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## Economic sciences

MANAGING SUSTAINABLE MARKETING FOR IMPROVING BUSINESSES PERFORMANCE

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### **Abstract**

In an era marked by increasing environmental consciousness, businesses are compelled to adopt sustainable practices to meet the growing demand for eco-friendly products and services. **Purpose:** This study aims to investigate the evolving landscape of green marketing sustainability, examining the synergy between marketing strategies and environmental responsibility in the realm of play-café business. **Research Design:** Employing a qualitative approach, this research analyzes successful green marketing campaigns to identify patterns, strategies, and key factors influencing consumer behavior. The study explores the important role of sustainability in shaping consumer perceptions, brand loyalty, and overall market dynamics. **Results:** The findings underscore the significance of effective communication strategies, transparency, and corporate responsibility in fostering sustainable brand success. Through a detailed examination of innovative approaches, the research examines the delicate balance businesses must navigate between profitability and environmental responsibility. **Conclusions:** The paper concludes by offering insights into best practices for marketers, emphasizing the need for authentic and transparent narratives that resonate with environmentally friendly consumers. By integrating marketing efforts with sustainable values, businesses can create a synergy relationship between commerce and environmental responsibility, driving long-term success in an increasingly eco-aware marketplace.

**Keywords:** Sustainability, green marketing, consumer perceptions, transparency,

**JEL Classification:** Q56, M31, D12

### **1. Introduction**

In recent years, there has been an important shift in consumer attitudes towards environmental sustainability, requiring a transformation in business practices across various industries. Rise of awareness of climate change and environmental challenges, are making consumers more aware and increasingly seeking products and services that align with their values of eco-consciousness. This paradigm shift has requested businesses to re-evaluate their strategies, with many recognizing the importance of integrating sustainability into their core operations to remain competitive and relevant in the market. In this context, the concept of green marketing has emerged as an important tool for businesses to communicate their commitment to sustainability while at the same time meeting consumer demand for eco-friendly offerings. Green marketing requires the incorporation of environmental considerations into various aspects of marketing strategy, including product design, promotion, distribution, and pricing, with the aim of appealing to environmentally conscious consumers (Yan & Yazdanifard, 2014; Cherian & Jacob, 2012).

This business approach is reflected even in play-café businesses, which target families with young children, which have also been requested to adapt to the growing emphasis on sustainability. These businesses, which typically offer a mix of play facilities for children and café services for parents, are increasingly recognizing the importance of integrating green practices into their operations to reflect the environmentally conscious consumers (Lee et al. 2022). This study aims to explore the evolving awareness of green marketing and sustainability within the context of play-café businesses. The main objective is to investigate how these businesses can leverage sustainable practices and marketing strategies to enhance their competitiveness and appeal to environmentally conscious consumers.

Employing a qualitative research approach, this study conducts an analysis of successful elements of green marketing campaigns within the play-café industry. By examining a range of case studies and examples, the research aims to identify patterns, strategies, and key factors that influence consumer behavior and shape perceptions of sustainability within this sector. Based upon concepts such as corporate social responsibility (CSR) and the theory of planned behavior, the study seeks to evaluate the complex interplay between marketing strategies, environmental responsibility, and consumer

preferences (Kotler et al., 2010; Armitage & Conner, 2001). This research aims to provide valuable insights for practitioners, policymakers, and scholars alike. Through an understanding of the synergies between marketing strategies and environmental responsibility, businesses can navigate the complexities of the modern marketplace and foster sustainable brand success.

#### **Objectives of the study:**

**O1:** Assess consumer perceptions of sustainability in the play-café industry and their impact on purchasing behavior.

**O2:** Examine the influence of environmental consciousness on consumer attitudes and behaviors towards green play-café businesses.

**O3:** Investigate the effectiveness of marketing strategies in shaping consumer perceptions and purchase intentions in the context of green play-café businesses.

#### **2. Evolution of green marketing and sustainability**

Green marketing has its beginnings in the environmental movement of the late 20th century, which brought to light the adverse effects of industrialization on the planet. The term "green marketing" was used in the '70s as businesses began to recognize the importance of addressing environmental concerns in their marketing strategies (Peattie, 1995). Initially, green marketing primarily focused on promoting products and services that were environmentally friendly or perceived to be so, often through the use of eco-labels or environmental claims on packaging (FuiYeng, & Yazdanifard, 2015).

In recent decades, sustainability has emerged as a central concept of corporate strategy, driven by an influence of factors including regulatory pressures, consumer demand, and the recognition of environmental and social risks to business operations (Leonidou, et al. 2017). The concept of sustainability extends beyond environmental concerns to the social and economic dimensions, emphasizing the need for businesses to operate in a manner that meets the needs of the present without compromising the ability of future generations to meet their own needs (Schaltegger, et al. 2016). Businesses are increasingly recognizing that sustainability is not just a moral imperative but also a strategic one, with implications for long-term competitiveness (Porter & Kramer, 2011). Companies that fail to address sustainability risks may face reputational damage, regulatory sanctions, or supply chain disruptions, while those that proactively embrace sustainability can unlock new markets, drive innovation, and enhance brand value (Lenssen et al, 2014).

The integration of sustainability into marketing practices represents a paradigm shift in how businesses engage with consumers and stakeholders. Rather than treating sustainability as a peripheral issue on the marketing strategies, leading companies are embedding sustainability principles into their core business strategies and value propositions (Klettner et al. 2014; Belz & Peattie, 2012). Companies are developing products and services that are designed to minimize environmental impacts throughout their lifecycle, from sourcing of raw materials to end-of-life disposal (Antunes et al. 2021). This may involve using renewable materials, reducing energy consumption, or designing products for reuse or recycling. Sustainability is increasingly being used as a strategic positioning tool, with companies communicating their commitment to sustainability through branding, advertising, and corporate communications (Crane & Matten, 2016). This includes highlighting environmental and social initiatives, promoting transparency, and engaging with stakeholders on sustainability issues. Also, sustainable marketing goes beyond traditional advertising to involve consumers in the sustainability journey (Kotler et al., 2010). Companies are using social media, digital platforms, and experiential marketing to educate consumers about sustainability issues, feedback and foster a sense of shared responsibility. The integration of sustainability into marketing practices represents a holistic approach to business that recognizes the interconnectedness of environmental, social, and economic factors. By aligning marketing strategies with sustainability goals, companies can create value for both shareholders and society while contributing to a more sustainable future (Sheth & Parvatiyar, 2021).

##### **2.1. Green Marketing in the Play-Café Industry**

Play-café represent a mixture of leisure and hospitality services, targeting primarily families with young children. These establishments typically offer a safe and stimulating environment for children to play and interact, while also providing food and beverage services for parents. The play-café business model often emphasizes convenience, socialization, and entertainment, making it an attractive option for families seeking a relaxed and inclusive space (Guerrero, 2020). In recent years, sustainability has emerged as a key consideration for play-café businesses, driven by shifting consumer preferences, regulatory pressures, and a growing awareness of environmental issues. According to a latest survey by Deloitte, (2023) parents, particularly young parents, are increasingly prioritizing sustainability when making purchasing decisions, including where they choose to spend their leisure time. As such, play-café

businesses are recognizing the importance of integrating sustainability into their operations to remain competitive and relevant in the market. Moreover, sustainability aligns closely with the values and priorities of families with young children, who are often aware of the importance of preserving environment for future generations (Flint, 2013). By adopting sustainable practices, such as energy-efficient operations, waste reduction, and sourcing of eco-friendly products, play-café businesses can demonstrate their commitment to environmental responsibility and resonate with environmentally conscious consumers.

## **2.2. Case studies and examples of green marketing initiatives in play-cafés**

Several play-cafés have invested in eco-friendly infrastructure and design features to minimize their environmental footprint. For example, some cafes use sustainable building materials, such as reclaimed wood or recycled plastics, to construct play structures and furniture. Others incorporate energy-efficient lighting and heating systems to reduce energy consumption and lower operating costs.

Many play-cafés prioritize offering organic and locally sourced food and beverages to their customers. By sourcing ingredients from local farmers and producers, these businesses support the local economy, reduce transportation emissions, and provide healthier options for families. Additionally, some play-cafés offer plant-based menu items to cater to vegetarian and vegan customers, further promoting sustainability and ethical consumption.

Play-cafés often implement comprehensive recycling and waste management programs to minimize their environmental impact. This may include providing separate bins for recyclables, compostable, and landfill waste, as well as offering incentives for customers to participate in recycling initiatives, such as discounts or rewards. Other play-cafés organize educational programs and events focused on environmental awareness and sustainability for children and families. These initiatives may include workshops on topics such as recycling, gardening, and conservation, as well as interactive activities designed to engage children in hands-on learning experiences related to sustainability.

## **3. Factors influencing consumer behavior in relation to green marketing**

### **3.1. Consumer Perceptions of Sustainability**

Consumer perceptions of sustainability play a crucial role in shaping their purchasing behavior and brand preferences. Research suggests that consumers are increasingly concerned about environmental issues such as climate change, pollution, and resource depletion, leading them to seek out products and brands that align with their values of sustainability and social responsibility (Berger & Corbin, 2016; Wells, 2011). Perceived sustainability encompasses various dimensions, including environmental impact, social responsibility, and ethical sourcing practices, and can influence how consumers evaluate and choose between different brands and products (Öberseder et al. 2014).

### **3.2. Influence of Environmental Consciousness on Purchasing Decisions**

Environmental consciousness, or the degree to which individuals are aware of and concerned about environmental issues, is a key determinant of consumer behavior in the context of green marketing (Dangelico & Vocalelli, 2017). Research suggests that individuals with higher levels of environmental consciousness are more likely to prioritize sustainability when making purchasing decisions and are willing to pay a premium for eco-friendly products and services (Bianchi & Malmendier, 2019). Factors such as personal values, social norms, and exposure to environmental information can influence an individual's level of environmental consciousness and their propensity to engage in environmentally friendly consumption behaviors (Zsoka et al. 2013).

### **3.3. Role of Marketing Strategies in Shaping Consumer Behavior**

Marketing strategies play a crucial role in shaping consumer behavior and attitudes towards green products and brands. Effective communication and messaging can enhance consumer awareness of environmental issues, highlight the sustainability attributes of products, and create positive associations with green brands (Chernev, 2018). Strategies such as green labeling, eco-certifications, and cause-related marketing campaigns can help differentiate green products from their conventional counterparts and signal the company's commitment to sustainability (Schwartz, 2016). Moreover, the way in which sustainability is communicated in marketing messages can influence consumer perceptions and attitudes towards green products. For example, emphasizing the environmental benefits of a product (e.g., energy savings, reduced carbon footprint) may appeal to consumers' altruistic motives, whereas highlighting the personal benefits (e.g., health, cost savings) may resonate with more self-interested consumers (Christis & Wang, 2021). Based on the above literature review, the hypotheses for the study on factors influencing consumer behavior in relation to green marketing in the play-café industry are as follows.

Based on studies such as Weissmann & Hock (2022) and Chekima et al. (2000), which emphasize the significance of consumer perceptions of sustainability in shaping purchasing behavior, this hypothesis

posits that as consumers perceive play-café to be more sustainable (e.g., through eco-friendly practices, ethical sourcing), they are more likely to choose these businesses over non-sustainable alternatives.

**H1: There is a positive relationship between consumer perceptions of sustainability in play-café businesses and their willingness to patronize these establishments.**

The second hypothesis builds upon research by Dangelico & Vocalelli (2017) and Bianchi & Malmendier (2019), suggesting that individuals with higher levels of environmental consciousness are more likely to prioritize sustainability in their consumption decisions. Thus, this hypothesis suggests that the effect of consumer perceptions of sustainability on green play-café patronage will be stronger among consumers with higher environmental consciousness.

**H2: The level of environmental consciousness among consumers moderates the relationship between consumer perceptions of sustainability and their likelihood to patronize green play-café businesses.**

Studies such as Chernev (2018) highlight the role of marketing strategies in shaping consumer perceptions, the hypothesis that highlight the environmental advantages of green play-café (e.g., energy efficiency, waste reduction) states that will enhance consumer attitudes and intentions to support these businesses.

**H3: Marketing strategies emphasizing the environmental benefits of green play-café businesses positively influence consumer attitudes and purchase intentions.**

These hypotheses provide a structured framework for investigating the interplay between consumer perceptions, environmental consciousness, and marketing strategies in driving consumer behavior towards green play-café businesses.

#### **4. Research Design**

Chapter 4 provides a comprehensive overview of the methodology used to investigate the relationships between consumer awareness and marketing strategies. By following rigorous research practices and ethical guidelines, the study aims to generate reliable and valid insights into the factors influencing trust in digital environments. Details of the sampling strategy used to recruit participants for the study are provided. This includes considerations such as the target population, sampling frame, sampling technique (e.g., random sampling, convenience sampling), and sample size determination (Hair et al., 2018).

##### **4.1. Sampling**

The target population included 171 respondents. The response rate is representative of the population studied. Constructs were measured using multiple-item perceptual scales, using previously established survey items from prior studies. All items were measured on a 5-point Likert scale. Some items were modified to adapt them to the specific cultural context. Survey items and sources are provided in Annex A. The questionnaire is divided into four sections, each addressing one of the study's hypotheses. All items (except the socio-demographic data) were evaluated using a five-point Likert scale, with 1 indicating strong disagreement and 5 indicating strong agreement.

##### **4.2. Data Analyses**

This section will cover the demographic characteristics of the sample and present the findings derived from the participation of the population in the survey questionnaire study. Following this, the study will construct validity, which evaluates the extent to which a test accurately measures what it intends to measure. Consequently, the examination ensures that the test effectively evaluates the intended constructs. Additionally, a reliability assessment will be conducted to determine whether the instrument or questionnaire employed can consistently yield accurate results for the current study. Moreover, correlation analysis will be employed to gauge and quantify the strength of the linear relationship between the variables. Finally, hypotheses testing will be employed to assess whether the hypotheses proposed in this study will be accepted or rejected.

##### **4.3. Sample characteristics**

The results of the social and demographic data of the respondents participating in the research are presented on Table 1. Gender, age group, main source of income and average monthly expenses are 4 items presented below. Through this data, we can get a general idea about the demographics of the respondents, their sources age group, sources of income and monthly expenses. This information can be useful for the institution of studies to better understand the needs and preferences of consumers and to develop their strategies and services in accordance with this data.

