига кўра икки гуруҳга ажратилиб, улар орқали эркак ва аёлларга хос фазилатлар, уларга хос салбий хусусиятлар ҳамда хос бўлмаган хусусиятлар таҳлил қилинган.*

Маълумки, «гендер» – эркак ва аёлларнинг тафаккури, менталитети, хулқ-атворининг хусусиятларини ўрганишни назарда тутадиган тушунча. Ономастик бирликларнинг гендер хусусиятлари шу тилда гаплашувчи эркак ва аёлларнинг жамият, оиладаги мақоми ҳамда ички дунёсидан келиб чиқиб, тилда акс этади. Айниқса, фразеологизмлар таркибида эркак ва аёлларнинг номлари иштирок этганда бу жиҳатлар ёрқинроқ намоён бўлади. Шу жиҳатдан ҳам мазкур мақолада ҳар учала тилда учрайлиган ономастик компонентли фразеологизмлар қиёсий-типологик нуқтаи назардан чоғиштириб ўрганилган.

Калит сўзлар: *ономастик бирлик, фразеологизм, гендер, концепт, ибора, аёл, эркак, хусусият, гендерология, фазилат.*

Аннотация. *В данной статье освещены гендерные особенности ономастических единиц во фразеологизмах неродственных друг другу английского, русского и узбекского языков. Ономастические единицы делятся на две группы по наличию во фразеологизмах женских и мужских имён, и посредством них анализируются качества, присущие мужчинам и женщинам, их специфические отрицательные характеристики, нехарактерные особенности.*

Известно, что «гендер» — это понятие, относящееся к изучению особенностей мышления, менталитета и поведения мужчин и женщин. Гендерные особенности ономастических единиц отражаются в языке в зависимости от положения в обществе, семьи и внутреннего мира мужчин и женщин, говорящих на этом языке. Особенно ярко эти аспекты проявляются при включении в состав фразеологизма имён мужчин и женщин. В связи с этим в данной статье ономастический компонент фразеологии, встречающийся во всех трёх языках, исследуется со сравнительно-типологической точки зрения.

Ключевые слова: *ономастическая единица, фразеологизм, гендер, концепт, словосочетание, женщина, мужчина, признак, гендерология, качество.*

Abstract. *This article highlights the gender features of onomastic units in phraseological units of unrelated English, Russian and Uzbek languages. Onomastic units are divided into two groups according to the presence of female and male names in phraseological units, and through them the qualities inherent in men and women, their specific negative characteristics, uncharacteristic features are analyzed.*

It is known that "gender" is a concept related to the study of the peculiarities of thinking, mentality and behavior of men and women. The gender features of onomastic units are reflected in the language depending on the position in society, family and the inner world of men and women who speak this language. These aspects are especially pronounced when the names of men and women are included in the phraseological unit. In this regard, in this article, the onomastic component of phraseology, found in all three languages, is studied from a comparative typological point of view.

Keywords: *onomastic unit, phraseological unit, gender, concept, phrase, woman, man, sign, genderology, quality.*

Кириш. Маълумки, тилдаги ўзига хос фразеологик тизимнинг гендер хусусиятларини ўрганиш ҳозирги кунга келиб кўплаб тилшунос олимларнинг тадқиқот объектига айланган. Буни охирги йилларда тилга бўлган эътибор ва қизиқиш, айниқса, тилшуносликнинг гендерология соҳасида олиб борилаётган тадқиқот ишларида кўриш мумкин.

XXI асрга келиб, фразеологизмлар таркибидаги ономастик бирликларнинг гендер белгиларини ўрганиш юзасидан ҳам бир неча тадқиқотлар амалга оширилди. Хорижий олимлардан М.М.Телбот, Г.А.Брандт,

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К.Кристинлар тил ва гендернинг ўзаро муносабатини, рус олимларидан И.В.Зыкова В.А.Никольская, О.А.Васькова, К.Ш.Волошина, В.С.Самарина, З.М.Рамазанова ва М.А.Холевинскаялар фразеологизмлар таркибида гендер хосланган компонентларнинг семантик ва структур, лисоний, когнитив ҳамда лингвомаданий хусусиятларини инглиз, немис ва рус тилларида қиёсий усулда ўрганишган бўлса, ўзбек тилшуносларидан М.К.Халикова рус ва ўзбек фразеологизмлари мисолида инсон ва унинг менталитетини тавсифлашнинг лексик-семантик, грамматик ва стилистик хусусиятларини, Г.И.Эргашева ўзининг номзодлик диссертациясида инглиз ва ўзбек тиллари фразеологизм ва паремияларида гендер аспектини, Н.З.Насруллаева оламнинг инглиз ва ўзбек фразеологик манзарасида гендер концептлари шаклланиши жараёнининг моҳияти ҳамда уларнинг универсал ва миллий-маданий хусусиятларини, М.А.Абдувахабова эса инглиз, итальян ва ўзбек фольклор матнларида гендернинг тил воситаларида ифодаланиши каби масалаларни қардош бўлмаган тиллар мисолида тадқиқ этишган.

Тадқиқот объекти. Замонавий тилшуносликда «гендер» тушунчаси олимлар томонидан турлича талқин этилади. Аслида «гендер» – эркак ва аёлларнинг тафаккури, менталитети, хулқ-атворининг хусусиятларини ўрганишни назарда тутадиган тушунча. Г.А.Брандтнинг таърифига кўра, «гендер» – эркак ва аёлни маънавий маънода маданиятлар таъсири натижасида ажратиб турадиган нутқ, хулқ-атвор ва шахсий хусусиятлар мажмуи»[1;170]. Рус олимаси К.Ш.Волошинанинг фикрича, «ҳар бир маданиятда аёллар ва эркакларнинг оғзаки нутқига хос бўлган ва хос бўлмаган воситалар борки, улар жамиятда ўзига хос маданий, анъанавий характерга эга ва бу алоқа воситалари эркак ва аёлларнинг ижтимоий-психологик ҳатти-ҳаракатларида намоён бўлади» [6; 16-17].

Г.И.Эргашева ўз тадқиқотларида шундай ёзади: «Кўплаб ижтимоий психологик таҳлиллар шуни кўрсатадики, дунёда эркакларга хос бўлган сифатларга: фаоллик, тажовузкорлик, рақобатдошлик, ботирлик, ишбилармонлик, ўзига бўлган ишонч, ҳақиқатгўйлик, қаттиққўллик, талабчанлик, мантиқий фикр юритиш ва ҳ.к.лар киради. Аёлларга нисбатан кўпроқ хос бўлган сифатлар: қизиқувчанлик, сергаплик, мижғовлик, хаёлпарастлик, иккиланувчанлик, юмшоқлик, заифлик, камтарлик, итоаткорлик ва ҳ.к.лардир»[16;130].

Айтиш керакки, замонавий тилшуносликда олимлар томонидан турли тилларда гендер кўрсаткичли бирликлар гуруҳларининг лисоний-маданий хусусиятлари қиёсий-чоғиштирма тадқиқ этилмоқда.

Н.З.Насруллаева илмий изланишларида инглиз ва ўзбек фразеологизмлари таркибидаги «эркак» ва «аёл» концептлари, уларнинг гендер компонент состави, эркаклар ва аёлларнинг ижтимоий ва оилавий муносабатлардаги гендер ролларини ўрганар экан, шундай ёзади: «Инглиз ва ўзбек фразеологиясида гендер андазалар: 1) эркаклар стереотипи ва 2) аёллар стереотипига бўлинади... Жамият тараққиёти билан инсонларнинг эркак ва аёл андазалари тўғрисидаги фикрлар, гендер стереотип қарашлари ўзгариб туради, лекин, мазкур ўзгаришлар тил тизимида ва луғатларда акс топиши қийин кечади» [9;15].

Шуни айтиб ўтиш жоизки, фразеологизмларнинг гендер табиати аёл ва эркакларга хос бўлган хусусиятларни назарда тутади. Инглиз ва ўзбек тилларидаги фразеологизмларнинг гендер хусусиятлари Г.И.Эргашева ва Н.З.Насруллаеваларнинг тадқиқотларида етарлича ўрганилган бўлса-да, инглиз, рус ва ўзбек тилларидаги фразеологизмларнинг гендер масаласи ономастик бирлик нуқтаи назаридан бир тизимда қиёсий таҳлил этилмаган.

Тадқиқот методлари. Фразеологизмларнинг гендер хусусиятлари шу тилда гаплашувчи эркак ва аёлларнинг жамият, оиладаги мақоми ҳамда ички дунёсидан келиб чиқиб, тилда акс этади. Айниқса, фразеологизмлар таркибида эркак ва аёлларнинг номлари иштирок этганда бу жиҳатлар ёрқинроқ намоён бўлади.

Фразеологизмлар таркибидаги ономастик бирликларнинг бир нечтасини мисоллар ёрдамида таҳлил қилиб кўрамиз. Масалан:

А) **«Marry in a haste, and repent at leisure» –** *«шошилиб уйланган тез афсусланади»* мазмунида қўлланилган (эркакларга нисбатан) фразеологизм аслида инглиз тилига француз тилидан (qui se marie a la hate, se repent a loisir) кириб келган. Ўзбек тилида ҳам бу иборага муқобил бўла оладиган эквивалентини учратиш мумкин: **«Шошилган қиз эрга ёлчимас»** (фақат қиз болаларга нисбатан ишлатилади). *Гендерлик хусусияти:* инглиз тилида келтирилган фразеологизм таркибида қизларнинг исми **«Marry»** мавжуд бўлса-да, мазкур фразеологизм фақат эркакларга нисбатан ишлатилади. Мисоллар орасидаги фарқ жинсларараро номутаносиблик (қарама-қаршилик)да.

Б) **«The admirable Crichton»** – *«тенгсиз Крайтон», «олим», «маълумотли», «олим эр».* Мазкур иборанинг келиб чиқиши XVI асрда яшаган машҳур шотланд олими Дж. Крайтон номи билан боғлиқ. У 14 ёшида магистрлик унвонини олган бўлиб, ўзининг кўркам қиёфаси билан ажралиб турган. Бу

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ибора ўзбек тилига таржима қилинганда фақат эркак кишиларга нисбатан ишлатилиши мумкин. *Гендерлик хусусияти:* эркакларга хос кўркам ташқи қиёфа, яъни физиологик хусусиятни ифодалайди.

В) **«Miss Nancy»** – *«нозикойим», «қиз бола»* (ёш йигит, ўспирин ҳақида), бу ибора оғзаки нутқда ишлатилиб, **«Miss-Nancyfied», «Miss-Nancyish»** – *«нозиктабиат»,* **«Miss-Nancyism»** – *«эркалик» («нозиктабиатлик», «тантиқлик»* маъносида) шаклларида ҳам учрайди. Мазкур фразеологизм мазмунида эркакларга нисбатан аёллик хусусиятларини қўллаш салбий тус олади. Ўзбек тилида бу иборага яқин оғзаки нутқда **«хотинак»** сўзининг кўчма маъноси ишлатилади. *Гендерлик хусусияти:* аёл кишига хос бўлган хислатларнинг эркак киши характерида намоён бўлиши.

Г) «**Nancy (or pensy) boy**» – *«баччавоз»* (ўз жинсидаги киши билан яқин алоқада бўлган инсон), бу фразеологизм жаргон ҳисобланиб, жуда салбий маънода ишлатилади. *Гендерлик хусусияти:* фразеологизм фақат эркакларга нисбатан ишлатилади.

Д) **«Teddy boy»** (оғзаки нутқда йигитларга нисбатан ишлатилади) – *«стиляга», «олифта» (ғайриоддий модага бериладиган ёш йигит).* Ўзига хос услубда кийинган инглиз қироли Эдуард (Edward)нинг лақаби. XX асрнинг 50-йилларида Эдуардга тақлид қилувчиларни **«Teddy boys»** деб аташган. Бу ёш инсонлар ўз даврининг жанжалкаш гуруҳларидан бўлишган. **«Teddy girl»** ибораси эса (қизларга нисбатан) – *«ғайриоддий модага бериладиган қиз»* мазмунида ишлатилади.

Е) **«Man Friday»** – *«Жумавой», «вафодор, содиқ хизматкор».* Бу ибора Д.Дефонинг «Робинзон Крузо» романидаги қора танли содиқ хизматкор – **«Жумавой»** номидан келиб чиққан бўлиб, фақат эркак кишиларга нисбатан ишлатилади.

Ё) «**A girl Friday**» **–** *«ёрдамчи», «ўнг қўл», «ишончли ходим»* (котиба ҳақида), мазкур фразеологизм **«man Friday»** га қиёсан келиб чиққан.

Юқорида келтирилган мисоллар таҳлили асосида киши номлари билан келган фразеологизмларни қуйидаги гендер хусусиятларига кўра ажратиш мумкин:

1. Эркак ва аёлларнинг ижтимоий хусусиятларини (ижтимоий мақоми, ижтимоий фаолияти) ифодаловчи қатлам: *Teddy boy, Teddy girl, a girl Friday*;

2. Аёл ва эркакларнинг психологик хусусиятларини (феъл-атвори, хулқи) ифодаловчи қатлам: *Marry in a haste, and repent at leisure, Miss Nancy, Nancy (pensy) boy, man Friday;*

3. Аёл ва эркакларнинг физиологик хусусиятларини (ташқи кўриниш) ифодаловчи қатлам: *the Admirable Crichton.*

Натижа ва уларнинг таҳлиллари. Инглиз, рус ва ўзбек тилларида шахс номи билан келган фразеологизмлар ҳам гендер хусусиятларга эга эканлиги билан муҳим аҳамият касб этади. Бу бирликлар таркибида қўлланилган эркак ва аёл исмлари антропоним сифатида турли рамзий, ҳаётий маъноларни билдиришга хизмат қилган. Мулоҳазаларимизни инглиз, рус ва ўзбек тилларидаги ономастик компонентли фразеологизмлар мисолида асослашга ҳаракат қиламиз. Дастлаб бундай бирликларни 2 га бўлиш мумкин:

I. Таркибида эркакларнинг номлари иштирок этган фразеологизмлар;

II. Таркибида аёлларнинг исмлари иштирок эган фразеологизмлар.

I. Таркибида эркакларнинг номлари иштирок этган фразеологизмлар бир қанча маъноларга эга. Шу жиҳатдан уларни яна қуйидаги ички гуруҳларга бўлиб, таснифладик:

1. Ономастик бирлик орқали эркакларга хос фазилатларни ифодалаш.

Инглиз тилида: **«Jack of all trades»** – **«Jack»** исми орқали *«ҳамма нарса қўлидан келувчи қўли гул инсон»;* **«(as) patient as Job»** фразеологизм таркибидаги **«Job»** номи орқали *«чидамлилик»* ва *«сабр»;* **«John Henry»** – *«баҳодир», «кучли одам»;* **«Mark Tapley»** – *«ҳар қандай вазиятда ўзини йўқотмайдиган одам»,* **«good Samaritan»** – *«яхшилик қилиб, эвазига ҳеч нарса сўрамайдиган беғараз инсон»;* **«(as) wise as Solomon»** – *«донишманд, мулоҳазали, ақлли инсон»* мазмунида ишлатиладиган юқоридаги инглиз фразеологизмларида эркакларга хос фазилатлар ифода этилган.

Рус тилида: **«Аверон не боится ворон, а на галки есть палки» –** *«ҳеч нарсадан қўрқмайдиган», «барча мушкулларни енгадиган инсон»;* **«чёрт (поп) Ваньку (Федьку) не обманет: Ванька (Федька) сам про него молитву знает (а Ванька попу правды не скажет)» –** *«уддабуронлик»;* **«Гарун-аль-Рашид наш»** – *«ақлли ва адолатли инсон»;* **«наш Гришка (Мишка) не просит (не берёт) лишка»** – *«ишончга лойиқ инсон»;* **«Данила-мастер»** – *«меҳнаткаш инсон»;* **«наш Демид прямо глядит»** – *«ҳеч қачон алдамайдиган, тўғрисўз инсон»;* **«Иван-царевич»** – *«кўркам йигит»;* **«Иосиф прекрасный»** – *«доно йигит»;* **«добрый Самаритянин»** – *«яхшилик қилиб, эвазига ҳеч нарса сўрамайдиган беғараз инсон»;* **«для доброго Федота не тягостна работа»** – *«меҳнатсевар инсон»;* **«Фома не купит ума – своего продаст»** – *«ақлли одам»* каби рус фразеологизмларида ономастик бирлик орқали эркакларга хос фазилатлар кўрсатиб ўтилган.

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Ўзбек тилида: **«Ҳар ким ўз айбини билса, Вали бўлади»** иборасида **«Вали»** антропоними эркакларнинг номи сифатида қатнашган. Аслида мантиқан **«Вали»** сўзи бу ўринда авлиё маъносида келган. Агарда **«Вали»** сўзи кичик ҳарф билан берилса, *«ўз айбини тан олиш», «мардлик»* маъноларини ифодалайди [15;11].

«Ишқда Тоҳир бўл, ишда моҳир бўл» иборсида **Тоҳир** образи халқ оғзаки ижодида «ишқда вафодор йигит тимсоли»ни ифодалаб келади [15;155]. Айнан шу маъно иборага ҳам кўчиб, *«чин муҳаббат», «садоқат»* каби ошиқларга хос фазилатларни ифодалашга хизмат қилган.

«Мирзаи азимда минг Хоруннинг хазинаси-ю, туман Жамшиднинг давлати бор» – ибора таркибида **Хорун** ва **Жамшид** каби эркакларнинг исмлари қўлланилган [15;218]. Тарихдан маълумки, Хорун ар-Рашид араб халифаси бўлиб, бойлиги ниҳоятда кўп бўлган. Жамшид эса Эрон шоҳи. Мазкур исмлар м фразеологизм таркибида *«бойлик», «барака»* маъносини кучайтириш мақсадида ишлатилган.

«Отим – Овул, ҳар не десанг – қовул» иборасида қўлланилган **Овул** исми, аввало, шаклий жиҳатдан оҳангни таъминлаган. Мазмун жиҳатидан эса *«камтаринлик»* ва *«мўмин-қобиллик»* каби ижобий хислатларни ифодалаб келади [15;278].

«Сўзнинг Луқмон тилидан айтилгани – хўб» ида **Луқмон** исми *«донолик»* ва *«ҳаким»* тимсоли бўлиб келган. Шу нуқтаи назардан мазкур ном фразеологизм таркибида *«ақл-заковат»* маъносини билдириб келади [15;326].

«Мулла Мирашир, қилмишига яраширр» иборасига синоним сифатида **«Мулла Мирашир, топганини бизга ташир»** варианти ҳам ишлатилади [15;223]. Бунда **Мирашир** исми, аввало шеърий оҳангдорликни таъминлаш учун қўлланилган бўлса, мазмунан *«соддалик», «қўли очиқлик»*ни ифодалаб келади.

«Оти бор – Алпомиш» иборасида халқнинг шу номдаги достони бош қаҳрамони **«Алпомиш»** антропоними қўлланган. Маълумки, бу образ *«мардлик», «вафо»* тимсолига айланган [15;263]. Фразеологизм таркибида ҳам оти бор йигит Алпомишга тенглаштирилган. Демак, мазкур исм фразеологизм таркибида *«куч қудрат», «мардлик», «жасурлик»* маъноларини ифодалаш учун ишлатилган.

2. Ономастик бирлик орқали эркакларнинг салбий хусусиятларин акс эттириш.

Инглиз тилида: **«Jack among the maids» –** *«хотинларнинг кўнглини овлочи»;* **«Jack of hearts»** – *«жазман»;* **«Jack the ripper»** – *«шавқатсиз инсон»;* **«John (Jack) Blunt»** – *«қўпол одам»;* **«don Juan»** – *«хотинбоз»; «аёлларниг кўнглини олувчи шахс»,* **«gay Lothario»** – *«аёлларни шайдо қилувчи одам»;* **«a doubting Thomas (a very Thomas)»** – *«ўз кўзи билан кўриб ишонч ҳосил қилмагунча, ишонтириш қийин бўлган инсон»;* **«Tom Roper»** – *«жаллод»* каби инглиз фразеологизмларида эркакларнинг исмлари кучли жинс вакилларининг салбий хусусиятларини ифодалашда хизмат қилган.

Рус тилида: **«Алёха сельский»** – *«ўта мантанчоқ инсон»;* **«Гришка Отрепьев»** – *«ўғри», «қаллоб»;* **«женился Данила на скорую руку, на долгое горе, терпенье, да муку»** – *«ишнинг уддасидан чиқа олмайдиган, лапашанг одам»* ҳақида; **«Ерёма в воду, Фома ко дну (оба упрямы, со дна не бывали)»** – *«қайсар инсон»* хақида; **«был Иван, а стал болван, а всё вино виновато», «отец Кирьян и в великую пятницу пьян»** – *«ичкиликка берилган одам»;* **«Рауль Синяя Борода»** – *«ўз хотинига ёмон муносабат қиладиган рашкчи эр», «аёлларнинг қотили», «кўп хотинли эркак»;* **«солдат Яшка, красная рубашка, синие ластовицы»** – *«ўғри», «қароқчи»* ҳақида; **«ну, Яшка, плоха твоя замашка»** – *«ичкиликка берилган инсон»* каби фразеологизмларда эркаклар номи салбий хусусиятларни ифода этган.

Ўзбек тилида: **«Бўжи келди, Бўжи келди, Чингиз билан Жўжи келди»** иборасида **Чингиз, Жўжи** исмлари қатнашган. Маълумки, мўғуллар саркардаси Чингизхон ва унинг ўғиллари 1219 йилда Ўрта Осиёга беаёв ҳужум қиладилар. Чингизхоннинг ўғилларидан бирининг исми Жўжи бўлиб, халқ бу босқинчилардан ҳамиша қўрқиб яшаган. Шу маънода мазкур антропонимлар *«қўрқув», «ваҳшийлик»*ни англатиб келган [15;62].

«Миннатли Қовулнинг қовунидан беминнат Толибнинг тарраги яхши» (бу ерда **Қобил** деган маънода) иборасидаги **Қовул** исми *«қилган яхшилигини миннат қилиш»* каби салбий ҳолатни ифода этиш мақсадида қўлланилган [15;218].

«Алининг аламини Валидан олибди» иборасида қўлланилган **Али** ва **Вали** исмлари шаклий нуқтаи назардан оҳангдорликни таъминлашга хизмат қилса, маъно жиҳатидан эса *«аламзадаликдан кучи етадиган инсонга қаҳр қилиш, зулм қилиш»* маъноларини англатади. Бу фразеологизмга синоним сифатида **«Исонинг аламини Мусодан олибди»** ибораси ҳам мавжуд [15;138].

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«Искандар хўжа, бултурги жўжа, бола очади, ташлаб қочади» киноя тарзида ишлатиладиган ушбу фразеологизм таркибида **Искандар** исми иштирок этган бўлиб, *«маишатпарастлик»* ва *«бевафолик»* мазмунида ифода этилган [15;137].

«Иш буюрдим Алитозга, Алитоз қўйди ёзга» иборасига синоним сифатида **«Ишонмагин Алитозга, Алитоз қўяр ёзга»** варианти ҳам қўлланилади. фразеологизм таркибидаги **«Алитоз»** исми **«ёз»** сўзига оҳангдош сифатида келган ва *«ишёқмаслик», «эринчоқлик»*ни англатишга хизмат қилган [15;139].

«Асфандиёр хон бўлди, оғзи-бурним қон бўлди» иборасидаги исм тарихий. **Асфандиёр –** Хива хонларидан бири. У ҳукмронлик қилган даврда ўзбек уруғларига кун бермаган, кексалар, хотин-халажлар, ҳатто, бешикдаги гўдакларни бўлар-бўлмасга қаттиқ азобланганлар [15; 296-297]. **Асфандиёр** номи шу жиҳатдан *«ваҳшийлик», «қаҳр-у ғазаб», «азоб-уқубат»* маъноларини ифода этиш учун қўлланилган.

«Жанжал бошлаган Бердали, калтак еган Турдали» иборасидаги **Бердали** ва **Турдали** исмлари шеърий оҳангдорликни таъминлаган. Шу билан бирга кўчма маънода Бердали *«шўхлик», «айёрликни»,* Турдали *«бечоралик», «ноҳақлик»*ни ифодалашга хизмат қилган.

«Ишни Эшмат қилади, Тошмат лоф уради» иборасида қўлланган иккита исм: **Эшмат, Тошмат** орқали юмористик мазмун англашилади. Яъни, *«айёрлик», «муғобирлик»* ва *«адолатсизлик»* каби иллатлар шу номлар орқали юзага чиқарилган [15;15].

«Бояғи-бояғи, бой Хўжанинг таёғи» иборасининг **«Бояғи-бояғи, бой Хидирнинг таёғи», «Бояғи-бояғи, Ҳасан буванинг таёғи»** тарзидаги маънодошлари мавжуд. Ушбу фразеологизмларда **Хўжа, Хидир, Ҳасан** исмлари иштирок этиб, ишёқмас, эринчоқ кишиларга нисбатан мазкур номлар қўлланилган ва *«аҳвол илгаригидан сира ўзгармаган, ёмон ҳол яхши бўлмаган»,* дейилмоқчи [15;58].

3. Ономастик бирлик орқали эркакларга хос бўлмаган хусусиятларни ифодалаш.

Инглиз тилида: **«to Jack around»** – *«дангасалик қилмоқ»;* **«Jack-a-napes»** – *«сурбет», «шилим»;* **«to play the Jack with smb»** – *«фирибгарлик»;* **«Dr. Jekyll and Mr. Hyde»** – *«иккиюзламачи»*; **«John Thomas's man»** – *«хотининг гапидан чиқмайдиган эр»;* **«nosey Parker», «Paul Pry», «peeping Tom»** – *«барча нарсага бурнини тиқиб юрадиган одам», «ўта қизиқувчан»;* **«to stand Sam to somebody»** – *«ёлғон ваъда бермоқ»;* **«Tom Jones»** – *«бемалолхўжа»;* **«Tom** (John) **long the carrier»** – *«имиллаб ишлайдиган, бирор нарсани секин етказиб берадиган киши»;* **«Tom pepper»** – *«ёлғончи»;* **«Willy boy»** – *«онасининг боласи», «эрка»;* **«weary Willie»** – *«суст, кучсиз киши»* маъноларни англатувчи фразеологизмларда ономастик бирликлар орқали эркакларнинг ўз жинсига номутаносиб жиҳатлари кўрсатиб ўтилган.

Рус тилида: **«Ванька Ветров»** – *«енгилтабиат инсон»;* **«работать в бригаде Ваньки Шаталова»** – *«ишсиз, бекор дайдиб юрмоқ»;* **«валять Ваньку»** – *«тентаклик», «масхарабозлик», «ахмоқона ва бесамар ҳаракат қилмоқ»;* **«доктор Джекилл и мистер Хайд»** – *«иккиюзламачи»;* **«слепому Емельке все копейки»** – *«бирор нарсанинг қадр-қийматини англамайдиган одам»;* **«Иван Иванович и Иван Никифорович»** – *«бир-бири билан доимий равишда уруш қилиб юрадиган одамлар»;* **«Иван в дуду играет, а Марья с голоду умирает»** – *«бошқалар ҳисобидан айшу-ишрат қиладиган одам»;* **«строить из себя какого-то Ивана»** – *«кек сақламоқ»;* **«Иванушка – дурачок»** – *«аҳмоқ»;* **«кобылка бежит, а Ивашка лежит»** – *«ҳамма нарсага бепарво инсон»;* **«людях Илья, а дома свинья»** – *«мунофиқ одамлар»* ҳақида; **«наш Иуда ест и без блюда»** – *«ўз манфаати йўлида ҳеч нарсадан толмайдиган инсон»;* **«ни Миша, ни Гриша»** – *«ўзига ишонмаган инсон», «ҳеч вақога ярамайдиган одам»;* **«барон Мюнхгаузен» –** *«мақтанчоқ», «ёлғончи»;* **«у нашего Трошки задрожали ножки»** – *«қўрқоқ инсон»* ҳақида; **«двуликий Янус»** – *«иккиюзламачи»* каби рус тилидаги фразеологизмлар мазмунида эркакларга хос бўлманган салбий коннотациялар ифода этилган.

Ўзбек тилида ҳам таркибида эркакларнинг исмлари қатнашган фразеологизмлар ўз жинсига хос бўлмаган салбий характердаги маъноларни англатади. Масалан, **«Ноз-ноз, кал-Ниёз»** ибораси **«Бошим кал-у, кўнглим нозик»** тарзида ҳам ишлатилади, яъни, *«ўз айбини тан олмаслик», «нозу фироқ қилиш», «гина қилиш»* маъноларида ёки **«Аллон хўжа ирим этди, ирими қирин кетди»** ибораси *«аёлларга хос ирим қилиш хусусияти»* мазмунида ишлатилади [15;57,136]. *«Уқувсизлик», «ҳазилни тушунмаслик»* маъноларида эса **«Ҳазил, ҳазилни тушунмаган – кал Фозил»** [15;433]. **Фозил** номининг фразеологизм таркибида келиши қофия, оҳангдошликни таъминлашга хизмат қилади. **«Бир тангамнинг борида Холмат фаранг дедилар, бир тангамнинг йўғида Холмат гаранг дедилар»** иборасида **Холмат** исми қўлланган бўлиб, мазкур антропоним *«илгари катта-катта ишларни қилиб келган одам қариса ёки мансабдор амалидан тушса, ўзига мутлақо ярашмайлиган майда-чуйда ишларга аралашиб қолади»* деган мазмунда ишлатилган [15;18]. Ушбу

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фразеологизм майда-чуйда гап орқасидан гап талашиб юрадиган эркакларга нисбатан қўлланилади; **«Али жинни, Али жиннининг бари жинни»** иборасида **Али** – эркаклар исми ишлатилган. Мазкур ном ўзбекларда анъанавийлашган бўлиб, айнан фразеологизм таркибида шу ном орқали *«тентаклик», «жиннилик»* каби эркакларга хос бўлмаган хусусиятлар ифода этилган [15;13].

II. Таркибида аёлларнинг исмлари иштирок этган фразеологизмлар. Мазкур типдаги фразеологизмлар ҳар учала тилда ҳам жуда озчиликни ташкил этади ва ўз навбатида 2 гуруҳга бўлиб ўрганилди:

1. Ономастик бирлик орқали аёлларга хос фазилатларни ифодалаш.

Инглиз тилида: **«dolly Varden» –** *«ёш, нафис аёл»;* **«Gibson girl»** – *«нозик», «куч-ғайратга тўла америкалик аёл»;* **«Cordelia's gift»** – *«аёлнинг нозик овози»* каби аёлларнинг исмлари қатнашган инглиз фразеологизмларида нозик жинс вакилларига хос бўлган фазилатлар ифода этилган.

Рус тилида: **«Акулина Федосевна до чужих ребят милосердна»** – ибора таркибида *«аёлларнинг болаларга меҳрибонлик фазилати»* **Акулина Федосевна** исми орқали ифода этилган; **«Аринушка Маринушки не хуже»** ибораси таркибидаги **Арина** ва **Марина** исмлари *«яхшиликда бир-биридан қолишмайдиган аёллар»*нинг фазилатларини билдириб келган.

Ўзбек тилида: **«Зулфияхоним қизлари»** ибораси таркибидаги **Зулфия** исми орқали аёлларга хос *«гўзаллик», «иффат», «донолик»* каби хусусиятлар акс этган [17;178]. **«Оти ёмон – Ойпора»** мақолида **Ойпора** исми ишлатилган. Бу исм халқ орасида тарқалган қуйидаги ҳикоя билан боғлиқ: ўтган замонда **Чиркиной** исмли чиройли бир қиз бўлган. Уни бир бой инсонга икки хотин устига узатишади. Бой бу қизни кўриб, бошқа хотинларига нисбатан камроқ эътибор қаратади. Бу нарса кундошларга ёқмайди ва улар кенжа хотинни камсита бошлайдилар. Унинг кичик айбларини ҳам катта қилиб кўрсатишади. Ҳатто, унинг исмини ҳам Чиркин деб атай бошлашади. «Бу яшшамагурнинг оти зотида Чиркиной эди-ю, бу ерга келиб Ойпора бўлиб қолдими энди», деб ҳақоратлашади. Шундан бошлаб, юқоридаги ибора халқ орасида кенг ишлатила бошланган. **«Ойпора»** осмондаги гўзаллик рамзи бўлмиш «сулув ойнинг пораси», яъни бир парчаси, деган маънони англатади. Халқимиз орасида **Ойпарча, Барчиной** («Парчиной»нинг фонетик ўзгарган шакли) исмлари ишлатилади [15;277]. Сулув қизга нисбатан бу исм қўлланган бўлиб, кундошларнинг кўролмаслиги, ҳасади туфайли гўзал қиз таҳқирланади. Демак, иборанинг шаклланган ушбу ҳаётий воқелик билан боғлиқдир.

2. Ономастик бирлик орқали аёлларга хос салбий хусусиятларни акс эттириш.

Инглиз тилида: **«dumb Dora»** – америкаликларнинг оғзаки нутқида ишлатиладиган мазкур фразеологизм *«бефаҳм, ахмоқ қиз»* деган маънода аёлларнинг салбий хусусиятларини ифода этади. **«Mata Hari»** – «*мафтун этувчи айғоқчи аёл».* Бу фразеологизм таркибидаги исм тарихий бўлиб, Биринчи Жаҳон урушида немис айғоқчиси, Голландия раққосасининг исмига қўйилган. Кейинчалик, у Францияда ҳибсга олиниб, қатл этилган (ҳақиқий исми Гертруд Маргарете Зелле, 1876-1917 йй.) [8;50].

Рус тилида: **«Эллочка-людоедка»** – *«ўзини замонавий қилиб кўрсатадиган ахмоқ қиз»* (Ильф ва Петровнинг «Ўн икки стул» номли романи қаҳрамонининг исми) [8;202]; **«любопытной Варваре (на базаре) нос оторвали (любопытная Варвара)»** – *«ўзига тааллуқли бўлмаган нарсалар билан қизиқмоқ»; «ҳаддан ташқари қизиқувчан»* маъноларида ишлатиладиган мазкур фразеологизмларда ономастик бирлик орқали аёлларга хос салбий хусусиятлар ўз ифодасини топган [8;139].

Ўзбек тилида: **«Омон бўлсак, кўрамиз Ҳалиманинг ҳолини»** иборасида анъанавий ўзбек миллий исмларидан **Ҳалима** қўлланилган. Шу жиҳатдан мазкур антропонимнинг қўлланиши ягона илмий асосга эга эмас. Фикримизча, бу исм ҳаётда қандайдир хатоликка йўл қўйган аёл номини ифодалаб келади.