Table 1.

*Socio-demographic data.*

| <b>Question</b>                | <b>Frequency</b> | <b>Percent</b> |
|--------------------------------|------------------|----------------|
| <b>Gender</b>                  | <b>N</b>         | <b>%</b>       |
| Female                         | 116              | 67.8           |
| Male                           | 55               | 32.2           |
| <b>Education level</b>         | <b>N</b>         | <b>%</b>       |
| High School                    | 45               | 26.3           |
| Bachelor                       | 70               | 40.9           |
| Master                         | 51               | 29.8           |
| Doctoral                       | 5                | 2.9            |
| <b>Your monthly incomes</b>    | <b>N</b>         | <b>%</b>       |
| I prefer not to answer         | 26               | 15.2           |
| Less than 400 Euro             | 22               | 12.9           |
| 401–600 Euro                   | 52               | 30.4           |
| 601–800 Euro                   | 43               | 25.1           |
| More than 800 Euro             | 28               | 16.4           |
| <b>What is your age group?</b> | <b>N</b>         | <b>%</b>       |
| 18-25                          | 79               | 41             |
| 26-35                          | 32               | 18.7           |
| 36-45                          | 29               | 17             |
| 46-55                          | 14               | 8.3            |
| 56-65                          | 16               | 9.3            |
| +65                            | 10               | 5.8            |

**4.4. Assessing validity and reliability**

Cronbach's alpha is a measure of internal consistency reliability for the items within each construct. It assesses how well the items in a construct are correlated with one another. Higher values of Cronbach's alpha (closer to 1) indicate greater internal consistency among the items in the construct, suggesting that the items are measuring the same underlying construct reliably. These data provide insights into the average level of agreement or perception, variability, and internal consistency reliability of each construct in the study. They help in understanding respondents' perceptions or attitudes towards different aspects of the constructs under investigation. In this case Cronbach's Alpha is between 0.54 and 0.73 and we can conclude that the questionnaire is reliable and the data obtained can be applied for the further analysis (see Table 2).

Table 2.

*Descriptive analysis and model fit test*

| <b>Construct</b>              | <b>Mean</b> | <b>Standard Deviation</b> | <b>Cronbach's Alpha</b> |
|-------------------------------|-------------|---------------------------|-------------------------|
| Perceptions of sustainability | 2.41        | 1.69                      | 0.71                    |
| Environmental consciousness   | 2.18        | 1.54                      | 0.61                    |
| Purchase behaviour            | 2.48        | 1.51                      | 0.61                    |
| Communication strategy        | 2.67        | 1.65                      | 0.63                    |

KMO measures the sampling adequacy of the data for factor analysis. It ranges from 0 to 1, with values closer to 1 indicating better suitability for factor analysis. The KMO measure assesses the adequacy of the sample size for conducting a factor analysis. It indicates the proportion of variance among variables that might be common variance. Generally, a KMO value above 0.5 is considered acceptable for factor analysis, with higher values indicating better suitability for the analysis. In this case, all variables have KMO values above 0.5, indicating that the sample size is adequate for conducting factor analysis. Eigenvalues represent the amount of variance explained by each factor extracted from the data. Higher eigenvalues indicate that the factor explains more variance in the data. The percentage of total variance explained indicates the proportion of total variance in the data explained by each factor. Higher percentages indicate that the factor accounts for a larger portion of the variability in the data.

The KMO value of perceptions of sustainability of 0.64 suggests that the sample is moderately adequate for factor analysis. The eigenvalue of 1.30 indicates that this variable explains 52.34% of the total variance in the data. The KMO value of environmental consciousness of 0.62 suggests that the sample is adequate for factor analysis compared to other variables. The eigenvalue of 1.50 indicates that this variable explains 68.55% of the total variance.

The KMO value of purchase behaviour of 0.55 suggests that the sample is moderately adequate for factor analysis. The eigenvalue of 1.44 indicates that this variable explains 59.37% of the total variance. The KMO value of communication strategy of 0.71 suggests that the sample is fairly adequate for factor analysis. The eigenvalue of 1.79 indicates that this variable explains 60.03% of the total variance (see Table 3).

Table 3.

KMO and Eigenvalue Results

| Variable                      | KMO Measure of Sampling | Eigenvalues | % of Total Variance Explained |
|-------------------------------|-------------------------|-------------|-------------------------------|
| Perceptions of sustainability | 0.64                    | 1.30        | 52.34                         |
| Environmental consciousness   | 0.62                    | 1.50        | 63.55                         |
| Purchase behaviour            | 0.65                    | 1.44        | 59.37                         |
| Communication strategy        | 0.71                    | 1.79        | 60.03                         |

#### 4.5. Correlation Matrix

The correlation matrix provides information about the relationships between different variables in the context of perceptions of sustainability, environmental consciousness, purchase behaviour and communication strategy. Here's how to interpret the results of Table 4. The values in the matrix represent correlation coefficients, ranging from -1 to 1. A value of 1 indicates a perfect positive correlation, -1 indicates a perfect negative correlation, and 0 indicates no correlation. The significance levels indicate whether the observed correlations are statistically significant. A single asterisk (\*) indicates significance at the 0.05 level, and double asterisks (\*\*) indicate significance at the 0.01 level.

Table 4.

Correlation matrix results.

|                  | Correlation | Perc_sustain (1) | Envir_consc (2) | Purch_beha (3) | Com_strat (4) |
|------------------|-------------|------------------|-----------------|----------------|---------------|
| Perc_sustain (1) |             | 1                | .322**          |                |               |
| Envir_consc (2)  |             |                  | 1               | .688**         |               |
| Purch_beha (3)   |             |                  |                 | 1              | .712**        |
| Com_strat (4)    |             |                  |                 |                | 1             |

Note: \*Correlation is significant at the 0.05 level (2-tailed)

\*\*Correlation is significant at the 0.01 level (2-tailed)

The correlation coefficient between perceived sustainability and environmental consciousness is 0.322\*\*. This positive correlation indicates that as perceptions of sustainability increase, environmental consciousness tends to increase as well, albeit moderately. The asterisks (\*\*), commonly used in statistical analysis, denote that the correlation coefficient is statistically significant at the  $p < 0.01$  level, meaning that the observed correlation is unlikely due to random chance. The correlation coefficient between environmental consciousness and purchase behavior is 0.688\*\*. This strong positive correlation indicates that individuals with higher levels of environmental consciousness are significantly more likely to exhibit environmentally friendly purchase behavior. The correlation coefficient between perceived sustainability and purchase behavior is 0.712\*\*. This strong positive correlation suggests that individuals who perceive sustainability more positively are significantly more likely to engage in environmentally friendly purchase behavior. These results indicate that consumers who perceive sustainability more positively and exhibit higher levels of environmental consciousness are more likely to engage in environmentally friendly purchase behavior.

#### 4.6. Regression Analysis

After the presentation of the correlation analysis, this part presents the regression analysis in order to measure the impact of the independent variables on the dependent variable as well as the presentation of the statistical importance (significance) of the variables. The following analysis presents regression using the Ordinary Least Squares (OLS) method, which is a statistical method used to estimate the linear relationship between an independent and dependent variable. This type of regression is widely used in data analysis to identify and focus on the potential influences of different variables on a response variable and to make predictions about the possible values of this variable based on the values of other variables (Birkes & Dodge, 2011).

Table 5.

*Summary results of regression analysis.*

| <b>Variables</b> | <b>Purch_beh</b>  | <b>Purch_beh intention</b> | <b>Behavioral intention</b> |
|------------------|-------------------|----------------------------|-----------------------------|
| Perc_sustain     | 0.251**<br>(3.18) |                            |                             |
| Envir_consc      |                   | 0.387***<br>(3.47)         |                             |
| Com_strat        |                   |                            | 2.14***<br>4.32             |
| _cons            | 16.36***<br>8.62  | 19.37***<br>18.35          | 62.63***<br>21.23           |
| N                | 171               | 171                        | 171                         |
| R-squared        | 0.859             | 0.664                      | 0.713                       |
| Prob>F           | 0.000             | 0.000                      | 0.000                       |
| VIF              | 1.13              |                            |                             |
| Hettest          | 0.1416            | 0.9995                     | 0.9315                      |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

This table presents the summarized results of the regressions executed, according to the *F* statistic (0.000) all regressions are statistically significant. The presented data does not show the problem of multicollinearity since the value of the VIF test 1.13 is lower than 5, while in the three presented regressions the problem of heteroskedasticity, which was measured by Bresuch, is not shown either. Pagan Test (Hettest) and the value is higher than 5% in all three regressions. So, the data are homoscedastic. Based on the presented data and the hypotheses outlined earlier, we can assess whether the observed analyses support the hypotheses.

H1: There is a positive relationship between consumer perceptions of sustainability in play-café businesses and their willingness to patronize these establishments (Accepted).

H2: The level of environmental consciousness among consumers moderates the relationship between consumer perceptions of sustainability and their likelihood to patronize green play-café businesses (Accepted).

H3: Marketing strategies emphasizing the environmental benefits of green play-café businesses positively influence consumer attitudes and purchase intentions (Accepted).

### **Implications and Discussion**

Implementing green marketing strategies effectively requires a comprehensive understanding of consumer behavior, market dynamics, and sustainability practices. Marketers and practitioners in the play-café industry can adopt several best practices to enhance the effectiveness of their green marketing efforts. They can gain insights into consumer preferences, values, and perceptions related to sustainability through market research and customer surveys. This understanding will inform the development of targeted green marketing strategies tailored to the specific needs and preferences of the target audience. The positive relationship between perceived sustainability and purchase behavior suggests that consumers are more likely to engage in sustainable purchasing when they perceive a business or product as environmentally friendly.

The findings presented in this analysis are consistent with the conclusions drawn by other researchers in the field Kumar et al. (2017); Moser (2015); Wei et al. (2017). Marketers should highlight the sustainability features and initiatives of their products or services to enhance consumer perceptions of sustainability. Using eco-friendly packaging, promoting renewable energy use, and emphasizing ethical sourcing practices are examples of strategies that can enhance perceived sustainability. These outcomes are in line with the findings of previous scholars in the same topic Dangelico & Vocalelli (2017); Smith & Brower (2012); Huang et al. (2024); Cerri et al. (2018).

The positive relationship between environmental consciousness and purchase behavior intention indicates that consumers with higher environmental awareness are more likely to intend to engage in sustainable purchasing. Marketers can educate consumers about environmental issues and the impact of their purchasing decisions to increase environmental consciousness. Implementing green education campaigns, providing information about the environmental benefits of products, and showcasing the environmental efforts of the company can help foster environmental consciousness among consumers.

*Utilizing social media, content marketing, and influencer partnerships to communicate sustainability initiatives and engage with environmentally conscious consumers can be effective strategies.*

*Given the significant impact of perceived sustainability, environmental consciousness, and communication strategy on purchase behavior, marketers should incorporate sustainability into brand messaging, product positioning, and marketing campaigns can attract environmentally conscious consumers and differentiate the brand in the market. Investing in sustainable practices across the value chain and communicating these efforts in transparent manner in order to strength consumer trust and loyalty. Sustainability in this case can be a powerful source of competitive advantage for play-café businesses, providing opportunities for differentiation, innovation, and market leadership. By demonstrating leadership in sustainability, businesses can attract customers, employees, and partners who share same values and vision for an eco-friendlier future.*

### **Conclusions**

*Key findings include the influence of consumer perceptions, environmental consciousness, and marketing strategies on green purchasing behavior, as well as the implications for marketers and practitioners. Based on this study integrating sustainability into marketing efforts is essential for play-café businesses to attract environmentally conscious consumers, build brand loyalty, and create a competitive advantage in the marketplace. By adopting best practices, fostering authenticity and transparency, and leveraging sustainability as a source of differentiation, marketers can drive long-term success and contribute to a more sustainable future. Future research in green marketing should focus on exploring emerging trends, technologies, and consumer preferences in the play-café industry. Practitioners should continue to innovate and collaborate to advance sustainability practices and address evolving environmental challenges. By staying proactive and responsive to changing market dynamics, marketers can position their play-café businesses for sustained growth and success in an increasingly eco-conscious marketplace.*

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## **PUBLIC-PRIVATE SECTOR PARTNERSHIP EUROPEAN EXPERIENCE: TRENDS AND PPP INVESTMENTS**

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### **Abstract**

*This article provides an in-depth examination of Public Private Partnerships (PPPs) in selected European Union countries and Turkey spanning the period from 1993 to 2017. It specifically focuses on investment patterns within key sectors including transportation, health, education, environment, public order, and security. Through a detailed analysis of PPP project numbers and investment values organized into five-year sub-periods, the article uncovers valuable insights into the shifting landscape of government policies and potential future directions for PPP applications. Drawing upon data sourced from the European PPP Expertise Center (EPEC) database, the study offers a comprehensive understanding of the dynamic nature of PPP investments, highlighting their significance in shaping public service execution models over time.*

**Keywords:** PPP, Europe, Development, Economy, Social, Advancements, Cooperation

**Jel Classification:** G18, L88, E22, E60, P35

### **1. Introduction**

Although private companies have long been involved in the delivery of public services in various sectors, with the implementation of PPP since the early 1990s, a public service delivery model has emerged that redefines the roles of the public and private sectors (Espigares and Segura, 2011:559). According to this service delivery model, public and private sector representatives cooperate within the framework of a contract in an infrastructure project and share the duties, responsibilities, risks and rewards. The cooperation between the parties continues not only in the construction process of the infrastructure facility but also in the provision of public services. The public authority, which has the ultimate responsibility for the provision of public services, must make the project attractive to private sector people by offering various incentives and supports. The private sector's earnings and rewards from this project should be directly proportional to the responsibilities and risks it assumes. With these basic features, the PPP model, which has been widely implemented in many developed, developing and underdeveloped countries since the 1990s, has various advantages such as saving governments from the cost of infrastructure investments and opening new investment areas to the private sector, but it is frequently criticized for various reasons both in the literature and in practice. He could not be saved. Criticisms from opponents of PPP and some developments that may be due to various reasons force governments to change PPP policies and increase or decrease PPP investments over time. In these respects, knowing the past and current investment values of PPPs will help reveal the tendencies of governments regarding PPPs. This research consists of two parts. In the first chapter, the conceptual framework of PPP is drawn by including its definition, basic features, sub-models, advantages, disadvantages and criticisms. The second section includes the analysis results obtained from PPP data.