Кузатишларимиз асосида шуни айтишимиз мумкинки, инглиз ва рус тилларининг фразеологик қатламида аёлларнинг исмлари орқали ўз жинсига мансуб бўлмаган хусусиятларни ифода этадиган ономастик компонентли фразеологизмларнинг ҳам борлиги аниқланди. Бундай мисоллар гарчи жуда озчиликни ташкил этса-да, инглиз, рус ва ўзбек халқлари ҳаёти ва турмуш тарзида аёллар ўрнининг фарқ қилишини кузатиш мумкин. Масалан, инглиз тилида **«calamity Jane»** – *«шавқатсиз, қаҳрли, жангара аёл»* маъносида (камбағал Жейн – Марта Жейн Берк 1852-1903 йилларда яшаган америкалик овчи ва жангара аёл. У ўзининг 11 та эрини ҳам отиб ўлдирган) [8;40]; **«the daughter of Jezebel»** – *«жиноятчи», «итоатсиз аёл»*[8;41]; ёки рус тилида **«проворна Варвара на чужие карманы»** – *«ўғри», «фирибгар»* маъносида [8;139]; **«наша Татьяна не евши пьяна»** – *«ичкиликка берилган инсон»* мазмунини ифодалаб келади [8;40]. Бу жиҳатлар эса аёлларга хос эмас.

Хулоса. Кўринадики, инглиз, рус ва ўзбек тилларининг фразеологизмлари таркибида эркак ва аёллар исмларининг иштирок этиши иборалардаги гендер хусусиятларни ифодалашидан ташқари, шу тилларда сўзловчи халқлар ҳаётида ҳар иккала жинс вакилларининг жамиятдаги ўрни, мақоми билан

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боғлиқ. Кузатганимиздек, ҳар учала тилидаги бундай ибораларда эркаклар исми кўп қўлланилган. Сабаби, эркакларнинг ҳаётда аёлларга қараганда фаоллиги ва тарихий ўрни билан боғлиқ. Эркак исмлари қатнашган фразеологизмларда шу жинсга хос фазилатлар улуғланган, салбий хусусиятлар ва уларга хос бўлмаган жиҳатлар таъкидланган. Аёллар исми иштирок этган фразеологизмлар бу жиҳатдан озчиликни ташкил этади. Бу исмлар кўпроқ ҳаётий асосга эга эканлиги билан ажралиб туради.

Хулоса ўрнида шуни айтиш керакки, инглиз, рус ва ўзбек тилларидаги фразеологизмлар таркибида аёл ва эркак исмларининг акс этиши халқлар маданияти, тарихи, кундалик тумуш тарзи, диний дунёқараши ва урф-одатлари асосида шаклланиб, бир-биридан тубдан фарқ қилади.

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THE INFLUENCE OF GENDER ON ACHIEVEMENT IN LEARNING ENGLISH AS A SECOND LANGUAGE

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Abstract. *The article discusses the influence of gender difference in learning English as a second language. In order to identify this, the methods and discussions are given. Additionally, it has been shown that the results of participants demonstrate the influence of gender in SLA.*

Introduction. *It can be clearly seen that English is considered to be a second language in many countries meaning that they can acquire easily. However, there are a wide range of people who have difficulty in learning English as a second language. One of the most vital thing in second language acquisition is to take into consideration in learner's difference, namely age, gender, personality. The role of gender is important to achieve success in learning a second language.*

Research methods. *The study consisted of three steps according to gender difference. These are analyzing gender attitude, participants' observation in a week and examination on speaking competence.*

Results and discussions. *It is noticeable that the role of gender difference influences on SLA. Considering collecting of the participants' results, the influence of gender difference in learning English effectively should be emphasized. Creativeness for women is more than men according to results of the research. Additionally, female dominated male as to analyzing their competence in SLA. Writing skill with the help of creativeness for female overwhelming male knowledge of writing skill.*

Besides that, male tended to writing in a formal way while female one uses informal way in writing. Men utilized more academic vocabulary rather than women.

Conclusion. *To sum up, it is emphasized that Second Language Acquisition does not only depends on gender difference, but also people' character and mind. In addition to family plays a great role on children's future life. A shining example of it, girls dedicated to more four occupations, namely, nurse, mother, teacher and housewife in Asia rather than Europe.*

Key words: *second language acquisition, gender groups, gender dominance, mixed gender classroom, language proficiency, female, male.*

Introduction. The English language is becoming more and more important in any sphere around the world. It must be pointed out that if people have communicative competence in English, they can get higher job prospects and also promotion. Additionally, it does not only help people to get higher job but also provide with huge opportunities in any field life. For instance, people can utilize any digital tools with the help of English language which means that a wide range of modern technologies are based on English language.

Second language acquisition is not related to people's knowledge, but also learner's differences with age, gender and personality. Gender is important to achieve success in learning a second language. As to Ehrlich (2008): 'second language researchers assumed that there are differences in gender groups to acquire a second language. The research paid attention to what learners do, not who they are'. Gender dominance in SLA is related to country which means that each field of life has its own gender dominance as to country. Considering this concept, it is undeniable that distinctions between gender groups are related to learn a second language. Ellis (2012) and Norton (2010) noted that "some investigations witnessed a relationship between gender and speech features meaning that gender as a dynamic feature in social activities and concepts". There are some concepts gender distinctions in SLA given by many scholarships. Cameron (1995) pointed out that there is a difference between three models of language and gender. As to deficit model, females' speech is lower rather than the speech of males which means that men's speech is considered to be the accepted norm when the latter is perceived as deficient. Gascoigne (2002, 83) claimed that the dominance of gender in communication is related to men who utilize many interruptions in their speech and speak more than women.

Gender distinction in a second language acquisition is highly emphasized. There is no conclusion of making research gender distinctions in learning English as a second language. (Ellis, 1994: 203). According

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to Ellis (1994, 203) gender is important to acquire a second language proficiency. It is not always possible males overcome females in L2 proficiency means that women outperform men in some countries. Asian men can have higher proficiency in English than Asian women. Because as to culture, Asian females are 'isolated' in home which means that it causes to lose their most of time to caring for families instead of studying.

On the other hand, Aslan (2009) pointed out that the influence of gender is related to choose learning strategy. As to Ehrman and Oxford (1990) gender differences played a great role in strategy use. They made a research with the help of 1200 university students. As a result of this, they concluded that males tend to utilize more digital tools in SLA rather than females. Nima Shakouri (2012: pp. 1-6) consider that the theme of the article or text impacts on gender's reading comprehension and competence. It must be pointed out that males are keen on reading texts and news in L2 which are dedicated to sports, football games and politics while females prefer to read female topics, namely fashion, sale. Considering this view point, girls show their attitude in reading competence than boys. Furthermore, girls have a long-term memory to remember novels or stories.

In a research by Aslan (2009) females have more positive attitude in reading and writing tasks than males. It is obvious that women are good at using their creativeness in writing and communicative competence, resulting they can easily acquire a second language. Farhady (1982) claimed that women have an ability in attainment listening in SLA while Boyle (1987) noted that males are good at acquiring listening in vocabulary for EFL students who live in China. However, Bacon (1992) consider that there is no distinction between gender in listening competence in SLA.

I made this research with the help of two learners who study in the same sphere. Both of them have knowledge of grammatical competence, but a lack of speaking, writing and reading. This research is based on various activities (reading, writing, and speaking) during the lesson and oral questionnaire to examine their general knowledge in English as to their genders. The aim of my study is to find out which gender dominates to acquire English as a second language.

The participants are a freshman and a final year students who are studying in Tashkent Medical Academy. Jumayeva Jamila is 19 years old and come from Surkhandarya. Her nationality is Uzbek, but she can understand Tajik language as well as Uzbek. From her school years, she began to learn and took part in extra English courses. She graduated school with high level, decided to enter University. Having graduated school, she wanted to acquire English as a second language and continued her dream job in this sphere. Despite the fact that she was interested in learning foreign languages, her parents made her be a doctor like them. She studied chemistry, biology to enter in Medical sphere and stopped learning English. As she had an ability to study any sphere, she entered university which her parents want. These days she is being taught English language based on too basic grammar, vocabulary and writing. Definitely, she faced difficulties in acquiring English and misunderstood how to speak, how to use grammar structures to communicate. From time to time she get accustomed to listening to English music more than our classic one. As to her personality she is extrovert, outgoing and punctual to do anything. Besides that, she tends to watch videos, movies which are dedicated to English, resulting she imitates to speak like native speakers.

Second participant in my study is a final year student in Tashkent Medical Academy. His name is Aziz and his nationality is Uzbek. As coming from Bukhara, he can also speak and understand Tajik language. From his childhood, he always wanted to be a doctor. He entered university by preparing entrance exams, including chemistry, biology and mother tongue. During his school years, his second language was English, because he studied the school which was specialized English language. As to Critical Period Hypothesis, he began to learn English at the age of 7. He graduated school with high level, especially English. According to his studying at school, he had learnt English for 9 years. At a time when his parents encouraged and gave motivation him to learn English and take extra lessons. During school years he finished a wide range of books, namely Headway (all levels), Longman Photo Vocabulary, Murphy. Unfortunately, he gave up learning his second language after leaving school. He prefers to read English books than to utilize speaking competence.

In the first day of my study, the participants were illustrated clear data about the aim of my research, its duration and importance. One of the most important thing was that participants should influence to one another. What I mean by this, I decided to teach in the same room, providing with different types of materials. The study was organized in per week utilizing various activities as to gender differences. The study consisted of three steps: 1) analyzing gender attitude in English (psychological test which is based on extra questions). 2) a week observations of participants at English lessons. 3) final exam based on speaking competence.

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Step 1. ***Analyzing gender differences in English.***

The questions were organized to identify gender's personality and attitude in English. In this task the participants were given questions and they had to write answers as to their character. The task was based on defining psychological checking of both genders. Considering their reading comprehension, the subjects had to complete the answers by using their reading comprehension in English and critical thinking. The task was also dedicated to enhance productive skill (writing) and it took them to do 20 minutes.

Step 2. ***Identifying reading and writing competence.***

The lessons were based on reading and writing skill activities which the subjects had to show their background knowledge in general English. The activity was dedicated to reading competence in order to check their reading comprehension as to gender. The text *'A strong friendship'* was taken the book (4000 essential words) which was well-known among EFL students and was downloaded from '*http:// www.compasspub.com'*. Both learners were required to read the text and then they had to discuss what the text was about. Jamila read the text by using skimming and scanning strategies, but Aziz could not comprehend the meaning of the text completely because of a lack of vocabulary. Once finishing a lesson, Aziz asked me how to utilize reading strategies while reading any text and how to develop his level of vocabulary. During one-week lesson, Aziz was eager to learn by heart academic vocabularies and practice reading strategies. As a result, Aziz's reading skill was levelled up to not only understand the meaning of the text and learnt to take a pleasure from interesting reading texts. Considering Jamila's reading skill, she was a person who took a pleasure from reading stories. For this reason, she was able to be active in this activity.

The next activity was based on writing competence of English. The subjects were required to write a letter to their friend which was an informal letter. At the beginning of the lesson, I explained how to write informal letters by providing handouts. I taught them how to identify formal and informal letters one another and I asked them to add their personal creativeness in informal letters. Jamila's letter was a sample of creative informal letter while the letter written by Aziz was a formal one.

Step 3. ***Checking speaking competence.***

In the last step of my observation, I decided to check the participants' speaking competence in general English. In this task the subjects had to answer the questions based on different topics. The final speaking exam consisted of Part1 including simple questions and Part 2 describing a situation. After recording oral speaking test, I took into account and summarized their speaking competence.

Results and discussions. In the first stage of my study I utilized the psychological test in order to analyze their general knowledge and attitude in English. After finishing the psychological test, I found out that they differentiate one another as to their gender. Considering their answers, Jamila was good at productive skills including writing and speaking while Aziz had knowledge of grammar and reading. It must be pointed out that Aziz only paid attention to learn English by using traditional way, namely grammar rules, and reading texts. For this reason, he chose answers as to knowledge and interests. One of the weakest side of Aziz was that if he did not comprehend new words, he would stop reading the text. It is obvious that he is a person who denied to be overcame. As to Jamila's personality, she had strong knowledge of all skills and understood to answer the meaning of the questions easily.

As to **the second part of my research,** the participants were provided with three lessons that include different types of activities based on checking reading and writing competence.

At the beginning of the first lesson, I explained them what reading competence is. And next they were given the text '*A strong friendship'* that was taken from the book. (4000 essential words). Their task was to read the text individually and then we discussed what the text was about. During the process, I revealed that Aziz had difficulty in understanding the meaning of the text, because he took into account vocabularies. However, Jamila acted as a person who read the text beforehand. Because she was able to understand the text completely and she was eager to discuss. Considering this issue, I advised Aziz to work on his vocabulary skill.

The second lesson was devoted to check their writing ability meaning that the subjects were needed to write a letter to their friend. I must emphasize that both participants were aware of how to write a letter which means that utilize writing structures. In spite of this, I gave an explanation how to write letters with details. Jamila used her creativeness as to her personality while Aziz wrote a very formal letter without any informal structure. I analyzed his attainment in writing by giving positive feedback. Considering his writing, I can say that he is a type of person who received any information in a formal way.

In the last lesson, the subjects had to pass speaking oral exam to identify speaking competence. The speaking task included Part1 to answer personal questions and Part 2 based on describing a situation.

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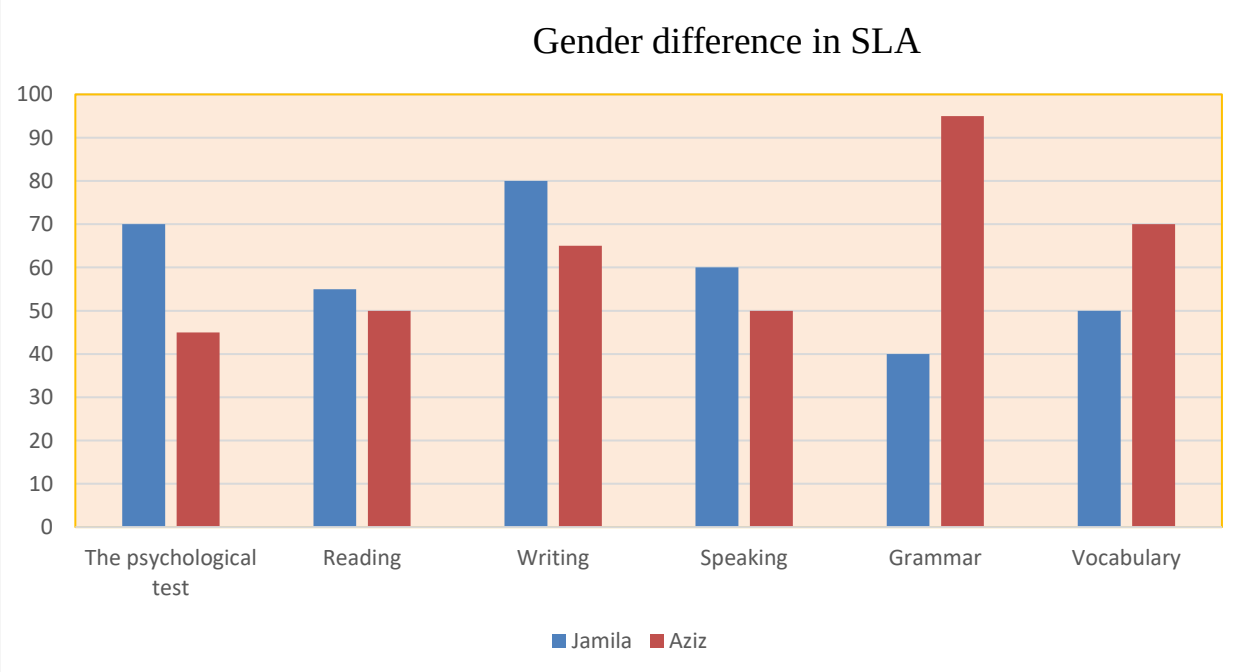
In the third part of my study, I found that there was gender difference in speaking performance which means that Aziz had a lack of communicative competence because of hesitating, he always took into consideration grammar, vocabulary errors. On the other hand, Jamila utilized basic vocabulary and linking words appropriately. It was noticeable that Jamila were ready for speaking any type of topic as to her personality.

Jamila's result was noticeable to demonstrate that she could show her communicative competence during my research. She was a type of person who could utilize her creative ability in each skill. At the beginning of my research, she had difficulty in using appropriate words in her speech which means that she mixed academic and non-academic words. As a result of this, she made a mistake in her writing. Additionally, she is extrovert who is sociable and outgoing to communicate. For this reason, she was able to develop each skill of English. I admitted that she did not have a strong knowledge of English, but she was a good learner to study hard. One of the weakest side of Jamila was that she utilized simple vocabularies. Besides that, she did not use feelings in her speech. By teaching her, I thought that she enhanced to speak naturally. All in all, she had a creative ability which helped her to enhance English. Turning to Jamila's overall result, attainment in English as to the psychological test was 70 %, reading competence was 55%, writing skill was 80%, speaking was 60%, grammar was 40%, vocabulary was 50%.

As to **Aziz's** result, he tried to take part in lessons actively, but he could not do because of a lack of knowledge and his personality. He was already dedicated to himself for medical sphere. For this reason, he did not have an ability to acquire a second language. At the beginning of the lesson, he chose passive answers as to his personality and option. He mixed writing structure which means that he had to write an informal letter instead of formal one. Besides that, he did not take into account the meaning of the text while reading. But one of the strongest side of Aziz was grammar which was utilized correctly in speaking oral exam. It must be pointed out that his vocabulary was levelled up by working hard on this skill. It is noticeable that he utilized a strong vocabulary in his writing and speaking. Turning to Aziz's overall result, the psychological test was 45%, reading competence was 50%, writing skill was 65%, speaking was 50%, grammar was 95%, vocabulary was 70%.

Table 1.



The given chart illustrates the influence of gender in learning English as a second language. It can be clearly seen that female dominates male as to analyzing their competence in SLA. It must be pointed out that female developed significantly in writing skill at 80% compared to male. Turning to the male's result, he overcame in grammar and vocabulary competence than her. Overall, there was a huge distinction between gender in SLA as to her personality and interests.

Conclusion.

By way of conclusion, acquiring a second language is considered to be a complex process. From my point of view, it should be based on special construction and time-management. It is an undeniable fact that one can learn English grammar whereas communication competence is more vital in SLA. As to Oktay

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Aslan (2009) cited that “there are some crucial factors which influence on learners’ learning process, namely age, social ability and gender distinction”. Gender differences in communication should be emphasized which means that men tend to speak more in a formal way rather than women. According to Biber and Burges (2000) noted that “female’s speech in conversation is to take into consideration personal and interactional aspects of conversation while male’s speech focuses on transferring information. As to the influence of gender, learners in the same class are different and come from various background concluding they are different.

There is a huge difference that female and male in communication can be seen in non-verbal communication. It is cited by Griffin et al (1999) that women affect other non-verbal interaction than men. Female tend to utilize more eye contacts, gestures and smiles in communication. Eckert and McConnel-Ginet (1994) cited that “using language by female is to reflect female’s conservatism, standing consciousness, insecurity, connectedness and solidarity”. On the other hand, using language by men reflects their toughness, lack of effect, independence and control.

Considering collecting of the participants’ results, the impact of gender difference on achievement in learning English as a second language must be emphasized. As to my research, it is obvious that SLA does not only depend on gender distinction but also person’s personality and interests. Additionally, the family has played a huge role in children’s future meaning that Jamila’s family was a real sample of this idea. A year ago, I was provided by my teacher with the article which was about female stereotype. According to some researches, there are some textbooks in a school of the United States which was dedicated to be center on boys’ future job prospects than girls’ one. Schoolgirls who was fourth grade tend to be dependent to their future husbands. As a result of this, girls consider themselves to be only four occupations, namely nurse, mother, teacher and housewife. As far as I am concerned that, it is clear that gender difference influences on learning a second language. At the same time not only gender difference but also environment which surrounds us impact on any children’s mind, brain, personality and even learning process.

From my perspective, this study can be an important material for future researchers which want to create their own research about the gender distinction. I think that other researchers will require to make a research based on learning language as to learner age, creativity, personality or communicative competence.

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ACTUAL AND POTENTIAL INDICATOR ANTHROPONYMS IN THE RUSSIAN LANGUAGE

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Abstract*. The article considers the division of anthroponymy into two systems: actual and potential names. Their differences are obvious in their semantics, functional features, in their attitude to language and speech, in belonging to an active vocabulary, and in other parameters. Potential anthroponymy is a relatively stable system. The fact that potential personal names are preserved in the language determines the continuity of anthroponymy in the historical aspect. The actual anthroponymy is not stable. It is characterized by constant development and the appearance of new items. The ambiguous nature of anthroponymy requires a more detailed study of the specifics.*

Names can be formed from the appellative vocabulary both naturally and artificially, including being translatable. Various types of language contacts, the expansion of the information space lead to the fact that in the anthroponymic systems of many peoples, foreign-language names appear that are not semanticized from the point of view of the native language. They can undergo phonetic and morphological adaptation in the recipient language, and if these names have completely passed all the stages of adaptation, then they can be perceived by the ethno-linguistic consciousness as facts of the native language.

Anthroponyms as an example of the interaction of cultures are invaluable for the history of the people. Neighboring cultures enriched each other's anthroponymicons: the Vietnamese dominated China for a millennium (from the I to IX centuries), while they adopted the peculiarities of Chinese naming practice. Kazakhs transformed their proper name by fully borrowing grammatical features of the Russian anthroponym. In turn, in the history of Russian anthroponymy, it was observed the widespread use of the Turkic namesake in the XIII-XVI centuries. The study of anthroponyms allows us to trace the main stages of the historical development of a particular people

Keywords*: potential, parameters, anthroponymy, system, stability, personal names.*

Introduction.

In the anthroponymy field of any language, the nuclear constituents are anthroponyms. These include personal names in their official (full), home (short, hypocoristic), diminutive-affectionate (diminutive-meliorative) and magnifying-pejorative (augmentative-pejorative) forms, second and subsequent names, patronymics, andronyms, gyneconyms, patronyms, surnames, second surnames, nicknames, aliases, nicknames, cryptonyms, street names, etc. Each nation has its own naming traditions, which are expressed in the formality of anthroponyms, their set in an individual carrier and in general in the ethnic community, naming motives, name structure, etc. The fund of anthroponymy (a set of anthroponyms) of any nation is diverse in its composition. The list, or register, of names of all types (anthroponymicon) of each nation is relatively limited, so more than one person can have the same anthroponym.

According to E. S. Kubryakova, the study of the peculiarities of the functioning of proper names in the structure of society makes it possible to recognize that these anthroponyms are considered cultural dominants and are used as a national-cultural element. Thus, it becomes permissible to reveal the specific features that characterize the characteristics of a particular nation, a particular type of linguistic personality [10, p. 74]. Of particular interest are non-linguistic associations of names, especially those that are caused by social factors. They, in turn, are inseparably linked with the cultural, national and historical distinctive features of the country.

The anthroponymicon is directly related to the skills of a person, his culture, history and religion. V. V. Katermina focuses on two types of idiomatics in personal names: supra-linguistic and intra-linguistic, which is created as a result of the impact on a person of the social, historical, cultural and religious environment [9]. Definitions and meanings fixed in anthroponyms reflect the characteristic features of objects and qualities located around society.

The history of anthroponyms is inseparable from the culture and history of the community in which they arise. No one doubts that anthroponyms have a national coloring, which can be clearly seen by the

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example of Russian, Vietnamese and English personal names. Culture can be characterized as an activity that meets its own idea. It is inseparable from other types of human activity (assimilation, imaginative creative process, etc.). In this context, speech is considered an obligatory component of people's national culture. Nowadays, the problems of the interaction of language and culture are the object of study of linguists, ethnologists, sociologists and culturologists [15]. Any native speaker forms his own vision of the world within the boundaries of the existing one. It is created within the definitions of its linguistic ancestors and on the basis of existing archetypes, and not because of its autonomous thinking and practice. One of the most important functions of language is to consolidate the experience of cognition of the world in the cultural and historical development of native speakers. It is known that language preserves culture and transmits it from generation to generation, therefore it plays a significant role in the formation of personality, national character, ethnic community, people, nation. There is no doubt that language is part of culture, but the question of whether (and how) cultural data are included in lexical meanings remains uncertain. This uncertainty is largely due to the fact that lexical units change. The name is an integral part of the linguistic picture of the world, moreover, it directly reflects the historical course of events. In modern linguistic literature, it has been repeatedly noted that in the semantics of most anthroponyms there is a connotative cultural component, which is a kind of translator of information about the culture and history of a particular people. Anthroponyms are a source not only of linguistic material, but also of knowledge about the national mentality. If the national-linguistic picture of the world finds its maximum expression in the lexical system, it can be systematized. The vocabulary of the national language in this case is divided into the names of real objects of the material world and the names of conceptual artifacts of the national linguistic consciousness. The second group, in turn, consists of abstract logical concepts, subjective assessments, categories of values and mythical categories.

An anthroponym is the most obvious indication of a person's status [5, p. 29]. Each linguistic and cultural community implements status-role semes in its own way in the forms of various names.

All types of anthroponyms are united by common functional features – the ability to name a person and be used when referring to him. Of these , only

a personal name has a high degree of individualization of the denotation: every person has it. Other types of anthroponyms can be optional, correlate with the historical and cultural traditions of the people and differ in ethno-cultural diachrony. Personal names are chosen relatively arbitrarily (with varying degrees of mandatory selection from the established list – Christian and Muslim traditions, from common words with positive semantics – Chinese tradition, from words with desirable semantics – pagan tradition). Surnames, patronymics and patronymics are derived units and are conditioned by family ties. Nicknames, pseudonyms, etc. are not the main, but an additional name, many/most members of the ethno-linguistic collective do not have them. Nicknames, street surnames, andronyms, geniconyms are not assigned by the individual himself, are given to him by other people, can be used in contact with the carrier or only blindly. Aliases, nicknames, cryptonyms are chosen by the bearer of the name for various reasons.

A.A. Beletsky, considering the East Slavic anthroponymy from the point of view of etymology, states that its historical source is the Greek system of names of the Byzantine era, except for a few names (Vladimir, Vsevolod, Yaroslav, Olga, Igor, etc.), dating back to the Slavic and Scandinavian anthroponymicons. Modern East Slavic anthroponymy is not actually Slavic in origin and speaks not so much about the language as about the culture of its speakers. Consequently, "such a discrepancy between anthroponymy and common vocabulary turns out to be mostly the result of the interaction of cultures and can be recognized as an indicator of complex cultural evolution" [1, p. 78].

As we all know, a proper name is a name that names a unique individual entity. Thus, it carries an identifying value. In order to illustrate the identification meaning, it is useful to refer to the works on the nomination of the Russian linguist and semiotic N. D. Arutyunova, according to which the identifying meaning is closely related to: – an object outside of language; – the derivational nature of meaning; – extensional; – uncertainty of thought, or intensionality; – the social nature of semantic rules of use; heterogeneity of meaning [1, p. 5]. Competence in relation to identifying names is based on knowledge of the reference. N. D. Arutyunova notes that linguistic competence in relation to names belonging to the world is fundamentally different from competence in relation to words related to human thinking, to its system of concepts. In the first case, you need to be familiar with reality, in the second – with a pronounced system of linguistic concepts.

In the first case, you need to know the relation of the word to the object, in the second – to understand the meaning of the word. The use of specific names is determined by the ontology of the world, but the use of semantic predicates is determined epistemologically [Ibid., p. 24]. In this regard, it is important to note that the influence of neighboring cultures on the anthroponymicon of a particular language is associated with

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its dominant meaning in the life of a people in a certain historical period. Let's consider the features of the relationship between language and history on the example of the Vietnamese and Kazakh languages, which underwent various transformations due to the influence of neighboring linguistic cultures.

History shows that most proper names in English and Russian are closely related to the Christian tradition and religious texts. Their roots are in Greek, Latin and Hebrew. English anthroponyms have a long history, which is connected with the English people and the process of language development. The Anglo-Saxons had only one name, very simple in structure. Gradually, the names became more complex, their structure included several components. These components came from the Old English language. The Christianization of the Russian name actively developed in the Middle Ages, but up to the XVIII century, names of both Tatar and Old Russian (pre-Christian) origin could be found among the names. Around the same period in England, the belonging of several persons to the same family began to be indicated in one way by combining personal names and turning them into surnames. It is worth noting that the gender marker of the anthroponym was a minor component in the Old English name.

In anthroponyms, national and international, national and foreign-language can merge and interact. The tradition of translating Greek and Latin names Fides, Spes, Caritas (Faith, Hope, Love) contributed to the use of the anthroponyms Tikhomir, Bogodar, Bogdan, Bogolep, Domashny, Razumnik among the Russian people – translations of the names Clement, Fedor, Theodosius, Theopret, Domitian, Sophron [11, p. 366], which became the basis for surnames Tikhomirov, Bogdanov, Bogolepov, Domashnev, etc. The translation of the Greek Philites, Philomena became the name Lyubim, which was used independently in the XIX century. (A.N. Ostrovsky "Poverty is not a vice") and became the basis of the surname Lyubimov. Perhaps the use of the name in the Russian ethnic environment was influenced by its coincidence with the Old Russian Lyubim [13, p. 190; 20, p. 226].

Among Bulgarians, Serbs, Montenegrins, the translation of Greek names into Slavic is widespread to this day: Fedor – Bozhidar, Makarii – Blag, Blazhko, etc. (Bulgakov, 1993). Russians from the first centuries after the Baptism of Russia often had the name Bogdan as a translated version of Fedot, Bogolep as Theoprepius, etc., currently they are included in the holy names as allowed for baptism. The name Svetlana, invented by V.A. Zhukovsky, did not immediately enter the Orthodox calendar. In 1913, it was noted that Orthodox girls by this name "in no case can be called" (Bulgakov, 1993, vol. II, p. 960). But now Svetlana is considered a translated version of the names of saints Fotina, Fotinia, whose memory is celebrated on February 13/26 and March 20/April 2 [14]. There are also holy Photos and Photos with the same semantics, but this Russian anthroponymic translated synonym does not apply to them.

Strict church anthroponymic attitudes imposed a ban on the use of certain names not included in the official lists. In 1889, in the Tobolsk diocese, at the urgent request of the parents, the priest baptized the child with the name Yaroslav, absent from the saints, for which he was held accountable (Bulgakov, 1993). It was only in 1994 that this name was added to the Orthodox shrines in memory of the blessed Prince Yaroslav (Konstantin). Svyatoslavich of Murom (+1129), his birthday falls on May 21/ June 3. It was impossible to give an Orthodox boy the name Svyatoslav, which was considered Catholic. It is curious that at the same time the Order of St. Stanislaus was the state award of Russia. It was established on May 7, 1765 by King Stanislaw August Poniatowski of Poland, and in 1815 it was restored by Emperor Alexander I for the Kingdom of Poland. He became one of the orders of the Russian Empire on September 14, 1829, when Emperor Nicholas I approved the statute of the order; on January 11, 1832, his appearance was changed. Among those awarded this order are writer and playwright A.P. Chekhov, artists I.K. Aivazovsky and F.A. Bruni, famous chemist D.I. Mendeleev, lexicographer V.I. Dahl, inventor of radio A.S. Popov, trauma surgeon N.V. Sklifosovsky and many others.

The Church did not allow giving the child not only Catholic (Bronislav, Mieczyslaw, Marta, Rosa) or Protestant (Albert, Leonard, Clementine, Clara, Charlotte) names, but also those found in Orthodox monuments, used by Catholics and Protestants, but not included for any reason in the saints (Augustus, Aurelius, Florentine, Christian) (Bulgakov, 1993). Among such names were mentioned in the early twentieth century . Felix and Vladislav, who are now included in the Orthodox calendar: the memory of the Serbian Prince Vladislav (+1239) is celebrated on September 24 / October 7, and the Feliks celebrate the name day on January 25 / February 7, as well as on the day of Karelian saints – May 21 / June 3 in honor of St. Felix [14].

Unlike Catholics, the Orthodox were not allowed to choose names in honor of the Lord and the Virgin. The very popular Russian name Maria was given only in honor of the holy wives bearing it (Bethany, Egypt, Caesarea, Cleopova, Constantinople, Persian, etc.) (Ibid.). The name Jesus could theoretically have been chosen in honor of the righteous Joshua, whose memory is celebrated on September 1/14, however, "in

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disgust of a possible reason for temptation, it is better to refrain from naming this name" (Bulgakov, 1993, vol. II, p. 956).

Russian Russian Orthodox society observed these rules of choosing a name for a child until 1917, then for 70 years they were eradicated from use, but in general the Russian namebook retained its composition, new names of revolutionary origin and new borrowings from Western languages were on the periphery of the Russian anthroponymicon during this period.

Names perform an important legal function – identification of a person in society. There are several ethnocultural traditions of choosing a name for a person in the world. In the development of anthroponyms of different peoples, there is a natural development from the anthroponymic system of the same name to the multi-named one. The single-member system is considered the most ancient.

The official naming formula for different peoples is a historical category that is not strictly defined, it is diachronically variable, includes a different number of components and a different order of their sequence. The main fund of the national anthroponymicon in most cases consists of the names of the native language or fully mastered at all language levels and entered into the ethno-linguistic consciousness of foreign language units. The anthroponymic formula for naming modern ethno-cultural communities is strictly defined, officially (legally) approved.

For most peoples of the world, a two-component first name + last name is mandatory, fixed in all documents, which is a means of identification of an individual. The older two-component model of name + patronymic has been preserved in the modern Icelandic anthroponymic system. The development of this model is a three-component anthroponym name + patronymic + dedicacy, common among some peoples of Asia and Africa. Dedicacy was found in the pre-family period among representatives of the upper classes in the Russian and Belarusian language environment [15, p. 46]. Russian Russian people's modern complete anthroponymic formula is unique, having a three-component structure of first name + patronymic + surname, acting as an ethno-linguistic (cultural-historical) phenomenon of the Russian national language, as well as a polite vocative model of first name + patronymic [19, p. 67; 6].

This model of polite treatment applies to foreigners who are connected with Russia and the Russian people by their activities. In this case, either real vocatives are formed (Petra Vlastimilovna), or forms adapted to the Russian namesake with the choice of matching anthroponyms on the etymological (Yirzhina, Father Vaclav > Irina Vyacheslavovna) or on the phonetic level (Yindrzyh, father Yindrzyh > Andrey Andreevich). Among peoples with anthroponymic traditions different from European ones, the selection of Russian names is carried out on the basis of any personal preferences or sometimes in memory of the person to whom the person who chose the name owes something. Russian Russians quite assimilate to themselves this exclusively Russian address by name and patronymic, so that even on the signs in Port Arthur or Harbin it is not uncommon for inscriptions like: "Shanghai tailor Stepan Semenovich Sui-Fu-Jiang". And some Chinese even get European business cards for themselves: Semyon Ivanovich Wang-Fu-Xiang, Matvey Petrovich Xing-Jiang-Tai" [16, p. 625]. Currently, this tradition is continued by Chinese Russian students, especially during their studies in Russia. The Russian official formula structure in the socialist period was spread throughout the USSR, was used to identify and register all its inhabitants. Therefore, for example, the official full three-component naming is still functioning in the Kazakh anthroponymicon.