### **2. CONCEPTUAL FRAMEWORK OF PPP**

The main reason for the existence of public institutions is to meet the common needs of society in the most satisfactory way and to raise the living standards of citizens. In order to achieve and maintain this basic goal, public institutions sometimes make various reforms, modernizations and method changes in the construction of infrastructure facilities and the provision of public services, and sometimes benefit from the knowledge, experience and capital of the private sector. Although the participation of the private sector in public services mentioned as the second option can be traced back to ancient times, it has gained a new dimension and momentum with the new public management (NPM) paradigm since the 1980s. The basic assumptions of NPM, which emerged as a reaction to the state's organic and functional growth, clumsiness and inefficiency with the welfare state approach, include a smaller but more functional state structure, the adoption of a private sector management approach and greater participation of the private sector in public services. One of the public service execution and financing models that enable this participation to be realized is PPP. The main function of the PPP contract is to

set out the rights and obligations of the parties and draw up the framework of cooperation during the construction of the facility or the provision of public services. Cooperation between parties in PPP contracts focuses on achieving mutually agreed-upon goals. This cooperation is also a dynamic relationship based on the most rational division of labor, depending on the mutual advantages and limitations of public and private sector actors. In addition, cooperation includes the mutual balance and interaction between synergy and autonomous decision-making based on mutual respect, equal participation in the decision-making process, accountability and transparency (Mazouz, Facal, Viola, 2008:99). Although many criticisms have been made about its disadvantages in practice and in the literature, PPP was first used in Anglo-Saxon countries and was later widely used as a public service execution model in many countries. Although PPP had limited usage areas such as transportation, environment and health sectors in the first years, its sectoral diversity has increased considerably later. Today, PPP projects undertaken by OECD countries are used both in transportation infrastructure facilities such as airports, railways, roads, bridges and tunnels, as well as in drinking and potable water supply, waste and water management, education and hospital facilities, elderly care and prisons, power plants and agricultural infrastructure. It is widely used in other sectors such as projects (Espigares and Segura, 2011:560).

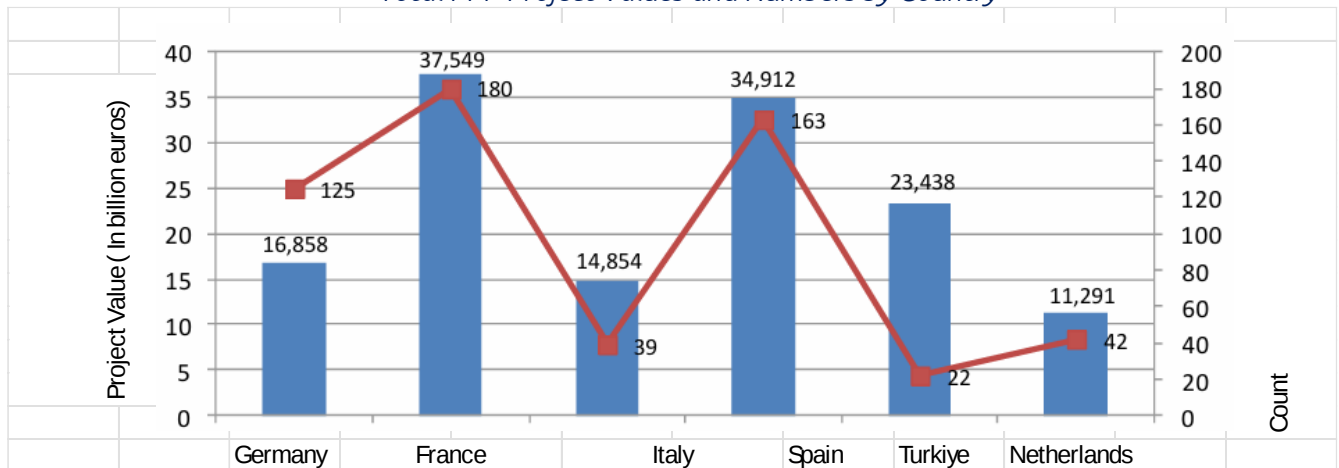
PPPs, which are multi-dimensional and multi-actor process management, contain various risks due to their structure. Sharing these risks between the parties of cooperation is one of the important features of PPP. The most basic rule in risk sharing is that the risk should be given to the party that can best manage the risk. In PPPs, risks such as planning, construction, financing, operation, maintenance and repair are generally undertaken by the private sector, while risks such as demand risk and political risks are undertaken by the public sector. Demand risk is the public sector's assurance that there is a certain amount of demand for the public services provided so that the private sector can recover its expenses and make a certain profit. If there is no demand for the public services offered through PPP in the amount specified in the contract, the difference is covered by the public sector. In projects such as infrastructure projects, governments can provide a capital subsidy in the form of a one-time grant to reduce risks for the private sector and make the project more attractive. In some other cases, governments may support the project by providing income subsidies, including tax reductions, for a certain period of time (Parvu and Olteanu, 2009:190). In addition, PPPs can be supported by incentives such as private sector land allocation, various guarantees given by the public to financiers (debt assumption by the treasury), various tax exemptions and exceptions.

### **3. Total PPP Investments by Country**

In Chart 1, total PPP project values and project values by country in the period between 1993 and 2017 numbers are seen. Accordingly, 6 countries realized a total of €138.902 billion in 571 projects in the said period. It made a PPP investment. 27.03% of the total project value (€37.549 billion) and the total number of projects France, with 32% (180 projects), has the highest PPP investment in terms of both number of projects and project value. It has the amount. After France, it accounts for 25.13% of total project values (€34.912 billion) and Spain, which has 29% of the total number of projects (163 projects), is the country with the second highest rate of PPP investments. has happened. In Chart 1, it ranks last in terms of number of projects by realizing 3.85% of the projects (22 projects). Türkiye made PPP investments worth 16.87% (23.438 billion €) in terms of project value, the third highest It became the country that reached PPP investment value. According to investment values, the lowest investment is the total investment It is held by the Netherlands, which owns 8.12% (€11.291 billion). According to these investment values, there is a linear relationship between the GDP amounts of the countries and PPP investments. It appears that there is not. Accordingly, France, which has the second highest GDP values, has the highest PPP value. Spain, which has the fourth highest GDP values, had the second highest PPP investment rates in terms of both project value and number of projects. highest GDP Germany has the fourth highest PPP rates according to project values and the third highest according to the number of projects. It was the country that made my investments. Italy has the third highest GDP values; €14,854 Billion It ranked fourth with its investment value and fifth with the number of 39 projects. Türkiye is fifth in terms of GDP values. Although it is a large country, it is third in terms of total PPP project values and last in terms of number of projects. ranked 1st. These values in Chart 1 show that there is a direct connection between countries' PPP investments and GDP values. reveals that it is not. PPP investment amounts, whether there is political support for PPPs in a country, The implemented macroeconomic policies determine to what extent the current PPP legislation infrastructure enables PPP investments. whether the physical and human infrastructure in the country is suitable for PPP and how PPP investments will be made in the country. The rate varies depending on factors such as incentives.

Graph 1

Total PPP Project Values and Numbers by Country



#### 4. Conclusion

PPP has been in public services for about the last 30 years with the advantages it provides to both the public sector and the private sector. It has become a very important alternative model. The first implementers of PPP, which emerged in the United Kingdom, were Anglo Saxon countries. In EU member countries, especially after the 2000s, the sectors where PPP is used are There have been significant increases in the number of projects and project values. countries in the period between 1993 and 2017. Although there are fluctuations in PPP investments from time to time, it is the EU's highest investment within the scope of the research. Total PPP investment of the first 6 countries with GDP (Germany, France, Italy, Spain, Turkey, Netherlands) The amounts have tended to increase periodically. When evaluated on a country basis, especially in the 5th period covering the years 2013-2017, Germany, France, and There have been decreases in total PPP investments in Spain. Based on the period between 1993-2017 Considering that, the highest PPP investment in terms of both number of projects and project value was made by France. The second highest investment values were achieved by Spain. In Germany, PPP While it is third in terms of number of projects in terms of investments, it is fourth after Turkey in terms of project value. has happened. Among these countries, Türkiye's PPP investments start date, distribution into sectors, scales of projects and years. Accordingly, it presents a very different picture from other countries regarding the course of investments. According to this In Turkey, PPP started later than other countries, and its distribution to sectors was limited, including transportation and health. focused on sectors, consisting of very large-scale projects, and There was a very rapid increase in the 5th period, covering the years 2013-2017, when investments tended to decrease. lived. Considering the ongoing PPP projects in Turkey, especially in the health and transportation sectors It is understood that PPP investments will continue unabated in the future. In the analysis of PPP investments by sectors, it is seen that transportation sector PPPs continue to increase in all periods. It is understood that he did. The transportation sector has more PPPs than other sectors in all countries and all sectors. It received the investment and became the locomotive of PPP investments, owning 66% of the total PPP investments. After the transportation sector, health, other sectors, environment, public order and security and education. sectors are coming.

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**MAIN ASPECTS OF FORMING THE ECONOMIC SECURITY OF THE ENTERPRISE: THEORY AND PRACTICE****Tetiana Aloshyna***Candidate of Economic Sciences, Associate Professor of the Department of analytics economy and mahagement, professor***Alona Yurko***Student,**Dnipropetrovsk State University of Internal Affairs, Dnipro***ОСНОВНІ АСПЕКТИ ФОРМУВАННЯ ЕКОНОМІЧНОЇ БЕЗПЕКИ ПІДПРИЄМСТВА: ТЕОРІЯ І ПРАКТИКА****Тетяна Альошина***кандидат економічних наук, доцент**професор кафедри аналітичної економіки та менеджменту**Дніпропетровського державного університету внутрішніх справ***Альона Юрко***здобувач вищої освіти**Дніпропетровського державного університету внутрішніх справ*

*В умовах динамічного та мінливого середовища, що характеризується високим рівнем невизначеності та ризиків, забезпечення економічної безпеки підприємства є однією з найактуальніших проблем сучасного менеджменту. Економічна безпека підприємства – це стан захищеності його економічних інтересів від зовнішніх і внутрішніх загроз, який гарантує стійке функціонування та досягнення стратегічних цілей.*

*Економічна безпека підприємства базується на комплексному аналізі внутрішніх та зовнішніх факторів, що можуть впливати на його діяльність. Основою теоретичного розуміння є ідея про те, що економічна безпека - це не тільки відсутність загроз, але й здатність підприємства ефективно реагувати на них, адаптуватися та інноваційно розвиватися [1, с.264].*

*У цьому контексті ключовими елементами є стратегічне планування, ризик-менеджмент, фінансова стійкість, інноваційність та гнучкість управління. Системний підхід до формування економічної безпеки дозволяє інтегрувати ці аспекти та створити цілісну систему управління ризиками та розвитком.*

*Існує багато різних інтерпретацій дефініції «економічна безпека підприємства». В рамках системного підходу економічна безпека підприємства може бути визначена як стан стійкого функціонування та розвитку підприємства, який забезпечується захистом його економічних інтересів від зовнішніх і внутрішніх загроз.*

*Основними складовими економічної безпеки підприємства є економічна, фінансова, інформаційна та інноваційна безпека.*

*Економічна безпека – це захищеність економічних інтересів підприємства, його ресурсів та результатів діяльності від зовнішніх і внутрішніх загроз.*

*Фінансова безпека – це захищеність фінансових ресурсів підприємства та його платоспроможності.*

*Інформаційна безпека – це захищеність інформаційних ресурсів підприємства від несанкціонованого доступу, використання, розкриття, модифікації, знищення або порушення цілісності.*

*Інноваційна безпека – це захищеність інноваційних ресурсів підприємства та його конкурентних переваг [2, с.152].*

*Забезпечення економічної безпеки підприємства – це комплексний процес, який потребує системного підходу. Відповідний процес включає в себе наступні етапи:*

- ідентифікація та аналіз загроз економічній безпеці підприємства;*
- розробка та впровадження системи захисту від цих загроз;*

– моніторинг та контроль стану економічної безпеки підприємства.

На етапі ідентифікації та аналізу загроз економічній безпеці підприємства важливо провести ретельний аналіз зовнішнього та внутрішнього середовища підприємства з метою виявлення всіх можливих загроз економічній безпеці останнього.

Наступним етапом є розробка та впровадження системи захисту від виявлених загроз, яка повинна включати в себе комплекс правових, економічних, організаційних, технічних та інших заходів.

Фінальним етапом є моніторинг та контроль за станом економічної безпеки підприємства, який передбачає постійне спостереження за зовнішнім та внутрішнім середовищем підприємства з метою своєчасного виявлення нових загроз та оцінки ефективності діючої системи захисту.

Впровадження концепції економічної безпеки в практику підприємства вимагає системного підходу та активної взаємодії всіх рівнів управління. Стратегічне планування має бути орієнтоване на довгострокову стабільність та врахування можливих ризиків.

Ризик-менеджмент включає в себе аналіз та оцінку ризиків, розробку стратегій їх управління та реалізацію необхідних заходів для зменшення ймовірності виникнення проблем. Фінансова стійкість підприємства досягається шляхом ефективного фінансового управління, диверсифікації інвестицій та розробки фінансових стратегій [3, с. 138].

Інноваційність та гнучкість управління стають важливими елементами адаптації підприємства до змін в економічному середовищі. Активна участь у впровадженні нових технологій, пошук інноваційних рішень та гнучкість у реагуванні на зміни ринкових умов - ключові аспекти забезпечення економічної безпеки.

Отже, формування економічної безпеки підприємства є складним та багатогранним процесом, що вимагає поєднання теоретичних засад та практичної реалізації. Сучасне підприємство повинно бути не лише реактивним до зовнішніх викликів, але й прогнозувати та активно пристосовуватися до змін в економічному середовищі. Забезпечення економічної безпеки вимагає постійної уваги до стратегічного планування, ризик-менеджменту, фінансової стійкості та інноваційного розвитку. Тільки в цьому комплексі може бути досягнута стабільність та успішність підприємства в сучасних умовах глобалізації та конкуренції.

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## DIGITIZATION IN MANAGEMENT SYSTEMS

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## ЦИФРОВИЗАЦИЯ В СИСТЕМАХ УПРАВЛЕНИЯ

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The scientific article covers in detail the topic of digitalization in management systems and the choice of business model. The trends indicated in the article provide sufficient grounds to say that the expected trends in control systems in the near future will be associated with digitalization.

The article emphasizes that the development of digital markets in the modern era is characterized by an acceleration of the process of exchange of ideas and experiences. This situation significantly accelerates the processes of creating new business models, their dissemination and use over a fairly wide area.

The article pays special attention to the fact that digitalization is penetrating various areas of the economy. Differences in this process are manifested in the interaction of digitalization elements and business models in companies representing different industries.

The article also provides for the likelihood of various types of risks occurring. It is emphasized that for this reason, issues of risk management in the digital environment practically do not fall out of everyday life.

**Аннотация**

В научной статье подробно раскрыта тема цифровизации в системах управления и выборе бизнес-модели. Указанные в статье тенденции дают достаточно оснований говорить о том, что ожидаемые в ближайшее время тенденции в системах управления будут связаны с цифровизацией.

В статье подчёркивается, что развитие цифровых рынков в современную эпоху характеризуется ускорением процесса обмена идеями и опытом. Такая ситуация существенно ускоряет процессы создания новых бизнес-моделей, их распространения и использования на достаточно широкой территории.

В статье особое место уделяется тому, что цифровизация проникает в различные сферы экономики. Различия в этом процессе проявляются во взаимодействии элементов цифровизации и бизнес-моделей в компаниях, представляющих разные отрасли.

В статье также предусматривается вероятность возникновения различных видов рисков. Подчёркивается, что по этой причине вопросы управления рисками в цифровой среде практически не выпадают из повседневной жизни.

**Keywords:** digitalization, business model, economics, transaction costs, digital management, digital platforms, risks.

**Ключевые слова:** цифровизация, бизнес-модель, экономика, транзакционные издержки, цифровое управление, цифровые платформы, риски.

Инновации в системах управления, в том числе в системе управления предприятием, в настоящее время в той или иной степени связаны с цифровизацией. Расширение сферы применения Интернета вещей привлекает внимание как один из приоритетов цифровизации в управлении. При этом на повестке дня стоят вопросы согласования степени соответствия производственных инноваций технологическим процессам в отрасли с уровнем применения систем искусственного интеллекта в управлении бизнес-процессами. Указанные и ряд других тенденций дают достаточно оснований говорить о том, что ожидаемые в ближайшее время тенденции в системах управления будут связаны с цифровизацией. Со стратегической точки зрения темпы и масштабы цифровизации систем управления определяются фактором

экономической целесообразности. Иными словами, мы не должны забывать, что любое серьезное изменение любой целенаправленной деятельности должно себя оправдывать экономически. То есть это необходимое условие выплаты в разумные сроки средств, вложенных в улучшение (обновление) производства или управления.

Уровень затрат как важный показатель, характеризующий эффективность систем управления, заслуживает особого внимания. Одним из основных индикаторов цифровой среды являются транзакционные издержки. Транзакционные издержки, например издержки, связанные с передачей имущественных прав от одной стороны к другой в процессе обмена, используются для устранения факторов, препятствующих эффективности взаимоотношений с контрагентами. Эти затраты, возникающие преимущественно в неполной информационной среде, рассматриваются как затраты, необходимые для функционирования рынка.

Развитие цифровых рынков в современную эпоху характеризуется ускорением процесса обмена идеями и опытом. Такая ситуация существенно ускоряет процессы создания новых бизнес-моделей, их распространения и использования на достаточно широкой территории. Такая ситуация существенно ускоряет процессы создания новых бизнес-моделей, их распространения и использования на достаточно широкой территории. Если бизнес-модель рассматривать как концептуальную рамку, предполагается, что она охватывает цепочку создания стоимости практически от начала до конца. В качестве факторов, влияющих на выбор эффективной бизнес-модели в среде цифрового управления, прежде всего следует отметить, состояние нормативно-правовой базы, особенности реакции экономической деятельности и системы ее регулирования на технологические изменения, факторы, характеризующие процессы трансформации данных в капитал, качественные характеристики человеческих ресурсов, которые могут быть выражены количественно, потоки информации и последствия последствий информационного дефицита, долю цифровых технологий, обуславливающих необходимость инновационной модернизации инфраструктуры. В результате обсуждаемые процессы формируют новые подходы к конкуренции на цифровых рынках. «Один из уникальных аспектов конкуренции на цифровых рынках раскрывается в конкуренции между бизнес-моделями, а также между ними и интернет-платформами. Анализ первоначального опыта позволяет предположить, что конкуренция бизнес-моделей и интернет-платформ рано или поздно заканчивается победой последних. Поэтому более перспективной можно считать бизнес-модель, направленную на получение преимуществ на платформе. Еще одна особенность конкуренции на цифровых рынках заключается в том, что преимущества могут получить компании, не имеющие значительной (или вообще не имеющей) доли рынка. Их креативность в основном выражается в быстром реагировании на новые вызовы».

Существование альтернатив в выборе бизнес-модели в системах управления цифровой экономикой определяет не только рост возможностей, но и рост проблем. Дело в том, что отказаться от проверенных бизнес-моделей на уровне предприятия (компании) с необходимыми ресурсами и разумным доходом непросто. Вместо того, чтобы пользоваться преимуществами скорректированной системы, можно отдать предпочтение бизнес-моделям, обещающим большие выгоды и риски, в случае очевидной экономической и общей привлекательности последних. «В цифровой экономике основные проблемы сильных и ресурсных компаний будут связаны со сложностью отказа от проверенных бизнес-моделей; в то же время новые компании, не связанные стереотипами, получают доступ к более качественным данным о потребителях и более гибким технологиям управления. Именно возможность лучше узнать потребителей (благодаря цифровым технологиям) откроет перед компаниями широкие перспективы, хотя для этого потребуется изменить многие элементы цепочки создания стоимости».

Цифровизация проникает в различные сферы экономики. Различия в этом процессе проявляются во взаимодействии элементов цифровизации и бизнес-моделей в компаниях, представляющих разные отрасли. Соответствующая тенденция также выявляется в следующем источнике посредством сравнительного исследования взаимосвязей между бизнес-моделями и характеристиками цифровизации в сферах автомобильной и медиаиндустрии. «Влияние цифровизации на элементы бизнес-моделей и потенциал оптимизации в результате существенно зависит от сферы, к которой относится компания. Кроме того, цифровизация в сфере автомобильной и медиаиндустрии ставит под сомнение существующую организационную структуру, интерфейсы, инфраструктуру и другие возможности».

Эффективность систем управления на уровне предприятия решающим образом зависит от инфраструктурного фактора. Хотя в цифровой среде эта зависимость несколько ослабевает, за исключением информационной инфраструктуры, недооценивать роль инфраструктурного фактора в процессе принятия управленческих решений некорректно. Формирование и обогащение информационного обеспечения, отвечающего требованиям адекватной системы управления инновационно-интенсивным развитием, должно учитывать возможности цифровизации сегодня. Иными словами, требования адекватной системы управления инновационным развитием должны быть представлены в количественном выражении. «Для того, чтобы предоставление информации отвечало требованиям адекватной системы управления инновационным и интенсивным развитием, эти требования должны быть формализованы на всех этапах, начиная с процессов наблюдения и регистрации и заканчивая доставкой информации конечному пользователю, в другими словами, они должны быть представлены в количественном выражении, уровень семантических требований к информации, синтаксическим и прагматическим требованиям должен быть приближен к уровню соответствия».

Особенность управления в условиях цифровой экономики состоит в том, что происходит практически регулярное столкновение с инновациями и необходимость творческого подхода к их управлению. При этом менеджеру, независимо от опыта и уровня, зачастую приходится принимать оригинальные решения. Возникающие новые проблемы управления требуют творческого подхода к принципам и инструментам управления на разных уровнях. При этом функции менеджера по управлению данными возрастают, а характер работы с ними претерпевает серьезные изменения.

«Допустим, часть функций, связанных с управлением данными компании, которые традиционно принадлежат специалисту по информационным технологиям, переходит к топ-менеджеру. Однако в условиях цифровой экономики данные становятся одним из активов компании, а в некоторых случаях и единственным (например, компания UBER). В связи с этим расширяется спектр процессов и функций, связанных с управлением данными».

На уровне национальной экономики необходимо лавировать между критериями ресурсосбережения и занятости при обосновании приоритетов управления в цифровой среде. Подобно тому, как передовые технологии предполагают экономию трудовых ресурсов, в том числе и других ресурсов, управленческие решения в контексте цифровых инноваций должны также реализовывать возможности открытия новых рабочих мест. Как показано в документах Организации Экономического Сотрудничества И Развития, в условиях цифровизации появляется особая возможность улучшения характера занятости. «Количество опасных, грязных и скучных профессий резко сокращается в обмен на рост рабочих мест, ориентированных на творчество, гибкость и целеустремленность. Это открывает возможности для будущих рабочих мест, которые уменьшают неравенство и повышают благосостояние. Для достижения этой цели все заинтересованные стороны, особенно руководящие органы, должны понимать происходящие изменения, планировать достижение желаемых результатов, используя имеющиеся возможности и решая возникающие проблемы».

Креативный подход к принципам управления не только повышает эффективность в цифровой экономике, но и увеличивает вероятность возникновения различных видов рисков. По этой причине вопросы управления рисками в цифровой среде практически не выпадают из повседневной жизни. Среди обсуждаемых рисков — отсутствие надежности интегрированных цифровых систем на желаемом уровне, объясняется высокой вероятностью неожиданных отклонений в этих системах. Для удовлетворения и нейтрализации этих рисков, а также рисков, связанных с применением цифровых технологий, требующих организационной перестройки на уровне предприятия, на мой взгляд, должна быть сформирована благоприятная экономико-правовая система для реализации мобилизованного технологического процесса. возможности цифровой среды.

Структура новых бизнес-моделей определяется их клиенто-ориентированностью, а точнее, основана на цифровом портрете клиента. Перенос данных о клиентах из многоканальной системы в омниканальную — важная особенность, определяющая уникальность новых бизнес-моделей.

Широкое применение цифровых технологий, особенно технологий Интернета вещей, обуславливает развитие следующих типов бизнес-моделей:

- цифровые платформы;

- сервисные бизнес-модели. Эти модели основаны на использовании ресурсов вместо владения ресурсами, предполагают индивидуализацию товаров и услуг, позволяют потреблять продукт в объеме, необходимом для желаемого результата;

- бизнес-модель, основанная на достижении результата и эффективности, а также на рентабельности для заказчика, включая потребление сложных продуктов и услуг. Данная модель успешно апробирована при использовании цифровых технологий при обеспечении сельскохозяйственной деятельности. Допустим, известная химическая компания BASF (Германия) не только продает удобрения, но и предоставляет покупателям исчерпывающую информацию о том, какие, когда и сколько использовать эти удобрения, с учетом данных мониторинга почвы, здоровья растений и погодные условия;

- модель краудсорсинга, основанная на привлечении самых разнообразных ресурсов извне, в том числе идей и т.п.

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## Geographical sciences

### ECOGEOGRAPHIC ASSESSMENT OF DUZDAGH AND OTHER MAN-MADE EFFECTS ON THE LANDSCAPE OF THE BOYUKDUZ PLAIN

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#### **Abstract**

Over the past 50-55 years, desertification has turned from a local problem into a global problem that concerns all mankind and has covered about 110 countries. Different types of desertification have developed depending on the degree of human activity and impact on the environment, and the study of this process as a natural-anthropogenic phenomenon has gained a large scale.

The process of desertification in the Caucasus region shows itself more acutely in the Autonomous Republic of Nakhchivan. Thus, the only area within the region where the forests up to the subalpine meadows are not developed in an almost belt-like manner is the Nakhchivan Autonomous Republic. B.A. Budagov, N.S. Bababeyli, I.M. Fateh, M.H. Özdemir, E.K. Alizade and S.Y. Guliyeva had special services in the study of the desert landscape in the Nakhchivan Autonomous Republic.

The article characterizes the physical-geographic (geological-geomorphological, climate, soil-vegetation) characteristics of the Buyukduz plain located in the Middle Arazboyu plain, which is the research object of the study. Also, the impact of anthropogenic (technogenic) factors that cause desertification and degradation is discussed.

Among the man-made factors that directly and indirectly influence the destruction of the natural landscape of the area are the Duzdag salt mine, irregular grazing when using winter pastures, settlement, construction, and industrial enterprises, improper use of reclamation-irrigation systems, and the ecological situation resulting from the timely use of perennial plants as fuel in the area was analyzed at a scientific speed.

Based on the results, countermeasures were proposed.

**Keywords:** duzdagh, desertification, degradation, erosion, desert pharmacies

**Introduction.** Desertification is currently one of the global environmental problems of humanity. According to the opinion of a number of experts, desertification covers 3475 million ha or 75% of the arid regions of the world. This indicator is almost 3 times more than the territory of Europe. According to the information provided by the UN, 21 million hectares of land are subjected to complete degradation every year. 6 million ha are completely desertified and destroyed (UNEP Nairobi, 1984). Although desertification has become a global problem since the 70s of the 20th century, this problem is not new for humanity, some scientists consider the age of desertification to be equal to the age of human civilization [1; 2]. For example, according to G. Dregney (1977), this process continues with a certain intensity for more than 1000 years. At the same time, this process of land appropriation is both an ancient and a new phenomenon for people, and it can be one of the factors leading to the destruction of human civilization.

During the last 50-55 years, desertification has expanded its geography and covered about 110 countries. Depending on the degree of human activity and impact on the environment, different types of desertification have developed, and the study of this process as a natural-anthropogenic phenomenon has become widespread [3].

The process of desertification in the territory of Azerbaijan is reflected more sharply in the Autonomous Republic of Nakhchivan than in other regions. Thus, more than 80% of all landscape complexes of the autonomous republic have been desertified to one extent or another. [6].

The desert landscape is observed in the form of a strip from west to east along the left bank of the Araz river in the territory of the autonomous republic. The idea of the zonal existence of a typical desert

landscape in throughout Araz was first put forward by B.A. Budagov and N.S. Bababeyli [4], later by N.S. Bababeyli, I.M. Fateh and M.H. Özdemir [5], E.K. Alizade, S.Y. Guliyeva, N.S. Bababeyli [6].