Currently, it coexists with the reviving historical national forms of naming Kazakhs, which are formed using anthroponymic elements -uly, -kyzy, -tegi or in an unaffixed way: Musabayev Madi Maratuly, Mustafa Aulet Armanuly, Sherkhan Murtaza, Bayanzhan Eric, etc. [9, c. 46].

The Bulgarian full anthroponymic formula also contains a patronymic formalized with the help of the suffix -s, but it is not used in the vocative function, it can sporadically act as a surname. According to researchers, in the Vietnamese anthroponymic system there is both a two-term and three-, four-term formula in which a certain sequence is observed: surname + first name (Nguyen Zu, Phan Ngoc), surname + additional word + first name (Chan Heung Dao, Nguyen Thi Binh), surname + additional name to indicate gender + name decoration + name (Lam Thi Mi Za) [19, c. 307], however, all additional units only accompany the personal name, and therefore all full Vietnamese anthroponyms are rather variations of the two-component model.

The same variations are European and American models with additional names. English children usually receive two names at birth – personal and middle (first + middle names), the latter serves as an additional individualizing sign. As a middle name, personal names, surnames, toponyms, and common vocabulary are used. For example, the sons of Ch. The names of Dickens were: Charles Ford Boz Dickens (under the pseudonym of his father), Walter Landor Dickens, Francis Jeffrey Dickens, Henry Fielding Dickens, Alfred Tennyson Dickens, Edward Bulwer Dickens (in honor of famous English poets and writers) [7, pp. 9-10]. "Children in the United States can be given a middle name, which is chosen arbitrarily, in

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honor of relatives, godfather, godmother, some outstanding person, historical event, for religious and other reasons. A married woman may use her maiden name as a middle name" [8, p. 243]. Despite the fact that the full English anthroponym includes three or four words, it is built on a two-component model, since the middle name is part of a personal name, accompanies it, is not used independently in communication. A variation of the two–component model should also be recognized as the Spanish full name, consisting of several personal names and two surnames (father and mother): all names are included in the first group, and both surnames are in the second.

In modern China, in order to expand the identification capabilities of the anthroponymicon, proposals are also being made to transfer the surname of not only the father, but also the mother to the child, thereby the family group contains two units. All these variations are a manifestation of national culture, reflect the diachrony of the functioning of complete anthroponyms of a particular people.

The structural formulas of various types of anthroponyms differ in a set of components and word-forming elements among different peoples. Each national anthroponymicon forms names based on the means available in the language.

Anthroponyms, as a rule, are secondary formations, i.e. they are created on the basis of the appellative vocabulary of the language. The names of Indo–European and Turkic peoples are historically represented mainly by three types - complex, derivative, and appellative (the latter can be complex and derivative). Complex names (composites) are formed using at least two root morphemes (kaz. Aigul, Akzhol, Elaman; rus. Radoneg, Yaroslav, Vladislav, Vseslav). Derived names are names formed with the help of various special onomastic formants by shortening the bases and formatting with special affixes (Rus., kaz. Mels of Marx + Engels + Lenin + Stalin, Danel from Dan + Eleonora, rus. Graziella from Grazia, Mironia from Miron, Lucia from Revolution, Klim from Kliment). The apellative names include anthroponyms, the meaning of which allows them to be correlated with the meaning of the common vocabulary (kaz. Bakyt, Askar; rus. Spark, Lada, Idea; rus.-kaz. Advice).

Names can be formed from the appellative vocabulary both naturally and artificially, including being translatable. Various types of language contacts, the expansion of the information space lead to the fact that in the anthroponymic systems of many peoples, foreign-language names appear that are not semanticized from the point of view of the native language. They can undergo phonetic and morphological adaptation in the recipient language, and if these names have completely passed all the stages of adaptation, then they can be perceived by the ethno-linguistic consciousness as facts of the native language.

So, in the Russian anthroponymicon, most of the names are Greek, Latin, Hebrew in origin (Larisa, Xenia, Anna, Tamara, Victor, Alexander, Ilya, and many others), but over time they began to be recognized by native speakers as native, native, which is emphasized when choosing a name: We named our son Ivan in Russian. A certain number of names came to the Kazakh anthroponymic system with the adoption of Islam, so there are names of Arab-Iranian origin in it, but they are also perceived by native speakers as native, since over a long time they have fully adapted to the phonetic and grammatical system of the Kazakh language (Abdolla, Asan, Akhmet, Isa, Jamal, Zulfiya).

However, most of the units of the Kazakh anthroponymicon, its main fund consists of names of Turkic and their own Kazakh origin. Currently, there is a tendency to name children with new fashionable names, meaningful in meaning and euphonious in form. There is an internationalization of Kazakh anthroponymy: children are given names that could easily be transcribed in English and perceived as international (Дана – Dana, Жанна – Janna, Jane, Жанат – Janet, Ерик – Erik и др.) [9]. In most national anthroponymic systems, there is a division of personal names into official (full) and unofficial.

Unofficial names, in turn, are differentiated into hypocoristic, i.e. short names that have an abbreviated form of the base or one full base instead of a two-base name: rus. Sasha < Alexander, Sveta < Svetlana, Luda < Lyudmila, Slava < Vyacheslav, kaz. Kasym < Kasymzhan, Gulya < Gulnara; deminutive-meliorative, i.e. names with a diminutive meaning, formed with the help of special affixes: rus. Annushka, Vovochka, kaz. Alken < Aliya, Bakas < Bakytzhan, Shaken < Sharipbek, Erkintai < Erkin; pejorative augmentative, i.e. names with magnifying and/or disparaging-pejorative connotation of meaning [9].

In the English ethno-linguistic environment, the use of first names is extremely rare, but when communicating in a pub, personal names sound when communicating between the owner, the service staff and regular customers "much more often than necessary, as if the members of this small "tribe" seek to emphasize their close acquaintance and personal ties" [18, p. 124]. Outside the pub, "any abuse of names in the process of communication causes discontent and is regarded as annoying familiarity in the spirit of Americans" (Ibid.). The main purpose of hypocoristics is to serve as an appeal, to be used to express a phatic function.

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The formation of short forms of an anthroponym is a linguistic frequentalia or even a universal [17], in Slavic languages they have been fixed since 789 [18, p. 98]. A hypocoristic name, which is an ideal vocative form, is able to reflect ancient phonetic and accentuational patterns. The formula of the Russian short name is a bisyllabic word with a penultimative accent: Alexander > Sanya, Sasha, Shura; Nikolai > Kolya, Coca; Anna > Anya, Nyura, Nyusha, Nyuta, Lev – Lev, Mark –Marik. All unofficial names with the meaning of any subjective assessment constitute a group of qualitative names. The subjectivity of the assessment is determined on the basis of word-forming means, which are peculiar markers, as well as depending on the communicative situation in which they are used.

In the course of historical development, the name form can be transferred from one axiological status to another: Rus. Mashka, Vaska from affectionate to familiar-pejorative. The context is also very important for determining the quality of the name, since some suffixes that are considered pejorative may not be such: the suffix -k (a), according to A. Vezhbitskaya, has a universal meaning, because in certain situations derivatives express tenderness, friendly attitude [2, pp. 137 – 138]. Hypocoristic and deminutive-reclamation the vocative forms of the anthroponym are chosen in a friendly environment, as well as when addressing the elder to the younger. There are personal and family preferences in choosing a derivative: Masha, but not Manya, Dima, but not Mitya, Sasha, but not Shura, Mila, but not Luda, Luda, but not Lucy, Volodya, not Vova, etc. The facts of the use of forms of Kazakh names with the suffix -k (a) along with the native Kazakh diminutive names are curious: Gulka (Aigul), Anka (Anar), Manshuchka (Manshuk), which are the result of interethnic contacts in the language situation of Kazakhstan. Surname is a historical category, the appearance and development of which was due to the socio-economic development of society. The main functions of this anthroponym are unifying (unites members of one family, genus); defining, differentiating (helps to distinguish members of one family, one genus from members of another family, genus); identifying (identifies, identifies a person in society). The surname, as a diachronically secondary onym, is often associated with a name or nickname, is a unit derived from them, transmitted to subsequent generations by a patronymic (Rus. Ivanov < Ivan, Tretyakov < Tretyak, Plotnikov < Carpenter; ukr. Petrenko < Petro, Shevchuk < Shvets, Shestak < Shestak; blr. Qihanchuk < Qihan, Uscinovich < Uscin, etc.), however, it is also possible that surnames may originate independently from toponyms, names of objects, etc.: Chinese surnames Ma (a) ‘horse’, Chen(a) ‘place name’, Qiao (乔) ‘sparrow’, Jiao(焦) ‘horn', Qiang(?) ‘ram’, Gui (?)‘plait’, etc. Russian, Ukrainian, Belarusian, Polish surnames may also be based on an indication of ownership of a certain territory or origin from a city, locality (Meshchersky, Tverskoy, Zvenigorodsky, Samartsev, Ukrainian), etc. The formation of Russian surnames is attributed to the XV century. in connection with their fixation in written monuments, however, according to onomatologists, they could have arisen earlier. Russian surnames are characterized by possessive (patronymic) suffixes -ov/-ev/-in, -ovich/-evich/-ich, as well as the formant of the ottoponymic derivation -sk(s), etc. Unconventionally designed surnames could have been formed as a result of the onomaturgical quirks of peasant owners during serfdom. In the village of Droskovo, Maloarkhangelsky district, Oryol province, the following recruits were recorded during military recruitment: Ivan Ivanov Koch, Sidor Karpov Schmidt, Anton Egorov Gertner, Grigory Petrov Schwartz, etc. The peasants explained: "The father of our master in serfdom gave such surnames in the village." The Germanophile landowner gave surnames with meaning: Koch's grandfather was a cook, Schmidt's was a blacksmith [12, p. 158)]. In some Belarusian villages, the appearance of surnames among residents occurred even in Soviet times, during the formation of collective farms [15, p. 5]. It is believed that Kazakh surnames appeared in the XVIII – XIX centuries and were officially fixed with the introduction of the passport system, but their origins can be traced back to ancient times. So, in the ancient and late Turkic anthroponymic systems, in addition to personal names, there was a tradition of using the names of clans and tribes, names of localities for additional identification of a person: Abu Nasr al Farabi from Farab, Yusup Balasaguni from Balasagun, Mahmud Kashgari from Kashgar, Muhammad Haidar Dulati from the Dulat clan. Personal names were added to the names of fathers, grandfathers, kin, nicknames that could perform the function of patronymic, grandfathers: Burhan ad-Din Ahmad bin Abi Hafs bin Yusuf al-Farabi, where the personal name is Burhan ad-Din Ahmad, Abi Hafs is the name of the father, Yusuf is the name of the grandfather, Farab is the city of residence. In the 70s of the twentieth century, Kazakh surnames often appeared on behalf of the father along with the main method of naming – by the name of the grandfather, i.e. the origin of the family name. The process of introducing a hereditary surname was at that time in the formative stage of Kazakhs: 27.8% of respondents had a hereditary surname and patronymic, while 63.8% had a surname on behalf of their father (patronymic surname), 8.4% had a surname on behalf of their father and patronymic [3, p. 101 - 103]. At the heart of modern Kazakh surnames, the names of the ancestors of the second and third generations are most often used. You can also find the use of an ethnonym or a genonym as a surname. Russian patronymics denote belonging to the father, this is their main function, they are formed

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using the suffixes -ovich /- evich, -aries /-evna, less often -ich /-inichna. In the dialect and vernacular Russian speech environment, an isolated patronymic is used, which is also a nationally colored vocative, although there are certain parallels with the Eastern names of persons and addresses, we know many Arab scholars and writers only by patronymics: Ibn Sina (Avicenna), Ibn Rushd (Averroes), Ibn Fadlan, Ibn Al-Haysam (Algazen), Ibn Al-Arabi and many others. The isolated use of the patronymic as a vocative was influenced by the phonetic patterns of the treatment model, while – unlike hypocoristics – there is a tendency to use a three-syllable anthroponym with the same penultimative stress: Ivanich, Grigorich, Vasilich, Andrevna, Grigorna, Vasilna, although there are forms with a different number of syllables due to the syllabic structure of the father's name: Palych, Aleksanych, Nikolaevna. The study of the nature of anthroponyms, the identification of their features, the disclosure of semantics and etymology, the analysis of the word-formation structure of the names of different peoples, different territorial localization show that the names are not only historical, but also deeply national. "The peculiarities of national onomasticons are determined not only and not so much by their belonging to a particular national language, as by the specifics of the national culture in which this or that national onymy was created and formed" [4]. The names show the close unity of the worldview and worldview of the people with its spiritual, social and material culture. The ideas (signs, symbols, mythologems, etc.) that a person puts into them are present in his mind, they are determined by thinking and the social circumstances in which he lives. Names contain certain meanings associated with the words involved in their formation. However, this value is not directly related to the essence of the object itself that has undergone the act of nomination, but indirectly reflects certain characteristics that are important to the nominee and are associated with culturally relevant concepts of the people. As an object is involved in a person's life, various information about it accumulates, allowing it to be clearly differentiated among its kind: "all onomastics is ethnographic – from the personal name of a person to the name of deities, from the name of a people to the designation of a settlement or a space object" [23, p. 5]. Anthroponyms are an important means of reflecting national culture, which finds expression in the structure of the official naming formula, the choice of vocative and analytical forms, in the entire anthroponymicon of the people.

Methods. This research is determined by a set of methods of comparative-historical, structural-semantic, comparative-typological analysis, as well as the principles of hermeneutics (interpretation of texts) and methods of linguistic analysis of the text. The work also uses general scientific and literary methods, namely analytical, comparative, comparative, inductive and deductive.

The results obtained. The study shows that most proper names in English and Russian are closely related to the Christian tradition and religious texts. Their roots are in Greek, Latin and Hebrew. English anthroponyms have a long history, which is connected with the English people and the process of language development. The Anglo-Saxons had only one name, very simple in structure. Gradually, the names became more complex, their structure included several components. These components came from the Old English language. The Christianization of the Russian name actively developed in the Middle Ages, but up to the XVIII century, names of both Tatar and Old Russian (pre-Christian) origin could be found among the names. Around the same period in England, the belonging of several persons to the same family began to be indicated in one way by combining personal names and turning them into surnames. It is worth noting that the gender marker of the anthroponym was a minor component in the Old English name. Modern anthroponyms include a social component that serves as an indicator of national preferences. Many proper names have received the status of national symbols in some countries (for example, Jack – in the USA, Taras – in Ukraine, Ivan – in Russia, Quang – in Vietnam). The national aspect is also revealed in the formula of the anthroponym inherent in a certain nationality, social group or religion. The phonetic aspect of anthroponyms is unique in every language. This is due to the specific features of the development of semantics and phonetics in different languages.

Conclusions. Thus, anthroponyms as an example of the interaction of cultures are invaluable for the history of the people. Neighboring cultures enriched each other's anthroponymicons: the Vietnamese dominated China for a millennium (from the I to IX centuries), while they adopted the peculiarities of Chinese naming practice. Kazakhs transformed their proper name by fully borrowing grammatical features of the Russian anthroponym. In turn, in the history of Russian anthroponymy, it was observed the widespread use of the Turkic namesake in the XIII-XVI centuries. The study of anthroponyms allows us to trace the main stages of the historical development of a particular people.

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ЎЗБЕК ВА ИНГЛИЗ ТИЛЛАРИДАГИ “ТИЛ ВА НУТҚ” МАВЗУВИЙ ГУРУҲИДАГИ МАҚОЛЛАРДА СИНОНИМИЯ, ГРАДУОНИМИЯ, АНТОНИМИЯ

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Abstract. *The following article discusses the phenomenon of synonymy, graduonymy, and antonymy in proverbs from the topic group “language and speech” in the Uzbek and English languages. As we all know, the issue of synonymy, antonymy and graduonymy has been widely studied in world linguistics. The phenomenon of semantic relationship between words in Uzbek and English languages has been thoroughly researched. The phenomenon of synonymy occurs in almost all areas of linguistics and is considered one of the main objects, because synonyms occupy a large part of the vocabulary of the language. The semantic factor for distinguishing the lexical graduonymic series is manifested in the presence of a reference to a different degree of a certain sign in each lexeme in the series of expressions of a closely related concept. Antonym is a relationship of contradiction between lexemes. Antonym lexemes should have a common, unifying theme as well as an opposite theme.*

Key words: *synonymy, graduonymy, antonymy, lexeme, lexical units, paremiological, dominant lexeme, hyponym.*

Аннотация. *Қуйида берилган мақолада ўзбек ва инглиз тилларидаги “тил ва нутқ” мавзувий гуруҳидаги мақолларда синонимия, градуонимия, антонимия ҳодисаси ҳақида фикр юритилади. Барчамизга маълумки, жаҳон тилшунослигида синонимия, антонимия ва градуонимия масаласи жуда кенг ўрганилган. Ўзбек ва инглиз тилларида сўзлараро маъновий муносабат ҳодисаси атрофлича тадқиқ этилган. Синонимия ҳодисаси тилшуносликнинг деярли барча соҳаларида учрайди ва асосий объектлардан саналади, чунки тилнинг луғат қисмининг катта ҳажмини синонимлар эгаллайди. Луғавий градуонимик қаторни ажратиш учун маъновий омил ўзаро яқин тушунчани ифодаловчилар сирасидаги ҳар бир лексемада маълум бир белгининг турлича даражаланишига ишора мавжудлигида намоён бўлади. Антонимия лексемалар орасидаги зидлик муносабатидир. Антоним лексемаларнинг умумий, бирлаштирувчи семаси билан бир қаторда, қарама-қарши семаси ҳам бўлиши лозим.*

Таянч сўзлар: *синонимия, градуонимия, антонимия, лексема, луғавий бирликлар, паремиологик, доминант лексема, гипоним.*

Аннотация. *В данной статье рассматривается явление синонимии, градуонимии и антонимии в пословицах из тематической группы «язык и речь» в узбекском и английском языках. Как известно, проблема синонимии, антонимии и градуонимии широко изучается в мировой лингвистике. Феномен семантической связи между словами в узбекском и английском языках тщательно исследован. Явление синонимии встречается практически во всех областях языкознания и считается одним из основных объектов, поскольку синонимы занимают большую часть лексики языка. Семантический фактор выделения лексического градуонимического ряда проявляется в наличии указания на разную степень того или иного признака в каждой лексеме в ряду выражений близкородственного понятия. Антоним – отношение противоречия между лексемами. Лексемы-антонимы должны иметь как общую объединяющую тему, так и противоположную тему.*

Ключевые слова: *синонимия, градуонимия, антонимия, лексема, лексические единицы, паремиологическая, доминантная лексема, гипоним.*

Кириш. Мақолларнинг ҳар бири тилимиз кўркини, нутқимиз нафосатини, ақл-фаросат ва тафаккуримиз мантиқини ҳайратомуз бир қудрат билан намойиш эта оладиган бундай бадиият қатралари халқимизнинг кўп асрлик ҳаётий тажрибалари ва маиший турмуш тарзининг бамисоли бир ойнасидир. Folk proverbs, which emerged as a peculiar phenomenon of language, philosophy, and artistic creation, are a genre of folklore in a concise form but with a deep meaning.[1,138] Тилнинг, фалсафанинг, бадиий ижоднинг ўзига хос ҳодисаси сифатида вужудга келган халқ мақоллари ихчам шаклда, аммо чуқур мазмунли халқ оғзаки ижодининг жанридир.

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Маълумки, жаҳон тилшунослигида синонимия, антонимия ва градуонимия масаласи жуда кенг ўрганилган. Ўзбек тилида сўзлараро маъновий муносабат ҳодисаси атрофлича тадқиқ этилган. Кейинчалик ўзбек тилшунослигида сўзлараро маъно муносабатларининг синонимия, антонимия, полисемиядан ташқари яна кўплаб турлари: гипонимия, градуонимия, партонимия, иерархонимия, функционимия каби турлари фарқланди. Синонимия ҳодисаси тадқиқига бағишланган қатор ишлар синонимиянинг турли аспектда ўрганилганини ҳамда турли луғатларнинг нашр этилганлигини кўрсатади.

Тадқиқот объекти ва қўлланилган методлар.

Синоним сўзи юнон тилидан олинган бўлиб, σύν *“бирга”* + ὄνομα *“ном”* бирга номлаш деган маънони билдиради. Бир туркумга тегишли, ўзаро маънолари бир-бирига яқин бўлган турли сўзлар синонимлар ҳисобланади. Синонимия ҳодисаси тилшуносликнинг деярли барча соҳаларида учрайди ва асосий объектлардан саналади, чунки тилнинг луғат қисмининг катта ҳажмини синонимлар эгаллайди.

Адабиётларда синонимлар, асосан, тўрт турга бўлинади:[2,104]

1. Маъно оттенкасига путур етказмай, бир-бирининг ўрнида бемалол ишлатила олувчи сўзлар *абсолют синоним* дейилади: *тилшунослик – лингвистика*.

2. Маъно жиҳатдан фарқланувчи синонимлар *семантик тип*га киради: *ботир, жасур, қўрқмас, дадил.*

3. Нутқ ситуацияси ёки контекстда маънолари жиҳатдан бир-бирининг ўрнида ишлатила олувчи синонимлар *контекстуал синоним* саналади*: шоир, ёзувчи, адиб.*

4. Маъно оттенкаларида эмоционал-экспрессив ҳиссиётни ифодаловчи синонимлар – *стилистик синоним*: *юз, башара, афт, чеҳра, нусха, турқ*.

Синонимларга қарашларда олимларда икки хиллик мавжуд бўлган: бир гуруҳ олимлар (А.Б.Шапиро, А.Н.Гвоздев, Л.Н.Саркисова, П.С.Александров, А.А.Брагина) томонидан синонимларни ўзаро яқин, аммо маъноси билан фарқланадиган сўзлар сифатида қайд этадилар ва сўзларнинг том маънодаги ўхшаш бўлишини лексик дублетлар ёхуд вариантлар деб номлашади.

Бошқа олимлар гуруҳи (В.В.Виноградов, Е.М.Галкина-Федорук, Л.А.Булаховский, Н.М.Шанский, Д.Э.Розенталь, В.Н.Клюева, Ю.Д.Апресян, М.Ф.Палевская, А.П.Евгеньева ва бошқалар) эса синонимлар деб, ўзаро ўхшаш ёки яқин мазмунли сўзларни тилга оладилар. Аслида, ҳар иккала тилшунослар гуруҳи ҳам бир хил фикрни таъкидлашмоқда, фақат изоҳлашда хилма-хиллик кўзга ташланади, холос.

Юқоридагилар асосида хулоса қилиш керакки, синонимлар ўзаро ўхшаш ва яқин мазмунли сўзлардир. Уларнинг маъноси бир-бирига яқин сўзлар бўлса-да, айрим маъно қирралари билан фарқ қилади.

Синонимлик фақат лексемалар лоирасида эмас, балки сўз ва ибора, ибора ва ибора, ҳатто мақол ва маталлар орасида ҳам учрайди. Ишнинг ушбу бўлимида тил ва нутқ мавзувий гуруҳига кирувчи мақоллар синонимияси ҳақида фикр юритамиз.

Ўзбек тилида синонимиянинг ўрганилишини шартли равишда иккига ажратиш мумкин:

1) синонимларнинг анъанавий тилшунослиқда ўрганилиши;

2) систем тилшунослиқда ўрганилиши.

Ўзбек тилининг анъанавий тилшунослик босқичида синонимлар билан боғлиқ масалаларни Я.Д.Пинхасов, З.Маъруфов, С.Усмонов, Ф.Камолов, А.Ҳожиев, У.Раҳматуллаев каби тилшунос олимлар тадқиқотларида учраса, систем-структур тилшунослик нуқтаи назаридан Ш.Раҳматуллаев, Э.Бегматов, И.Қўчқортоев, Р.Расулов, С.Ғиёсов, Б.Жўраев, Р.Сафарова, М.Нарзиева, Ш.Орифжонова, З.Юнусова, Ҳ.Саидовалар синонимларни структур-семантик жиҳатдан таҳлил қилишган.

Синонимнинг таърифида аввал бир хиллик, кейин умумийлик, сўнгра ўхшаш (айнан)лик тамойилига асосланилган. Ўтган асрнинг 90-йилларидан бошлаб синонимия Б.Йўлдошев, Ҳ.Шамситдинов ишларида семантик-функционал, О.Базаров, Ш.Орифжоновалар томонидан градуонимик аспектда ўрганилди. М.Миртожиев, Б.Менглиев,[3,18] З.Юнусова ва улар издошларининг синонимия ҳодисаси юзасидан баён этган фикрлари ўзбек тилшунослигида бажарилаётган тадқиқотларнинг ҳозирги ҳолатини ифодалайди.

Олинган натижалар ва уларнинг таҳлили.

Қуйида тадқиқот объектимизни шу ҳодиса призмасидан ўтказамиз.

Синоним лексема семемаларидаги аташ ва вазифа семаси айнан бир хил бўлиб, ифода семаси фарқланади. Маънодошлик қаторидаги лексемаларнинг ифода семаси турли-туман. Улардан айримлари қуйидагилар:

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1) ижобий ёки салбий баҳо ёхуд муносабат сема;

2) лексеманинг қўлланиш даврини кўрсатувчи сема: «эскирган», «янги», «ўта янги», «архаик», «тарихий».

3) лексеманинг қўлланилиш доирасини кўрсатувчи сема: «шевага хос», «сўзлашувга хос», «китобий», «кўтаринкилик» ва ҳ.[4,121]

Юқорида санаб ўтилган белгилар, асосан, лексик синонимларга хос. Шундай бўлса-да, мақоллар орасидаги синонимияда ҳам *эскирганлик, янгилик, ўта янгилик, архаиклик, тарихийлик* ёки *шевага хослик, сўзлашувга хослик, китобийлик, кўтаринкилик* каби белгилар кузатилади. Буни тил ва нутқ маъновий гуруҳига кирувчи мақоллар мисолида таҳлил қиламиз.

Юқорида синонимнинг турлари ҳақида маълумот келтирилганди. Улар орасида контекстуал синонимлар бўлиб, нутқ ситуацияси ёки контекстда маънолари жиҳатдан бир-бирининг ўрнида ишлатила олувчи синонимлардир. *Тил – ақл тарозуси* ва *Тил – ақл ўлчови* каби мақоллар шундай синонимлар сифатида эътироф этилиш мумкин. Чунки *тарозу* ва *ўлчов* сўзлари бу ўринда айни маънони ифодалаган. Натижада, ушбу иккала мақолда синонимлик ҳосил қилинган.

Шунингдек, *Аччиқ тил – заҳри илон, Чучук тилга – жон қурбон* мақолининг синоними сифатида *Ёмон тил бошга бало келтирар, Яхши тил давлат, дунё келтирар; Заҳар тил суякни ёрар, Илиқ сўз – шакар, Совуқ сўз – заҳар* каби мақоллар ўзаро маъновий яқинлик ҳосил қилади. *Ширин сўз – қаймоқли айрон, аччиқ сўз бўйнига арқон* паремиологик бирлигига *Ширин сўз шоҳ косасида сув ичар* мақоли мазмунан ҳамоҳанг. Чунки саналган мақолларда **ширин сўз** *шакар, асал, қаймоқли айрон*га ўхшатилади. Буларнинг бари ижобийлик ҳисси ассоциациясини келтириб чиқаради. Бу синонимик қаторни *“Очиқ тил ош едирар, аччиқ тил – тош”, “Тил яхшиси бор этар, тил ёмони хор этар”, “Яхши оғизга ош, ёмон оғизга тош, “Яхши сўз бўлдиради, Ёмон сўз куйдиради”* мақоллари билан давом эттириш мумкин. Бу мақоллардаги *очиқ тилнинг ош едириши, тилнинг яхшиси бор этиши, яхши оғизга ош келиши, яхши сўзнинг бўлдириши* каби ифодалар юқоридаги мақолларда берилган ширинсўзликнинг фойдалари, ширинсўзликнинг асал, шакарга ўхшатилишига мазмунан ўхшаш. Шу сабабли ушбу мақолларни синоним мақоллар деб эътироф этиш мумкин.

Ҳар бир синонимик қаторда доминантнинг бўлиши инобатга олинса, юқорида келтирилган синонимик қаторнинг доминанти сифатида *“Ширин сўз жон озиғи, ёмон сўз бош қозиғи”* мақолини келтириш мумкин.

Қуйидаги синонимик қатор бошқа бир маъно атрофида бирлашади.

Қизил тилим бўлмаса, қишлар эдим элимда,

Яшил тилим бўлмаса, яйрар эдим элимда.

Қизил тилим тиёлмадим, Қизимникига боролмадим.

Ушбу икки мақолда ҳам тилнинг офати, зарари ҳақида гап боради. Қизил тили бўлмаганда киши ўз элида қишлайди, яъни ўринсиз гапирган гаплари туфайли ўз элини тарк этишга мажбур бўлмайди. Ҳатто ортиқча гапирмаганда, ўз элида яйраб юриши мумкинлиги таъкидланади. Иккинчи мақол гарчи бўлишсизлик шакли орқали тескари маъно ифодалаётгандек туюлса-да, айни биринчи мақол ифодалаган маънони билдиради. Ўринсиз гапирган гапи учун қизиникига, қуданикига боролмай қолган кишиларга қарата айтилган ушбу мақол ҳам тилнинг офати, унинг салбий оқибатини уқтиради.

Қуйида келтирилган мақоллар эса сўзнинг кучи, қудрати нақадар буюк эканлигини кўрсатади: *Куч эгмаганни сўз эгар* ёки *Фил кўтармаганни тил кўтарар.* Бу икки мақолнинг синонимлиги сўзнинг физик таъсир кучи нақадар юксаклиги таъкидлангани билан белгиланади.

Мақолларда маънодошлик парадигмаси эскилик ва янгилик бўёғига эга бирлик асосида кенгайиши мумкин. Масалан, ўзаро синоним деб қаралаётган “*Қизил тилим бўлмаса, қишлар эдим элимда, Яшил тилим бўлмаса, яйрар эдим элимда”* ҳамда *“Қизил тилим тиёлмадим, Қизимникига боролмадим”* мақолларидан биринчиси *қишламоқ* ифодаси билан нисбатан эскилик бўёғига эга. Чунки *қишламоқ* лексемаси бугунги кунда кўпинча, ҳайвонларга хос хатти-ҳаракатни ифодалашга хизмат қилади. Инсонлар ёзда ва қишда бир ерда яшамаган, қишлаш учун яшаш ерини ўзгартирган замонлар бўлган. Бу деҳқончилик, чорвачилик фаолияти билан боғлиқ бўлган. Аммо бугунги кунда қишлаш, асосан, ҳайвонларга хос. Инсонларнинг йил фасллари билан боғлиқ ҳолатда яшаш ерини ўзгартириш ҳолати амалиётдан чиққан. Шу сабабли ўзаро яқин маъноли бу мақоллар ҳосил бўлиш даврига кўра эскилик бўёғи билан фарқланади.

“Ҳикматнома”да маънодош мақоллар сифатида қуйидагилар келтирилади: “*Аввал ўйла, кейин сўйла”, “ўн қатим ўйла, бир қатим сўйла”, “дилда пишир, тилда гапир”, “ўйнаб гапирсанг ҳам ўйлаб гапир”, “тез сўзлаган тез пушаймон бўлар”, “оғизга келган сўз арзон, овулга келган бўз арзон”, “ўйланмаган жойдан тулки чиқар, ўйланмаган жойдан кулги чиқар”, “англамай айтган тингламай*

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ўлар, чайнамай ютган кавшамай ўлар”.

Айрим мақолларда синонимлик/дублетлик/*вариантдошли”кни* фарқлаш лозим. Масалан, *“Гапни катта гапирма, Нонни катта тишлама”* ва *“Нонни катта тишласанг ҳам, гапни катта гапирма”* мақоли ўзаро маънодош каби кўринади. Аммо айтиш жоизки, ушбу мақоллар айрим грамматик шакллар билангина фарқ қилади.

Юқоридаги фикрларга таяниб хулоса қилиш мумкинки, бу мақоллар ўзаро вариантдош саналади. Худди шу ҳолат қуйидаги мақолда ҳам кузатилади:

Бойнинг оғзи қийшиқ бўлса ҳам, сўзи тўғри

Оғзи қийшиқ бўлса ҳам, бойни ўғли/қизи гапирсин

Ушбу мавзувий гуруҳга мансуб мақоллар орасида синонимияни ҳосил қилувчи ҳолатларнинг яна бир омили диққатга молик. Бунинг учун мақоллар таркибига эътибор қаратамиз. *“Тил – кўнгилнинг таржимони”* ҳамда *“Тил –дилнинг калити”* мақолларида изоҳланувчи – *тил* сўзи айнан, қаратқичли аниқловчи *кўнгил* ва *дил* сўзлари **маъновий синоним** билан, *калит* ва *таржимон* сўзлари эса маъноси яқин бўлмаган сўз билан ифодаланган. Агар учинчи бирлик ҳам айнан бўлганда, ушбу мақоллар дублет мақол сифатида қаралиши мумкин. Аммо *таржимон, калит* сўзлари бу икки мақол маъносининг ўхшаш бўлишига олиб келган, натижада, синонимия келиб чиққан.

Инглиз тилида *think more and talk less кўп ўйла, оз сўйла* мақолининг эквиваленти бўлган *it is wiser to keep silent and let other people speak* мақолини ҳамда унинг синонимлари сифатида *be swift to hear (Br.), give every man thine ear, but few thy voice (Br.), give every man your ear but few your voice (Am.), have a long (wide) ear and a short tongue (Am.), hear all and say nothing (Am./Br.) hear much, speak little (Am./Br.), it is better to play with ears than with the tongue (Br.), keep your mouth shut and your ears open (Br.), listen much and speak little (Am.), talk less, listen more (Am.)* мақолларини келтира оламиз. Ушбу мақолларда синонимлик кам сўзлаш, кўп ўйлаш маъноси доирасида ҳосил бўлган. Масалан, *keep your mouth shut and your ears open* (Оғзингни ёпиқ, қулоғингни очиқ қўй) мақолида ҳам кам гапириб, кўп эшитиш, эшитиш ва мулоҳаза қилиш маъноси ифодаланган. *Listen much and speak little* (Кўп эшит, кам гапир) мақолида ҳам айни ҳолатни кузатиш мумкин.

If you wish a good advice ask the old man (Жўяли маслаҳат олмоқчи бўлсанг, қариларга мурожаат қил); *An old dog barks not in vain* (Қари ит беҳудасига вовулламайди); *An old cat knows when new milk flows* (Қари мушук сутнинг буғини ҳам сезади) мақолларида ҳам ўзаро маънодошлик кузатилади. Бу уч мақолнинг барида жўяли маслаҳат олмоқчи бўлган одам ёши улуғ инсонга мурожаат қилиши кераклиги уқтирилади. Шу мазмун етакчилик қилиб, ушбу мақоллар ўзаро синонимик муносабатга киришади: нутқда бирининг ўрнида иккинчиси қўлланади.