If we compare individual plains in throughout Araz, it can be clearly seen that the process of desertification is higher in the territory of Boyukduz. Taking into account the scope of the article, we have tried to analyze the dynamics of the modern desert landscape of the Buyukduz plain, as well as the ecogeographic consequences caused by it.

**Research method.** Route-area, comparison, evaluation and statistical methods, as well as multi-zone space shootings, were used in the research work.

**Research object.** Boyukduz is one of the vast plains in the territory of the Nakhchivan Autonomous Republic. It is located in the east of the Sharur plain between the Karabakhlar-Khok-Taziuchan hill and the Duzdag ridge. The average width of this plain, which stretches from north to south for 19-20 km, reaches 10 km (map).



Figure 1. Topographic map of Boyukduz plain

**Analysis and discussion.** The Boyukduz plain, which is the research object of the study, was formed about 7 million years ago on the sedimentary clays of the Sarmatian Sea. Its surface is almost completely broken up by dry ravines and ravines created by temporary streams and complicated by microreliefs created by them. Due to its genetic characteristics, the plain consists of a wide cone covered with proluvial sediments.

Clay rocks of Upper Miocene age form the base of the plain. Those rocks are covered with delluvial and proluvial sediments of different thicknesses. Their thickness is 5-7 meters in the north and 30-35 meters in the south. Clay-granular rocks are composed of rough polished sand, gravel and gravel. A certain part of the proluvial sediments in the sloping plain is made up of landslide and crumb materials that are not typical for the area [7]. Chemical and visual analysis of the materials show that they were transported by temporary surface waters from the watershed and the sidebar.

As a result of the influence of climate and hydrological conditions, the plain was deprived of water sources and subjected to natural salinization (Figure 2).



Figure 2. Boyukduz plain

Although desertification is a natural factor, its development and acceleration has been greatly influenced by the improper agricultural activities of people. It directly or indirectly affects the environment. The fact that the area has a severe continental climate is the main reason why the semi-

desert landscape is gradually being replaced by the desert landscape. As a result of the impact of meteorological factors in the arid climate of the Boyukduz plain, natural components have been formed in the area for many years and have adapted to those climatic conditions.

The soil cover consists of gray primary soils in the north and gray soils in the central part. Here, 5 classes of formations (low shrub with saline, annual saline vegetation, ephemeral subtropical vegetation, bare shorange vegetation) and about 30 formations have been identified. 18.9% of desert formations contain higher plant species, the main part of which (50-60%) are short-vegetated ephemeris and ephemeroids.

The degree of soil salinization and its nature cause the complexity of desert-semi-desert senoses.

These cenoses in the area differ from each other in terms of species composition and structure of ephemeris, which is explained by the diversity of ecological conditions. In areas with intense desertification, the repetition of dominant plant species and the formation of similar groups attract more attention. Wormwoods (*Artemiseta*) cover large areas in the plain. Usually, different soils, differences in salinity, as well as wormwood subshrubs create a microenvironment conducive to the formation of mixed ephemeral sinuses. The edifiers of the shorangeli-wormwood formation are the first species of the stinky or lerchian wormwood from xerophytic semishrubs - *Artemisia lerchiana* (Web) and *salsola nodulosa* (Moq) (Fig. 3). As in the ephemeral-wormwood formation, the seasonal development is also typical in the gengizlik senoses. In the area, desert, semi-desert, frigana, steppe, mountain-meadow vegetation is located according to zoning regularity.



Figure 3. Gengiz - (*Salsola nodulosa*) plant

From the collected data on the average annual productivity of phytocenoses in the pastures in the physical-geographical area of the Boyukduz plain, it was found that the highest price scale is light brown and wormwood ephemeral phytocenosis of gray soils. The ephemerals continue their vegetation in the spring months and partially in the autumn due to the fall of precipitation, and in some places they completely dry up in early July, creating a mosaic landscape complex. On the proluvial sediments there are shrubby plants, especially carvangram, camel's ear, sedge, and sometimes tamarisk. In the gray soils of the sloping plains, consisting of alluvial and proluvial sediments, the main natural vegetation of the landscape types is wormwood and *Salsola nodulosa*.

However, in the last century, global climate change has caused the desertification and degradation processes taking place in the area to go faster. In the arid zones, this effect is more prominent. In contrast to mountainous belts, the influence of climatic factors (meteorological factors) is observed more in areas with plain terrain. It should also be noted that since the influence of climatic factors occurs gradually, it also affects other natural complexes, and the self-recovery process is almost impossible because the area is constantly exposed to anthropogenic influence (Figure 4).



Figure 4. Eroded soils

*Anthropogenic factors, especially active, unplanned grazing and temporary plantings, facilitate the acceleration of the process. Short-term lease of land, destruction of the irrigation system to a certain extent limits the long-term cultivation possibilities of the land. Thus, in the land that was plowed properly and not irrigated on time, the erosion went faster and deep gullies were formed in those areas.*

*The creation of sources of environmental stress as a result of anthropogenic man-made effects of the Boyukduz plain landscape is mainly related to the following factors.*

*1. Salt production facilities: Nakhchivan Dash Salt deposit is located 12 km northwest of Nakhchivan city in the southern end of the Duzdagh plateau. Sust deposits are also located in the Duzdagh plateau as a second mine. The reserves of both deposits are confirmed to be 95.5 million tons. In addition to these, it was found out from the cross-section during the oil and gas drilling conducted in the territory of the Autonomous Republic in 1950-1955 that there are salt deposits with a thickness of 40-50 meters in the area of Pusyan and Shakarabad villages.*

*The development of industries is primarily related to the expansion of salt production and the creation of new industries. In contrast to previous years, in order not to lose the sales market and compete with neighboring countries, the quality of the produced salt was improved and the clay salts contained in it were removed from use (Figure 5). Clay salt, which becomes waste and makes up 25-30% of production, dissolves in rainwater and increases salinization in a very large area [8].*

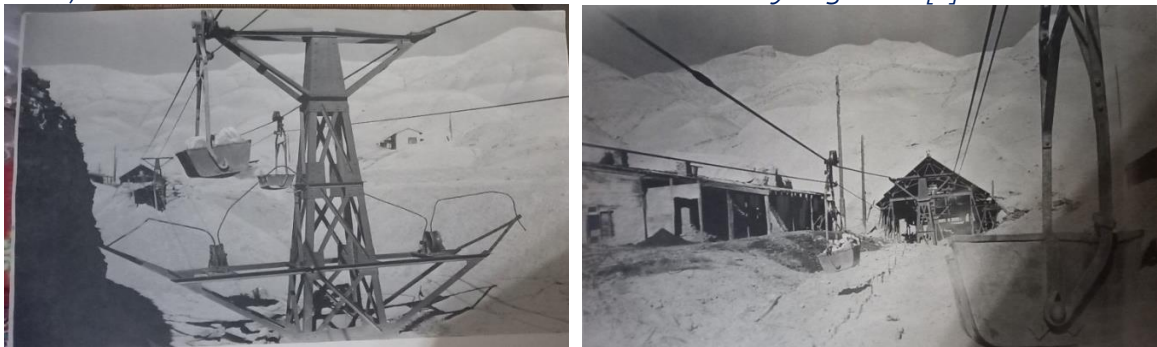


Figure 5. Method of transporting salt before 1965

*The activity of the mining industry, especially as a result of salt production, disrupts all biogeocenotic relationships in the soil. Clay-salt terricones spread around with temporary streams and cover the land areas, and plants do not grow in such areas for years. Low-quality, non-industrial rock waste salts change the lithogeny of the landscape, mainly its morphology.*

*At the beginning of the last century, Duzdag mine, which began to be widely produced, has been spilling waste materials around the mine for years, covering a wide area (picture 6).*



*Figure 6. Production waste of Duzdagh mine*

*As a result of the influence of atmospheric precipitation and winds, these wastes thrown into the Buyukduz plain spread around and have a negative effect on the vegetation of the area, as mentioned above. As a result, there is no vegetation on Duzdagh Mountain (Figure 7).*



*Figure 7. Duzdagh plateau*

*In these circumstances, it is necessary to apply landscape reclamation methods based on world experience. By applying landscape recultivation measures in such ecologically stressed areas, it is not possible to implement the development of agriculture, afforestation, construction of drainage system, creation of purposeful water reservoirs, settlement measures in a short time.*

*2. Development of extensive livestock. The throughout Araz semi-desert and desert landscape, especially the Buyukduz plain, are the largest winter pastures of the autonomous republic. In recent years, the rapid development of livestock has become the main factor intensifying the desertification process. As a result of intensive grazing in winter pastures, soil degradation has occurred, toxic and harmful plants have increased. In the lowland zone, the most disturbed areas are the 1-2 km surrounding areas of wintering stables, which are under the trampling of the herds almost every day throughout the season (Figure 8).*



*Figure 8. Livestock farms in the winter pastures of Boyukduz*

*Due to trampling, the development of plants in this area is impossible. At the same time, land degradation is taking place as the surrounding area of the settlements located in the plain is used as pasture. The difference in the disturbance of the landscape around settlements and wintering areas is that animals in wintering areas only graze in autumn, winter and early spring, while animals in residential areas graze in these areas all year round.*

As a result of grazing, animals use plants suitable for fodder. Harmful plants that are not edible start to grow faster and expand their areas by enriching them.

3. Development of irrigation agriculture. As a result of recent distribution of land to the population, salinization and re-salinization is manifested in a large part of the plain landscape. As a result of plowing and intermittent cultivation of lands temporarily leased to the population, desert and semi-desert vegetation has been destroyed. As a result of plowing for the development of agriculture, the natural landscape is disturbed and a new cultural landscape is formed. However, due to the development of irrigation agriculture in the area with a severe continental climate, after a certain period of time, the lack of irrigation water causes the agricultural lands to remain unused. As a result, wind and surface erosion processes develop rapidly.

Also, the reclamation works in the area during the Soviet era were in a bad condition, which led to repeated salinization in the area. The collector and drains are in poor condition (photo 9). Closed irrigation systems have been destroyed in recent times and have had a strong impact on the surrounding soil and vegetation.



Figure 9. Areas where reclamation systems have collapsed

4. Fuel supply: It is cutting plants and using the root system as fuel in order to meet the fuel demand of the population living in blockade conditions. It should be noted that the root system makes up 90% of the biomass of desert and semi-desert plants. During the period of the blockade, the area-protecting phytomeliorating forest strips existing in the plain were cut and destroyed as fuel. The destruction of forest strips accelerates the process of wind erosion by allowing tropical winds to easily enter the area.

5. Settlement: wrongly moving mountain villages to the plain zone during the Soviet rule, forced population migration due to Armenia's aggression against Azerbaijan, at the end of the 1970s, the village of Sust located in Boyukduz and the "Araz water junction" reservoir were being built, and the relocation of the villages that were likely to be flooded to the village of Buyukduz, which was built in a new modern way, was started. As a result of this resettlement, a relatively large part of the Boyukduz plain became a residential area, and the natural landscape was disturbed both in the residential area and in its surrounding areas. Near the village, Islah Labor Colony was built, which covered several hectares of land. Later, its area was increased more than twice. This led to further destruction of the natural landscape.

During the Armenian-Azerbaijani conflict, the Azerbaijani population living in the territory of Armenia fled to Nakhchivan, as well as in other border regions of the Republic of Azerbaijan. Such refugees mainly came from Karki village of Nakhchivan MR, which is located on the territory of Armenia. In order to accommodate these refugees, a settlement called Yeni Karki was built in the territory of Boyukduz, and the population of the village of Karki was completely transferred to Yeni Karki. Since the main occupation of the people of this village is agriculture, they started to use the surrounding area as a pasture.

6. Building materials production areas: The plain is also very rich in gypsum and late raw materials. Its production dates back to ancient times. Tertiary sediments, which are the raw material of this production area, are mainly located in Boyukduz area. In general, each of them has a reserve of about 30,000 tons.

The main production plants of gin are located in the Boyukduz plain and have the ability to produce up to 100 tons of gin per day.

However, as a result of the activities of these workshops, many damages are caused to the landscape. The dust and fumes released during the production spread around and cause the destruction of vegetation in a large area and change the structure of the soil. The smoke and dust spreading around fall on the leaves of the plants, preventing the process of photosynthesis and the plant dries up (picture 10). Thus, other landscape components are changed. On the other hand, in order to obtain raw materials,

excavation works are carried out in the areas where the raw materials are distributed, and soil is transported. Since the raw material is in the upper layer of the area up to a depth of 50-70 cm, the mechanisms have to destroy only the upper layer of the lump, which is covered with vegetation and creates a certain structure. However, vegetation and soil cover cannot be restored in these areas for a long time. As a result of cargo transportation between production areas and raw material deposits, a large amount of dust is scattered around from dirt roads.



Figure 10. Lime production workshops

Nakhchivan Cement Plant has been operating since 2011. In this plant with a daily production capacity of 1200 tons, the latest equipment based on modern technology is installed [15; 16]. Raw materials necessary for quality cement production are brought from the territory of Chalkhangala village of Kangarli region. At present, the daily cement production capacity of the enterprise is 800 tons. Cement is produced by the dry method in a conveyor plant. In the area where the plant is located, production areas, warehouses for storing raw materials and finished products, administrative and catering buildings have been built.

The total area of the Nakhchivan Industrial Complex, which was commissioned together with the cement plant, is 9 hectares and includes 4 plants (picture 11). These are factories that produce gypsum, gypsum boards, lime and aerated concrete. For the realization of the new project, there was state financial support from the National Entrepreneurship Support Fund. The plant produces 150,000 tons of porous concrete per year [14]. Local raw materials used in the lime plant are brought from the Karabakhlar mine of the autonomous republic. The products made here are used in the construction sector, agriculture, paper and glass production. The enterprise with an area of 4500 square meters produces 36 thousand tons of lime per year [13].



Figure 11. Nakhchivan Industrial Complex in Buyukduz

Although all these production areas occupy a large area in the plain and are equipped with modern equipment, they have a certain impact on the environment. At the same time, ecological tension is also arising in the area of raw material deposits.