Ўзбек тили луғат бойлигини луғавий маъно гуруҳ (ЛМГ)ларга ажратиш сўзлараро маъновий муносабатларни ўрганиш билан чамбарчас боғлиқ. Луғавий бирликлар ўзаро маъновий муносабатларга кўра маълум бир даражаланиш қаторларини ҳосил этиши тилшуносликда қадимдан маълум. Бунинг энг ёрқин намунаси “ўрта” сўзини ўз ичига олган сўзлар қаторидир: катта – ўрта – кичик; ёш – ўрта – қари; узоқ – ўрта – яқин; баланд – ўрта – паст; узун – ўрта – қисқа.[5,8] Маълумки, [*ўрта*] сўзи билан ифодаланган белги-хусусият том маънода ўрталик, оралиқ, яъни икки бир-бирига зид белги оралиғидаги ҳолатни кўрсатади. [Ў*рта*] лексемаси антонимлар оралиғидан ўрин олса, (*катта-ўрта-кичик*) даражаланиши кам сезилади. Лекин [*ўрта*] лексемали бирликларни зид белги асосида эмас, маълум бир белгининг камайиши ёки ўсиши асосида идрок этилса, маъновий даражаланиш яққол англашилади[4,121]. Даражаланиш қатори аъзолари камида учта бўлади. Манбаларда градуонимик луғавий қаторни ажратишнинг лисоний омили сифатида қуйидагилар кўрсатилади:

а) маъновий омил;

б) сўзлараро парадигматик муносабат.

Градуонимик қаторни ажратишдаги маъновий омилнинг моҳияти шундаки, бир қатор лексемалар семемасида маълум бир белгининг оз-кўплиги, турли хил даражаларига ишора мавжуд. Масалан, *дарча-эшик-дарвоза* лексемасининг «Ўзбек тили изоҳли луғати»даги изоҳини кузатайлик:

1. Дарча - илгари вақтларда дераза вазифасини ўтаган бир ёки қўш тавақали, эшик ёки деворга ўрнатилган кичкина эшикча.

2. Эшик - уй, хона, бино ёки ҳовлининг кираверишида ўрнатилган очиб-ёпиб туриладиган мослама.

3.Дарвоза - ҳовли, қўрғон, қалъа, завод ва шу кабиларга кириладиган, очиб-ёпиладиган катта эшик, қопқа.

Ажратилган сўзлар миқдорий кўрсаткичларни ифодаловчи лексемалардир. Бу [*дарча*] лексемаси изоҳидаги (*кичкина*) ва (*эшикча*) сўзлари, [*дарвоза*] лексемаси изоҳидаги [*катта*] сўзи.

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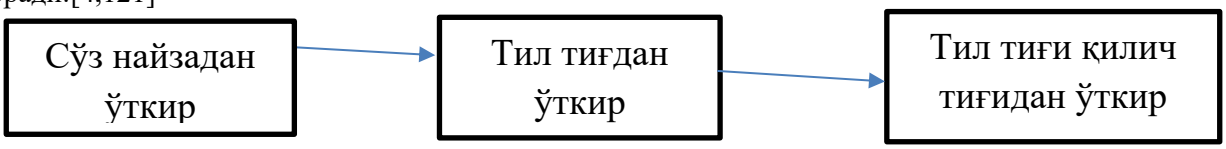
Тил нутқ мавзувий гуруҳига кирувчи мақоллар орасида ҳам даражаланиш муносабатлари кузатилади. Буни қуйидаги мисолларда кузатамиз.

Қуйидаги мақоллар маъноси бир-бирига яқинлиги билан маънодош мақоллар бўлиши билан бирга даражаланиш – маънонинг ортиб бориш хусусиятига ҳам эга. Маъно чапдан ўнгга қараб ортиб боради:[4,121]



Барча мақолда ҳам тилнинг қиличдан ўткирлиги таъкидланади. Биринчи ва иккинчи мақолдаги *сўз* ва *тил* лексемалари айни маънода қўлланмоқда. Биринчи мақолда *найзадан* ўткирлиги таъкидланса, иккинчи мақолда *тиғдан* ўткирлиги айтилади. Бу ерда предметнинг нозиклашиши эвазига маъно кучайиши кузатилади. Учинчи мақолда эса тилнинг тиғи қиличнинг тиғи билан қиёсланиши эвазига маъно янада нозиклашган, кучайган. Шундай қилиб, ушбу мақоллар даражаланиш қаторини ҳосил қилиб, ўзаро градуонимик муносабатга киришган деган хулосага келиш мумкин.

Луғавий градуонимик қаторни ажратиш учун маъновий омил ўзаро яқин тушунчани ифодаловчилар сирасидаги ҳар бир лексемада маълум бир белгининг турлича даражаланишига ишора мавжудлигида намоён бўлади. Шу асосда маъновий омилнинг ўзи икки турга бўлинади:

1) бир-бирига яқин ва ўхшаш тушунчани ифодалаши;

2) айни бир белгининг турли хил миқдорига ишора қилиши.

Қуйида бошқа мисолни келтирамиз.

Яхши сўз – юрак ёғи,
Ёмон сўз – юрак доғи.
Яхши сўз – юракка малҳам,
Ёмон сўз – юракка ғам.

Бу мақолларда ҳам яхши сўз ва ёмон сўз таққосланган. Эътибор берилса, мақолда *яхши, ёмон, юрак* сўзлари такрорланган. *Малҳам // ёғ, доғ //ғам* сўзлари эса бу паремиологик бирликлар орасида синонимияни ҳосил қилган. Шу билан бирга, маънонинг ўсиб бориши ҳолати ҳам кузатилади. Мақолларда айни бир мазмун ифодаланган, аммо *юракка доғ* бирикмасига нисбатан *юракка ғам* бирикмасида ҳиссий-экспрессив бўёқ нисбатан кучли. Демак, маъно биринчи бирликдан иккинчи бирликка қараб ўсиб боради.

Градуонимик қатор луғавий парадигмага қўйиладиган қуйидаги талабнинг барчасига жавоб берди:

1) луғавий парадигманинг битта етакчи лексема (доминанти) атрофида бирлашиши;

2) луғавий парадигманинг очиқлиги;

3) луғавий парадигманинг бошқа каттароқ парадигма таркибига етакчи лексема билангина кириши;

4) луғавий парадигмадаги қуршов лексеманинг доминант лексема билан осонликча алмаштирила олиши [4,121].

1.Яхши сўз ийдирар, Ёмон сўз бездирар.
2.Яхши сўз суюнтирар, Ёмон сўз куюнтирар.
3.Яхши сўз бўлдиради, Ёмон сўз куйдиради.
4.Яхши сўз кулдирар, Ёмон сўз ўлдирар.

Юқоридаги тўрт мақолда *яхши сўз* ва *ёмон сўз* таққосланар экан, *яхши сўз*га нисбатан *ийдирар, суюнтирар, бўлдирар, кулдирар* ҳолат феъллари ишлатилса, *ёмон сўз*га нисбатан *бездирар, куюнтирар, куйдирар, ўлдирар* ҳолат феъллари ифодаланган. Феълларни кузатиш шуни кўрсатадики, феъллар ўзаро айни маънони ифода этмаса-да, ҳаракат-ҳолатни билдиришига кўра маъно кучайиб боради. Шу нуқтаи назардан, юқоридаги мақолларни градуонимик муносабат касб этган деган хулосага келиш мумкин.

1.Тил яхшиси бор этар, Тил ёмони хор этар.
2.Узун тил – бошга тўқмоқ, Бўйинга – сиртмоқ.
3.Узун тил – умр заволи.

Ушбу мақолларда биринчидан учинчига қараб тили узун, тили ёмон кишининг тили ёмонлик олиб келиши таъкидланар экан, учинчи мақолда узун тил умрнинг заволи эканлигигача маъно ўсиб борган. Биринчи мақолда ифода юмшоқроқ, яъни узун тил кишини хор этиши, иккинчи мақолда

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бошга тўқмоқ бўлиши, учинчи мақолда умрга завол бўлиши, ўлимга олиб келиши айтилади. Кўриняптики, мақолларда маъно даражаланяпти.

Градуонимик муносабатлар ўзбек ва инглиз тилларида ўзаро эквивалент бўлган мақолларда баравар учраши ҳолатлари ҳам кузатилади. Масалан, ўзбек тилидаги *“Сукутда ҳикмат кўп, Булутда – ҳиммат”* мақоли ақлли, доно одам бошқалар олдида кўп гапирмасдан, сукут сақлаб туради деган мазмун англашилади. *“Сўз – кумуш, Жим ўтириш – олтин”*мақолида ҳам ифода шакли бошқа бўлгани билан, айни маъно ифода этиляпти. Ушбу синонимик қаторда маъно биринчи мақолдан иккинчисига қараб ортиб боряпти.

Инглиз тилидаги *Speech is silvern, but silence is golden (*Таржимаси: Нутқ кумуш, сукунат эса олтиндир*), There is a time to speak and a time to be silent* (Таржимаси: Гапиришнинг ҳам, сукутнинг ҳам ўз вақти бор) мақоллари ўзбек тилидаги юқорида кўрсатилган мақолларга эквивалент. Айни пайтда бу икки мақол ўзаро маънодош, шу билан бирга, маънонинг ўсиб бориши ҳам кузатилади:

1.There is a time to speak and a time to be silent.

2.Speech is silvern, but silence is golden.

Гапиришнинг ҳам, сукутнинг ҳам ўз вақти бор деб таржима қилинувчи биринчи мақолда нисбатан услубий бетараф ифодаланган. *Нутқ кумуш, сукунат эса олтиндир* сифатида таржима қилинувчи иккинчи мақолда эса ҳиссий-бўёқдорлик кучли. Нутқ кумушга, сукунат олтинга ўхшатилган. Натижада, бу мақоллар орасида градуонимик муносабат юзага келган.

Антонимия лексемалар орасидаги зидлик муносабатидир: [*катта*] - [*кичик*], [*ёш*] - [*қари*], [*митти*] - [*улкан*], [*оқ*] - [*қора*] ва ҳоказо. Антоним лексемаларнинг умумий, бирлаштирувчи семаси билан бир қаторда, қарама-қарши семаси ҳам бўлиши лозим. Масалан, [*катта*] ва [*кичик*] лексемалари умумий – «сифат», «кўлам» семаси билан бирга, қарама-қарши – «нисбатан ортиқ» ([*катта*]) ва «нисбатан катта бўлмаган» ([*кичик*]) семасига ҳам эга. Ёки [*қиш*] – «йилнинг энг совуқ фасли», [*ёз*] – «йилнинг энг иссиқ фасли», [*кирмоқ*] – «ичкарига ҳаракатланмоқ», [*чиқмоқ*] – «ташқарига ҳаракатланмоқ». Антоним лексемалар асосида борлиқдаги қарама-қарши ҳодисанинг инъикоси бўлган қарама-қарши тушунча ётади. Антоним лексемалар бир турга кирувчи гипоним лексемалар: [*иссиқ*]-[*совуқ*] (ҳаракат), [*катта*]-[*кичик*] (ҳажм), [*эркак*]-[*аёл*] (жинс) ва ҳоказолар [4,128].

Олимлар антонимларнинг мантиқий асосини икки тур қарама-қаршилик ташкил этишини таъкидлашади:

а) контрар қарама-қаршилик;

б) комплементар қарама-қаршилик [4,146].

Контрар қарама-қаршилик – даражаланувчи лексема қаторидаги тафовутнинг фарқларга, фарқнинг зиддият, яъни қарама-қаршиликка ўсиб бориши натижасида биринчи аъзо билан охирги аъзонинг антонимлашуви. Масалан, [*кичик*]–[*ўрта*]-[*катта*], [*ёш*]-[*ўсмир*]-[*ўрта ёш*]-[*қари*] каби. Бунда [*кичик*] ва [*катта*], [*ёш*] ва [*қари*] лексемалари даража қаторининг икки қарама-қарши қатори аъзолари ўртасида икки антоним аъзо белгиларини ўзида мужассамлаштирган боғловчи бўғин. Юқоридаги [*ўрта*] лексемасида [*кичик*] ва [*катта*] лексемаларининг қарама-қаршилиги сўнади. Демак, лексемаларнинг контрар қарама-қаршилигини уларнинг даражаланиш (градуонимик) қаторидан излаш лозим [4,148].

Комплементар антонимияда қарама-қаршилик учинчи, оралиқ бўғинсиз бўлади: [*рост*]-[*ёлғон*], [*арзон*]-[*қиммат*], [*осон*]-[*қийин*]. Бу лексемалар орасида оралиқ учинчи лексема йўқ.

Мақолларда антонимия ҳолати икки хил тартибда учрайди:

1) мақол ичида кўпинча жумлалар антонимлик ҳосил қилади;

2) мустақил мақоллар маънодошлик касб этади.

Таъкидлаш жоизки, биринчи ҳолат жуда кўп учрайди. Буни қуйидаги мақоллар мисолида таҳлил қиламиз.

1. Тил яраси битмас, тиғ яраси битар.

2. Дуо олган кўкарар, Туҳмат олган оқарар.

3. Дуо олган омондир, Қарғиш олган ёмондир.

Мисоллардан кўриняптики, бу мақоллар қўшма гап структурасига эга. *Битар/битмас, дуо/туҳмат, дуо/қарғиш* каби антоним бирликлар гапнинг мазмунида ҳам ўзаро зидлик хусусиятини олиб кирган.

“Хабар – шамолдан тез”, “Хушхабарнинг қаноти бор” каби маънодош мақоллар мазмунан *“Ёмон сўзнинг қаноти бор”*мақоли билан ўзаро зид маънолилик ҳосил қилади. Чунки бир мақолда хушхабарнинг тез тарқалиши таъкидланса, иккинчи мақолда ёмон сўзнинг ҳам қаноти бўлиш, яъни тез тарқалиши айтилади.

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Хулоса. Хулоса сифатида шуни таъкидлаш керакки, ўзбек ва инглиз тилларида мақоллар орасида энг кўп тарқалган маъновий муносабат синонимиядир. Кўп ҳолларда синоним мақоллар орасида градуонимлик ҳам кузатилади. Антонимия кўпинча, қўшма гап тузилишли мақолларнинг содда гаплари орасида, айрим ҳолатларда мустақил мақоллар орасида ҳам кузатилади.

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O‘ZBEK ERTAKLARIDA ANTROPONIMLARNING LINGVOMADANIY ASOSLARI

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Annotatsiya. *Ushbu maqolada tilning jamiyatda tutgan o‘rni, uning inson hayoti va ijtimoiy holatidan darak beruvchi jihatlari haqida ma’lumot berilgan.*

Maqolada madaniyatning til bilan bog’liq tomonlari xususida, shu bilan birga, madaniyat terminiga berilgan ta’riflar haqida ko‘proq ma’lumotlar keltirilgan.

Har bir elat vakllari bir millat sifatida shakllanishi uchun juda uzoq va mashaqqatli yo‘lni bosib o‘tishi barchaga ma’lum. Ana shunday uzoq tarixga ega bo‘lgan millat o‘zining urf-odatlariga, milliy an’analariga, ega bo‘lishi, uni boshqa millat vakllaridan farqlovchi muhim belgisidir. Shu o‘rinda aytish joizki, har bir millatning taraqqiy topishida xalq madanyati, tili, adabiyoti, tarixi bayon etilgan.

Kalit so‘zlar: *Til, madaniyat, antroponim, ism, nom, xaq madaniyati, xalqning madaniy qarashlari.*

ЛИНГВОКУЛЬТУРНЫЕ ОСНОВЫ АНТРОПОНИМОВ В УЗБЕКСКИХ СКАЗКАХ

Аннотация. *В данной статье представлена информация о роли языка в обществе, его аспектах, которые указывают на жизненный и социальный статус человека.*

В статье дается много информации о языковых аспектах культуры, а также определение термина культура.

Всем известно, что представители каждой нации проходят очень долгий и трудный путь формирования нации. Наличие у нации с такой многовековой историей своих обычаев и национальных традиций является важной чертой, отличающей ее от представителей других народов. Здесь следует сказать, что констатировано значение национальной культуры, языка, литературы, истории в развитии каждой нации.

Ключевые слова: *Язык, культура, антропоним, имя, имя, реальная культура, культурные представления народа.*

LINGUOCULTURAL BASES OF ANTHROPONYMS IN UZBEK FAIRY TALES

Abstract. *This article provides information about the role of language in society, its aspects that indicate human life and social status.*

The article provides a lot of information about the language-related aspects of culture, as well as the definition of the term culture.

It is known to everyone that the representatives of each nation go through a very long and difficult path to form a nation. The fact that a nation with such a long history has its customs and national traditions is an important feature that distinguishes it from representatives of other nations. At this point, it should be said that the importance of national culture, language, literature, and history in the development of each nation has been stated.

Key words: *Language, culture, anthroponym, name, name, real culture, cultural views of the people.*

Kirish. Ma’lumki, til – ijtimoiy hodisa. U aloqa vositasi. Tilsiz hech bir jamiyat hozirgidek rivojlana olmas edi. Shu jihatdan til madaniyat bilan uzviy bog‘liqdir. Hozirda barcha xalqlarning, avvalo, o‘zaro muomala madaniyati, iqtisodiy-siyosiy, ilmiy-madaniy aloqalari, qolaversa, xalqaro ahamiyatdagi munosabatlari til va madaniyatning uyg‘un holda aks etishi barcha xalqlarga xos bo‘lgan xususiyatlardan biridir. Ana shunday uyg‘unlikni tadqiq etish maqsadida XX asr oxirlariga kelib tilshunoslik fanida yangi yo‘nalish lingvokulturologiya – lingvomadaniyatshunoslik fani vujudga keldi. Bu fanning tadqiq maydoni shundan iboratki, u til va madaniyat munosabatlarini o‘rganadi[1, B.7-8].

Til imkoniyatlari muloqot jarayonida yuzaga chiqadi. U muloqot ob’ekti sifatida lisoniy jamiyatning lingvokulturologik imkoniyatlari, sotsial xususiyatlari bilan uyg‘unlashadi. Lingvokulturologiya ob’ektining shakllantirilishi va taraqqiyotida V.Fon Humboldt, Y.L.Veysgerber, E.Sepir, V.N.Teliya,

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E.M.Vereshchagina, V.G.Kostamorova, V.V.Vorobyov, V.A.Maslova, A.Vejbitskaya va V.I.Karasiklarning alohida o‘rni bor.

Hammamizga ma’lumki, ism inson hayotida muhim ahamiyatga ega. Ayniqsa, o‘zbek xalqida ismlarning o‘rni va mohiyati boshqa xalqlarda bo‘lgani kabi ancha kengroq ildizga egadir. Qadim-qadimdan ota-bobolarimiz farzandlariga ism qo‘yishar ekan, kelajakda uning baxt-u kamoli mana shu ismiga ham bog‘liq degan qarashlarga ishonishgan. Hattoki, chaqaloqqa ism qo‘yish uchun yoshi katta, hayot tajribasiga ega bo‘lgan nuroniylardan iborat marosimlar ham o‘tkazilgan. Bunday marosimlar hozirgi kunda ham davom etib kelmoqda. Bu xalq tilida “aqiqa” deb nomlanadi.

“Aqiqa” yoki “aqiyqa” so‘zi lug‘atlarda “yordi” ma’nosini anglatishi aytilgan. Bu so‘z aslida yangi tug‘ilgan bolaning sochiga nisbatan qo‘llanilgan. Islom shariati ta’limotlariga muvofiq bola tug‘ilgandan so‘ng yettinchi kuni chaqaloqning sochi olinishi kerak. Ana o‘sha soch boshdan ajratib olingani uchun “aqiyqa” deyiladi (ba’zi joylarda bu marosim “soch to‘yi” deb yuritiladi). Biroq ba’zan iste’molda “aqiqa” deganda, faqat “yangi farzand tug‘ilishi munosabati bilan so‘yiladigan qo‘y” tushuniladi.

Hadislarda “G‘ulom ila aqiyqa bordir”, – deyiladi. Bundan har bir yangi tug‘ilgan bolaga aqiqa qilish lozim, degan fikr anglashiladi.

Demak, Aqiqa marosimi, bola tug‘ilganining yettinchi kuni nishonlanib, unda chaqaloq sharafiga qo‘y so‘yiladi, bolaning sochi olinadi va unga atab munosib ism ham tanlab qo‘yiladi [2, B.32]. Shundan kelib chiqqan holda respublikamizning ba’zi joylarida bola uchun o‘tkaziladigan aqiqa marosimi to‘g‘ridan-to‘g‘ri “Ism to‘yi” yoki “Ot to‘yi” deb yuritiladi.

Bunday marosimlar o‘tkazilishining yana bir sababi – xalqimizning so‘z sehriga ishonishi, ya’ni “so‘zda sehr bor” qabilida ish tutishi azaldan mavjud bo‘lgan. Tanlangan ismning bola ruhiyatiga ta’siri kattaligiga ishonishgan. Unga yaxshi nom qo‘yishni, xususan, hayoti davomida ko‘plab ezgu ishlari bilan xalqimiz qalbidan joy olgan kimsalarning ismini yoki boshqa tarixiy shaxslar, adiblar, payg‘ambarlar ismini bolaga qo‘yilishi urf bo‘lib kelgan. Bundan ko‘zlangan maqsad – chaqaloqning kelajakda oliyjanob, insofli, iymonli, umuman olganda, ijobiy inson bo‘lib voyaga yetishiga ishonishgan. Mana shunday odat jahonning boshqa xalqlari qatorida o‘zbek xalqida ham mavjud va hozirgacha saqlanib qolmoqda.

Xalqimizda har bir xonodonda bolaning tug‘ilish vaqti, davri, holati yoki ota-onasining diniy qarashlari ta’sirida unga nom qo‘yishi asrlar davomida avloddan avlodga o‘tib kelayotgan meroslardan biridir. Bunday til va madaniyat o‘rtasidagi bog‘liqlikni o‘rganish lingvokulturologiyaning qirralaridan biridir.

O‘zbek xalq ertaklari antroponimlari tizimidagi Bektemir, Sherzod, Rustam, Qilichqora, Odilshoh kabi ertak ismlari nomlash xususiyati bilan birga, badiiy nom sanaladi. Shu sababli bunday antroponimlar fanda “antropoetonim”lar deb yuritiladi.

“Shahzoda Asad” ertagida Asad, “Hasan va Zuhra” ertagida Gulbahor, Tongguli, Gulchehra, “Ziyodbotir” ertagida Qamarxon (qiz bola ismi), “Quyosh yerining pahlavoni” ertagida Olmagul va Anorgul (qiz bola ismi), “Sunbul bilan Gul” ertagida Sunbul va Gul kabi antroponimlar bolaning qaysi oyda yoki qaysi faslda tug‘ilganini aks ettirsa, “Uch og‘ayni botirlar” ertagida To‘ng‘ich botir, O‘rtancha botir, Kenja botir, “Erkenja” ertagida Erkenja kabi antroponimlar bolaning oilada aka-ukalari orasidagi tug‘ilish navbati bilan bog‘liq o‘rnini ifodalaydi.

“To‘qliboy” ertagida Gultoji, Gulnora, Gullola, Oyxon, “Farhod va Shirin” ertagida Guliqahqah, “Yaltillama sopol tovoq” ertagida Gulparax “Sherzod va Gulshod” ertagida Gulshod, “Bektemirbotir” ertagida Oqbilak, “Hasan va Zuhra” ertagida Gulbahor “Uchar gilam” ertagida Gul “Qilichbotir” ertagida Oqbilakoyim, “Qorasochpari” ertagida Qorasochpari, “Gulshoh va Varqa” ertagida Gulshoh kabi antroponimlarda kelajakda bola go‘zal, nafosatli, dilbar inson bo‘lishini Ollohdan so‘rash maqsadini o‘zida aks ettirgan. Shu bilan birga, xalq og‘zaki ijodining “Zumrad va Qimmat” ertagida Zumrad xuddi xalqimiz leksikasidagi Kumush, Kumushoy kabi ismlar singari go‘zallik ramzi bo‘lmish qimmatbaho ma’danlar nomiga nisbat berish orqali nomlangan. Bu ismlarda insonning hayotdagi qadri, o‘rni, martabasi baland bo‘lishini istash ma’nolari a’yonlashadi. “Ayiqpolvon” ertagida Xolpolvon, “Ziyodbotir” ertagida Ziyodbotir, “Yamoqchi va shog‘arib” ertagida Xoldor kabi ismlar bilan nomlangan chaqaloqlarning biror joyida qizil yoki qora xoli bo‘ladi yoki tanasining biror qismida ortig‘i bo‘ladi[3, B.123]. Bunday xolning bola tanasida ko‘payib ketmasligi uchun atayin shunday ismlar bilan nomlashadi.

“Beshqiz” ertagidagi Xo‘jatursun antroponimi semantikasida ikkita ma’no aks etadi. Xo‘jatursun leksemasi ikki tarkibli bo‘lib, xo‘ja+tursun tarzida o‘rinlashgan. Bu leksemaning birinchi qismida shu nom ifodalagan shaxsning nasl-nasabi, xo‘ja qavmidan ekanligi oydinlashayotgan bo‘lsa, ikkinchi tarkibida dunyoga kelgan farzandlari voyaga yetmasdan nobud bo‘layotgan oilada yangi tug‘ilgan bolaga o‘sib-unsin, sog‘-salomat kamol topsin deb, shunday nom qo‘yishadi. Bu esa yuqorida aytishgandek, so‘zda sehr borligiga ajdodlarimiz ham ishonishganligiga yana bir dalildir.

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Yuqoridagi fikrlarga qo‘shimcha tarzida aytish lozimki, o‘zbek antroponimlarining katta qismini diniy tushuncha va aqidalar bilan bog‘liq qarashlar ta’sirida shakllangan antroponimlar tashkil etadi. Bunday ismlardan juda ko‘plab misollar keltirish mumkin. “Bo‘ri bilan tulki” ertagida Karimbobo, “Tohir va Zuhra” ertagida Xadicha, “Orzijon bilan Qambarjon” ertagida Sulaymon payg‘ambar, “Beshqiz” ertagida Karomatxon, Hazrat Ali, G‘ulomboy, “Luqmoni hakim” ertagida Toyirjon, “Hotam” ertagida Qosim, “Navoiy bilan cho‘pon” ertagida Navoiy, “Ibn Sino va jinni” ertagida Abu Ali ibn Sino, Nazar, “To‘lg‘anoy” ertagida Ollonazarbotir, So‘fibek, Abdulazizshoh, “Xurshid bilan Laylo” ertagida Abdukarim kabilar shular jumlasidandir.

Xarakter-xususiyati, xatti-harakatiga qarab: “Tuhmat balosi” ertagida Olim chaqqon, “Boqimumsik bilan Soqimumsik” ertagida Soqi Mumsik, Boqi mumsik, “Baxtli kal” ertagida Guliqahqah, “Hotam” ertagida Nishonboy, “Arab laqqi” ertagida Arab laqqi kabi antroponimlar keltirilgani kuzatiladi.

Bu misollardan ma’lum bo‘ladiki, ajdodlarimiz bolaga ism qo‘yishda muayyan maqsadni ham ko‘zlashgan. Mana shu maqsad bolaga ism tanlash uchun yuqori motiv hisoblanadi. Shu tufayli antroponimlar millatning, xalqning urf-odat va an’analari, dunyoqarashi, madaniyatini o‘zida aks ettiradi. Yuqorida ta’kidlaganimizdek, ismlar shaxslarni o‘zaro farqlash vazifasidan tashqari, ism beruvchining ham muayyan maqsadini ifodalaydi.

Shu bilan birga, lingvokulturologiya fani milliy madaniyatga daxldor bo‘lgan mohiyatni aks ettiruvchi tushunchadir. Til va madaniyat yaxlitligi va ularning hodisalari majmuyi etnolingvistikaning tarkibiy qismi bo‘lgan lingvomadaniyatshunoslikning o‘rganish obyekti sifatida shakllandi.

V.V.Vorobyovning ta’kidlashicha, “…lingvokulturema sathlararo va sohalararo majmuaviy hodisa, uning shaklini lisoniy belgi, mazmunini esa lisoniy ma’noda mujassamlashgan madaniy mazmun tashkil etadi. Lingvokulturema tahlilida tadqiqotchi madaniy xususiyatni ifoda etuvchi lisoniy vositalar mazmuniga ko‘proq e’tibor qaratadi” [4, B. 331].

I.T.Olshonskiyning fikricha: “lingvokulturema sifatida madaniy mag‘izni yaqqol ifodalaydigan va u bo‘rtib turadigan so‘zlar – jonivor, o‘simlik, shaxs nomlari va, asosan, ularning metaforik ko‘chma ma’nolari, maqol, matal, iboralar, faqat bir tilgagina xos bo‘lgan tushunchalarni ifodalovchi leksika, tilning uslubiy, etnik, sotsial, gender xoslangan ifodalar, mifologik mazmunga ega lisoniy birliklar, urf-odat, ritual va marosim, nutqiy axloq va odob yaqqol namoyon bo‘ladigan til ifodalari tekshiriladi” [5, B.55].

O‘zbek lingvofolkloristikasida ism bilan bog‘liq xalq qarashlari va ularning ertaklardagi lingvopoetik talqini, ismlarga aloqador xalq e’tiqodiy tushunchalarining mohiyati, marosimlarda aks etishi va ism qo‘yish motivining ertaklar syujetiga singdirilish asoslari, bu motivning xalq ertaklaridagi o‘rni hamda vazifalari masalasi alohida maxsus tadqiq qilingan emas. To‘g‘ri, epik qahramonning nomlanishi haqida ayrim ertak, afsona va dostonlar bo‘yicha yaratilgan ayrim tadqiqotlarda yo‘l-yo‘lakay munosabat bildirib o‘tilgani ko‘zga tashlanadi. Ammo bu masala alohida tadqiq predmeti sifatida hali o‘rganilmagan.

Qadimgi zamonlardan beri odamlar dunyoga kelgan chaqaloqqa ism qo‘yishda muayyan udumlarga, qoidalarga qat’iy amal qilgan. Negaki, qadimgi insonlar tasavvuricha, ism – tananing bir qismidir. Hatto ismlar bilan bog‘liq tabular shakllangan [6, B.38-39]. Tug‘ilgan bolaga ism qo‘yishda donishmandlarga, avliyolarga murojaat qilingan. Maxsus kitoblardan foydalanilgan. Bunda, albatta, bolaning qaysi sulolaga mansubligi, ijtimoiy kelib chiqishi, vaqti, sog‘lomligi, tanasining rangi, ko‘rinishi, qaerda va qachon tug‘ilgani kabilar e’tiborga olingan.

Bir so‘z bilan aytganda, bolaga ism qo‘yish nihoyatda jiddiy va mas’uliyatli vazifa sifatida qaralgan. Bu haqda dono xalqimiz fikri quyidagicha: “Farzandning burchi o‘lchovsiz, behaddir; ota-onaning esa farzand oldida uch muqaddas qarzi bor: go‘zal ism berish, yaxshi tarbiya qilish va boshini ikkita qilib qo‘yish…”

Xalqimizning uzoq asrlar davomida oilada bolani o‘stirib tarbiyalashda to‘plagan o‘ziga xos bilim va tajribalari u bilan bog‘liq marosimu urf-odat va an’analarda o‘z aksini ko‘rsatadi. Zero, xalq orasida bola hayotidagi har bir o‘zgarish alohida marosimlar bilan qayd qilib borilgan. Jumladan, bolaning ilk bor oyoq bosishi, qadam tashlashi, tili chiqishi, tishi chiqishi – barcha-barchasi maxsus tadbirlar ko‘rinishida nishonlab borilgan. Ana shundan xalqimiz orasida bolalar hayoti bilan bog‘liq “Soch to‘yi”, “Tish to‘yi”, “Oyoq to‘yi” kabi to‘ylar shakllangan [6, B.95].

O‘zbek oilalarida ko‘pincha ketma-ket tug‘ilgan, ya’ni xalq tili bilan aytganda, sut ustiga tug‘ilgan aka-uka va opa-singillarga o‘zaro uyqashtirib ism qo‘yish odati bor. “To‘qliboy” nomli o‘zbek xalq ertagi boshlanishida aynan ana shu udumga ishora qilib o‘tilganini kuzatish mumkin. Unda hikoya qilinishicha, qadim zamonda O‘zgan shahrida To‘ydiboy degan bir odam o‘tgan ekan. U odam juda badavlat ekan. Ammo tirnoqqa zor ekan. Xotinlari tug‘mas ekan. O‘sha shaharda Salimboyvachcha degan bir odam yasharkan. Salimboyvachchaning Qumrixon nomli oqila bir qizi bor ekan. Ko‘p chiroyli qiz ekan. To‘ydiboy shu qizga g‘oyibona oshiq bo‘libdi. Uning ketidan bir qancha sovchi kampirlarni qo‘yib, ko‘p pullar sarf

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qilib, unga uylanibdi.

Oydan oy, kundan kun o‘tib Qumrixonning bo‘yida bo‘libdi. To‘qqiz oy, to‘qqiz kun o‘tganda bir bola tug‘ibdi. Otini Qo‘ldosh qo‘yibdi. Oradan ikki-uch yil o‘tgandan keyin u yana bir o‘g‘il tug‘ibdi. Unga Yo‘ldosh deb ot qo‘yibdi. To‘ydiboy qariganda ikki o‘g‘ilning otasi bo‘lganidan boshi osmonga yetib, el-yurtga karnay-surnay qo‘ydirib, odamlarni osh-nonga to‘ydirib, uloqni choptirib, to‘y-tomoshalar qilib beribdi. Qo‘ldosh bilan Yo‘ldosh birin-ketin o‘saveribdi. Kelajakda ham bu aka-ukalar biri ikkinchisiga qo‘ldosh (qo‘llovchi) va yo‘ldosh (hamroh, hamfikr, hamdard, sirdosh) bo‘libdi. Shu tariqa ota-onaning murodi ham amalga oshibdi.

Aka-ukalarga uyqash ism qo‘yish odati “Sunbul bilan Gul” ertagi qahramonlarining nomi misolida ham kuzatiladi. Qadim zamonda bir boy bor ekan. U xotini bilan juda ham ahil va xushvaqt umr kechirar ekan. Boyning ikki o‘g‘li bor ekan. Kattasining ismi Sunbul, kichigining ismi Gul ekan.

Ma’lumki, xalq orasida egizaklarga qo‘yiladigan maxsus ismlar bor. Agar egizaklarning har ikkalasi o‘g‘il bola bo‘lsa, ulardan birinchi tug‘ilganiga Hasan, ikkinchi tug‘ilganiga Husan ismi qo‘yiladi. Agar egizaklarning har ikkalasi qiz bolalar bo‘lsa, qizaloqlarning kattasi Fotima, kichigi Zuhra nomini oladi. Ba’zan esa egizaklarning biri o‘g‘il, biri qiz tug‘iladi. Bunday holatlarda ularga Hasan-Zuhra yoki Fotima-Husan nomlari qo‘yiladi. Ammo ayrim hollarda ba’zi kishilar shu odatni buzib, egizaklarga o‘z bilganicha ot qo‘yadi. Natijada bolalar boshiga turli kulfatlar yog‘iladi. Xuddi shunday voqelikka ishora “Hasan va Hurliqo” dostoni syujetida uchraydi.

Demak, xulosa qiladigan bo‘lsak, o‘zbek xalq ertaklari antroponimlari tizimi tilning boshqa birliklari singari lingvokulturologiyaning asosiy pridmetlaridan biri. Antroponimlar zamirida jamiyatning o‘tmishi va kelajagi, buguni va ertasi o‘z aksini topadi.

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VOBKENT TUMANI SHEVASIDA SO‘ZNING MORFEMIK TARKIBI

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Annotatsiya. Shevalardagi so‘z yasalishi lisoniy ong shakli sifatida etnosning o‘ziga xos turmush tarzi, sharoiti, qolaversa, tabiiy-geografik, tarixiy, madaniy-ma’rifiy omillar bilan bog‘liq holda uzoq tarixiy jarayon mahsuli sanaladi. Tadqiq etilayotgan sheva hududi morfologik xususiyatlarining o‘ziga xosligi qator etnolisoniy omillar bilan bog‘liq. Xususan Buxoro hududiga fors-tojik tilining ta’siri juda kengdir. O‘zbek va tojik xalqlari juda uzoq davrlardan beri birga yonma-yon yashab kelmoqda. Hududning yonma-yon ekanligi ijtimoiy-siyosiy munosabatlarning aralashuvidan tashqari til birliklarining almashtirib qo‘llashga shu bilan birga grammatikaning ikki til xususiyatlariga moslashishiga sabab bo‘lgan. O‘zaro munosabatlar natijasida o‘zbek tilidan tojik tiliga, tojik tilidan o‘zbek tiliga so‘zlar o‘zlashgan.

Kalit so‘zlar: Etnolisoniy omillar, tub vayasama so‘zlar, yasovchi asos, yasovchi qo‘shimcha, sheva, lahja, dialekt.

MORPHEMIC COMPOSITION OF A WORD IN THE DIALECT OF THE VABKENT DISTRICT

Abstract. The formation of words in dialects as a form of linguistic consciousness is the product of a long historical process in connection with the specific lifestyle and conditions of the ethnic group, as well as natural-geographical, historical, cultural and educational factors. The specificity of the morphological features of the studied dialect area is associated with a number of ethnolinguistic factors. In particular, the influence of the Persian-Tajik language on the territory of Bukhara is very widespread.The Uzbek and Tajik peoples have long lived side by side. In addition to the interference of socio-political relations, the proximity of the region led to the interchange of linguistic units and the adaptation of grammar to the characteristics of the two languages. As a result of the relationship, words were borrowed from Uzbek into Tajik, and from Tajik into Uzbek.

Keywords: Ethnolinguistic factors, root and artificial words, formative base, formative suffix, language, dialect.

МОРФЕМИЧЕСКИЙ СОСТАВ СЛОВА В ДИАЛЕКТЕ ВАБКЕНТСКОГО РАЙОНА

Аннотация. Формирование слов в диалектах как форма языкового сознания является продуктом длительного исторического процесса в связи со специфическим образом жизни и условиями этноса, а также природно-географическими, историческими, культурно-образовательными факторами. Специфика морфологических особенностей изучаемого диалектного ареала связана с рядом этнолингвистических факторов. В частности, очень широко влияние персидско-таджикского языка на территории Бухары. Узбекский и таджикский народы издавна живут бок о бок. Помимо интерференции общественно-политических отношений, соседство региона привело к взаимообмену языковыми единицами и адаптации грамматики к особенностям двух языков. В результате взаимоотношений слова были заимствованы из узбекского в таджикский, а из таджикского в узбекский.

Ключевые слова: Этнолингвистические факторы, корневые и искусственные слова, формообразующая основа, формообразующий суффикс, язык, диалект.

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Kirish. Vobkent tumani shevasi Buxoro gruppa shevalariga mansub. Ushbu maqolada Vobkent tumanida uchrovchi so‘zlarning tarkibiy xususiyatlari haqida so‘z yuritilgan. O‘zbek xalq shevalarining hozirgi holatini aniqlashda dialektlarining morfemik xususiyatlarini areal o‘rganish o‘zbek tili grammatik qurilishining lisoniy tabiatini belgilash uchun qimmatli materiallar berishi shubhasiz. Vobkent tumani shevalarida morfemik shakllarni qo‘llashda o‘ziga xos xususiyatlar mavjud. Bu, albatta, hududning joylashish o‘rni, tarixiy sharoiti, aholining etnik tarkibi va migratsiyasi, shuningdek, qo‘shni hudud shevalarining ta’siri bilan bog‘liq holda yuzaga kelgan. Mazkur hudud shevasining morfemik tuzilishini o‘zak morfema va sheva so‘zlarining yasalishida ko‘rish mumkin. Bunday hodisalar tahlilini jadvallar asosida izohlashga harakat qildik.

Asosiy qism. So‘zlar bir morfemadan iborat bo‘lishi mumkin. Bir morfemali so‘zlar faqat o‘zakdangina iborat bo‘lib, odatda tub so‘z hisoblanadi. Tub so‘zlarning asosiy xususiyati o‘zak va yasovchi morfemaga ajratilmasligidadir.

1. Tub so‘zlar

So‘z turkumi	**Tub so‘z**	**Tub so‘zning semasi**
Ot (narsa nomi)	*Shevan*	Xamir yoyish uchun ishlatiladigan asbob
Ot (faoliyat-jarayon nomi)	*Vag‘ir/ Vag‘ar*	Shovqin
Ot (faoliyat-jarayon nomi)	*Do‘rji*	Ko‘tarasiga savdo
Ot (zoonim)	*Cho‘g‘ri*	Itning bolasi
Ot (narsa nomi)	Sapkavoy	Qurilish asbobi
Ot (narsa nomi)	Saqob	O‘t o‘ruvchi asbob
Ot (faoliyat-jarayon oti)	Choqliq	Unashtiruv marosimi
Ot (narsa nomi)	Nargazi	Oshga to‘g‘ralgan sabzi
Ot (narsa nomi)	Paralon	Yenglik, yoqalik, paxtalik to‘n
Ot (narsa nomi)	Angara	Ko‘sak yuluvchi asbob
Ot (narsa nomi)	Tapchan	Yog‘och va taxtalar asosida supa sifatida yerdan ko‘tarib qo‘yilgan buyum
Ot (narsa nomi)	Paloch	Makkajo‘xorining o‘sish davridagi qismi
Ot (narsa nomi)	Mo‘za	Bo‘yi uzun etik
Ot (narsa nomi)	Magaz	Chivin
Ot (narsa nomi)	Mo‘ra	Ketmon dastasi
Ot (zoonim)	Tobichoq	Yumaloq, lo‘nda otga nisbatan qo‘llaniladigan nom
Ot (zoonim)	Dromedary	Bir o‘rkachli tuya
Ot (zoonim)	Chovkar	Ola bula otga nisbatan qo‘llaniladigan nom
Ot (narsa nomi)	Ibriq	Bo‘yni uzun ko‘za
Ot (faoliyat-jarayon oti)	Obozi	Suvda o‘ynash
Ot (narsa nomi)	Muhra	Yumaloq narsa munchoq
Ot (zoonim)	Sarka	Umumxalq tilida bichilgan bir yoshdan oshgan echki bolasi
Ot (narsa nomi)	Chag‘il	Mayda tosh
Ot (narsa nomi)	So‘qi	Daraxtdan tayyorlanib, jo‘xori, juvari kabi mahsulotlarni yanchishda ishlatiladi
Ot (narsa nomi)	O‘g‘ur	Katta hajmdagi mahsulotlarni ezishda ishlatiladigan asbob

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Ot (zoonim)	Jivriq	Tug‘ilganiga 5-10 kunlik bo‘lgan qo‘zichoq
Ot (narsa nomi)	Oboz	Aravalardan qilingan to‘siq, g‘ov
Ot (narsa nomi)	Xululi	Na’matak
Ot (zoonim)	Churak	Yovvoyi o‘rdak
Ot (zoonim)	Chibish	Echki sutining kamligi sababli sutdan qolgan echki bolasi
Ot (zoonim)	Jirriq	Toza tug‘ilgan qo‘zichoq
Ot (narsa nomi)	Soqoq	Baqbaqa
Ot (narsa nomi)	Tanqa	Yaylovda suv qaynatadigan idish
Ot (narsa nomi)	Raqoscha	Nimcha
Ot (narsa nomi)	Ashol	Podachiga berilgan xizmat haqqi
Ot (narsa nomi)	O‘rpan	Hech narsa ekilmaydigan bo‘z yer
Ot (narsa nomi)	Rajja	Yerni tekislovchi asbob
Ot (narsa nomi)	Qas	Belbog‘
Ot (narsa nomi)	Kulata	Sochni yig‘ib yuradigan qalpoq
Ot (narsa nomi)	Po‘dana	Yalpiz
Ot (narsa nomi)	Buchoq	Dukkakli o‘simlik
Ot (narsa nomi)	Chakalak	Terak
Ot (faoliyat-jarayon oti)	Chaqiddi	Kelinni to‘ydan keyin onasinikiga birinchi marta kelishi
Ot (narsa nomi)	biton>cha	suyuqlik solinadigan idish
Sifat (xususiyat sifati)	Yengish	O‘zining gapini ma’qullab turadigan odam
Sifat (hajm-o‘lchov sifati)	Po‘qqa	Semiz
Ot so‘z turkumi	Chaga	Qum
Sifat (xususiyat sifati)	Mattiq	Be’mani, behuda gapiradigan odam
Sifat (hid sifati)	Po‘rsi	Badbo‘y, yoqimsiz
Sifat (xususiyat)	Laganda	Ko‘rpachalarni tikib chiqish
Fe’l (holat fe’li)	Ho‘piqmoq	Havo yetishmasligi
Harakat nomi	Ijob	Nikoh qilish
Ot so‘z turkumi	to‘qli	Qo‘yning bolasi. Barradan keyingi davr, u qo‘y bolasining 6-12 oygacha bo‘lgan davri
Ot+ot	shish>ak	qoyning bolasi U to‘qlidan keyingi davr
Ot+ot	bavak>cha	chaqaloq bola
	zambir>cha	mitti ari
Ot so‘z turkumi	Gummik	Sovliq sutini emgani bois o‘sishdan qolgan qo‘zi
Ot so‘z turkumi	Kuya	Ichi qora odam
Ot so‘z turkumi	Mukki	Qo‘nji kalta etik
Ot so‘z turkumi	En	Chorva mollarining qulog‘ini kesib, belgi qo‘yish

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2.Yasama so‘zlar

Quyidagi so‘zlarni asos va qo‘shimchaga ajrata olganimiz, tarkibidagi qo‘shimcha yangi so‘z yasalishi uchun asos bo‘layotganligidir. O‘zbek xalq shevalari o‘zaro fonetik va morfologik ko‘rsatkichlari bilangina emas, tub va yasama so‘zlarning qo‘llanilishi, birida bor, ikkinchisida yo‘qligi, yasalish xususiyatlari bilan ham o‘zbek adabiy tili hamda shevalararo farqlarga ega. So‘z yasash qanday usul bilan bo‘lmasin, yangi so‘z hosil qilish demakdir, ya’ni yasama so‘zni yuzaga keltirishdir. Yasama so‘z tarkibidagi komponentlar (yasovchi asos va yasovchi qo‘shimcha) yasama so‘zning tuzilishini tashkil etadi. Yasama so‘zning ma’nosi shu so‘z tuzilishidagi yasovchi asos va yasovchi qo‘shimchalarning ma’nosi asosida kelib chiqadi. O‘zbek adabiy tilidagi yasama so‘zlar bilan shevalardagi yasama so‘zlar o‘xshash, bir xil bo‘lsa-da, shevalarda yana o‘ziga xos xususiyatlar asosida yangi-yangi so‘zlar yasalgan bo‘lib, o‘zbek adabiy tilidan farqlanadi. Chunki biror so‘z ma’lum bir qo‘shimchani qabul qilib, yasama so‘z hosil qilishini barcha shevalarga tarqalgan bo‘lishi yoki boshqa shevalarda uchramayotgan alohida bir sheva doirasida bo‘lishi mumkin. Bular quyidagi jadvalda aks etgan.

So‘z turkumi	**Yasama so‘z**	**So‘zning ma’noviy guruhi**
Ot (narsa nomi)	Nav>qon	Bug‘doy , arpa boshog‘i
Fe’l+ot	kesmal>dak	bargsiz,quruq tut novdasi
Sifat+ot	bo‘r>iq	makka poyasining mol-qo‘y yegandan so‘ng qolgan qismi
Fe’l+sifat	ozit>qi	yo‘ldan ozdiruvchi
Ravish+sifat	sal>qi	mahkam bog‘lanmagan
Ot+ot	Tirq>ish	Teshik
Ot+sifat	dast>aki	bola qo‘lga ilinadigan bo‘lgan davri
Fe’l+ot	to‘sha>m>cha	gilamchaning kichigi
Ot+ot	jon>liq	hayvonlarga nisbatan umumlashtiruvchi so‘z
Ot+ot	to‘b+i>choq	yumaloq , lo‘nda otga nisbatan qo‘llaniladi
Ot+ot	sabot>xona	Molxona
Ot+ot	go‘la>gir	uy tomiga xas-hashsak ypoilgach ,birinchi bor qilinadigan loysuvoq
Ot+ot	dul>cha	suyuqlik solinadigan idish
Fe’l+sifat	sin>ga	ko‘p bosib tashlangan yer
Fe’+ot	o‘r>pan	hech narsa ekilmaydiga bo‘z yer
Fe’l+ot	Chuq>a>loq	tovoq
Ot+ot	ser>optop	barvaqt o‘tkaziladigan janoza

Qo‘shma so‘zlar

Qo‘shma so‘zlar ikki so‘zning qo‘shilishidan hosil bo‘lgan so‘zlar, til taqozosi bilan talaffuzi o‘zgargan so‘zlarni ham kiritdik.

So‘z turkumi	**Qo‘shma so‘z**	**Qo‘shma so‘zning ma’nosi**
Sifat+ot	ko‘ktirnoq	Xasis
Sifat+ot	Bevazan	ersiz ayol
Fe’l+ot	Kashkort	O‘t o‘ruvchi asbob
Ot+son	soch ikkita	sunnat to‘yida bolaning onasini sochi ikkita qilib o‘rib qo‘yilishi
Ot+ot	arvoypir	erkaklar tomonidan

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		ishlarim o‘nglanib ketsin degan niyatda qishloq oqsoqollaridan dou olish uchun qilinadigan marosim
Son+ot	beshshammi	xotinlar yig‘ini
Son+ot	to‘qqiz to‘y	kelinga sep kelishi
Ot+ot	boyg‘azak	kelinga beriladigan narsa
Ot+fe’l	Otaqali	kattalarning gapiga aralashadigan bola
Fe’l+ot	Sanchigna	igna qadab qo‘yiladigan buyum
Ravish+fe’l	Peshbandak	Fartuk
Ot+ot	obiyovg‘on	piyoz suvidan ovqat
Ot+ot	Bodbezak	yelpig‘ich
Ot+ot	tog‘oyibobo	ota-onaning tog‘asi
Ot+ot	xolaposhsha	ota-onaning xolasi
Son+ot	to‘qqiz bolor	shipni asosini mahkamlab turadigan yog‘ochlar soni to‘qqizta bo‘ladi shuning uchun bu uy shunday ataladi
Ot+fe’l	hazorsupan	Isiriq
Ot+ot	laxcha to‘ppa	xamirli ovqat
Ot+ot	Poytesha	duradgorlar asbobi
Ot+fe’l	Javpazak	Olmaning turi (odatda kichik bo‘ladi)
Ot+fe’l	Gavvorabandon	Marosim nomi
Ot+fe’l	Chillagurezon	Marosim nomi
Ot+fe’l	Sarshuyon	Marosim nomi
Ot+fe’l	Raxtzanon	Marosim nomi
Ot+fe’l	Jomapo‘shon	Marosim nomi
Sifat+ot	Sho‘rva=sho‘r+oba	Taom nomi
Sifat+ot	Zardoli	Meva nomi
Ot+fe’l	Choygardon	Oshxona buyumi
Ot+fe’l	Go‘shko‘bak	Oshxona buyumi

Yuqoridagi so‘zlarning ba’zilar lug‘atlarda uchramaydi, ammo qo‘shma so‘zlarning bir qismi uchrab, birikmali qismini uchratmasligimiz mumkin. Masalan,**“ignaban”**so‘zini olaylik. Biz bu so‘zning *igna nina* kabi dialektlarini O‘zbek tilining izohli lug‘atida uchratishimiz mumkin. Shu so‘zdagi ikkinchi *ban* (ban tojik – bog‘lamoq) qismining qo‘shilishi bilan yangi bir buyum ma’nosini beradigan so‘z uchramaydi.

Xulosa. Bundan ko‘rinib turibdiki, o‘zbek xalq sheva va lahjalari o‘zida tilning o‘ta ko‘hna holatini, lug‘aviy, grammatik xususiyatlarini saqlab kelayotgandir. O‘zbek shevalari, morfologik jihatdan hududning o‘ziga xos ichki xususiyatlari asosida taraqqiy etgan va shakllangan uzoq tarixiy jarayon mahsuli sanaladi. Har bir mahalliy dialektning muayyan darajadagi o‘ziga xos grammatik xususiyatlari bor, shuningdek, unda ayni bir lahjaga oid bo‘lgan barcha dialektlar uchun umumiy bo‘lgan xususiyatlar ham mavjudki, ular shu hududning tarixiy sharoitlari,tillarning ta’siri va boshqa shu kabi omillar bilan izohlanadi.

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BOSH ISHTIROKIDAGI PARALINGVISTIK VOSITALAR XUSUSIDA

Annotatsiya. *Mazkur maqolada paralingvistik vositalarning jonli muloqot jarayonidagi ahamiyati bosh a'zosi ishtirokidagi birliklar yordamida ochib berilgan. O'zbekona asarlar va matnlar ichidan saralangan bosh ishtirokidagi noverbal vositalarning semantik xususiyatlari ochib berilgan.*

Kalit so'zlar: *lisoniy vositalar, nolisoniy vositalar, paralingvistik birliklar, jonli muloqot, mimika, paralingvistika.*

ABOUT PARTICIPATION OF PARALINGUISTIC TOOLS WITH HEAD

Abstract. *This article reveals the importance of paralinguistic tools in the process of live communication with the help of head participation. Semantic features of non-verbal means with the head selected from Uzbek works and texts are revealed.*

Keywords: *linguistic means, non-linguistic means, paralinguistic units, live communication, mimicry, paralinguistics.*

О ПАРАЛИНГВИСТИЧЕСКИХ СРЕДСТВАХ С УЧАСТИЕМ ГОЛОВЫ

Аннотация. *В данной статье раскрывается значение паралингвистических средств в процессе живого общения с помощью единиц с участием головы. Выявлены семантические особенности невербальных средств с участием головы, выбранных из узбекских произведений и текстов.*

Ключевые слова: *языковые средства, неязыковые средства, паралингвистические единицы, живое общение, мимика, паралингвистика.*

Kirish. Lisoniy vositalar, shubhasizki, axborot almashinuv jarayonining eng muhim quroli bo'lsa-da, ammo yagona vositasi emas. Lisoniy vositalar orqali nutq egasining fikri tinglovchiga tez va oson yetib boradi. Biroq bu jarayonda faqat so'zlar emas, balki noverbal vositalar ham ishtirok etadi. Har qanday jonli muloqot adresat-adresant munosabatiga asoslanadi hamda nutq egalari faqat fikr bildiribgina qolmay, o'z hissiyotlari, kechinmalarini imo-ishora, tana harakati, mimika, ovozning o'zgarishi va hokazolar orqali bayon etadilar. Bu esa ma'lumotning aniqligi, hissiy ta'sirchanligini oshirishga xizmat qiladi. Shu jihatdan, muloqot jarayonini to'la tadqiq etishda verbal va noverbal birliklarni bir-biridan ajratmagan holda o'rganish maqsadga muvofiq bo'ladi. Paralingvistika aynan shu jihatlarni tadqiq etadigan soha sifatida bugungi tilshunoslikning diqqat markazida turadi.

Mavzuga oid adabiyotlar tahlili (Literature review)

Izlanishlar shuni ko'rsatmoqdaki, hozirga qadar noverbal muloqotda aynan qaysi tana a'zosi muhim rol o'ynashi munozarali mavzu bo'lib kelmoqda. Xususan, M. Saidxonov qo'l harakatlari muloqotning eng faol komponenti bo'lib, ikkinchi o'rinda bosh harakatlari turishini ta'kidlaydi[31]. M.A. Kurbanov esa o'zining nomzodlik dissertatsiyasida M.Saidxonovning fikri o'rinli bo'lsa-da, insonning turli ko'rinishdagi ekspressiv va emotsional hislarini ifoda etishda bosh va undagi uzvlar (qosh, ko'z, lab va b.)ning harakatlari birinchi o'ringa chiqishini bildirgan[32].

Tadqiqot metodologiyasi (Research metodology). B.R. Axmedovning nomzodlik ishida paralingvistik vositalar genderologik va pragmatik nuqtayi nazardan o'rganilib, qo'l va ko'z harakatlari bilan bog'liq paralingvizmlarning soni va qo'llanilish doirasi kengligi ochib berilgan[33]. N.B. Muratovaning

[31] Саидхонов М. Алоқа-аралашув ва имо-ишоралар. –Т.: Фан, 2008. –Б. 51.

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“Diskurs jarayonida adresant va adresatning nolisoniy vositalardan foydalanishi” nomli maqolasida esa bajarilajak harakatlarni o‘rganish orqaligina lisoniy tahlil to‘laqonli bo‘lishi aytib o‘tilgan. Shuningdek, hayot taraqqiyoti davomida yangidan-yangi nolisoniy vositalar paydo bo‘lishi, faol birliklar esa muayyan qolipga kirib qolishi haqida ham izlanuvchi asosli fikrlarni bildirgan[34].

Tahlil va natijalar (Analysis and results). Bizning fikrimizcha, ham bosh va uning uzvlari bilan bog‘liq paralingvizmlar nutqiy muloqot jarayonidagi eng faol va ko‘p qo‘llanadigan vositalar bo‘lib, birgina bosh harakati bilan aloqador 24 xil noverbal birliklar muloqotda kuzatiladi.

1. “Boshini silamoq” – a. Ustidan kaft yurgizmoq, siypamoq. b.Ustidan qo‘lini astagina yurgizib, siypab erkalatmoq[35].

1) mehribonlik ko‘rsatmoq.

Bola mo‘jiza ko‘rgandek taqqa to‘xtab qoldi.

– Anavi nima, oyi? – dedi o‘sha tomondan ko‘z uzmay. – Laylak, o‘g‘lim, laylak! – ona o‘g‘lining **boshini silab qo‘ydi**. – Yura qol, jonim [4, 3].

2) qo‘llab-quvvatlamoq.

O‘n to‘rtinchi asr. Sohibqiron Amir Temur Yevroosiyoning yarmini tasarrufga oldi. Ahli ilm **boshini silab**, o‘lmas obidalar yaratdi [4, 4].

3) erkalamoq. Subxon allo sizga, Umr bersin bizga... Shunday deb **boshimni silardi** [3, 2].

4) rozilik bermoq.

Habiba buvi zotiljam bo‘p qopti. O‘tini yo‘qmish. Ko‘mir oborib beramiz . – Menam oboraman! – dedim irg‘ishlab. Qopda oboraman!

– Bo‘pti, – oyim **boshimni siladi.** – Sen qop ko‘tarolmaysan, chelakda oborasan [3, 35].

2. “Bosh egmoq” (Boshini xam qilmoq, boshini u yoq-bu yoqqa egmoq) **–** boshni to‘g‘ri, tik holatidan biror tomonga tortmoq; qayirmoq, bukmoq[36].

1) xafa bo‘lmoq.

Davraning bir burchida o‘tirgan shoir yurak qoni bilan yozgan g‘azallari tuproqqa qorishganidan ko‘ngli o‘ksib izdihomdan **bosh egib c**hiqib ketsa, hayratlanmay ilojim yo‘q [4, 11].

2) kamtarlik.

Majnuntolning **bosh egib** sukut saqlashi donoligi va chayirligidan. Qamishning g‘oz turib shovullashi nodonligi va mo‘rtligidan... qiziq, ikkalasi ko‘pincha yonma-yon o‘sadi... [4, 18]

3) andisha qilmoq.

Nimaga chaqirtirganimni bilasanmi? – dedi Hosilboyvachcha.

– Bilmayman.

– Men seni sotdim, a? Qilich javob bermay, **boshini egdi.**

– Sotdim. Nega to‘g‘ri gapdan qo‘rqasan? Nima uchun sotdiykin, deb o‘ylamadingmi? [10, 84]

4) itoat qilmoq.

– Adasi, doni qolsa ham, suvini iching, – dedi Manzura, yalinish ohangida.

Asadbek xotinining ko‘ngli uchun yana bir qoshiq ichdi-da: – Zo‘rlama, – dedi. – Ko‘nglim g‘ash. Ishtaham yo‘q.

Manzura kosani olib xontaxta chetiga qo‘ydi-da, **boshini egib** indamay o‘tirdi [10, 106].

5) xijolat bo‘lmoq.

– O‘zingiz nima uchun o‘tirgansiz?

Asadbek achchiqlanib, Jalilga qovoq uyub qaradi. Chuvrindi xijolatlik bilan **boshini egdi.** Qariyaga esa bu savol malol kelmadi:

– Har narsa mavridi bilan, bo‘tam. Bu yerda hasrat daftari o‘qish joiz emas [10, 164].

6) mulozamat bildirmoq.

– Vatanga faqat muhabbat kerak…Bizning qalbimiz Vatan sog‘inchi ila tepar. Umrimiz xalos bo‘lgach, ustimizga Vatan hajri kafanini yopajaklar, – u shunday deb soatiga qarab olgach, o‘rnidan turdi-da, **boshini kiborlarcha egib** ta’zim qildi. – Cho‘x tashakkur, azizlarim [10, 187].

7) mulzam bo‘lmoq.

[34] Muratova N.B. Diskurs jarayonida adresant va adresatning nolisoniy vositalardan foydalanishi// Academic Research in Educational Sciences volume 2 | issue 11, 2021. – B. 1197-1203

[35] https://savodxon.uz/izoh?silamoq

[36] https://savodxon.uz/izoh?bukmoq

https://buxdu.uz

Endi, oka, biz bir joyning odamimiz, ot tepkisi otga o‘tmaydi. — Rahmat, ukam, — dadam yana **boshini xam qildi**. — Siz bizlarni siylasangiz, sizni Xudo siylasin [3, 48].

“Boshini u yoq-bu yoqqa egmoq” – boshni o‘ng yoki chapga egmoq.

O‘ziga oro bermoq. — Bolani ehtiyot qil, — oyim ayvon burchagida o‘tirib, to‘nkarilgan piyoladan o‘sma botirib qoshiga tortayotgan opamga tayinladi. — Xavotir olmang. — Opam **boshini u yoq-bu yoqqa egib**, bir cheti siniq ko‘zguga qiyo-qiyo qararkan, jilmaydi. — O‘zim qarab turaman [3, 48].

3. “Bosh chayqamoq” – boshini u yon-bu yon tebratmoq[37].

1) *afsuslanmoq.* – Voy poshsha-a-a! Nima qilib qo‘ydingiz, tamom bo‘psiz-ku! Oyim talmovsirab, goh menga, goh Hoji buviga qarar edi.

– Oyog‘ingizdan ayrilibsiz-ku! – dedi Hoji buvi **boshini chayqab**. – Shu ahvolda qandoq keldingiz? [3, 8]

2) uyalmoq. **–** Oyi-i, non! **–** dedim yalinib. Oyim yarq etib qaradi-yu, **labini tishlab bosh chayqadi.** Bildimki, onam uyalyapti. Endi Habiba buviga tarmashdim [3, 32].

3) inkor etmoq. – Sezyapsizmi?

– Nimani? **–** dedi oyim oyog‘iga emas, menga qarab.

– Qo‘limni sezyapsizmi?

Oyim indamay **bosh chayqadi-da**, piqillab yig‘lab yubordi… [3, 8]

4) *bexabarlik.*

– Bo‘lmasa, kim tosh otdi? Tomog‘imga bir nima tiqilib turar, gapirsam yig‘lab yuborishimni bilar edim. **–** Kim?! **–** dedi o‘qituvchi battar g‘azablanib. Labimni tishlagancha **bosh chayqadim. –** Mana bu, **–** dedi u barmog‘ini menga nuqib, **–** qilg‘iliqni qilib qo‘yib, tonyapti. [3, 11]

5) *dakki bermoq.* O‘zimning borligimni bildirib qo‘yish uchun qalamtaroshni qo‘limdan tushirib yubordim. Oyim yalt etib qaradi-yu, pastki labini tishlab, **bilinar-bilinmas bosh chayqab** qo‘ydi. Bu – “uyat bo‘ladi, chiqib ket”, degani edi. [3, 24]

6) tasdiqlamoq. Ana o‘shanda Olloyi-taoloning qattiq qahri kepti. U yurtni ham, bu yurtni ham cho‘lbiyobonga aylantirib tashlabdi. U yurtda ham, bu yurtda ham, bironta qimirlagan jon, na bitta daraxt, na bitta o‘t-o‘lan, na bir tomchi suv – hech nima qolmabdi… Ermon buva nosini tupurib chuqur xo‘rsinadi. “Ana shunaqa gaplar”, degandek ma’nodor **bosh chayqab qo‘yadi** [3, 24].

4. “Bosh silkimoq” – kuch bilan u yon-bu yonga siltamoq, keskin tebratmoq[38].

Tasdiqlamoq. Guli kresloga o‘tirarkan, qoshini chimirdi. – Mana, sizlar eskilik sarqitini yo‘qotish kerak, u-bu deb yozasiz, to‘g‘rimi? Indamay **bosh silkidim.** – Unaqa bo‘lsa nimaga ko‘zingizning oldida bo‘p turgan sarqitga qarshi kurashmaysiz? [3, 22]

5. “Boshini quyi solmoq” – pastga solintirmoq, quyi solmoq, egmoq[39].

1) *taqdirga tan bermoq:*

– Men-ku shu yerning odamiman, – Dalavoy ovozini pasaytirdi. – Ammo o‘rtoq Toshevning oldida, shu ish shundoq bo‘lgani chatoq bo‘ldi. Katta odam. Qamatmaguncha qo‘ymayman deyapti. Ikkalamizni askarblyat qildi, deyapti.

Oyimning rangi bir zumda o‘zgarib ketdi. Dadam bo‘lsa, taqdirga tan bergandek, hamon **boshini quyi solib o‘tirardi** [3, 48].

2) *o‘yga tolmoq.* Ikkalamiz indamay yo‘lga tushdik. Oyim qo‘limdan tutgancha **boshini quyi solib** borar, chamasi boyagi bolani ham, hozir uyga borib dadamdan so‘kish eshitishni ham o‘ylar, o‘ylab o‘yiga yetolmas edi [3, 62].

3) xafa bo‘lmoq. Anvar pochchasining keyingi kunlardagi dag‘al muomalari sababini o‘ylab, xafalanib yurar edi. Mohlar oyimning haligi so‘zi bilan masalaga tushundi va yatimona **boshini quyi soldi**. Bu holdan opasi ta’sirlanib, ko‘ziga yosh oldi [7, 23].

4) rozi bo‘lmoq. Javob yana falokatliroq edi. “Xo‘b, non oldiraman” deyishka ham maxdumning majoli qolmag‘an holda **boshini quyi solib**, javobsiz tashqarig‘a jo‘nadi [7, 45].

5) xijolat bo‘lmoq.– Ishlaringiz qanday? – dedi kulimsirab Og‘acha oyim. – Bizga kundashlar topib bo‘ladimi? Bu savoldan Gulshan **boshini quyi soldi**, Og‘acha oyim kulimsigancha Gulshandan javob kutib turar edi [7, 65].

6) yoqtirmaslik.

– Muddaolariga cho‘ringiz tushunmadim, oyi xonim.

– Tushunmagan bo‘lsangiz, – dedi Og‘acha, – mundan so‘ng haramga xotin va kaniz

[37] https://uz.wiktionary.org/wiki/chayqamoq
[38] https://savodxon.uz/izoh?silkitmoq
[39] https://savodxon.uz/izoh?osiltirmoq

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keltirilmasin, deyman. Gulshan **boshini quyi soldi.** Chamasi, Og‘acha oyimning taklifi unga yoqmag‘ansumon edi. Darhaqiqat, og‘izdag‘i oshni oldirish har kim uchun ham bir xil emasdir [7, 66].

7) andisha qilmoq. Bir ozdan keyin tovoqda osh ko‘tarib Nigor oyi chiqdi. Yig‘idan kipraklari terilib, chuqur andisha ichida **boshini quyi solg‘an** edi. Nigor oyim kirganda Anvar charog‘poyag‘a sha’m yoqar edi. [7, 114]

8) sharmanda bo‘lmoq. — Voy sho‘rim qursin!..

— Albatta sho‘ring quruydi, mocha!.. — dedi tunqotar.

Tunqotar, yigitlarga “orqamdan” ishoratini qilib, birdan sahnga chiqdi... Sahnning o‘rtasida qo‘lida bir qog‘oz ushlab, **boshini quyi solg‘an** Solih maxdum turar edi. [7, 127]

6. “Bosh ko‘tarmoq” – boshini yuqoriga ko‘tarmoq.

1) asabiylashmoq. Cho‘cha chan pul, aka mullo? — dedi oyog‘i bilan xo‘rozga imo qilib. Tajang kishi asabiylik bilan **boshini ko‘tardi**. Nosini tupurib, kaftining orqasiga labini artdi. — Shu jo‘jami! — dedi ingichka, tajang ovozda.- Ko‘zmi, po‘stakning teshigimi! [3, 59]

2) qayrilib qaramoq. Ostonada Namozboyning yigitlaridan Jumanpolvon ko‘rindi. – Namoz aka! Namozning taomdan **bosh ko‘targisi** kelmayotgandek edi. – Nima gap? [11, 11]

7. “Boshini yuziga bosmoq” – tinglovchining boshini yuziga bosib turmoq**.**

1) *erkalamoq:*

– Qo‘ying, – dedi oyim uning bilagidan tutib. – Yosh bolamas, o‘zi yuradi. Shu kuzda maktabga boradi-ku.

– Nega qo‘yarkanman?! – Bashorat opam binafsha hidi anqib turgan **boshini yana yuzimga bosdi.** – Ukajonimni nega qo‘yarkanman?! [3, 54]

8. **“Bosh qimirlatmoq” –** sekin-asta harakat qila boshlamoq, u yoq-bu yoqqa borib kelib turmoq, tebranmoq. Boshini ohista qimirlatmoq[40].