**The result.** Thus, the analysis of indicators of individual important components of the landscape shows that desertification is rapidly increasing in the landscapes of the studied area, especially in semi-deserts, as a result of the effects of various natural and anthropogenic factors. In addition to the ecogeographic features of the area, the relief in the valley depressions is flat and, accordingly, salinization caused by weak surface flow, the widespread distribution of desert plants, high continentality, especially the potential evaporation is several times higher than the precipitation, the

rapid development of degradation has already given the semi-desert landscape a typical desert appearance in some places.

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## ***Historical sciences***

### **THEORETICAL, METHODOLOGICAL AND HISTORIOGRAPHICAL ASPECTS OF THE STUDY OF PROTEST MOVEMENTS IN EAST KAZAKHSTAN IN THE 20-30S. XX CENTURY**

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### **XX ҒАСЫРДЫҢ 20-30 ЖЫЛДАРЫНДАҒЫ ШЫҒЫС ҚАЗАҚСТАНДАҒЫ НАРАЗЫЛЫҚ ҚОЗҒАЛЫСЫН ЗЕРТТЕУДІҢ ТЕОРИЯЛЫҚ-ӘДІСНАМАЛЫҚ ЖӘНЕ ТАРИХНАМАЛЫҚ АСПЕКТІЛЕРІ**

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#### **Abstract**

*The article highlights a brief historiographical review of the study of the history of the armed protest movement in the border region of Kazakhstan in the 20-30s of the twentieth century in the context of interdisciplinary scientific and methodological approaches. The "phenomenon" of peasant protest was considered as a "pattern" of complete collectivization, types and forms of protest, scale and their consequences. The content identifies a group of characteristic factors of popular armed uprisings, notes the border influence on protests, and also highlights their priorities.*

#### **Андамна**

*Мақалада XX ғасырдың 20-30 жылдарындағы Қазақстанның шекаралық аймағындағы қарулы наразылық қозғалысының тарихын, пәнаралық ғылыми-әдістемелік көзқарастар тұрғысынан зерттеуге қысқаша тарихнамалық шолу жасалады. Шаруалар наразылығының «құбылысы» толық ұжымдастырудың «үлгісі», наразылықтың түрлері мен формалары, ауқымы және олардың салдары ретінде қарастырылды. Мазмұнда халықтық қарулы көтерілістерге тән факторлардың тобы айқындалады, наразылық акцияларына шекаралық ахуалы, сонымен қатар олардың басымдықтары көрсетіледі.*

**Keywords:** *Kazakhstan, East Kazakhstan, protests, protest movements, uprisings, peasants, border territories*

**Түйінді сөздер:** *Қазақстан, Шығыс Қазақстан, наразылықтар, наразылық қозғалыстары, көтеріліс, шаруалар, шекаралық аймақтар.*

#### **1920-1930 жылдардағы аграрлық халықтың күшпен жаңғырту.**

*1920-1930 жылдардағы аграрлық халықтың күшпен жаңғырту қоғамдық құрылымның түбегейлі өзгеруіне әкеліп соқтырған қазақ көшпелі ауылының жедел кеңестендіруіне әкелді. Мұндай өткінші ауысу екі тікелей қарама-қарсы әлеуметтік парадигмалардың: бір жағынан социализм құрудың кеңестік (сталиндік) үлгісінің, екінші жағынан жүз буындары мен иерархиялық институттардан тұратын дәстүрлі рулық қазақ қоғамының қарама-қайшылық пен наразылық сезімін ашты. Бірінші парадигманың өкілдері қазақ ауылын кеңестік қайта құру туралы өздерінің көзқарастарын бөтен ел ретінде қабылдауға тырысты, ал екіншісінің өкілдері өздерінің болмысын және дәстүрлілігін сақтауға тырысты. Ішінара жаңғырту бір қоғамда салыстырмалы түрде жаңарған әлеуметтік нысандардың да, аз жаңғырту, тіпті архаикалық құрылымдардың да қайта өндірілуіне және институционализациялануына әкелді. Әлеуметтік наразылық - бұл әрекет субъектілерінің құндылықтары мен нормаларына сәйкес келмейтін қолданыстағы әлеуметтік институттар мен басқа құрылымдарды демонстрациялық түрде жоққа шығаратын жеке және ұжымдық әрекеттер. Әлеуметтік наразылық білдіруші*

субъектінің күтулеріне (құндылықтарына, мүдделеріне, қажеттіліктеріне) сәйкес қалыптасқан жағдайды өзгертуге бағытталған қақтығысты шешу әдісі ретінде әрекет етеді. Наразылықтың жаппай әдістеріне айналды (бүліктер, көтерілісшілер қозғалысы, қарулы көтерілістер, жаппай көші-қон). Ауыл шаруашылығын экономикалық жаңғырту кезеңіндегі шаруалар көтерілістерінің тарихы, ауылдар мен белсенді колхоздық құрылыс мәселелері 1980 жылдардың соңына дейін кеңестік тарихнамада мүлдем қарастырылмады. Кеңес өкіметі тұсында тұйықталған шаруалар көтерілістерінің тарихы қазақ ауылын/қоныс кентін күштеп ұжымдастыру мәселелерінің назарында болды.

#### **Қысқаша тарихнамалық шолу.**

Тарихи сананың концептуалды қайта жүктелуі М.Қозыбаевтың, Ж.Әбілхожиннің, М.Тәтімовтың Қазақстандағы ұжымдастыру мәселелеріне арналған мақаласынан басталды. Ұжымдастырудың идеологиялық құрамдас бөлігі алғаш рет колхоз құрылысының қорытындылары бойынша да, қарулы шаруалар көтерілістерінің саны туралы да алдын ала статистикалық мәліметтермен қатар жүрді. [Абылхожин Ж.Б. Очерки социально-экономической истории Казахстана. XX век. - Алматы: Университет «Туран». – 1997. - 360 с.], К.С. Алдажуманова [Национально-освободительное движение 1916 года и крестьянские восстания 1929-1932 гг.: проблемы преемственности // Национально-освободительное движение в Казахстане и Средней Азии в 1916 году: характер, движущие силы, уроки / Материалы международной научно-теоретической конференции (Алматы, 1996, 18 октября). – Алматы: Фонд «XXI век». – 1997. – С.88-94.; Крестьянское движение сопротивления // Депортированные в Казахстан народы: время и судьбы. – Алматы: «Арыс»-Казахстан. – 1998. – С.66-92.], Т. Омарбекова [Қарақалпақстандағы көтеріліс // Жұлдыз, 1993, № 4. –130-156 беттер; Тақтакөпір оқигасы //Зобалан. – 11-48 б.; Зобалан. – Алматы: Санат. – 1994. -270 б.], Т. Аланиязова [О Тахтакупырском вооруженном выступлении 1929 г. // Вестник Каракалпакского отделения АН Республики Узбекистан. – 1992. - №2. С.90-95; «Контрреволюция» в Казахстане: Чимбайский вариант. – Алматы: Фонд «XXI век», 1999. – 219 с.; Шетская трагедия. Из истории антисоветских вооруженных выступлений в Центральном Казахстане в 1930-1931 гг. – Алматы: Фонд «XXI век», 2000. –164. Крестьянские выступления в Казахстане 1929-1932 гг.: опыт и проблемы изучения. Алматы: «Фонд XXI век». – 2002. – 88 с.; Последний рубеж защитников номадизма. История вооруженных выступлений и повстанческих движений в Казахстане (1929-1931 гг.). Алматы: ОО «OST XXI век». – 2009. – 424 с], Шыңғыстау көтерілісі: жаңа деректер негізінде зерттеу// Электронный научный журнал «edu.e-history.kz» №1(13)2018; Толстоуховский мятеж в источниках и материалах //Отечественная история, научный журнал 2018, №3 (83), С. 192-203].

Аталған авторлар қарулы көтерілістер тарихын зерттеу тәжірибесіне айтарлықтай үлес қосты. Жоғарыда аталған мамандардың әрқайсысы зерттелетін мәселенің кеңістіктік көкжиегін кеңейтті, ғылыми айналымға мұрағаттық құжаттарды енгізді, шаруалар көтерілістерін зерттеу әдістемесін күшейтті. Аймақтық көтерілістер тарихы бойынша ең маңызды жарияланымдар Т. Омарбековке тиесілі.

#### **Шаруалар қозғалысы "тарихи феномен"ретінде қарастырылады.**

Қазақстандық зерттеушілер 1920 жылдардағы шаруалар көтерілісінің шарттары, шаруалардың қарулы қарсыласуының және үкіметтік органдардың оларға қатысты жазалаушы репрессиялық шараларының кейбір аспектілерін, сондай-ақ әскери-коммунистік іс-шаралар мен шаруалардың қарулы сөз сөйлеуінің әлеуметтік-экономикалық және саяси салдарын қозғады. Аталған жарияланымдарда проблемалық тәсіл басым, кеңестік идеологиялық мұрадан бас тарту әрекеті бар, күш құрылымдары қызметінің заңнамалық-құқықтық базасын сипаттай отырып және зерттелетін бағыттардың статистикалық параметрлеріне шолу жасай отырып, дереккөзтану базасына ғылыми сүйену әрекеттері жасалды. Бұл тақырып посткеңестікте белсенді түрде пысықталуда. Шаруалар қозғалысы "тарихи феномен" ретінде қарастырылатын қызықты басылымдар, қорғалған диссертациялар бар. 2001-2021 жылдар аралығында Ресейде және Қазақстанда 1929-1931 жылдардағы қарулы көтерілістер мен көтерілісшілер қозғалыстары тарихының кең ауқымды аспектілері бойынша ғылыми түсінікті айтарлықтай тереңдеткен бірқатар еңбектер жарық көрді. Бұл еңбектерді талдау және бағалау тақырыптың білімінің жай-күйін көруге және Қазақстандағы 1929-1931 жылдардағы қарулы көтерілістер мен көтерілісшілер қозғалыстары тарихнамасын одан әрі прогрессивті дамыту міндеттерін тұжырымдауға мүмкіндік береді. Бұл маңызды рөл тек қана емес, бір топ құжаттардың бастапқы талдау әрекеті болды бұл олардың өкілдік мүмкіндіктерін ашты, бірақ

сонымен бірге мүмкіндік берді қарулы көтерілістерді басу жөніндегі ОГПУ қызметінің идеологиясы мен тәжірибесін ашу. Бұл міндет ОГПУ-дың қарулы көтерілістерге қарсы күрес тәжірибесін зерттеу арқылы шешілді. Бұл тәжірибені зерделеу қазақ шаруасының ұжымдастыру мен отырықшыландыру саясатына қарсы күресінің қаншалықты салмақты, мазмұны жағынан маңызды екенін көрсетуді көздеді. Сонымен қатар, бұл аспектіні дамыту қарулы көтерілістерді бейтараптандыру және басу бойынша ОГПУ қызметінің сипаты мен ерекшеліктері туралы ғылыми идеяларды кеңейтуге және тереңдетуге мүмкіндік берді. Қазақстандағы ОГПУ ПП Семей жедел секторының 1931 жылдың наурыз-шілде айларына қатысты директиваларын талдау негізінде мемлекеттік қауіпсіздік органдарының бірқатар облыстардағы Шаруа қарулы көтерілістерімен күресудің практикалық тәжірибесін зерделеу және қорытындылау жөніндегі қызметі сектордың жауапкершілік саласына жататындар қайта құрылды.

#### **Қорытынды.**

1920 жылдардың аяғы мен 1930 жылдардың басындағы халықтық көтерілістер хаотикалық, стихиялық бандалық жиын, бұрынғы деп аталатындар ретінде ұсынылды. мал ұрлығы, қылмыстық элемент және т. б. Қарулы көтерілістерді бағалаудың дәл осы контексті "қылмыстық-саяси түс" ұғымын хаттамалық – анықтамалық құжат айналымына енгізді деп болжаймыз. Ғылымға енгізілгендер негізінде құжаттардың айналымы және оларды талдау, бағдарламалық ережелерде саяси-идеологиялық постулаттың болуы туралы айтуға болады, көтерілісті және шаруаларды қорғау қажеттілігін негіздеді мүдделер. Большевиктер партиясының басты ұраны "шаруаларға жер" дәстүрлі қауымдастық пен экономикалық бостандық құқығын жойған жергілікті биліктің саяси іс-шараларына еріді. "Біз Кеңес өкіметі үшін, коммунистерсіз" ұраны Қазақстанның барлық аумағында ең танымал және барлық жерде болды. Соңғы зерттеу тәжірибесі ретінде пайдаланылатын көздер ауқымын сипаттау кезінде шаруалар қарулы көтерілістерінің тарихын зерттеу негізінде мынадай топтар бөлінеді: мұрағаттық материалдар, деректі басылымдар, мерзімді басылымдар, естеліктер. Бірінші топтың ішінде құжаттар сияқты топшалар ажыратылады КОКП, кеңестік және мемлекеттік басқару органдарының қызметкерлері, мекемелер мен ұйымдар және т.б. Шамамен осы классификацияны қатысқан зерттеушілер ұстанады, шаруалардың қарулы көтерілістерінің тарихымен байланыстырады. қысқаша тарихнамалық шолу одан әрі ғылыми зерттеулердің қажеттілігін анықтайды және жаңа зерттеу тақырыптары мен пәнаралық көзқарастардың болуына байланысты зерттеудің өзектілігін көрсетеді.

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## FOLKLORE RESERVE (FUND) OF BURDEN AND MOURNING CEREMONIES

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## YUQ VƏ YAS MƏRASİMLƏRİNİN FOLKLOR EHTİYATI (FONDU)

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**Abstract**

The article talks about the peculiarities of ceremonies, and draws attention to the historical sources of household ceremonies. Also, the possibilities of national self-expression in folklore texts are investigated from different directions. The issues related to domestic ceremonies in word monuments belonging to the Turkic peoples are analyzed.

**Xülasə**

Məqalədə mərasimlərin özünəməxsusluqlarından söz açılır, məişət mərasimlərinin tarixi qaynaqları diqqətə çəkilir. Eləcə də milli özünüifadənin folklor mətnlərindəki imkanları müxtəlif istiqamətlərdən araşdırılır. Türk xalqlarına məxsus söz abidələrində məişət mərasimlərinə aid məsələlər təhlil olunur.