1) norozi bo‘lmoq. Anvar Shahidbek bilan maxdumning so‘zlariga qarshi majhul bir aziyatda **bosh qimirlatib** sufaga qaytdi. Ularning chiqib ketishlarini kutib turg‘andek ichki eshikdan Ra’no ko‘rindi [7, 31].

2) xafa bo‘lmoq. – Inshoollo, shu yigit mirzaboshi bo‘lar, – dedi Safar bo‘zchi suhbatning ruhini bilmagan holda, – o‘zi ajab zukko yigit, fuqoroparvar bola: bo‘g‘ani ma’qul, a, labbay, taqsir?

Imom yerga qarag‘an holda **boshini qimirlatib** qo‘ydi. Samad bo‘qoq xo‘mrayib Safar bo‘zchig‘a qaradi: – E, akillay berasanda, Safar, – dedi bo‘qoq, – biz nima deyapbiz-ku, sen nima deyapsan [7, 33].

3) o‘ylab qolmoq. – Kecha yangamni hech kim yo‘qlab keldimi?

Xolboy bir oz o‘ylanib soqoli ostini chimchiladi. – Yo‘qlab kelgan ekan, men uyda yo‘q edim. Sultonalining tusi o‘zgarib, **boshini qimirlatib** qo‘ydi, shipka, ko‘chaga qarandi.

– Agar yangam kelsa, meni aytasiz, men yana qaytib kelaman... [7, 106]

9. **“Bosh bukmoq” –** boshni egilgan, qayrilgan holatga solmoq[41].

1) *hurmat bajo keltirmoq***.** Domla Niyoz yorlig‘ni tugatib, qog‘ozni manglayig‘a ko‘tardi va ikki qo‘llab Xudoyorg‘a uzatdi.Xudoyor yorlig‘ni olib qarshida **bosh bukib turg‘an** Anvarga ishorat qildi. Anvar yugurib kelib, yorlig‘ni olib o‘pti va uni sallasiga sanchib, orqasi bilan yurib, ilgarigi o‘rnig‘a borib to‘xtadi [7, 42].

2) xizmatga tayyor bo‘lmoq.

– Men sufada bo‘laman, fursat topib yonimg‘a chiq, senga aytadirg‘an maxfuy bir so‘zim bor, **–** dedi. Ra’no kanizlar kabi **bosh bukib** “hozirman” ishorasini berdi va tabassumga moyil jodu ko‘zlari bilan Anvarga ohista bosh ko‘tarib qaradi…[7, 54]

10. **“Bosh qashinib qolmoq (bosh qashimoq)” –** Qichishayotgan yerni tirnoq, qo‘l yoki boshqa biror narsa bilan ishqalamoq, tirnamoq[42];

1) *o‘ylab qolmoq.* Hay, Ra’no! – dedi havlida ketib borg‘an maxdumga, **–** nonlarimizning suvi qochqan, xamir qilishg‘a vaqt oz, bozordan issig‘ non oldirasizmi?

Bu gap maxdumga adras to‘nning alami ustidan tuz sepkan ta’sirini berdi. Havli o‘rtasida **bosh qashinib qoldi** va ko‘zini qisib, xotinig‘a qaradi:

– Juda qattig‘mi? – deb so‘radi. [7, 45]

2) *chora izlamoq*. Yana bir necha fursat sukutda qoldilar. Qobilboy har on to‘ppisini qayirib, **boshini qashir** edi. Anvar sandal ko‘rpasidagi bir ipni uzib olmoqchi bo‘lg‘andek qo‘lini siltar edi. [7, 142]

11. “Boshini ko‘rpaga burkamoq” – biror narsa bilan bekitmoq, o‘ramoq yoki o‘rab qo‘ymoq[43].

[40] A.Hojiyev va b. Hozirgi o‘zbek tili faol so‘zlarining izohli lug‘ati. T.: «Sharq», 2001. 190 – b.
[41] A.Hojiyev va b. Hozirgi o‘zbek tili faol so‘zlarining izohli lug‘ati. T.: «Sharq», 2001.— 336 b.
[42] A.Hojiyev va b. Hozirgi o‘zbek tili faol so‘zlarining izohli lug‘ati. T.: «Sharq», 2001.— 336 b.

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Uyalmoq. Senlarning yoningda yotqan kishi gunohkor bo‘ladi, – dedi Gulshan **boshini ko‘rpaga burkab.** – Agar bilsanglar, har qaysing ikkita, uchta bolaning onasi bo‘ladig‘an yoshdasanlar [7,73].

12. “Bosh irg‘atmoq (bosh irg‘amoq, boshini ikki yelkasiga irg‘atmoq)” – tebratmoq, chayqamoq; silkitmoq (boshni)[44].

1) *ma’qullamoq.* – Agar imom pochchang endi ketavur desa-chi, Mamatqul, xo‘b, deb hujradan chiq-da, hech kimga bildirmay, darchaning tegidan gapni eshit, hami?

Mamatqul nima uchundir iljayib qo‘ydi va ma’qul degan kabi **bosh irg‘atdi**. [7, 97]

2) *afsuslanmoq.*

– Kimlar bor ekan?

– Otin xola, qizi.

– Qizi qalay?

Rizvon afsus qilgandek, **boshini ikki yelkasiga irg‘atdi** va tilini tang‘layig‘a tegizib "chaloq" etdirib qo‘ydi [7, 119].

3) xabarkashlik qilmoq. Tunqotar mahsichan oyog‘ini yerga bosib Sultonalining yonig‘a keldi.

– Xo‘sh?

Sultonali **boshini ikki yelkasiga irg‘atib**, labini tishlab oldi.

– Mirzoboshimizning misi chiqib qoldi-ku [7, 127].

4) xayrlashmoq. Yana shu holda Ra’no hamyondan ikki tillo olib, Anvarga ko‘rsatdi: – Shu ikki tilloni xolam bilan otamg‘a bittadan berib ketaman?

– Ber, ber... Xayr endi, Ra’no! Ra’no ham, xayr, degandek **bosh irg‘adi** va shoshib hujradan chiqdi. [7, 143]

13. **“Boshini biroz orqasiga moyil tutib qaqqaymoq”** – boshni orqaga biroz eggan holda tikka qotib turmoq, serraymoq[45].

Baxtiyor ikki qo‘li bilan belbog‘ig‘a takya qilib, qaddini rostladi va **boshini bir oz orqasig‘a moyil tutib, qaqqaydi:**

– Bilib so‘zla, aka, biz yeganimiz yo‘q! [7, 87]

14. **“Bosh tebratmoq” –** goh u, goh bu tomonga bir maromda harakatlanmoq, chayqalmoq[46].

Rohatlanib kulmoq. — Mulla Abdurahmonni o‘rdadan jo‘natish kerak; tinchkina imom va xatibligini qilsin. Muftilarga ham qozixonadan birar vazifa topilib qolar.

Anvar **bosh tebratib** kuldi [7, 94].

15. “Bosh urmoq” – bormoq, murojaat qilmoq[47].

Yalinmoq. Chora nima? Bu fojiani daf qilish uchun birar yo‘l, birar xil tadbir…Xudoyor oldida sirni ochish, Ra’noga va Ra’noning esa o‘ziga qarshi muhabbatlarini fosh qilib, xonning oyog‘ig‘a **bosh urish** — yalinish, yolborish... [7, 119]

16. **“Boshini ikki qo‘li orasiga olmoq” (qo‘llari orasiga olmoq) –** ikkala qo‘l bilan boshni ushlamoq.

1) Qiynalmoq. Ma’nan va jisman ezilgan, ayniqsa, hozirgi ahvol ichida ko‘z o‘ngi qorong‘ilang‘an Anvar mehmonxonag‘a kirib kelguchi Sultonalidan ham ibo qilmay, go‘yo hushsiz kabi **boshini ikki qo‘li orasig‘a olib,** sandal ustiga enggashti... [7, **120].**

2) *Chorasiz qolmoq.* Endi qizining oldiga kirib, uning betiga qarash unga juda ham og‘irlashgan, chunki bu fojianing bosh omili deb o‘zini tanigan edi. Borib ayvonning oldiga o‘lturdi va **boshini qo‘llari orasiga oldi.** Bu xo‘rlik, bu odatdan tashqari uyatsizlik bechora qutidorni juda ezgan... [8, 85]

17. **“Boshini sarak-sarak qilmoq” (saraklatmoq) –** boshini u yon, bu yon tebratmoq[48].

Yomon ko‘z bilan qaramoq.

— Ja-a-areniy semichka! — deydi ovozini baralla qo‘yib. O‘tgan-ketganga iljayib qaraydi. Silliqroq juvonlar o‘tsa sariq mo‘ylovini burib **boshini sarak-sarak qilib** qo‘yadi. [3, 95]

18. “Boshini changallamoq” – besh panja bilan, tirnoqlarni ishga solib, siqib ushlamoq, qo‘l bilan mahkam siqimlamoq**[49]**.

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[43] https://uz.wiktionary.org/wiki/burkamoq

[44] https://uz.wiktionary.org/wiki/irg‘amoq

[45] A.Hojiyev va b. Hozirgi o‘zbek tili faol so‘zlarining izohli lug‘ati. T.: «Sharq», 2001.— 336 b.

[46] A.Hojiyev va b. Hozirgi o‘zbek tili faol so‘zlarining izohli lug‘ati. T.: «Sharq», 2001.— 336 b.

[47] Ўзбек тилининг изоҳли луғати (Б). Т.: Ўзбекистон миллий энциклопедияси. – 300 б.

[48]Qarang: o‘sha asar. – B 220.

[49] Ўзбек тилининг изоҳли луғати (Ч). – Т.: Ўзбекистон миллий энциклопедияси. – 87 б.

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1) g‘azablanmoq. — Kerakmas, Xudo xayringizni bersin, kerakmas. Oyimning nolasi ta’sir qildi chog‘i, dadam holdan toygandek supaning chekkasiga o‘tirib qoldi. Tizzasi ustiga miltiqni ko‘ndalang qo‘ygancha **kaftlari bilan boshini changalladi**... [3, 98]

2) chorasiz qolmoq. Hozir o‘sha ta’rifni eslab, “temirligi rost, yuragi ham temirga aylanib qolibdi”, deb afsuslandi. Temir yurakni eritish yo‘lini bilolmay o‘zining **boshini changallab,** tebranib o‘tirdi. [10, 269]

19. **“Boshini to‘lg‘amoq” (silkitmoq,silkimoq) –** chayqatmoq, silkimoq, tebratmoq[50].

1) keskin rad etmoq. Itoatdan **bosh to‘lg‘agan** Toshkent ustiga, albatta, Musulmonqul zolim qo‘shin tortar. [8, 133]

2) tasdiqlamoq. U Mutalning ko‘zlariga tikandek qadalib so‘radi: — Yaxshi ko‘rasizmi, axir? Mutal **boshini ohista silkitdi.**

— Ana, barakalla! — Alimardon huzur qilib kuldi [2, 107].

20. “Boshni bir yonga (orqaga) tashlamoq” – boshni o‘ng yoki chap yelkaga, orqaga ma’lum darajada egmoq.

1) ma’yuslanmoq. Uning nimasinidir o‘z onamga o‘xshataman. Ma’yus qiyofada **boshini bir yonga tashlab turishimi**, uzun, qora baxmal nimchasimi, qalin ro‘mol tagidan chiqib turgan oppoq sochlarimi...[3, 102]

2)huzurlanib kulmoq. Bolakay dadasining mo‘ylovi tekkanidan qitig‘i kelgan bo‘lsa kerak, hadeb qiqirlar, **boshini orqasiga tashlagancha** qotib-qotib kulardi. [2, 123]

21. “Boshni boshga urmoq” (bosh urishtirmoq)– bir-biriga urmoq, tegizmoq[51].

*Ko‘rishmoq***.** Ikki qo’llab ko’rishdi. Xo‘shlashish jarayonida tomonlar yengilgina **bosh urishtirib ham olishdi**! (Ana manzara-yu mana manzara!) [1, 70]

22. **“Boshni g‘oz tutmoq” –** gavdani, boshni tik ko‘targan holda, tik turib, tikka[52].

G‘ururlanmoq. Alimardon **boshini g‘oz tutib**, borar, jahonda hech nima o‘zgarmagandek hamma narsa ko‘ngilxushlik borayotgandek edi [2, 34]

23. **“Boshni likillatmoq” (liqillatmoq) –** tez harakat qilish orqasida tebranmoq[53].

Ma’qullamoq. Vrevskiy **bosh likillatish** bilan Eshonning gapini ma’qulladi. [1, 69]

24. **“Boshni osiltirmoq” (solintirmoq) –** pastga solintirmoq, quyi solmoq, egmoq[54].

1) uyalmoq. Marjonoy **boshini osiltirganicha** ro‘molining uchini o‘ynab o‘tirar, u afsonaviy jonivorday behol hansirab yotgan bu beso‘naqay, o‘tovday ulkan odamga nima deb javob berishni bilmasdi [O.Yoqubov].

2) xafa bo‘lmoq. Anvarning ko‘z o‘ngida yana hamma narsa chirpirak bo‘lib ketdi. Oyoqlari o‘z -o‘zidan bo‘shashib, gandiraklab ketdi-yu, eshikka suyanib qoldi. Bu yerdagi hamma oppoq narsalar birdaniga qop-qora tusga kirdi-da, **boshini solintirgancha** tashqariga qarab sudraldi [2].

Tanlangan matnlardan ko‘rinib turibdiki, bosh harakati bilan bog‘liq paralingvizmlar muloqotda faol qo‘llanuvchi noverbal vositalardan bo‘lib, jonli so‘zlashuv jarayoni hamda vaziyatdan kelib chiqqan holda turli semalarda namoyon bo‘ladi Shuningdek, anglatadigan ma’nosiga ko‘ra bir paralingvistik vosita ikkinchisi bilan sinonimlik hosil qilishi ham ko‘zga tashlanadi. Xususan,

- *“xijolat bo‘lmoq”* ma’nosida bosh egmoq – boshini quyi solmoq;
- *“uyalmoq”* ma’nosida boshini osiltirmoq – boshini ko‘rpaga burkamoq;
- *“chorasiz qolmoq”*: boshini changallamoq – boshini ikki qo‘li orasiga olmoq;
- *“rohatlanib kulmoq”* ma’nosida boshini oraqaga tashlamoq – bosh tebratmoq;
- *“erkalatmoq*” ma’nosida boshini silamoq – boshini yuziga bosmoq;
- *“afsuslanmoq”:* bosh irg‘atmoq – bosh chayqamoq kabi sinonimik qatorlar aniqlandi.

-Xulosa va takliflar (Conclusion/Recommendations)

Xulosa shuki, tana a’zolari ichida bosh harakati bilan bajariluvchi paralingvistik vositalar so‘zlashuv jarayonidagi eng faol noverbal birliklardir. Birgina tana a’zosi bilan bog‘liq vosita yuqorida sanalgan ko‘plab ma’nolarni bildirar ekan, boshqa a’zolar ishtirokidagi paralingvizmlar hamda ularning semalarini tadqiq qilish o‘zbek tilshunosligi oldidagi vazifalardan biri ekani shubhasizdir.

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[51] Ўзбек тилининг изоҳли луғати (У). – Т.: Ўзбекистон миллий энциклопедияси. – 58 б.
[52] Ўзбек тилининг изоҳли луғати (Ғ). – Т.: Ўзбекистон миллий энциклопедияси. – 42 б.
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THE GENRE OF “MOCKERY” IN RUSSIAN AND UZBEK FOLKLORE

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Аннотация*. Детский игровой фольклор русского и узбекского народа представляет собой многоступенчатую общность взаимообусловленных генетических, возрастных и функциональных жанровых объединений, особое место среди которых занимают жары с сатирической составляющей. В данной статье на основе сопоставления рассмотрены разновидности жанра «издёвка» в фольклоре двух народов: прозвища, портреты, эпиграммы, посрамления. На основе примеров определены способы и приёмы их создания.*

Методы*. Среди современных подходов к рассматриваемой категории, распространяющихся на различные сферы гуманитарного знания, описательный, сравнительно – исторический, историческо-типологический методы занимают всё более прочное место. В соответствии с этими методами были рассмотрены основные составляющие детского сатирического фольклора.*

Результаты. *В составе детского фольклора большое количество произведений относится к виду словесного творчества, называемому Виноградовым Г.С. «сатирическими стихотворениями/песенками с элементом язвительности, издевчивости». Причина устойчивости и популярности жанра - в удовлетворении естественных потребностей ребёнка: позабавиться или самоутвердиться за чей-то счёт, жёстко высмеять (ирония детскому творчеству в связи с возрастом недоступна). Изучением издёвок/дразнилок занимались исследователи Шейн П., Молотилов А., Арефьев В., Станиловский А., Виноградов Г., Капица О., Мельников М., Сафаров О., Рузметов Х. и др. В связи с их функциональной обусловленностью издёвки подразделялись на издёвки-прозвища, издевки-портреты, издёвки-посрамления, издёвки-эпиграммы. Основной композиционной скрепой построения издёвок является рифма. Способ передачи естественен: из уст в уста. Дразнилки как русскими, так и узбекскими детьми обычно исполняются хором, в редких случаях «соло». Для усиления «издёвочного» эффекта используется большое количество приемов создания дразнилок. Например, точное или сходное повторение звуков/слогов в начале слова, выбранного в качестве прозвища для имени (каламбурное осмысление имени). Точное повторение звуков/слогов в конце слова, выбранного в качестве прозвища для имени. Подбор слов со сходным звуковым составом. Лексический повтор отдельных элементов. Неиссякаемым источником создания портретных дразнилок служит физический недостаток. Объектами насмешки выступают несоразмерные нос, рот, глаза, уши, строение тела, отсутствие зубов, физическое увечье. Функция издёвки-посрамления заключается в открытом порицании девиантных поступков не только детей, но и взрослых. Основная функция создания и исполнения эпиграмматических дразнилок – вызвать замешательство, смятение у человека, указывая в юмористической форме на тот или иной смущающий его факт.*

Выводы. *В издёвках находят отражение негативные явления, влияющие на жизнь и взаимоотношения детей. Но, несмотря на саркастичность, присущую издёвке, она выполняет важную воспитательную функцию. Дети, подвергшись осмеянию, стараются избавиться от недостатков (если это возможно). Таким образом, вырабатываются важные нравственные качества: самосовершенствование и подчинение желаний разуму.*

Ключевые слова: *сатира, жанр,частушка, издёвка, дразнилка, объект насмешки, рифма, созвучие, стихотворный размер, прозвище, эпиграмма, лексический повтор, оксюморон, гипербола, литота, рторические фигуры, нравственные качества.*

Abstract. *Children's game folklore of the Russian and Uzbek people is a multi-stage community of mutually conditioned genetic, age and functional genre associations, a special place among which is occupied by the characters with a satirical component. In this article, on the basis of comparison, the varieties of the genre of "mockery" in the folklore of the two peoples are considered: nicknames, portraits, epigrams, shaming. Based on the examples, the methods and techniques of their creation are determined.*

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Methods. *Among the modern approaches to the category under consideration, extending to various spheres of humanitarian knowledge, descriptive, comparative – historical, historical-typological methods occupy an increasingly strong place. In accordance with these methods, the main components of children's satirical folklore were considered.*

Results. *As part of children's folklore, a large number of works belong to the type of verbal creativity called by G.S. Vinogradov "satirical poems / songs with an element of sarcasm, mockery." The reason for the stability and popularity of the genre is to satisfy the natural needs of the child: to have fun or to assert oneself at someone's expense, to make fun harshly (irony is not available to children's creativity due to age). Researchers Shane P., Molotilov A., Arefyev V., Stanilovsky A.., Vinogradov G., Kapitsa O, Melnikov M., Safarov O., Ruzmetov H. studied mockery/teasers. et al . Due to their functional conditionality, mockery was divided into mockery-nicknames, mockery-portraits, mockery-shaming, mockery-epigrams. The main compositional staple of the construction of mockery is rhyme. The method of transmission is natural: by word of mouth. Teasers by both Russian and Uzbek children are usually performed by a choir, in rare cases "solo". To enhance the "mocking" effect, a large number of techniques for creating teasers are used. For example, the exact or similar repetition of sounds / syllables at the beginning of the word chosen as a nickname for the name (pun interpretation of the name). The exact repetition of sounds/syllables at the end of the word chosen as a nickname for the name. The selection of words with a similar sound composition. Lexical repetition of individual elements. An inexhaustible source of creating portrait teasers is a physical disability. The objects of ridicule are disproportionate nose, mouth, eyes, ears, body structure, lack of teeth, physical injury. The function of mockery-shaming is to openly condemn the deviant actions of not only children, but also adults. The main function of creating and performing epigrammatic teasers is to cause confusion, confusion in a person, pointing in a humorous form to this or that fact embarrassing him.*

Conclusions. *Bullying reflects negative phenomena that affect the lives and relationships of children. But, despite the sarcasm inherent in mockery, it performs an important educational function. Children, having been ridiculed, try to get rid of shortcomings (if possible). Thus, important moral qualities are developed: self-improvement and subordination of desires to reason.*

Key words: *satire, genre, chastushka, mockery, teaser, object of ridicule, rhyme, consonance, poetic size, nickname, epigram, lexical repetition, oxymoron, hyperbole, litota, rhetorical figures, moral qualities.*

Introduction. The satirical genres of Russian and Uzbek children's folklore are distinguished by their originality and structural and semantic richness. This can be determined by their thematic composition, structure, verbal components, objects of ridicule, techniques and methods of creating poetic texts, etc.

Unfortunately, at the moment there are no works in which a comprehensive study of folklore satirical works, in particular mockery/teasing, mockery, silence, based on verbal, structural, metric and subject levels, would be presented. Just as there are no works of a comparative nature considering their similarities and differences in the folklore of the two peoples. This is due to the relevance of our attempt to consider the above-mentioned topic..

Methods. In this connection, among the modern approaches to the category under consideration, extending to various spheres of humanitarian knowledge, we have selected descriptive, comparative – historical, historical-typological methods of considering the main components of children's game folklore.

Results and discussion. An important place in the children's game sphere of folklore is occupied by works of a satirical nature, reflecting the critical attitude of its performers to the surrounding world, society, and relationships within it. The first manifestations of humor that cause a child to laugh happily are already represented in elementary nursery rhymes. Over time, immersion in the world of adults causes (as already noted earlier) the borrowing of genres that attract the attention of children with their emotionality, imagery, dynamics, ethical and humorous components. For example, the genre of ditties, the texts of which are creatively customized by children at the level of figurative, plot-themed, melodic, etc. systems.

В кухне веник я нашёл
И квартиру я подмёл.
И осталось от него
Три соломинки всего. [1]
Translation,
I found a broom in the kitchen
And I swept the apartment.
And what 's left of it
Three straws in total.

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The objects of ridicule in ditties are animals, human relationships, children's actions related to everyday life:

Чтобы мама удивилась,
Мы сварили ей обед.
Почему-то даже кошка
Убежала от котлет. [1]
Translation:
To make Mom surprised,
We cooked her lunch.
For some reason, even a cat
I ran away from the cutlets.

The next vast layer of satirical poetry of children includes mockery, mockery, silence. The specifics of the genres of "poddevki" and "silent" were discussed in the previous chapter. Therefore, let's focus in more detail on the genre of "mockery" ("teaser")

The genre of mockery (in Uzbek folklore, "maskharalama" - mockery) is one of the few genres that exist and are still developing. The reason is to satisfy the natural needs of the child: to sharpen, have fun or assert yourself at someone's expense, to harshly ridicule (irony is not available to children's creativity due to age). Researchers Shane P., Arefyev V., Stanilovsky A., Vinogradov G., Melnikov M., Safarov O, Ruzmetov H. studied mockery/teasers. et al . In the works, the texts of mockery are given as "mimicry" and "mocking jokes", "verbal fun", "mocking sayings to names", folding. According to G. Vinogradov's fair remark, all these designations are not exact definitions, since they do not define the main specific properties of the genre in question. In this connection, the scientist proposes to accept the designation given by performers (children) as a conditional working term: teaser, as "an epigrammatic work based on gross buffoonery" [2]. Or, starting from the method of use and content of these works, introduce the definition of "mockery" with its subsequent definition as "a satirical poem with an element of sarcasm, mockery." The opinion of Kapitsa O.I. agrees with the voiced definition, which defines taunts /teasers as songs (sometimes of an innocent nature) created with the aim of laughing /joking, more often – offending / mocking [3].

The reason for the "birth" of mockery (teasing as a joke in general) can be a small quarrel, disagreement with the results of the game, antipathy, deviant behavior of the child (theft, snitching, ratting):

Вор, вор!
Не ходи ко мне на двор:
Тебя кони залягают,
А коровы забодают [4].
Translation:
Thief, thief!
Don't come to my yard:
The horses will lay you down,
And cows gore.

The exchange of teasers often results in verbal battles, where the guys demonstrate good memory, observation, the ability to wit, the creation of poetic rhyming lines, which end with the depletion of the stock of ready-made or impromptu formulas.

Due to their functional conditionality, Vinogradov V.G. divided the mockery into 4 groups:

1. Mockery-nicknames.
2. Mockery-portraits.
3. Mockery-epigrams.
4. Mockery-shaming.

Mockery-nicknames are based on the sound correspondence of the selected epithet-application with the name of the victim. For example, Аркашка – букашка», «Аркашка – таракашка», «Валя – краля», «Жора – обжора», «Лиза – подлиза», «Лорка – хлорка», «Люда – блюдо», «Нинка – корзинка», «Саша – каша – простокваша», «Света – конфета», «Танька – встанька», «Танюшка – лягушка»(Arkashka – bug", "Arkashka – cockroach", "Valya – kralya", "Zhora – glutton", "Lisa – lick", "Lorka – bleach", "Luda – dish", "Nina – basket", "Sasha – porridge – curdled milk", "Sveta – candy", "Tanya – vstanka", "Tanya – frog"). The created variants can gradually become overgrown with "details"-increments, turning into two-line teasers:

Анна-банна,
Нога деревянна.
Translation:

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Anna-banna,
The leg is wooden.

Two-line teaser nicknames spread quickly and easily due to their compact form. Such teasers are also present in Uzbek children's satirical lyrics. Researcher N. Rakhmonov considered them as "two-line meaningless rhyming expressions" and pointed out that they "do not develop any aesthetic taste in children" [5]. The scientist Safarov O. disagreed with this definition, pointing out that teasers are something more than a rhyming expression consisting of two lines, and the definitions-epithets chosen by children are meaningless only for an adult. Not knowing the laws of poetry, focusing on the inner flair, little creators create poetic works with a number of rhythmic determinants, a non-standard set of rhyming abstruse words. Which indicates the creative approach of children to the process of their creation. It is for this reason that nickname teasers acquire a special appeal for children. The guys do not remember them on purpose, the method of transmission is natural: by word of mouth. Expressing inner emotions in a non-trivial way, a successful selection of rhymed words causes ecstasy and a surge of inspiration in children. Which gives every right to consider them one of the effective factors in the formation of aesthetic taste in a child [6].

Safarov O. recorded more than two hundred examples of nicknames created by Bukhara children. Turgunov Sh . - more than fifty examples common among Namangan children of younger and adolescent age. For example, he recorded the following teaser related to Mastura's maiden name:

Мастур – кастур, алвасти(р),
Молхонага министр.
Translation:
Mastur – kastur, the witch,
Barnyard minister.
With the maiden name Dilfusa:
Дилфуз - Диличка,
Ачиган булочка.
Translation:
Dilfuza - Dilichka,
Sour bun.

As can be seen from the examples, a chain of mockery is being built: first, a nickname is attached to the name, which, due to the increment of additional word forms, "grows" into a teaser.

Teasers by both Russian and Uzbek children are usually performed by a choir, in rare cases "solo". Since the presence of visible support is important for children, which makes the process fascinating, and a small volume allows you to convey it to the addressee, even if he tries to hide.

To enhance the "mocking" effect, a large number of techniques for creating teasers are used. For example, the exact or similar repetition of sounds /syllables at the beginning of the word chosen as a nickname for the name (pun interpretation of the name):

Петька – петух
На завалинке протух,
Яичко снёс,
На базар понёс.
На базаре не берут,
Петьку за уши дерут!
Translation:
Petka the rooster
It 's rotten on the filling,
Egg demolished,
I took it to the bazaar.
They don't take it at the bazaar,
Petka is being pulled by the ears!
Exact repetition of sounds/syllables at the end of the word chosen as a nickname for the name:
Толик – кролик
Сел на столик
И поехал на войну,
Дрался, дрался,
Напугался
И кричит: «Домой хочу!»
Translation:

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Tolik – rabbit
He sat down on the table
And went to war,
Fought, fought,
Scared
And shouts: "I want to go home!"
Or:
Юрик – дурик
На базаре торгует
Да цыганок целует!
Translation:
Yurik – durik
He sells at the bazaar
Yes, he kisses gypsies!
Teasers created based on the selection of words with a similar sound composition:
Прокоп – укроп,
Медный лоб,
Сам с ноготок,
Голова с локоток.
Translation:
Prokop – dill,
Copper forehead,
Himself with a nail,
Head with elbows.

Mockery portraits basically contain an indication of the features of a person's appearance: red complexion, extreme fullness or thinness, high or low height, red hair color.

Рыжий красного спросил:
— Чем ты бороду красил?
— Я ни краской, ни замазкой
— Я на солнышке лежал,
Кверху бороду держал.
Translation:
The red—haired red asked:
— What did you paint your beard with?
- I'm neither paint nor putty
— I was lying in the sun,
He kept his beard up.
Uzbek teaser (red-haired children are called "mallavoy"):
Боқивой малла
Ўн иккита калла.
Translation:
Side red
12 goals.
Or:
Бабка Маланья,
Голова баранья,
Глазки человечьи,
А лицо овечье,
Ноги козлячьи,
Руки медвежачьи.
Translation:
Granny Malanya,
Lamb 's head,
Human eyes,
And the sheep's face,
Goat legs,
Bear hands.

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Uzbek teaser:
Эргаш деган оти экан,
Оёқлари шоти экан,
Носкадидай бурни экан,
Кажавадай қорни экан,
Сомонхона ўрни экан.
Translation:
His name is Ergash.
His legs are fast,
Nose like socks (pumpkin),
He has a big belly.
Lives in the hayloft.

In the teaser below, the word "zasonya" selected as a nickname rhymes with the maiden name Sonya. The contrasting image of the girl is created due to the portrait characteristics (a ballet doll: in the sense of slender, low) and the enumeration of negative qualities of character:

Соня – засоня,
Куколка — балетница,
Вображуля, сплетница!
Translation:
Sonya – zasonya,
The ballet doll,
Fancy, gossip girl!

Physical disability also serves as an inexhaustible source of creating portrait teasers. The objects of ridicule are disproportionate nose, mouth, eyes, ears, body structure, lack of teeth, physical injury.

Колька-калека
Съел человека.
Translation:
Kolka the cripple
Ate a man.

The mockery below contains an indication of the long nose of the Sleigh:

Как у Сани на носу
Ели свиньи колбасу,
Ели, ели три недели,
Ели, ели — не доели.
Translation:
Like a Sleigh on the nose
Pigs ate sausage,
Ate, ate for three weeks,
Ate, ate — not finished.

Strabismus of the boy Borya:

Борька косой,
Поехал по соль,
Соли не купил,
А кобылу утопил.
Translation:
Borka oblique,
I went to sol,
I didn't buy any salt,
And he drowned the mare.

The mockery reflects the negative events happening around, affecting the lives of a large number of people. The Uzbek mockery clearly indicates the position of children towards the initiator of the outbreak of the Second World War and pride in fathers defending the Motherland:

Отам кетган урушга,
Душманни хўп қиришга.
Боши узун, кўзи кўр
Гитлерни ўлдиришга
Гитлер экан бадқовоқ,

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Афти хунук, каркулоқ,
Бош деб олиб юргани
Калла эмас, тўрковоқ.
In translation:
My father went to war,
To destroy the enemy.
Long-headed, blind
Kill Hitler.
Hitler is gloomy,
Ugly mug, deaf,
What he calls a head,
Not a head, you idiot.

The function of mockery-shaming is to openly condemn the deviant actions of not only children, but also adults. Safarov O. emphasized the "spirit of harsh criticism and public exposure inherent in mockery" [5].

We will give only a small number of semantic groups.

1. Theft.

Шурка-воровка,
Красна головка.
Translation:
Shurka the thief,
The head is red.

2. Whistleblowing:

Ябеда, беда —
Тараканья еда!
Translation:
Sneak, trouble —
Cockroach food!
Or:
Ябеда, корябида,
Солёный огурец,
На полу валяется,
Никто его не ест.
Translation:
Snitch, snitch,
Pickled cucumber,
Lying on the floor,
Nobody eats it.

3. Servility:

Лиза – подлиза
Упала с карниза.
Tarnslation:
Lisa is a sycophant
She fell off the ledge.

5.Greed and gluttony:

Лёня, Лёня-требуха
Съел корову и быка,
Семьсот поросят,
Бочку борщу
И кричит: «Я есть хочу!»
Translation:
Lenya, Lenya-tripe
I ate a cow and a bull,
Seven hundred piglets,
A barrel of borscht
And screams: "I'm hungry!"

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In some cases, there is no binding to the name in the mockery, which expands the possibilities of its use without restrictions:

Жадина, жадина,
Жадина, говядина.
Translation:
Greedy, greedy,
Greedy, beef.

In the two-line example, only four words are used. Three, of which, the repetition of the word "greedy". The word "beef" does not carry an additional semantic load and is used as a consonance.

Uzbek mockery:
Ёмғир ёғалоқ,
Эчки соғалоқ.
Бойлар боласи-
Қорни думалоқ
In translation:
It's raining,
Milking goats.
The children of the rich
have a round belly (meaning: big)

6. Lie:
Ванечишка-чишка
Наврал три мешка,
Стали мять — пудов пять,
Стали весить — пудов десять!
Translation:
Vanechishka-chishka
Scored three bags,
They began to crumple — five pounds,
They began to weigh — ten pounds!

7. Unwillingness to be responsible for their actions:
Витя-титя-карапуз,
Съел у бабушки арбуз.
Бабушка ругается,
Витя отпирается:
– Это, бабушка, не я,
Это рыжая свинья!
Translation:
Vitya-titya is a toddler,
He ate a watermelon from his grandmother.
Grandma swears,
Vitya says
, "It's not me, Grandma,
It's a red pig!

8. Cowardice. An example is the above mockery about Tolik, a rabbit who went to war, but, frightened by military realities, asked to go home. The comicality of the situation is emphasized by the election of a "hero" in the quality of transport for a trip to the war table. The choice of the nickname "rabbit" to the name is not accidental, a reference to the qualities of character attributed to the animal.

This kind of mockery contains not only condemnation of actions, but also the alleged punishment for them.

Таня-дура в лес подула,
Грибы ела, одурела!
Translation:
Tanya-the fool blew into the forest,
I ate mushrooms, I was stupid!

So the girl Tanya's ignorance of the properties of mushrooms (hence the definition - a fool) and their eating led to her poisoning and intoxication.