**Keywords:** yuk, genre, folklore text, ceremony, song

**Açar sözlər:** yuq, janr, folklor mətni, mərasim, nəğmə

«Yas mərasimində ölənin üçün ağrı deyib ağlamaq xalqlar tarixinin başlanğıc dövrlərindən davam edib gələn bir adətdir. İnsanın ölümə münasibəti ifadə edilən ağrı və bununla bağlı mərasimlərdə icra olunan ayin, hər şeydən öncə, məxsus olduğu xalqın cürbəcür ayin, rəqs və hətta musiqisini (avazla oxumağı) özündə əks etdirir» (2, s. 150).

Hər bir xalqın özünəməxsus toy, yas adətləri, ayinləri olub ki, bunlar da müxtəlif dövrlərdə müxtəlif şəkildə həyata keçirilib.

Mərasim nəğmələri içərisində yas və dəfn mərasimi ilə bağlı mətnlər geniş yayılmışdır. Xalq öz dərdini, kədərini, hüznünü mətnlərdə ifadə etməklə yanaşı, həm də bununla dərdini, kədərini yüngülləşdirməyə çalışmışdır.

Professor Azad Nəbiyev bu məsələ ilə bağlı yazır: «Yas mərasimlərinin mühüm hissəsini ağılar – ağuar təşkil edir. Ağılar xalqımızın qədim nəğmələrindən olub yuq-yuqlama sözü ilə bağlı yaranmışdır. Ölənin qəhrəmanlar üçün ağlamaq Şərq xalqlarının ilkin adətlərindən olmuşdur. Hətta daha qədimlərdə insan cənazələri sərdabələrə qoyulanda, suya atılanda, qəsrlər üzərində qoyulanda, oda atılanda əvvəlcə cənazənin ətrafına dövrə vurub ağlayır, sonra dəfn mərasimini icra edirdilər» (7, s. 47-48).

Ağrı janrı sırf mərasimlə bağlıdır. Ona görə ki, ağılar əsasən insanın ölümü ilə bağlı söylenilir və təbiidir ki, ağılar yas mərasimlərində də deyilir. Dinindən, adət-ənənəsindən asılı olaraq bir xalqın yas mərasimi digər xalqın yas mərasimindən seçilir, fərqlənir. «Avesta», «Orxon-Yenisey», «Oğuz Kağan», «Alpamiş», «Manas», «Kitabi-Dədə Qorqud» kimi ölməz abidələrimizdə, bir sıra türk-oğuz əfsanə və əsatirlərində «olum və ölüm» haqqında həyat ideallarının izləri yaşamaqdadır.

Yas mərasimləri ilə bağlı müxtəlif əfsanə və rəvayətlərdə, əsatirlərdə, xalq deyimlərində bir sıra məsələlərlə rastlaşırıq. Yas mərasimində əsas məsələ mərhumun can verməsindən ta ili tamam olan vaxta qədər ölənin yaxınlarının sahibinin görəyi işlərlə bağlı məsələlərdir. Tarixin ilk çağlarından başlayaraq müxtəlif səpkili, müxtəlif mövzulu ağrı formalı şeirlər meydana çıxıb. Tədqiqatlarda göstəriləndi ki, yas mərasimində oxunan ağılar bu gün təkcə bayatı şəklində yazılmış nümunələrlə məhdudlaşmır. Xalq içərisində onların daha əvvəllərdə yaranan nümunələrindən də bizi gəlib çatana var:

Sel gəldi,  
Bədən oldu.  
Qan düşdü,

Yeldən oldu.  
Vay düşdü  
Sarayıma.  
  
və yaxud

Gün batdı,  
Xana qaldı.  
Ay doğdu  
Dona qaldı.  
Zülfü qızılı  
Qızım.  
Qəbri qazılı  
Qızım.

Nümunələrdən aydın görünür ki, onlar bayatı şəkilli ağılardan əvvəldir (6, s. 48).

Yas mərasimlərinin qədim dövrlərdən bu günə qədər keçdiyi zaman baxımından hər bir folklor nümunəsi əsl tarixdir. Ona görə də müxtəlif folklor nümunələrinə, ayinlərə müraciət etməklə yas mərasimlərinin folklor ehtiyatları barədə geniş söz demək mümkündür.

Hər bir yaranışın bir əvvəli, bir sonu var. Bir planetin ömrünün yanında insan ömrü bir göz qırpımı kimi də görünür. Ancaq az və çox yaşamasından asılı olmayaraq «dünyanın əşrəfi» insanın dünyanı tərk etməsi, ölümə qovuşması bəşər övladını düşündürmüş, dünyadan köçən insanı qalanlar hörmətlə, izzətlə yola salmışlar. Bu anma mərasimləri müxtəlif formada həyata keçirilib. «Qobustan» jurnalında dərc olunan «Azərbaycanda bayramlar və yas mərasimləri» adlı məqaləsində İlhamə Dadaşova yazır: «İslamdan çox-çox əvvəl Azərbaycan ərazisində məşhur, hörmətli, mərd xalq qəhrəmanlarının, el igidlərinin ölümü ilə bağlı yas keçirmək bir adət idi və ənənəyə çevrilmişdi. Kökü qam-şaman mərasimləri ilə bağlı olan, ər-ərənlərin ölümü ilə bağlı keçirilən anmaq, xatırlamaq, onu vəsf etmək və sonda mütləq ağlamaq mərasiminə «Yuq» deyilirdi (4, s. 50).

Yuqçular bu oyunla insanları kədərləndirmək məqsədini qarşıya qoymurdular. Əslində bu dramatik səhnələr adət-ənənələrlə şərtlənirdi.

Bu fikrin özündə böyük həqiqət var. Əsrdən-əsrə keçərək bu adət-ənənələr bu günə qədər gəlib çatıb. Azərbaycanda Yuq teatrının fəaliyyət göstərməsi də bu fikri bir daha təsdiqləyir ki, zaman keçdikcə xalqın qan yaddaşında baş verən dəyişikliklər üzə çıxır. Belə mərasimlərdə ölən in igidlikləri yada salınır. Görkəmli mifoloq Mirəli Seyidov Yuqun teatrı ilə bağlılığından söhbət açır. Nə qədər ki, insan sağdır, demək onun etdikləri hələ bitməyibdir. O yenə də nə isə edə bilər, yarada bilər. Elə ki öldü, demək, hər şey sona çatdı. Onu xatırlatmaq, qəhrəmandırsa onun qəhrəmanlığını yada salmaq olar. Çünki ölüm insanın ömrü boyu etdiklərini zəncir kimi bir-birinə bağlayır. Bu zəncirvari halqa, yaşamış ömür bir daha göz önündən keçir.

Niyazi Mehdi «Yuq» teatri ilə bağlı «Başlanmamış gündəliklərdən parçalar» adlı məqaləsində yazır: «Ölən insan yerə (aşağıya) basdırılır, ağların ucalan səsi isə elə bil ki, yerə basdırılan cisimdən ruhi alıb yuxarıya Qut dünyasına ucaldır, Muğamda ağının cizgiləri var, muğam yanıqlı duyğuları sonsuz məkana ucaldıb yollamaq istəyir... Ölüm insanın etdiklərini sona yetirir...

...Ancaq bunun üçün də insanın etdikləri mədəniyyətin yaddaşına, bu Qut (Ruh) dünyasına qalxıb, orada şəkillənməlidir. Yuqlama insan cisimlərində keçib getmiş mədəniyyət üçün şəkilləndirmək idi. Ərənlərin gömülmüş cismindən ruhunu alıb Qut dünyasına götürmək idi (7, s. 70).

Yuq mərasimləri ilə bağlı Mirəli Seyidovun da maraqlı fikirləri vardır: «Yuq» mərasimində ölən qəhrəmanın həyatının əlamətdar hadisələrini nağıl edib tamaşa kimi göstərmək adət imiş. Orada oxunan mahnılar bəlkə də «saqu», - «ağu» adlanmışdır. Bu adət hunlarda da varmış və onlar həm ziyafət toplantılarında, həm də yas mərasimində musiqi ilə şeir, mahnı oxuyarmışlar. V əsr məşhur Hun sərkərdəsi Atillanın ölümü ilə əlaqədar mərsiyələr – sağular – ağular oxuyarmışlar» (8, s. 299).

Mirəli Seyidov «yuq» mərasimlərinin təsvirini verir və özündən əvvəl bu məsələyə münasibət bildiren Musa Qağanqatının, Məmməd Arifin, Səfər Səfərovun yuq mərasimlərində tamaşa ünsürləri gördüklərini xüsusi qeyd edir. Görkəmli alim bu qənaətə gəlir ki, «burada mərasim iştirakçıları, bir tərəfdən deyir, digər tərəfdən qılıncla vuruşur, daha doğrusu, qılınca oynadırlar və çarpışır, atlarını ora-bura çapırlar, atla yürüş edirlər. Başqa bir dəstə isə rəqs edir, «oyun oynayır», oxuyur. Burada icra olunanları sıraya düzsək, tam bir tamaşa təsiri alınır» (8, s. 301).

M.Seyidov onu da qeyd edir ki, yuqçular öz sənətlərinə yaxın olan mimlərə oxşayırlar. Yuqdakı tamaşa əlamətləri varsaq sənətdə də vardır. Yuqlarda qəhrəmanın həyatını təsvir edən mahnı oxumaq, mənalı hərəkətlərlə rəqs etmək onu meydan tamaşasına yaxınlaşdırır.

Zaman keçdikcə yuğ mərasimləri öz əvvəlki şəklini dəyişib. Azərbaycanda yuğ mərasimlərindən bəhrələnən ağaçlara bu gün də təsadüf etmək mümkündür.

Azərbaycan şifahi xalq ədəbiyyatında, eləcə də yazılı ədəbiyyatımızda yas mərasimləri ilə bağlı bir neçə janrda sənət əsərləri yaradılıb. Çoxlu mərsiyə yazan şairlər olub. Bununla yanaşı həm də rövşəxanlar olub. Belə insanlar yeri gəldikcə özləri də sənət nümunələri yaradaraq yas mərasimlərinin folklor ehtiyatını (fondunu) zənginləşdiriblər. Bu barədə Ağahüseyn Abbasov yazır ki, yas mərasimlərinə ölünü daha şəərəfli götürmək üçün yaxşı səsi olan, ağı demək qabiliyyətinə malik şəxslər dəvət edirlər. Bildiyimiz kimi, müasir dövrümüzdə hüsr məclislərini, xüsusən, «cənazə günü»nü əsasən qadın rövşəxanlar, ağı deyənlər idarə edirlər. Lakin tarixin müəyyən dövründə bu missiya kişilərin də öhdəsinə düşüb (1, s. 64).

Müəllif bir maraqlı məqama da toxunur ki, ağını təkcə mərsiyəxan özü ifa etmir. O, ətrafdakıları da bu işə cəlb edir. Ağının nəqərat hissəsi bir neçə dəfə təkrar olunur ki, ətrafda oturanlar da onun sözlərini əzbərləyib deyə bilsinlər. «Ağı deyən qadınların çoxu yaxşı səslə oxumaq qabiliyyətinə malik olduqları kimi, yeni-yeni ağılar yaratmağı da bacarırlar. Bu ağılar dildən-dilə düşdükcə səlisləşir, cilalanaraq xalq yaradıcılığı nümunələrinə çevrilir. Xalqımızın gündəlik həyatının, arzu edilməsə də, ayrılmaz bir hissəsi olan ağılar özündə böyük bir tarixi dövrün adət və ənənələrini, düşüncə tərzini – folklor yaddaşını yaşadır» (1, s. 65).

Yuğlardan sonra bayatı şəkilli ağılar yaranmış və yas mərasimlərində üstün mövqeyə keçmişlər:

Eləmi bu dərd məni,  
Ağrıdır bənd-bənd məni.  
Son nəfəs çıxanadək  
Gəzdirin kənd-kənd məni.  
Eləmi dolu gözlər,  
Dağ başı dolu gözlər.  
Soğulmuş ana gözü,  
Qırx ildir yolu gözlər (28, s.31).

«Yas mərasimləri içərisində cənazənin dövrəsində oturub xor ilə, yaxud ayrı-ayrı qadınlar tərəfindən oxunan «Şaxsey-vaxsey» nəğmələri» də vardır. Bu nəğmələr fəryad qoparan ananın, bacının, gəlinin dilindən də ucalır:

Gələm balam olaydı,  
Yurdum talan olaydı.  
Ölümün yalan olaydı.  
Şaxsey-vaxsey  
Vaxsey-şaxsey.

Yaman günüm daldadır,  
Karvan gəldi yoldadır,  
Kəhər atın yoldadır.  
Şaxsey-vaxsey  
Vaxsey-şaxsey (6, s. 49)

Yas mərasimlərində ölənə yaxınları əsasən ağı deyir. Ana, bacı, xala, bibi, arvad və başqaları. Bəzən isə professional ağı deyən qadınlar belə məclislərə çağırılır.

Musiqişünas Səadət Məmmədova «Azərbaycan xalqının matəm mahnıları» adlı məqaləsində yazır: «Ağılar qəm-qüssə, kədər əks etdirən, ahənglə ifa olunan, xüsusi improvizasiya xasiyyətli, poetik formaya malik matəm mahnılarıdır. Onların mətnləri üçün yüksək məcaz, hiperbola ən xarakterik cəhətlərdəndir. Xüsusi ağı deyən qadınlar (professional ifaçılar) çox vaxt xalq poeziyasına müraciət edib, hisslərə toxunan şikəstə və bayatılardan istifadə edirlər:

Mən aşiq yüz il yanar,  
Yüz həftə, yüz il yanar.  
Sənin də oğlun ölsə,  
Ürəyin yüz il yanar.

Anası yanar ağlar,  
Tərifə qalar ağlar.  
Ana deyir göyərçin,  
Tabuta qonar ağlar.