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In the following teaser, the girl Vera, who is not very intelligent, is ridiculed. The definition of the concept of "faith", which is the basis of the name, allows us to reveal a deep philosophical meaning. "Faith" is the conviction of someone in something. Thus, the fool Vera has the ability to assure others of anything.

Дура Вера
Всех заверит.
Переверит,
Выверит.
Translation:
Stupid Vera
Assure everyone.
Digest,
Reconcile.

9. Craving for alcohol:

Афанди бозор пошёл,
Йиқилиб деньги нашёл.
Пулига ароқ олиб,
Кечаси с ума сошёл.
Translation:
Afandi went to the bazaar,
Having fallen, I found the money.
I bought vodka with the money,
I went crazy in the evening.

In the above teaser, created on the basis of the "shirushakar" technique (mixing Russian and Uzbek words in one context), the behavior of some men who spend money on alcoholic beverages, affecting human health and condition, is criticized.

Mockery-epigrams. Ohunjon Safarov wrote about this kind of mockery that the main function of their creation and execution is to cause confusion, confusion in a person, pointing in a humorous form to one or another fact embarrassing him. For example, a boy and a girl who sympathize with each other are usually called "the bride and groom":

Тили-тили-тесто,
Жених и невеста!
Ноги в пуху –
Поклонись жениху!
Ноги в тесте –
Поклонись невесте!
Translation:
Tili-tili-dough,
The bride and groom!
Legs in fluff –
Bow to the groom!
Legs in the dough –
Bow to the bride!

There is an opinion that children of different sexes cannot be friends. And exposing the sympathy of children, giving them the nicknames "groom" / "bride", "husband" / wife", scoffers rejoice, causing anger or indignation of the victims. With the period of growing up, the attitude of adolescents with different gender identity status to each other changes, which is reflected in epigrammatic works.

Коля, Коля, Николай,
Сиди дома, не гуляй.
К тебе девочки придут,
Поцелуют да уйдут.
Translation:
Kolya, Kolya, Nikolai,
stay at home, don't walk.
The girls will come to you,
They will kiss and leave.

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The predominance of lyricism allowed the Uzbek folklorist H. Ruzmetov to call them "songs of adulthood" [7]. Safarov O. noted in them the reflection of the emerging feelings of sympathy / love in adolescents entering adulthood.

The following epigrammatic mockery is addressed to the man Mikola with the offer to "devote" time to his wife, a thief and a liar:

Миколенька, Микулай!
Сиди дома, не гуляй.
Твоя жена прытка —
Напряла мотушку,
Одну-то украла,
Кота поклепала.
Кот-от побожился,
К стене приложился!
Translation:
Mikolenka, Mikulai!
Stay at home, don't walk.
Your wife is quick —
Strained the motushka,
I stole one,
She slapped the cat.
The cat-is afraid of,
I've hit the wall!

As can be seen from the examples, children are not only attentive observers, they tend to analyze and evaluate everything they see.

Genre features. The creation of completely new forms of ridicule is a rare process, mostly participants use ready-made formulas. Only adjustments related to the replacement of names or individual words/expressions are made. The volume of teasers is not limited to two and three verses. There are 4-, 5-, 6- and 8-verse forms.

Акулина мохнонога,
Наплодила детей много!
Акулина Савишна,
Не вчерашна – давешна!
Translation:
Akulina mokhnonoga,
I have bred a lot of children!
Akulina Savishna,
Not yesterday – yesterday!
Or:
Андрей – воробей!
Не гоняй голубей,
Гоняй галочек
Из-под палочек;
Не клюй песок,
Не тупи носок!
Пригодится носок
Клевать колосок.
Translation:
Andrey is a sparrow!
Don't chase pigeons,
Chase the ticks
From under the sticks;
Don't bite the sand,
Don't blunt the sock!
A sock will come in handy
Peck the spikelet.

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The size is limited only by the poetic possibilities of the guys. Favorite poetic techniques are wordplay (tattletale), litotes and hyperbole (ate a cow), oxymoron (himself with a nail, a head with an elbow) rhetorical figures, repetitions (greedy, greedy), epithets (Akulina mokhnonoga), comparisons (nose like a pumpkin).

The main poetic dimensions are chorei and iambic (which is explained by the small number of syllables in each verse: from 5 to 9). Some samples do not lend themselves to stoic division, which is due to the proximity of the genre to the folk tonic verse. Fixed logical stress is the end of the verse. The observed rhythmic disturbances are compensated by choral performance of teasers, rearrangement of accents in words, prolonged pronouncing of vowels, insertion of particles, etc. rhymes are predominantly male or female, rarely dactylic.

Conclusions. Proceeding from the above, it is possible to note the structural-phonetic, thematic richness of the "mockery" genre, the ability of an emotionally expressive assessment of social reality. Despite the sarcasm inherent in mockery, it performs an important educational function. Children, having been ridiculed, try to get rid of shortcomings (if possible). Thus, important moral qualities are developed: self-improvement and subordination of desires to reason.

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МУСТАҚИЛЛИК ЙИЛЛАРИДА БАҲСДАГИ АДАБИЙ-НАЗАРИЙ МУАММОЛАР ТАЛҚИНИ

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Аннотация. *Мазкур мақолада мустақиллик йилларида ўзбек адабиётшунослигида олиб борилган баҳсу мунозаралар ва уларнинг адабиёт ривожидаги аҳамияти тадқиқ этилган. Ўзбек адабиётшунослигида баҳсу мунозаралар шаклланиб, турли даврларда турлича тараққий этиб келаётган бўлса-да, унинг илмий-назарий жиҳатлари, жанрий хусусиятларини тадқиқ этиш пайти етиб келди. Баҳснинг адабий жараён ва ёзувчи ижодидаги ўрни, мустақиллик давридаги шеърият ҳақидаги мунозаралар таҳлил қилиниб, маълум хулосаларга келинган.*

Мустақиллик йилларидаги баҳслар мунаққидларнинг фаоллиги ошганлиги, илмий таҳлиллар кучайганлиги, фикрлар "жанги"нинг миқёси кенгайиб бораётганлиги, мунозаралар одат тусига кириб бораётганлигини адабий танқидчиликдаги устувор тамойиллардан бири деб ҳисоблаш мумкин. Шу билан бирга талабчанлик, мавжуд нуқсонларни йўқотишга интилиш, ҳали адабиётни юксалтириш борасида амалга оширилиши лозим бўлган вазифалар кўплиги ҳам аён бўлмоқда. Адабий-бадиий танқид савиясини кўтариш учун турли хил баҳслар уюштирилиши лозим ва бу баҳслар ҳақиқатни кашф этишга, китобхоннинг эстетик дидини тарбиялашга қаратилиши зарур. Бу жабҳада адабий танқид жанрларидан бири адабий-танқидий баҳснинг ўрни ва роли муҳимдир.

Калит сўзлар: *Адабий танқид, баҳс, мунозара, мустақиллик, танқидчи, мажмуа, танқидий муносабат, шеърият.*

ИНТЕРПРЕТАЦИЯ ЛИТЕРАТУРОВЕДЧЕСКИХ ПРОБЛЕМ В ДИСКУССИИ В ГОДЫ НЕЗАВИСИМОСТИ

Аннотация. *В данной статье рассматриваются споры и дискуссии в узбекском литературоведении за годы независимости и их значение в развитии литературы. Хотя дискуссии и дискуссии в узбекском литературоведении формировались и в разные периоды развивались по-разному, пришло время исследовать его научно-теоретические аспекты и жанровые особенности. Проанализировано место дебатов в литературном процессе и творчестве писателя, дебаты о поэзии в период независимости и сделаны определённые выводы.*

Одним из приоритетных принципов литературоведения можно считать, что дебаты в годы независимости повысили активность критиков, усилился научный анализ, расширяются масштабы «битвы» мнений, а дискуссии входят в привычку. В то же время становится ясно, что предстоит выполнить много задач в плане требовательности, стремления к устранению имеющихся недостатков, совершенствованию литературы. В целях повышения уровня литературной и художественной критики следует организовывать различные диспуты, и эти диспуты должны быть направлены на установление истины и воспитание эстетического вкуса читателя. В связи с этим важны место и роль литературной критики, одного из жанров литературной критики.

Ключевые слова: *Литературоведение, полемика, дискуссия, годы независимости, критик, комплекс, критическое отношение, поэзия.*

INTERPRETATION OF LITERARY PROBLEMS IN DISCUSSIONS IN THE YEARS OF INDEPENDENCE

Annotation. *This article examines the debates and discussions in Uzbek literary studies during the years of independence and their significance in the development of literature. Although debates and discussions have been formed in Uzbek literary studies and have been progressing differently in different periods, the time has come to research its scientific-theoretical aspects and genre features. The place of debate in the literary process and writer's work, debates about poetry in the period of independence were*

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analyzed and certain conclusions were reached.

It can be considered as one of the priority principles of literary criticism that debates in the years of independence increased the activity of critics, increased scientific analysis, the scale of the "battle" of opinions is expanding, and discussions are becoming a habit. At the same time, it is becoming clear that there are many tasks that need to be done in terms of demandingness, striving to eliminate existing defects, and the improvement of literature. In order to raise the level of literary and artistic criticism, various debates should be organized, and these debates should be focused on discovering the truth and educating the reader's aesthetic taste. In this regard, the place and role of literary criticism, one of the genres of literary criticism, is important.

Keywords: *Literary criticism, controversy, discussion, years of independence, critic, complex, critical attitude, poetry*

Кириш. Мустақиллик йилларида сўз эркинлиги, ҳар хил тайзиқларнинг йўқотилиши баҳснинг кенгайиб, турли шакллари пайдо бўлиш жараёнига кира бошлади. Истиқлол йилларида шўро даврида яшаган ва ижод қилган шоир ва ёзувчилар ижодини янгича нуқтаи назардан тадқиқ этишда ҳам баҳсу мунозара кучайиб кетганини Ғ.Ғулом, А.Қаххор, Ҳ.Олимжон ва бошқа ижодкорлар ҳақидаги баҳслар жараёнида кўриш мумкин. Масалан, баҳслар Ҳ.Олимжон ижодига муносабатда ҳам давом этди. Жумладан, Д.Қуронов “Ҳамид Олимжонни биламизми?” номли баҳсига жавобан адабиётшунос Н.Каримов “Ҳамид Олимжонни биласизми?” деб мақоласини чоп эттирди. Баҳсга адабиётшунос Ғ.Мўминов ҳам муносабат билдирди ва Н.Каримов фикрларини тўғри деб топди. Баҳсга профессор Ҳ.Умуров ҳам аралашиб, ўзининг муносабатини билдирди. “Шу боис ҳам мазкур ўринда Қаххор ёки Ҳ.Олимжон ижодига оид зиддиятли қарашларнинг, мухолифатларнинг юқоридагидек тортишув, баҳсларга ҳакам сифатида эмас, балки янги босқич танқидчилик шаклланиши тадрижий такомилидаги, методологик тамойилларнинг изланиши сифатида қаралиши тўғри бўлади”-деб ёзадилар “Ўзбек адабий танқиди тарихи” дарслиги муаллифлари [2,234].

Мустақиллик йилларидаги баҳслар мунаққидларнинг фаоллиги ошганлиги, илмий таҳлиллар кучайганлиги, фикрлар “жанги”нинг миқёси кенгайиб бораётганлиги, мунозаралар одат тусига кириб бораётганлигини адабий танқидчиликдаги устувор тамойиллардан бири деб ҳисоблаш мумкин. Шу билан бирга талабчанлик, мавжуд нуқсонларни йўқотишга интилиш, ҳали адабиётни юксалтириш борасида амалга оширилиши лозим бўлган вазифалар кўплиги ҳам аён бўлмоқда. Адабий-бадиий танқид савиясини кўтариш учун турли хил баҳслар уюштирилиши лозим ва бу баҳслар ҳақиқатни кашф этишга, китобхоннинг эстетик дидини тарбиялашга қаратилиши зарур. Бу жабҳада адабий танқид жанрларидан бири адабий-танқидий баҳснинг ўрни ва роли муҳимдир.

Баҳсда адабиётдаги бирор бир муаммо ёки адабиётшуносликдаги ечилмаган, ечилмаётган бирор бир масала ўртага ташланади. Одатда долзарб муаммо ўртага ташланар экан, матбуот саҳифаларида унга муносабат билдирилади. Ўша муаммога ҳар қайси олим ўз нуқтаи назари, ўз концепциясидан келиб чиқиб баҳо беради, натижада фикрлар ранг-баранглиги вужудга келади. Бу эса адабий жараённинг жонланишига, китобхоннинг эстетик дидининг ўсишига ёрдам беради.

Асосий қисм. Мустақиллик даврида ҳам кўпинча баҳсларнинг яратилишига газета ва журналларнинг ташаббус билан чиқиши сабаб бўлади. Улар адабиётдаги, адабий жараёндаги баҳсли бир масалани ўртага ташлаб, ёзувчилар, шоирлар ва адабиётшунос олимларнинг диққатини жалб этадилар. Бу борада “Шарқ юлдузи”, “Ёшлик” журналлари ва ЎзАС газетаси таҳририятининг фаоллигини кўриш мумкин. Масалан, газета XX асрнинг 90-йиллари охирида мумтоз адабиёт, Истиқлол даври адабиётшунослигининг вазифаси, миллий адабиётнинг келажаги борасида бир қанча саволларни ўртага ташлаб, барчани баҳсга чорлади.

Миллий адабиётнинг ривожига маълум даражада ҳисса қўшадиган саволларга профессор Ҳ. Болтабоев “Эртани деган, кечани қўймас” мақоласи билан жавоб берди. Мумтоз адабиётни ўрганишнинг ибтидоси саналган матншуносликда 90-йилларда илмий силжишлар кузатилгани, адабий матнни тўла мукаммал тарзда илмий шарҳлар билан бирга чоп қилиш имконияти туғилганлигини таъкидлай. Шу билан бирга “Бобурнома”нинг танқидий матни япон олимлари томонидан яратилиши ва унга муносабат билдирган адабиётшунос Қ.Эргашевнинг мулоҳазаларига танқидий муносабат билдиради.

Истиқлол туфайли илмий ҳаётда ҳам хориж томон йўл очилганлиги, Навоий ва Ҳусайнийнинг АҚШ кутубхоналаридаги девонлари, “Фунун ул-балоға”нинг юртимизга келтириб нашр қилиниши, бу каби ўнлаб адабий ҳодисалар адабиётшунослигимизни бойитиши ҳақида фикр юритилади. Олим сўнгги йиллар адабиётшунослигининг жиддий ютуғи сифатида тасаввуфшуносликда Н.Комиловнинг “Тасаввуф” (1-китоб), Нажмиддин Кубро” китоблари, И.Ҳаққулнинг “Ўзбек тасаввуф шеъриятининг

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шаклланиши ва тараққиёти” тадқиқотларини кўрсатади. Шу билан бирга адабиётшуносликда ўрганилиши зарур бўлган муаммоли масалаларга ҳам ўрин берилади. Олим мумтоз адабиёт муаммолари, хусусан, бу соҳада мутахассислар тайёрлаш бўйича баҳс бошланганини айтиб, А. Отабой билан И. Ҳаққулнинг “Мерос, моҳият ва талқинлар” мунозара-суҳбатини тилга олиб ўтади. Мазкур мунозара суҳбатда ҳам баҳсга чорловчи ўринлар кўплиги кўринади.

Мустақиллик йилларида ҳам Рауф Парфи ижоди ҳақидаги баҳслар давом этиб келди. Чунки ҳаёт ҳақиқатини бадиий ҳақиқатга айлантириш, ҳақ сўзни куйлаш ўзбек шеърияти тараққиётининг барча даврлари учун бош тамойил бўлиб келган. Лекин мақсадга эришиш йўллари, усуллари жуда турли-туман ва кўп. Масалан, мажозий образлилик ҳақиқатни айтишнинг, воқеликни, ҳаётни реалистик идрок этишнинг шаклларидан бири бўлиб, Р.Парфи ижодининг асосий йўналишини ташкил этади. Бу ҳақда Н.Раҳимжонов шундай ёзади: “Ўтган асрнинг 80-йиллари ўзбек танқидчилигида бадиий тафаккурнинг ушбу кўриниши моҳиятини тушунмасликданми ёки тушунишни истамаганликданми, “Шеърингизни тушунтириб берсангиз”, “Шоир нима демоқчи, шеър нима деяпти” қабилидаги мақолалар юзага келди. Уларда Рауф Парфи шеърларидаги мажозий образларни, рамзларни Ғарбга тақлидчиликда, ўта мураккаблик ва мавҳумликда айблаш расм бўлди. Тимсолли образлар сарбастдаги изланишларида ёрқинроқ тажассум топгани боисиданми, уларни Ғарб шеъриятига тақлидда айблашди. Ваҳоланки, шеърнинг бу шакли аввалги минг йилликда муйсафид Шарқнинг қадимий битикларидаёқ мавжуд экан. Ушбу ҳодиса, айрим танқидчилар айтгандек, Ғарб ва Лотин Америкаси адабиётига тақлидан эмас, аксинча, эстетик таъсир самараси ўлароқ юзага келди. Шу боисдан ҳам шоир: ўзимизнинг қадимий ёзувларимизда ўзимизни қайтадан топдик [4,108].

Олимнинг “Бадиий дид ва эстетик савия” баҳс-мақоласи матбуотдаги баҳсларга, аниқроғи, ҳаваскор қаламкаш М.Йўлдошевнинг “Шоир нима демоқчи, шеър нима деяпти?” мақоласига жавобан ёзилган. “Куни кеча “Шеърингизни тушунтириб берсангиз” деган савол пайдо бўлган эди. “Шоир нима демоқчи, шеър нима деяпти” дея саволга тутилаяпти” деб ёзар экан, мунаққид М.Йўлдошевнинг фикри аниқ мақсадга йўналтирилмаганлиги, шеърнинг маъносини уқмаган ўқувчи уни ёзган шоирни ҳам англаши қийинлигини таъкидлайди. Ҳақли равишда мунаққид бугун Рауф Парфи шеърларига шу тариқа саволларни қўяётган ўқувчи Алишер Навоий асарларини қўлига олса нима дер экан деган муаммоли масалаларни ўртага ташлайди ва бундай саволлар бўлишининг туб сабабларини излашга киришади. “Ҳамма айб шеърият ҳақидаги тасаввур ва тушунчаларнинг, эстетик мезонларнинг жўнлашиб кетганида. Бадиият мезонларининг ниҳоятда сийқалаштириб юборилганида...

Шўро мафкурасининг шеъриятни халққа яқинлаштириш, оммавийлаштириш учун олиб борган сиёсати салбий оқибатларга олиб келди. Унинг савияси тушириб юборилди”.

Классик адабиёт, Алишер Навоий асарларини таҳлил қилиб, олим энг муҳими, китобхоннинг дидини мумтоз шеъриятимиз савиясига кўтариш кераклигини уқтиради. Мунаққид шеърхон китобхоннинг шоир шеъриятига қўйган даъволарининг асоссиз эканлигини чуқур таҳлиллар орқали ёритади. Айниқса, “Она тилим” шеъри мисолида шоирнинг сўз танлаши ва “уларга заргарона сайқал бериши чинакам буюк бир меҳнат, бетимсол санъат намунаси” эканлигини очиб беради.

Жавоб тарзида ёзилган баҳс-мақола, энг аввало, ўзбек шеъриятида ўзига хос воқеа саналган шоир ижодини турли, асоссиз хуружлардан ҳимоя қилиши, иккинчидан, ижодкор шеърларининг ўзига хос талқинларга бойлиги билан муҳим аҳамиятга эгадир.

Мустақиллик йилларида, айниқса, янги асрга қадам қўйилгандан кейинги адабий жараёнга назар ташласак, адабиётшунос олимларнинг яратилаётган асарларга бефарқ эмаслиги кўзга яққол ташланади. Масалан, адабиётшунос Э.Очиловни “кейинги пайтларда шеъриятимизда сўзларни бутун маъно қирралари билан тушуниш, барча услубий буёқларини ҳис қилиш, ўрнини топиб, танлаб-чертиб ишлатиш анъанаси йўқолиб” бораётгани ташвишга солади. “Ҳар сўзнинг ўрни бор” баҳси ана шу муаммога муносабат билдириш юзасидан ёзилган.

Адабиётшунос олим ҳозирги шоирларнинг кўпчилиги ўзлари қўллаётган сўзнинг нима маъно англатишини билмасдан, сўзнинг ташқи гўзаллигига, жарангдорлигига маҳлиё бўлиб, маъносига ишлари бўлмаётганлигини танқид қилади... Кейинги пайтларда адабиётимизда ўзбек тили қонун-қоидаларига зид жумлалар тузиш, нотўғри қўллаш билан боғлиқ камчиликлар, услубий-грамматик хатолар шунчалик кўпайиб кетдики, мазкур мақола шу хилдаги иллатларга эътиборни қаратиш мақсадида ёзилди”[3].

90-йиллар охири – XXI асрнинг илк йилларида ўзбек адабий танқидчилигида модернизм адабиёти, унинг ғоявий-эстетик хусусиятлари, ўзбек адабиётидаги айрим намуналари атрофида фикр алмашувлар, қизғин баҳс-мунозаралар бўлиб ўтди [1, 112].

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Мустақиллик йилларида ҳам А.Қодирий ижоди ҳақида янги қарашларга бой мақолалар яратилди. Адабиётшунос олим И.Ҳаққул ҳам ўзининг “Меҳробдан чаён” романида маънавий мағлубият тасвири” мақоласида юқорида таҳлил қилганимиз, Солиҳ Махдум образига ҳам тўхталади: “Солиҳ махдум романдаги энг пишиқ ишланган образ эканлиги маълум.Ўқувчини у ҳам жуда қизиқтиради, ҳам кўп мушоҳадаги чорлайди. Қоралай десангиз- уни тўла қоралолмайсиз. Айблай десангиз - қай бир жойда махдум “шу учун ҳам мени айблаб бўладими?” деб тургандай. Мақтамоқчи бўлсангиз - баъзи ишлари ва нокасликларини кўриб, “э, садқаи одам кет!” дегингиз келади.... Муҳими, уни билиш ва тушуниш экан. Зеро, махдум инсон табиатидаги камчилик ва чиркиндан чирикн иллатларнигинамас, ички мураккаблик, ишониш қийин бўлган нафсоний эврилишларни ҳам очиб берадиган серқирра бир образдир”[7, 180]. Олим биографик метод асосида бу образни чуқур таҳлил қиладики, бу 90-йиллардаги баҳснинг давоми сифатида таассурот қолдиради.

А.Қодирий асарлари борасидаги баҳслар турли ракурсларда давом этиб келмоқда, келажакда яна янги ранг-баранг қарашлар пайдо бўлиши шубҳасиз.

Истиқлол даври, айниқса, кейинги йилларда баҳс-мунозаранинг кучайиб борганлигини ”Истиқлол, Адабиёт, Танқид...” (“Турон замин зиё” нашриёти, 2015) номли тўпламнинг нашр этилиши яққол кўрсатади. Тўпламга тақриз ёзган адабиётшунос олима Г.Сатторованинг дастлабки мулоҳазалари айни фикримиз билан ҳамоҳанг: “Янги давр адабиёти ҳақидаги айтилаётган фикр-мулоҳазалар ижодий жараённинг қизғин, баҳс-мунозара руҳида кечаётганидан далолат бериб турибди. Кимдир ижодий изланишларнинг самараларини эътироф этса, кимдир танқид ва адабиётшунослик бу жараёндан орқада қолаётганини куюниб таъкидлайди. Муҳими, айтилаётган фикрларнинг барчасида ўзбек адабиётининг келажаги ҳақида қайғуриш бор”[5].

Тўплам ёзувчи У.Ҳамдамнинг “Истиқлол адабиёти – озод тафаккур адабиёти” ҳамда “Муаллиф ўлими”га сиз ҳам овоз берасизми?” сарлавҳали мақолалари ва уларда ўртага қўйилган саволлар бўйича уюштирилган баҳс-мунозараларга муносабат билдириб ёзилган баҳслардан таркиб топган. Мунаққидлар, адабиётшунос олимлар, ижодкорлар мавзу доирасида баҳсга аралашиб, ўзларининг мулоҳазаларини билдиришган.

Тўпламнинг “Янги авлод овози” деб номланган биринчи қисмида бадиий-эстетик қарашлардаги фарқли томонлар, ижод эркинлиги ва ижодкор масъулияти, бадиий матнга баҳо беришда холислик, “бозор адабиёти”, “жиддий адабиёт” каби мавзулар тўғрисида баҳс юритилган мақолалар берилган. Масалан, адабиётшунос олим Ш.Ризаев бугунги кунда адабий танқиднинг сусткашлигини танқид қилар экан, шундай ёзади: “Адабий танқидни тақдир деб қабул қилган ўнлаб мутахассислар бор эди. Уларнинг аксарияти ҳозир ҳам бор. Аммо нега адабий танқиднинг ижтимоий-адабий, бадиий-эстетик ҳаётимиздаги ўрни сезиларли эмас?”. Бунинг сабабларини профессионал тайёргарликнинг етишмаслиги, юзхотирлик, ортиқча мақтов, нохолисликда деб кўрсатади.

Тўпламдаги Ҳ.Болтабоев, Д.Қуронов, У.Норматов, И.Ғафуров, Қ. Йўлдошевларнинг жавоб баҳс-мақолаларида адабий авлод, адабиётнинг вазифаси, ижодкорнинг бурчи, турли ижодий оқим ва услубларга ҳозирги ижодий жараён нуқтаи назаридан туриб муносабат билдирилган. Мунозарада Б.Рўзимуҳаммад, А.Йўлдош, Н.Эшонқул, Исажон Султон каби ижодкорларнинг иштироки ҳам унинг қизғин ва баҳсларга бой ўтганидан далолат беради. Айниқса, “Муаллиф ўлими”га сиз ҳам овоз берасизми” баҳс-мақоласи асосида юзага келган фикр-мулоҳазалар кескинлиги, ҳақиқатга йўғрилган мулоҳазаларга бойлиги билан эътиборни тортади.

“Икки йил давом этган баҳс-мунозаралар натижаси сифатида юзага келган бу китоб адабиёт ихлосмандлари томонидан илиқ кутиб олинди. Тўпдамдан жой олган ҳар бир мақолада ижодий жараённинг муаммоли масалаларига эътибор қаратилган. Китобга ёзган сўнгсўзида С.Мели таъкидлаганидек, “Нима бўлганда ҳам ушбу икки баҳс адабий ҳаётимизда сезиларли воқеа бўлди”. Ҳақиқатан ҳам бу тўпламнинг чоп этилиши адабий жараёнда баҳснинг ўрни ниҳоятда муҳимлигини кўрсатувчи бир воситадир. Фикримизни Ш.Холмирзаевнинг қуйидаги сўзлари тасдиқлайди: “Бир замонлар – ёшликда – адабий баҳсларни яхши кўрардим. Ҳе, тонгларни оттириб талашардик тенгқур, адабиёт мухлислари: “Адабиёт андоқ бўлиши керак, ёзувчи мундоқ бўлиши шарт” ва ҳоказолар...

Эндиги баҳсларимиз адабиёт майдонидаги фавқулодда янги ҳодисалар ҳақида бўлади, холос.Ундай ҳодисалар эса ҳар куни рўй беравермайди...”[6].

Мустақиллик йилларида баҳснинг кўпайиши мунаққидларнинг фаоллиги ошганлиги, илмий таҳлиллар кучайганлиги, фикрлар “жанги”нинг миқёси кенгайиб бораётганлиги, мунозаралар одат тусига кириб бораётганлигини адабий танқидчиликдаги устувор тамойиллардан бири деб ҳисоблаш мумкин. Аммо кейинги йилларда баҳслар бир оз сусайганини ҳам кўриш мумкин. Масалан, 2018-2021 йилларда чоп этилган “ЎзАС” газетаси саҳифаларини варақлаб кўрганда бунинг гувоҳи бўлиш мумкин.

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“ЎзАС”нинг “Акс-садо” рукни остида профессор Баҳодир Каримнинг “Танқид кимга ёқади” мақоласи чоп этилган. Бунга жавоб сифатида 2019 йил 22 мартдаги сонида Германиядаги Олмон-Ўзбек илмий жамияти раиси, профессор Хуррам Рахимов “Танқид менга ёқади” номли мақоласи сарлавҳасида шундай ёзади: “Ўзбекистон адабиёти ва санъати” газетасининг 2019 йил 1-сонида профессор Баходир Каримнинг “Танқид кимга ёқади” савлавҳали фикрлашга ундовчи мақоласи чоп этилди. Хўш, танқид кимга ёқади? Жавоб оддий: танқид ўз соҳасининг устаси, меҳнат ва машаққатдан қочмайдиган ҳар бир инсонга ёқади. Кимга ёқмайди? Таниш-билишлик, қариндош-уруғчилик тарафкашлик асосида бирор мансаб ёки мукофотга “эришган”, лавозимини суистеъмол қилувчиларга, таъмагир ва порахўрларга, албатта ёқмайди. Бу айни пайтда жамиятимиз кун тартибида турган долзарб масала”.

Шунингдек, газетанинг 2018 йил 14 декабрдаги сонида “Адабий жараён: муаммолар ва мулоҳазалар” рукни остида газета таҳририяти томонидан ўртага ташланган саволларга филология фанлари доктори, профессор Йўлдош Солижоновнинг “Айтинг-айтинг” номли мақоласи чоп этилганки, унда баҳсга чорловчи фикрлар мавжудлиги кўринади. Бундан ташқари газета саҳифаларида баҳсга мурожаат кўзга ташланмайди, ҳолбуки, бугун адабиётимизда ранг-баранг жанрлардаги асарлар шу даражада кўпаймоқдаки, адабий танқид уларни баҳс орқали ҳам таҳлил қилиб, баҳосини бериши мумкин, бу эса танқидчиликда баҳс жанрига муносабат бироз сусайганлигини кўрсатади.

Хулоса қилиб айтганда, мустақиллик йиллари адабий танқидчилигида эркин фикр алмашинуви, баҳслашиш авж олаётганлигини таҳлил қилган мақолалар яққол намоён бўлади. Баҳслардаги кузатишлар, адабиёт ривожига туртки бера оладиган асосли фикр-мулоҳазалар ҳаққоний бўлиши талаб этила боргани кўринади.

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THE PLACE OF THE LITERARY REVIEW IN THE CRITICISM OF 20th CENTURY

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Abstract. *The article discusses the role of the literary review genre in the development of criticism in the 20th century. One of the active genres of literary criticism and the history of literary criticism in Uzbek literary studies has been studied. The literary works of the literary scholar and critic A. Sa'di, who contributed to the development of this genre are analyzed and their important aspects for today's era are shown.*

Creative activity in the field of literary criticism grew many important issues of the literary-historical process were in the center of attention of literary criticism. It is a characteristic feature of the period, and the literary view, in which the genres of criticism played an important role, is also seen as an active genre in this process. But by the end of the 30s, as a result of the rise of the cult of personality, the decline of creative activity in the field of literary criticism, as well as in the whole literature, is shown.

It seems that literary and critical reviews are of great importance in the development of literature and in intensifying the literary process. At the same time, the opinions created during this period show that every opinion has a deep logical root, and that it is necessary to have reasonable, scientific and theoretical discussions. Therefore, the high influence on the development of literature, the literary process and the special place of literary objects in literary criticism clearly indicate the need to study them from a scientific and theoretical point of view.

Keywords: *literary criticism, critic, literary review, genre, analysis, interpretation, review article, literary review, review, reviewer, literary problem.*

Introduction. Current literary criticism criticizes and evaluates modern works of art in terms of people's life, its current needs and demands, identifies their merits and defects, helps writers' in creative growth and the development of literature. Literary criticism uses different genres and forms in order to fulfill these tasks. Genres such as review, literary review, literary-critical article, literary portrait, badia, memory-memoir, critical-biographical essay, scientific-biographical research are very active and contribute to the growth of literary-critical concept, and are widely used in Uzbek literary criticism.

If we look at the history of Uzbek literary criticism, it can be seen that a number of its genres began to form various examples that were created at the beginning of the 20th century. Along with such genres as reviews, articles, literary portraits, literary reviews were also created and were active in the literary process of that time.

The main part. New forms of expressing literary and critical views appeared at the end of the 11th century in the beginning of the 20th century. Because in this period a printing house, a new type of school-gymnasium etc. were opened in Turkestan. Newspapers began to appear in Uzbek, articles and reviews were published. In addition, at the beginning of the 20th century a number of magazines began to appear. On these pages were published the articles on literature of various levels, debates and discussions were organized. It should also be noted that most of the literary-critical articles created at the beginning of the 20th century were publicistic in nature. Among them, there were few written about Uzbek poets so, most of them consisted of references about Russian writers as A.S. Pushkin, N.V. Gogol, I.S. Turgenev, L.N. Tolstoy, A.P. Chekhov and their works. One of the valuable information for the improvement of literary and critical thinking in these articles is the repeated emphasis on the need to translate the works of Russian writers into Uzbek.

"Literary-critical thoughts of this period were more expressed in journalistic speeches and artistic works than in articles of a literary critical nature. The function of criticism was performed by journalistic

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articles and works of art" [8,47]. Indeed, the formation of literary-critical articles as a genre comes later - during the period when literary criticism was enriched in terms of content and form. Literary criticism gradually obviated confusion and began to prepare for the process of differentiation. In this process, literary views began to be created.

The newspaper "Turkestanskie vedomosti" also put forward some ideas about the future appearance of Russian literature in the 10s of the 20th century. The first example of a review article in Uzbekistan was published for the first time in the newspaper "Turkestanskie vedomosti" in 1910. This article was entitled as "Life and Literature of 1909" and aims to introduce the people of Turkestan to the Russian literary situation in 1909.

In the 20th century, literary criticism played an active role in the literary-historical process despite it's virginity.

Despite its novelty, literary criticism played an active role in the literary-historical process of the 20th century. It raised many main issues related to the development of the literature of this period, discussed about the literary characters, writers and their works, gave them the correct assessment and thus influenced the true development of the literature. In this regard, the genre of literary reviews like reviews and articles, also showed activity.

"In the literary overview, the general views on the studied literary phenomenon are described, the literary arguments related to that literary phenomenon are summarized on the basis of consistent practical-aesthetic logic, and certain general conclusions are reached" [1,68]. The process of creating literary images with such characteristics has begun

It is possible to note among the first literary-critical reviews articles in the history of Uzbek literary criticism such as "A view of six years of Uzbek literature" (1924) by the literary scholar Ashurali Zahidi, "Six years of Uzbek poetic literature" (1924) by A. Sa'di.

About the literary views of A. Sa'di. Uzbek criticism began to develop rapidly at the beginning of the 20th century with the development of the press. Literary critics and artists such as V. Mahmud, Ain, Cholpon, Fitrat, A. Qadiri, A. Sa'diy made an important contribution for the formation of literary criticism genres with their works. Among them are, A. Sa'diy who was known as one of the critics who significantly contributed to the enrichment of several genres belonging to the system of genres of Uzbek criticism, at the same time, it is safe to say that he is one of the founders of the genre of literary review in Uzbek criticism. Reviews such as "Uzbek Young Poets", "Uzbek Poetic Literature in Six Years" are considered to be the first examples of this genre of criticism.

"In the first half of the 20s, one of them was A. Saadi, mainly as a critic. He was one of the first in Uzbek criticism with his articles such as "October change and Uzbek literature" ("Turkistan", 1922, November 7), "Uzbek young poets" ("Turkestan", 1923, December 10) and the study of Uzbek literature of the new era started his work (albeit with certain shortcomings)" [8,279]. This opinion also confirms that the first review article in Uzbek literary studies belongs to the pen of A. Sa'di.

A. Sa'di's review "Uzbek poetic literature in six years" was written in 1924, in which he reviewed the 6-year path after the coup and analyzed the literary works of the period as wel"If the poet of Turkestan is the poet of the courtiers and the Aksuyaks, the Uzbek poetic literature of the next six years will grow on the way to become the people's." At the same time, Saadi, as a scientist of his time, could not evade the spirit of the time in his articles and reviews. This is especially evident in his thoughts that "This literature is a revolutionary poetic literature that has expanded towards the poor working people", although these thoughts were considered correct for that time, today it is seen that A. Saadi followed the path drawn by the ideology of the time.

The scientist evaluates the works of activists of that time, such as Hamza, A. Qadiri, Fitrat,Botu. It is true that, while thinking about Hamza's work, the scientist gives examples from his revolutionary poems and analyzes them, but tries to correctly assess the work of the poet. But some of his thoughts about Hamza still attract attention because they are not outdated. For example, he writes about Hamza: "Most of his works are drawn from the lives of Uzbeks, from various social events of that time, attracting some attention. We can still see a person who is a poet of the heart, musicianship and inventing different tunes, dramaturgy and artistry, in Comrade Hakimzad alone" [13].

Later, during the Shura era, there was an increase in the number of studies that unjustifiably aligned Hamza's work with the Soviet red ideology, while the poet's work began to receive its true value by the years of independence. On this front, it is also seen that Saadi's opinion about Hamza in the literary review genre is correct to some extent.

In his review-article by name "A Look at Six Years of Uzbek Literature" he carefully examined the leading principles that emerged during the six-year path of post-coup literature. He thinks about the

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achievements and shortcomings of Hamza, A. Qadiri, Cholpon, Botu, Elbek. While thinking about Elbek, he is called him as prolific poet who writes from the life of a worker-peasant, from the life of village children. He is the an only storyteller in the field of literature, but he criticized for the fact that, "his ability to write lyrical poems has not yet increased."

Professor A. Sa'di's review article "On the first creative pens of the young generation" written in 1933 mainly analyzes the work of young people. While studying the work of young people in general, A. Sa'di wrote three poems of Zulfia ("Cotton") included in the collection of poems of amateur poets entitled "Uchinchi bogin", “Pioneer”, “Kolkhoz girl”) wrote as follows: "These poems also show that this pen was a fast-growing artist, a pen with the ability to grow quickly." In fact, this prediction of A. Sa'di turned out to be correct - the creativity of the young poet grew rapidly" [14,4]. These comments clearly show that the literary scene entered the process of formation at the beginning of the 20th century, in which the active critic of his time, A. Sa'di, played a big role.

A. Qadiri's works are also analyzed in the literary review. A. Sa'di's comments about A. Qadiri deserve attention. He describes Abdulla Qadiri as a young and powerful writer who is a master of stories, especially comic stories. He wrote that "this talent has contributed greatly to the rise of Uzbek literature, and founded the novel genre in Uzbek literature with the novel "Past Days" published in "Inqilob" magazine.

In this review, Botuni is described as "a strong talent who is still developing and blooming in poetic literature, who has a lot of hope for himself."

His article "October change and Uzbek literature" shows that criticism turned towards life and literature. The articles "Uzbek Young Poets", "Movement in the Field of Uzbek Literary Creativity" had an impact on the literary process of the time.

It is true that they show a number of shortcomings such as linking the development of literature with socio-economic life, worldview and cult of ideas, ideology, vices such as commandism, but these issues are a detailed analysis of the literary process, its leading principles, and the works of poets and writers who are actively creating. it was valuable in terms of achievement, showing shortcomings, identifying and popularizing news [9,64].

A. Saadi, showed the connection between Turkish and Uzbek literature on the example of Cholpon's poems, rightly commented that "even though it is under the influence of the Ottomans in terms of spirit and tone, it (i.e. Cholpon) has its own special style of language.

"In terms of criticism, when we talk about the theory of literature in general, first of all, A. Sa'diy comes to our mind"[12,49], - writes the literary critic R. Majidi, who thought about the literary criticism of the 20th century. Emphasizing that he will appear "as a critic and a teacher of literature", he gives the following opinions: "The first factor influencing him to truly wake up in the East, to marry a real man, with a real meaning, and to get rid of the old corrupt marriage is literature and there will be poetry, stage and theater. We all know that the stage works of writers like Dante contributed to the fall of the life and office of the Middle Ages.

Especially, beautiful literature and poems are the emotional guides of the people, they can drive all the emotions of a people to the desired sides and connect them to the desired points" [12,49]. It can be seen that these views about beautiful literature have not lost their appeal even today.

In his review article "Young poets of Uzbekistan", the critic gives a wide place to the works of nationalist writers and poets as: "Behbudi is the father of Uzbek literature, the first editor, Fitrat is the chief scholar of young Uzbek literature... This romantic poet, imbued with the romantic spirit of the new Ottoman and Iranian literature, has a wide range of love poems. Also, opened the way while Navoi and Babir had love hidden under the veil of imagination, Fitrat opened the door to the worldly love of the East and sang love poems to women," he writes.

The fact that Fitrat is regarded as the chief scientist of young Uzbek literature is seen in his language and style. He believes that his greatest contribution to the birth of young Uzbek literature is in the language and style, and that he did not strongly resist the influence of Chigatai literature. Whatever the genre, the critic helps both the writer and the reader with his work. A critic helps both the writer and the reader with his work, regardless of genre. He should not stay within the framework of the work taken as an object, but should reveal new ideas and attract the attention of writers and readers to these ideas. The examples we have given clearly show that the same feature is the priority in A. Sa'di's literary works.

Conclusion. In the 20th century, critics such as K. Tregulov, V. Mahmud, Ain... addressed this genre and raised literary problems important for that time.

For example, the critic Kashshof Tregulov in his review entitled as "On the road to health of our elegant literature front" points out the schematic images in Sh. Sulayman's poetry, the lack of consideration of the psychological mood and mental state when describing the life of the lyrical hero, and the fact that the

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breath of the present time is not felt. At the same time, there are many shortcomings related to the era in his book. For example, the call to artists to vividly and deeply portray the image of freed Uzbek women and red soldiers is an example of our opinion.

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Navoiy gulshani

IDEOLOGICAL-ARTISTIC ANALYSIS OF THE 10TH VERSE IN ALISHER NAVOI’S “BADOYE UL-BIDOYA” COLLECTION

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Abstract. In this verse of Hazrat Navoi praises many qualities of Allah: kindness, power, forgiveness, mercy. The verse is also remarkably artistic. In the course of the analysis, we came across many unique and beautiful examples of art, including: tasbeh, tanosub, tazod, rhymes. Like other works of Navoi, this verse has passed through the centuries and has not lost its value to this day.

Keywords: Praise, eloquence, kindness, piety, imagination, inadequacy, flaw, guidance, grace, kindness

Every artist has a wide world. However, Alisher Navoi's demand for art was very large. In the preface of the poem "Badoe` ul-bidoya" the poet dwells on this subject in detail. The great artist of words, through the magic of poetry, encourages members of different worldviews, different categories of society to live with a single goal, an objective goal. There are important reasons for this conclusion.It is interesting to note that when we read the preface of the above-mentioned collection carefully, the following thought came to our attention: the cuplet of each letter does not differ from the previous cuplet and other cuplet in style. With this emphasis ("previously written cuplet") the poet is referring to the cuplets placed in the first place instead of on the walls. In the first cuplet in "Garoyib us- sigar", the most perfect miracle created by the truth is glorified by mature(perfect) person. The first cuplet of "Navodir ush-shabab" describes the work that distinguishes man from the creatures of truth and defines his essence. The art of verse writing is of special importance among a number of disciplines, such as epic writing, rubai writing, and lexicography. Although the problems of the poet's writing style (verse) have been comprehensively solved in Navoi studies, there are many points of his analysis. After all, with each line, the creative legacy of this great word artist, associated with eternity, deepens as one studies it. The mysteries of the poet's secret are getting deeper and deeper. The verse we are going to analyze is the 10th verse, which begins with the article "Falak nilufaridin chashmayi mehr oldi gar paydo" from the "Badoye 'ul-bidoya" collection. This poem is 9 cuplets, 136 words long. Below we would like to quote the full text of the poem.

Falak nilufarlaridin chashmayi mehr gar o'ldi paydo
Yuzungda nildin ul chashma wilmish nilufar paydo
O'qung ko'ngluma yetgach qatra qonlar tomdi , kim ko'rmish
Nihol andoqki oni tekkan o'q , bo'lga'y samar paydo
Achig' so'z birla bel qatlimg'a bo'g'lar turfaroq bukim ,
Nazarg'a ne og'iz zohirdir andin ne kamar paydo
Labi shavqi ichimda, yuzda qon yoshim ajab ermas
Yuzida la'l yutqonning bo'lur derlar asar paydo
Ko'ngulni parishon aylading , yuz barqi g'am sochti
Nachakim o'tni qo'zg'arlar, bo'lur andin sharar paydo
Yorutdi vasl shami ahli hijron tiyra avqotin
Mening shomimg'a , vahkim qilmadi davron sahar paydo
Ajal qasrin hakimi sun bas mushkil tilsim etmish
Ki har kim anda kirdi, bo'lmadi andin xabar paydo
Masihodan dam urmakim , habibim gardig'a yetmas
Agar Jibrildek ilkidan oning bo'lsa par paydo

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Navoiy ishqin ey zohid, sening qanday ayon qildi
Bale , ayb o'lmag'uncha oshkor , o'lmas xunar paydo

For information, Alisher Navoi's lyrical poems are collected in 8 collections. Badoye ul-Bidoya (The Beginning of Art) is the first official collection composed by the poet himself. The work was compiled between 1472 and 1476 at the request of King Hussein Boy of Khorasan. Alisher Navoi's Badoye ul-Bidoya has the sixth copy in Turkey. It turns out that the manuscript was written by the famous calligrapher Sultanali Mashhadi during Navoi's lifetime. In the Middle Ages, all the works of Eastern poetry began with the praise of Allah and the words of our Prophet Muhammad (peace and blessings of Allah be upon him).

Falak nilufarlaridin chashmayi mehr gar o'ldi paydo,
Yuzungda nildin ul chashma qilmish nilufar paydo.

Falak- the sky
Nilufar- flower lily
Nil- antimony's stick

Prose statement:

Because the lily was blue, a fountain of love emerged from the blue clouds. Here the sky is like a fountain and the clouds are like lilies. Nil-the stick of antimony. It is said that the spring in Yulzung produces a spring lily. Here your face is like the sky and you will be as beautiful as a lily when you ride.

O'qung ko'ngluma yetgach, qatra qonlar tomdi , kim ko'rmish
Nihol andoqki oni tekkan o'q , bo'lga'y samar paydo.

Samar-fruit
O’q- ache, pain

Prose statement:

There was a drop of blood in my heart when you shot me, but no one saw who saw it.

Achig' so'z birla bel qatlimg'a bo'g'lar, turfaroq, bukim ,
Nazarg'a ne og'iz zohirdir andin, ne kamar paydo.

Kamar- belt

Prose statement:

With a bitter word, you decided to kill me. Surprisingly, I noticed that you did not have
mouth and no belt in it. It was considered a sign of beauty

Labi shavqi ichimda, yuzda qon yoshim, ajab ermas.
Yuzida la'l yutqonning bo'lur derlar asar paydo.

Shavq- dream, desire
La’l-ruby, sapphire
Asar- spot

Prose statement:

The passion of the lips of a beautiful friend is in me. No wonder I see bloody tears on my face. That is why it is said that the one who swallows the stone is red because of it.

Ko'ngulni parishon aylading , yuz barqi g'am sochti,
Nechakim o'tni qo'zg'arlar, bo'lur andin sharar paydo.

Barq- nimble
Sharar- fire, flame

Prose statement:

You were devastated. The grasses stirred, and from them a flame arose.

Yorutti vasl sham’i ahli hijron tiyra avqotin,
Mening shomimg'a , vahkim, qilmadi davron sahar paydo.

Tiyra- dim, dull
Avqot- time, life

Prose statement:

Vasl shami hijron illuminates the dim life of the people of separation, that is, all the people who have migrated. But this light did not dawn on me, that is, on my dark life. That is, it could not be as bright as the morning.

Ajal qasrin hakimi sun’ bas mushkil tilsim etmish,
Ki har kim anda kirdi, bo'lmadi andin xabar paydo.

Hakim- philosopher, doctor
Sun’-1) creation, power, 2)job, craft

Prose statement:

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The ruler of the Palace of Death cast a spell so that no one who entered it knew about it. The claim of all good and evil in this world is death.

Masihodin dam urmangkim , habibim gardig'a yetmas ,
Agar Jibrildek ilkidan oning bo'lsa par paydo.

Masih- The nickname of Jesus has the character of giving life and resurrecting.
Jibril- Gabriel
Ilki- hand's of someone
Par- wing
Prose statement:

Even if he has a pair like Gabriel, he can't be equal to my lover. This refers to the Prophet Habib Muhammad. Do not preach to me about Christ. If a wing emerges from Gabriel's hand, it will not be equal to the guard of my beloved (Muhammad). In this verse, Hazrat Navoi attributes the purest man in the world, Muhammad S.A.V.

Navoiy ishqin, ey zohid, sening panding ayon qildi,
Bale , ayb o'lmag'uncha oshkor , o'lmas hunar paydo

Zahid- is a sheikh who renounces worldly affairs and engages in prayer.
Prose statement:

O Zahid, your teachings have revealed Navoi's love, that is, no one will understand his claim until love (guilt) is manifested.

Verse 72 of Surat al-Ahzab in the Qur'an states: Indeed, he (the oppressor and the ignorant) knew that the whole universe was a heavy burden and could not bear it, but man unknowingly found it difficult. Took over. " Scholars have interpreted the word "deposit" as "love". Love is unique to man, and other beings are deprived of it. Man is thirsty to know the secret of the whole being. The desire for enlightenment satisfies man's thirst for eternal and eternal Unity. He saves man from ignorance and delusion, and leads him to the eternal world, meaning that he is a part of the divine being. That is why there is always a cry from the "eternal drinker": "O thirsty, drink the blood of love." This call alerts a person through the Mind. The idea that begins with the "sound of the cup" in the poem ends with the "cry" of the "eternal drinker" in praise. This is a sign of man's striving for Allah and Allah's "always" for man (hadith: "If you take a step towards Me, I will be a hundred steps closer").

This poem is dedicated to the interpretation of the mysterious moments of the soul with love, the flight of the world to the unseen and the attainment of the status of Unity - the gradual development of perfection. The basis of the sect of perfection is to promote the enjoyment of a peaceful and peaceful life on earth through reconciliation. The great poet devoted his whole life and work to the interpretation and promotion of this great goal. This idea is reflected in the poet's vital activity - the establishment of a warm atmosphere between the palace and the people, the coronation disputes between the father and son (Sultan Hussein Boykaro and his crowned sons), various events inside and outside the country. The fact that he was able to resolve troubled and dangerous situations by mutual consent and peace, and that he was a guide to the people of knowledge. Therefore, Hazrat Jami Mir Alisher's authority in the socio-political life was described as: Amir Alisher is a scholar of the rules of the nation and religion, who is devoted and devoted to him. The great Navoi could not remain indifferent to the socio-political problems of his time. In addition, he lived and worked at a time when there were frequent disputes between different sects, Shariat and sects. The poet seeks to master the various currents of mysticism, the masters of the sect in the climate of words, and to turn the people of the Shari'at from dry, false worship, superstition, shortsightedness. Repeated Because the relationship between “truth and man” is interpreted differently in the Shari’at and the teachings. The poet believes that the main reason for these conflicts is the lack of understanding of the essence, the low level of enlightenment. In Alisher Navoi's devon, after enlightenment-artistic cuplets in the direction of praise, nat and sermon, artistic-enlightenment cuplets are placed. As the literary scholar Ibrahim Haqqul noted: "Alisher Navoi filled in the gaps and shortcomings in the Uzbek literature where he felt the gaps or shortcomings, and put an end to the shortcomings." His contribution to the development and development of praise poems in literature (including praise poems) is commendable in this regard. Many people do not understand the essence of cuplets, which are expressed through complex symbolic systems. Or, conversely, superficial understanding has led to various conflicts.

It is a general idea that the Shari'a and the teachings are a gradual, integral, continuous logical process that requires each other to build a perfect society and a perfect human being, uniting the poems of the great poet. Every word in the poem is symbolic. Here are the meanings of some of them. In general, Alisher Navoi was able to demonstrate a high level of skill in the effective use of words with these poems.

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GPP KANDYM - EXAMPLE COOPERATION BETWEEN UZBEKISTAN AND RUSSIA IN THE OIL AND GAS INDUSTRY

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Abstract. *This article is about the construction of the largest gas processing plant in the Bukhara region. With its volumes of work done and its importance not only in this industry but also in the entire oil and gas industry of Uzbekistan, it occupies a leading position in the whole of Central Asia. It is no secret that recently the issue of energy independence has become fundamental all over the world. A state that provides itself with inexpensive energy resources has an advantageous position in the entire hydrocarbon market, and also has a positive impact on the dynamics of economic growth as a whole.*

Methods. *Using the example of the cooperation of such a giant in the hydrocarbon market as Lukoil, one can trace the successful development of cooperation in the field of extraction and processing of raw materials. We can directly state the fact that our Republic has made the right choice in determining the development strategy of this industry, thereby being at least 15-20 years ahead of time. Research shows that a well-chosen development strategy can in the future give an impetus not only to the development of the industry but also to the entire economy.*

Results and discussion. *Cooperation in the field of production and processing of hydrocarbons with the giant of this industry helps our country in the development of the oil and gas processing industry, and also in the process of this cooperation grows much–needed personnel for the successful fulfillment of the tasks facing the country.It is no secret that without qualified personnel to solve global problems in the field of energy – impossible. Therefore, the construction of this giant has served as a good school for the education of its personnel in the industry, besides they have gained a lot of experience in this field. Theoretical knowledge not supported by the necessary skills in practice cannot lead to success in general. Figures and facts prove that our country has gained invaluable experience in the construction of such significant facilities.*

Conclusions. *Thus, we can safely say that the construction of a raw material processing plant in Kandym has become an important stage in the development of the entire oil and gas industry of Uzbekistan. The invaluable experience gained by our young specialists shows the importance of this project. And the country, in turn, received a strategically important facility for processing raw materials. And if we take into account the fact that the plant separates sulfur from gas – this opens up additional prospects for the development of the chemical industry, since sulfur can be processed as fertilizers for agriculture. This made it possible for the reconstruction of the Navoi-Azot plant.*

Keywords: *plant, construction, gas, complex, productivity, integration, personnel, IT systems, customer.*

Introduction. The Kandym group of gas fields is located on the territory of the Karakul district of the Bukhara region of the Republic, near the border with Turkmenistan. The key features of the implementation of the Kandym project are difficult climatic conditions and an increased content of hydrogen sulfide in natural gas, therefore strict compliance with additional regulatory and technical requirements existing in Uzbekistan, as well as relevant international standards in the design, construction and operation of the Kandym gas processing complex is required. The Government of Uzbekistan has approved a feasibility study for the construction of a gas processing plant complex and the development of the Kandym group of fields (the first stage) being developed by the Russian company LUKOIL, follows from the resolution (PDF) of the Cabinet of Ministers of September 8.

1. To provide the Kandym GPP with technical and integration solutions that allow implementing and using advanced approaches in enterprise management issues, as well as automating the main business processes and technological chains as much as possible. As part of this task, it was necessary to develop a concept for building a unified software and hardware environment that ensures the operation of IT systems, security systems, radio communication systems, telephone communication, operational production and dispatching communications designed for safe and efficient operation of the facility.

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2. To realize the possibility of integrating a complex of engineering and information systems and security equipment with a single enterprise management system, automation systems, as well as other IT and communication services at this site and in the infrastructure as a whole.

3. Provide the personnel and all business processes of the enterprise with a high-quality and reliable complex of engineering and information systems and security facilities of the facility,radio communication on the territory of production facilities, a video surveillance system for monitoring production processes, a transport network to ensure the operation of information services.

IT integration- infrastructure of the Kandymsky GPC : from IT infrastructure and communication systems to integrated automated control systems and MES, as well as technical means of ensuring security. ITPS ensured the integration of the construction of a physical transport system on all new projects of the facility with subsystems that were built by various IT contractors, and also carried out the development of design and executive documentation, conducted integration tests, commissioning and provided production personnel with high-quality VHF radio communications built on the basis of solutions of the largest European aerospace industry corporation. As a result, the Customer received a reliable a modern complex of systems. It corresponds to the best practices in the field of IT infrastructure of large production enterprises. All services work smoothly 24/7.

The IT infrastructure created at the gas processing plant and other facilities of the Kandymskoye and other facilities of the Kandymskoye field is the basis for the intellectualization of the company's asset. This innovative approach to the management of mining enterprises involves the introduction of a complex of modern technical, technological and organizational solutions to ensure the interaction of all elements and subjects of management of production activities in order to continuously improve its performance indicators. As the experience of the world's largest oil and gas producing enterprises shows, the main result of the intellectualization of deposits is to reduce losses and increase production throughout the life cycle of field development.

The project was completed on time, in a short time, despite the remoteness of the location of the complex and climatic conditions, within the planned budget and in accordance with international quality standards. When creating the telecommunications and IT infrastructure of the facility, the ITPS Group of Companies fully took into account both the corporate standards of the field operator and the requirements of EPC contractors regarding delivery times, the composition and cost of solutions, and their integration.

The first stage of the project (2015-2018) provides for the arrangement of 77 project wells, the construction of 6 cluster sites, 2 assembly points, an export gas pipeline, a shift camp, external infrastructure facilities, a gas processing plant of the Kandym group of fields with an annual production volume of 7.819 billion cubic meters of commercial gas, 134.36 thousand tons of stable condensate and 212.9 thousand tons of elementary sulfur. The commissioning of the facility is scheduled for December 2018.

The second stage of the project (2020-2029) provides for the construction of 21 project wells, the construction of 2 bush sites, 2 booster compressor stations (DCS) and transport infrastructure facilities. At the third stage (2028-2032), 16 project wells of the Khodzhi, Western Khodzhi, Akkum-Parsankul fields will be built with the construction of 3 cluster sites, 2 assembly points and 2 DCS. In February, LUKOIL and a consortium of contractors led by South Korean Hyundai Engineering signed a contract for the supply of equipment and construction of the Kandym Gas Processing Plant worth $ 2.66 billion. The total cost of the plant with infrastructure will be about $ 2.8 billion.

Currently, LUKOIL is working in Uzbekistan on the implementation of three projects — "Kandym-Khauzak-Shady-Kungrad", is developing the fields of Southwestern Hissar, and is also conducting geological exploration of the Uzbek part of the Aral Sea as part of an international consortium. As part of the first two PSA projects, LUKOIL plans to produce up to 18 billion cubic meters of gas by 2020, and the volume of investments will increase to $8 billion against about $ 3.5 billion invested to date. According to the results of 2014, LUKOIL's accumulated gas production in Uzbekistan amounted to 25 billion cubic meters. The project for the construction of the Kandym gas Processing Plant, implemented under the Agreement between the LUKOIL oil Company and the Republic of Uzbekistan, is one of the largest investment projects of the Republic of Uzbekistan. As part of the project, a natural gas collection system, a gas pumping plant, an administrative building, repair zones and other pre-factory facilities, as well as an autonomous residential complex for 1 thousand 150 people have been equipped on the territory of the Kandym field. About 500 km of technological and in-field pipelines, 281 km of highways, water pipelines, 272 km of power lines, as well as an access railway with a length of 50 km have been built.

Methods. Within the framework of the project, IT systems and security systems were to be developed for the Kandym Gas Processing Plant - a complex with a production capacity of 8 billion cubic meters of gas per year. The GPC includes two technological lines of 4 billion cubic meters each, external electricity and

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water supply facilities, a collection system and an export gas pipeline, a shift camp, a fire station, etc. As part of the conceptual design, the foundations were laid for the creation of an integrated complex of IT systems, from IT infrastructure and communication systems to an integrated automated control system and MES, as well as technical means of ensuring security.The constant interaction of ITPS with all stakeholders of the project, combined with an integrated approach to its implementation, ensured the construction of a high-quality IT infrastructure within the framework of the investment program.

The need to implement the project in a short time led to the combination of various types of work. For example, the supply of equipment was carried out already at the stage of system design. The complexity of the project implementation was mainly due to climatic conditions: The Kandym group of deposits is located on a desert plain, 90% of which is occupied by sands. The climate here is sharply continental, with hot and dry summers and harsh winters. Water resources are limited. All this imposed the highest requirements on developments that would ensure the stable functioning of the IT infrastructure and the smooth operation of equipment installed both inside the premises of the Kandymsky GPC and outside, on the territory of the complex, where sandstorms are not uncommon. For the effective use of the implemented systems, ITPS specialists were at the fields during the pilot operation, during which they continued training and consulting the employees of the customer company, as well as carried out additional equipment configuration taking into account the customer's requirements. The implementation of a complex, high-tech and large-scale project became possible thanks to the coordinated work of a large team of professionals - highly qualified specialists not only from Russia, but also Uzbekistan, CIS countries, world leaders in the IT industry. The result of their interaction was a complex based on advanced technical developments and automated solutions, taking into account modern production safety and labor protection requirements, designed to make the operation of facilities at the fields as efficient as possible.

1. Integration of the IT infrastructure of the Kandym GPC: from the IT infrastructure and communication systems to the integrated automated control system and MES, as well as technical means of ensuring security. ITPS ensured the integration of the construction of a physical transport system at all new project facilities with subsystems that were built by various IT contractors, and also carried out the development of design and executive documentation, conducted integration tests, commissioning and provided production personnel with high-quality VHF radio communications built on the basis of solutions of the largest European aerospace corporation Airbus Defense&Space. As a result, the Customer received a reliable modern complex of systems (more than ten installed modules using equipment and software from world-renowned manufacturers). The complex complies with the best practices in the field of IT infrastructure of large manufacturing enterprises. IT services function smoothly online 24/7.

2. The IT infrastructure created at the gas processing plant and other facilities of the Kandym field is the basis for the intellectualization of the company's asset. This innovative approach to the management of mining enterprises involves the introduction of a complex of modern technical, technological and organizational solutions to ensure the interaction of all elements and subjects of management of production activities in order to continuously improve its performance indicators. As the experience of the world's largest oil and gas producing enterprises shows, the main result of the intellectualization of deposits is to reduce losses and increase production throughout the life cycle of field development.

3. The project was completed on time, in a short time, despite the remoteness of the location of the complex and climatic conditions, within the planned budget and in accordance with international quality standards. When creating the telecommunications and IT infrastructure of the facility, the ITPS Group of Companies fully took into account both the corporate standards of the field operator and the requirements of EPC contractors regarding delivery times, the composition and cost of solutions, and their integration.

Results and discussions. Uzbekistan has rich hydrocarbon reserves that allow it to carry out long-term projects. According to estimates, a third of all the mineral resources of Central Asia are located in Uzbekistan, our country is among the twenty world leaders in gas production.

Today, the oil and gas industry of Uzbekistan is engaged not only in the extraction, but also in the processing of hydrocarbon raw materials and the production of products based on it. The industry unites a number of large enterprises for the production and sale of products in demand in the domestic and foreign markets.

At the present stage, one of the main activities of the industry is the deep processing of hydrocarbon raw materials and the production of value-added products from it, attracting foreign investment and expanding the geography of exports. Large foreign companies in the field of oil and gas production are involved in the implementation of projects in this direction. The result of such cooperation is the Kandym Gas Processing Complex, built under the production sharing agreement for the Kandym group of fields, the Hauzak, Shady and Kungrad sites together with the Russian oil company Lukoil. It should be noted that the

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construction of the Kandym gas processing complex was completed 8 months ahead of schedule. Exactly two years ago, on April 19, 2016, a ceremony was held to begin the construction of the complex, which was attended by President Shavkat Mirziyoyev. About 10 thousand employees and specialists took part in the construction of the complex and its infrastructure. After the commissioning of the enterprise, more than 2 thousand jobs were created.

The enterprise, built on the basis of the Kandym group of gas condensate fields in the Karakul district, is a vivid embodiment of Uzbek-Russian cooperation. Its capacity is designed to process 8.1 billion cubic meters of gas per year. Having reached full capacity, the complex will produce 212 thousand tons of pure sulfur per year, 134 thousand tons of stabilized gas condensate, purified natural gas will be exported. The Head of State got acquainted with the technological process, visited the laboratory and the central control panel. The complex includes gas production and processing systems, two gas processing plants, terminals for loading and transporting products, main gas pipelines, engineering and energy systems. Gas comes here from 114 wells connected to two gas collection points.

In addition, within the framework of the project, a modern working town for 1,150 residents has been erected in a remote steppe area of the Karakul district, in which all conditions for living and recreation of workers have been created. At the same time, technological and pipeline networks with a length of 500 kilometers, more than 280 kilometers of roads, a railway with a length of 50 kilometers and 272 kilometers of power lines have been laid. The commissioning ceremony of the complex took place in the administrative building of the enterprise. It was attended by the Minister of Energy of the Russian Federation Alexander Novak, President of Lukoil Vagit Alekperov, representatives of the diplomatic corps, state and public organizations, employees and engineers of the plant, young people, representatives of domestic and foreign media.

President of the Republic of Uzbekistan Shavkat Mirziyoyev made a speech at the ceremony.

The Head of our state noted that the work carried out within the framework of the Action Strategy serves the consistent development of leading industries. The active attraction of foreign direct investment in the fuel and energy industry and the Kandym gas processing complex itself are another vivid embodiment of cooperation between Uzbekistan and Russia.The congratulatory message of the President of the Russian Federation Vladimir Putin was read by the Minister of Energy of this country Alexander Novak.President of Lukoil Vagit Alekperov, engineer of the Kandym gas processing complex Shahzod Kurbonov, veteran of the oil and gas sector Komil Fozilov noted that this is a historic event for our country, the appearance of the complex, which can be called a miracle in the desert, was made possible thanks to the reforms carried out in Uzbekistan to develop the economy of the regions, ensuring human interests.

Bukhara region has a huge industrial, scientific, technical and intellectual potential, which serves as a foundation for the effective use of the capabilities of the new complex. The enterprise will not only become the locomotive of the regional economy, but will also radically improve the system of providing the country with hydrocarbon products and expand the scale of its exports. This work continues in accordance with the decree of the Head of our state "On measures to increase the production of finished export-oriented products based on deep processing of hydrocarbon raw materials for 2016-2020" dated September 28, 2016.A significant contribution to the implementation of this large-scale project with a total cost of more than $ 3 billion was made by the South Korean company Hyundai Engineering, which acted as a contractor. Without a doubt, the new industrial complex will become a unique object not only in Uzbekistan, but also in Central Asia as a whole.In general, the launch of the Kandym gas processing complex has begun a new stage in the development of gas fields in Uzbekistan. The development of the oil and gas industry, which is one of the leading in our country, will serve the economic recovery and further growth of the welfare of our people. Among the endless desert dunes of the Karakul district of the Bukhara region, like a mirage, a majestic giant appears before the eye - the Kandym gas processing complex with a capacity of 8.1 billion. m3 of gas per year. KGPC is LUKOIL's largest project in the Republic of Uzbekistan with a total investment of $3.5 billion. For the implementation of such an ambitious project in terms of its scale and significance, LUKOIL has applied innovative technologies from world-renowned companies for the first time in Uzbekistan. For the first time in Uzbekistan, 3 licensed processes have been introduced at the GPC: the technological process of removing acidic components using the amine solvent OASE™ (BASF, Germany), the technological process of purification of SELEXOL™ regeneration gases (UOP, Great Britain) and the technological process of obtaining sulfur SUPERCLAUS® (JACOBS, the Netherlands).

It is noteworthy that the start of construction was also given on April 19 - in 2016, exactly two years before it was put into operation. From that day on, the construction of the plant did not stop for a single day. 10 thousand workers and specialists worked on the construction of a giant complex and its infrastructure.

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Supplies of equipment and materials were provided by suppliers from 30 countries, which include Russia, the Republic of Korea, China, Japan, Italy, Germany, the USA, England, the Czech Republic, France, Uzbekistan and other countries. As a result of the far-sighted planning and effective management of the company's management, as well as the titanic efforts of LUKOIL employees and its contractors, a huge technological oasis has spread out on a desert plain with an area of more than 50 hectares 8 months ahead of the project deadline.

KGPC is a unique complex with modern engineering and high–tech infrastructure. The heart of the complex is a gas processing plant with 2 technological threads with a capacity of 4.05 billion. m3 of gas. The complex produces commercial gas, stable gas condensate and sulfur. The complex includes pre-factory facilities, an external water supply system (55 km), an electrical substation and power lines (268 km), gas collection systems, six bush sites, 71 wells, an export gas pipeline (70 km), highways (285 km), as well as a shift camp for 1,150 people, in which all conditions for comfortable living and full rest of employees.

The launch of the complex contributes to solving the task set for the oil and gas industry by the Government of the Republic of Uzbekistan in terms of in-depth processing of natural raw materials using modern advanced technologies. Since the beginning of operation, the accumulated volume of gas production at Kandym amounted to 21.3 billion cubic meters of gas, about 225 (224,521) thousand tons of condensate, 576 (576,344) thousand tons of commercial sulfur were produced. The launch of KGPC gave a huge impetus to the development of the region's infrastructure and allowed creating new jobs, attracting young personnel to work in modern production. As soon as the sun goes below the horizon, millions of lights light up in the night desert darkness among the sand dunes, forming a whole glowing city. Especially incredible is the view of Kandym from a bird's-eye view, from where a fascinating panorama of twinkling lights opens. The impressive scale of the Kandym gas processing complex is admired by the "miracle" created by man.

Conclusions. Thus, today we have a high-tech plant built with the latest technology and equipped with modern equipment, along with this, it should be emphasized that experienced operators-engineers work there around the clock , high professionals in their field. Environmental issues are also an important issue. But this has found its solution in the project of the plant, which assumes a system of high-quality filters and other devices that significantly reduce the release of harmful substances into nature. Quality Control Department-tirelessly monitors the situation and conducts the necessary monitoring of the environment. A number of agricultural crops have been planted near the plant, which naturally purify the air from harmful impurities. At the plant, special attention is paid to the life of the working staff. Charity events are held.

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