*Bəzən də ağıçı qadınlar, özləri orijinal sözlər qoşub ağı deyirlər. Belə hallarda onlar xalq poeziyasının milli obrazlarından və xarakterik elementlərindən istifadə edirlər:*

*Anamın körpə balası,  
mənim quzu balam,  
Evimizin yaraşığı,  
evimizin gülü.  
Yerin yaş, mənzilin qaranlıq,  
yolun uzaq və s. (5, s. 63)*

*Göründüyü kimi, yuq və yas mərasimlərinin folklor ehtiyatı hədsiz dərəcədə zəngindir. Bu isə, ilk növbədə, xalqımızın ən qədim adət-ənənələri, dünyagörüşünün örnək səviyyəli yüksək ifadəsi ilə əlaqədardır.*

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**THE HISTORY OF THE FORMATION OF THE ZAISAN BORDER DETACHMENT****Seitkanov Yedil***undergraduate 2 years of study at the Kazakh-American Free University  
The Republic of Kazakhstan, East Kazakhstan region, the city of Ust-Kamenogorsk***ИСТОРИЯ ФОРМИРОВАНИЯ ЗАЙСАНСКОГО ПОГРАНИЧНОГО ОТРЯДА****Сейтқанов Еділ Өмірқанұлы***магистрант 2 года обучения Казахстанско-Американского Свободного университета  
Республика Казахстан, Восточно-Казахстанская область, г. Усть-Каменогорск***Abstract**

*The article discusses the main aspects of the formation of the state border, as well as the Zaisan border line. The period under study from 1927 to 1936 is a tragic page in the history of the border troops of Eastern Kazakhstan. On the one hand - impoverishment, hunger and death of tens of thousands of local people caused by the excesses of the dictatorship of the proletariat, mass migrations to China, Siberia and other regions in search of food, in the hope of a better life. On the other hand, those who were forced to wage a tough fight against attempts to cross the border, destroy bandits, and suppress uprisings in the border areas.*

**Аннотация**

*В статье рассматриваются основные аспекты формирования государственной границы, а также Зайсанской пограничной линии. В исследуемый период с 1927 по 1936 годы – трагическая страница в истории пограничных войск Восточного Казахстана. С одной стороны - обнищание, голод и гибель десятков тысяч человек местного населения, вызванные перегибами диктатуры пролетариата, массовые откочевки в Китай, Сибирь и другие регионы в поисках пропитания, в надежде на лучшую жизнь. С другой – те, кто вынуждены были вести жесткую борьбу с попытками пересечь границу, уничтожать бандитов, подавлять восстания на приграничных территориях.*

**Keywords:** East Kazakhstan, Zaisan county, state border, border territory, Turkestan military district, delimitation and demarcation of borders

**Ключевые слова:** Восточный Казахстан, Зайсанский уезд, государственная граница, приграничная территория, Туркестанский военный округ, делимитация и демаркация границ

**Формирование пограничных войск.**

*Государственная граница священна и неприкосновенна. Пограничные войска органично соединили в себе лучшее, что было присуще армейским частям того времени: беззаветную преданность Отечеству, стойкость и боевое мастерство, высочайшую бдительность и искусство борьбы с внешними и внутренними врагами. Для обеспечения надежной охраны границы войскам нужны были преданные делу, опытные кадры. В пограничных отрядах служило много выпускников Харьковской кавалерийской школы имени Буденного. Они оставили заметный след в истории округа и Зайсанского пограничного отряда. Специфика службы на границе требовала специальной подготовки командирского состава. Краснознаменная школа ОГПУ в Тбилиси не могла полностью удовлетворить потребности границы. По инициативе и при личном содействии Феликса Дзержинского в конце ноября 1923 года в Москве открылась Высшая пограничная школа, в которой прошли переподготовку очень многие старшие командиры, политические и оперативные работники отрядов.*

*Только в период с 1918 по 1923 год Совнарком, Совет труда и обороны приняли около 20 постановлений, касающихся организации охраны границы. Проведение в жизнь национальной политики, принципа полного национального самоопределения нашло свое воплощение в создании советских республик в Средней Азии и Казахстане. Создание пограничной охраны на этих территориях началось сразу с окончанием гражданской войны и установлением Советской власти в этих районах. Оно протекало в острой борьбе против басмачества и кулацко-байских банд, в боевых схватках с колчаковско-анненковским подразделениями в Семиречье и Горном*

Алтае. В каждой схватке с врагом пограничники показывали образцы мужества, отваги и преданности делу защиты государственной границы. На их счету десятки разгромленных закордонных банд, сотни обезвреженных шпионов и диверсантов.

14 апреля 1920 года командующий Туркестанским фронтом Михаил Фрунзе отдал приказ о формировании для охраны государственной границы Туркестанского края Отдельной Туркестанской дивизии пограничной охраны в составе управления дивизии, трех бригад и отдельного 7-го пограничного полка с кавалерийским дивизионом трехэскадронного состава. Для организации пограничной службы из состава дивизии было сформировано Главное управление границ Туркестана с местом дислокации в Ташкенте и районные управления охраны границ, которым придавались войсковые силы из состава частей Туркестанского фронта.

В начале 1920 года была взята под охрану граница с Монголией, в январе прикрыты Курчумское, Зайсанское, Учаральское и Лепсинское направления, в июле-августе 1921 года - Жаркентско - Пржевальское, в августе 1921 года - Памирское и, наконец, в августе 1922 года - Тянь-Шаньское направления. В начале 1922 года из состава 57-го и 58-го кавалерийских полков 6-й Отдельной Алтайской кавалерийской бригады был выведен личный и конный состав для формирования Отдельного эскадрона кавалерийской службы для охраны границы на Зайсанском и Южно-Алтайском направлениях. Эскадрон формировался в селе Лаптев Лог Рубцовского района Алтайской губернии. 7 июля – был переброшен в Семипалатинск для доукомплектования, вооружения и снабжения. 28 августа походным порядком перешел в село Форпост-Убинское. Далее эскадрон на пароходах «Лобков» и «Тюмень» по реке Иртыш отправлен в Тополев мыс, куда прибыл в 23.00 31 августа 1922 года и походным строем двинулся в Зайсан, куда прибыл 2 сентября в 11.00 и поступил в оперативное распоряжение и подчинение Особого пограничного отделения №2. Состав и численность эскадрона: комсостав – девять человек, младший комсостав – 12, красноармейский состав 121. Всего 142 человека. 10 – 15 сентября эскадрон занял участок охраны границы от перевала Хабарасу до гор Тюз-Куйрюк, что в 13 верстах южнее села Алексеевки (ныне Маркаколь), путем выставления взводов в пунктах расположения пограничных постов. Он получил наименование 8-го пограничного кавалерийского эскадрона. В январе-феврале 1923 года сменил подразделения 46-го Отдельного пограничного батальона и занял участок между перевалами Хабарасу и Улан-Доба. 1 марта 1923 года эскадрон переименован в 7-й Отдельный кавалерийский эскадрон. В 1923 году устанавливается новая организационная структура - пограничные отделения.

28 февраля 1923 года приказом ГПУ был объявлен Туркестанский пограничный военный округ. Официально днем рождения Зайсанского пограничного отряда считается 23 февраля 1924 года. Но приказ Фрунзе о создании из 7-го отдельного пограничного кавалерийского полка 28 кавалерийского отряда был подписан на день раньше 22 февраля. И долгое время именно тогда отмечался день части. Уже много позже, руководствуясь, вероятно, желанием объединить собственный праздник с днем Советской Армии и Военно-Морского флота отряд сделали моложе на 24 часа. Новообразованному пограничному соединению под ответственность вменялся участок в 853 версты от озера Жаланашколь на юге до перевала Улан-Доба на севере. Пограничная охрана приобрела более целесообразную и стройную организацию: застава - комендатура - отряд - округ. 19 апреля 1924 года на основе объединения пограничных органов и пограничных войск - пограничное отделение № 1 и 7-й отдельный кавалерийский пограничный эскадрон - переформирован в Зайсанский пограничный отряд. Штатная численность отряда: людей – 222; лошадей – 139.

Первоначально сформированные комендатуры отряда Бахты, Майкапчагай, Алексеевка и Урыль сразу же взяли под контроль линию государственной границы, оберегая ее неприкосновенность сначала в составе Казахского пограничного округа, а затем, с 1929 года - Восточного. Был разработан и утвержден первый Временный устав службы пограничной охраны. Исходя из большой протяженности участка границы, малочисленности личного состава и большой нагрузки, охрана границы осуществлялась высылкой периодических разъездов. Подразделения пограничного отряда, управление пограничных комендатур, КПП, пограничных застав «Майкапчагай», «Алексеевка», «Орловка», «Урыль» размещены в населенных пунктах на частных квартирах, остальные пограничные заставы – в частично сохранившихся, полуразрушенных во время Гражданской войны, помещениях бывших царских пограничных постов, восстановленных силами пограничников. Снабжение продуктами и фуражем производилось путем заготовки непосредственно заставами.

### **Основные исторические аспекты становления пограничных войск Восточного Казахстана.**

В конце 1927 года пограничники стали задерживать на границе отдельных представителей байства и кулачества, жителей казахстанского приграничья, оставивших семьи на попечение родственников и пробиравшихся в Китай с целью уточнения там возможностей для устройства и проживания. Весной 1928 года те, кому удалось прорваться за кордон и вернуться обратно, забрав семьи и скот, повели их в Китай. Из-за малочисленности пограничной охраны и отсутствия у нее опыта борьбы с групповыми нарушениями, части семей удалось перейти границу. Так зарождалась массовая откочевка, которая вскоре приняла родовой и аульный характер. Этому в большинстве предшествовала продажа имущества и скота с целью более легкого перехода через границу. Нередкими были перекочевки под прикрытием вооруженных групп и банд.

Что стало этому виной? Политика Советской власти решать все вопросы революционным (репрессивным) путем. Задача диктатуры пролетариата - уничтожение враждебных классов, изъятие силовым методом, безвозмездно, частного капитала - земли, имущества, скота, хлеба. Именно это вызывало у зажиточной части населения возмущение и противодействие. Откочевка, являясь своего рода протестом на революционные действия властей, вызвана этим деянием и представляет собой защитные меры. Чтобы защититься, люди перемещались окруженные вооруженными боевыми группами. Трактуются как банда, которую следует уничтожить и не дать возможность пересечь границу. А эту задачу, как правило, выполняют пограничные войска.

В те годы каждый сам определял свою судьбу: либо эмигрировал и проживал на чужбине, либо не только приветствовал приход Советской власти в Восточный Казахстан, но и активно участвовал в ее установлении и защите от внешних и внутренних врагов. В партизанском отряде «Красные горные орлы» храбро сражалось немало бедняков - казахов. Наиболее реакционно настроенные баи в годы гражданской войны бежали за границу. Им с Советской властью было не по пути. Но они без боя не хотели сдаваться. В начале, они поддерживали банды, вторгавшиеся из-за кордона на нашу территорию, надеясь в открытом бою утопить в крови молодую Советскую республику. Когда эта карта оказалась битой, антисоветская часть эмиграции начала вести с помощью своих приспешников агитацию среди советских людей, подбивая их на массовый уход из Восточного Казахстана. Почва для этого была. На советской территории оставалась часть родственников баев, которые были недовольны налоговой политикой Советского правительства, мероприятиями по заготовке сельскохозяйственных продуктов и другими актами репрессивными акциями. В 1926 - 1927 годах в результате передела земельных угодий у кулаков и баев было изъято и передано беднякам и середнякам порядка 1,4 миллиона гектаров сенокосных и 1,3 миллиона гектаров пахотных угодий. Это обезземелило их, лишило основной базы существования, деятельности и благополучия. И, конечно, подняло на борьбу с Советской властью вплоть до вредительства и организации вооруженных банд. Начались поджоги, отравления скота, повреждение и уничтожение техники, убийства активистов и руководителей. 27 августа 1928 года принят закон "О конфискации байских хозяйств". Выселению в другие места с конфискацией скота и имущества подлежали 700 крупных баев. Кроме них, гонениям подвергались бывшие привилегированные группы - ханские и султанские потомки, волостные управители, аткаминеры и другие. На закрытом заседании Бюро Казкрайкома ВКП(б), состоявшемся в начале 1930 года, Филипп Голощекин проинформировал, что входе заготовок с 1 октября 1928 года по 1 декабря 1929 года по судебной линии было приговорено к расстрелу 125 человек, а по линии ГПУ за этот же период - 152 человека. В результате конфискации у баев было отобрано 150 тысяч голов скота, сельскохозяйственные орудия, строения, транспортные средства и имущество. Его прятали, перегоняли скот в отдаленные и глухие районы, "делили" между родственниками, чтобы путем дробления стада подвести себя под категорию, на которую не распространяется конфискация. Многие баи стали распродавать и резать скот. Подбить на эмиграцию удавалось целые семьи и даже аулы.

### **Заключение.**

История Пограничной службы вбирает в себя большой отрезок времени в масштабах человеческой истории, если посмотреть на сложный путь, пройденный за эти годы, можно убедиться: личный состав вложил колоссальные силы в дело обеспечения надежной охраны границы Родины. Испокон веков звание «защитник рубежей Отечества» имеет особый

нравственный смысл для жителей Зайсана. Пограничники всегда были для них воплощением патриотизма и беззаветного служения своему народу, чести и доблести, отваги и мужества.

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## Mathematical sciences

### ON ONE OF THE METHODS FOR SOLVING THE BERNOULLI EQUATION

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#### **Abstract**

*In this paper, we investigate the question of finding a general solution to the Bernoulli differential equation. The solution to Bernoulli's equation can be found in different ways. This article uses the formula for the derivative of the product of two functions. Found a general solution to this differential equation in an easier way.*

**Keywords:** *function, derivative, differential equation, general solution, integration.*

*This article is devoted to finding a solution to the general Bernoulli equation using the formula for the derivative of the product of two functions. First order differential equations in the form*

$$y' + P(x)y = Q(x)y^n \quad (1)$$

*is Bernoulli's equation.*

*If  $n = 0$ , then equation (1) is an inhomogeneous linear differential equation, and for  $n = 1$  is a differential equation separable by variables which solutions are known [1].*

*In this work, we consider the general solution of the Bernoulli equation (1) for  $n \neq 0$  and.*

*Let us multiply both sides of equation (1) by the function  $y^{-n}$*

$$y^{-n}y' + P(x)y^{1-n} = Q(x). \quad (2)$$

*where  $(y^{1-n})' = (1-n)y^{-n}y'$   $y^{-n}y' = \frac{1}{1-n}(y^{1-n})'$ , then from equation (2) we*

*get*

$$\frac{1}{1-n}(y^{1-n})' + P(x)y^{1-n} = Q(x)$$

*or*

$$(y^{1-n})' + (1-n)P(x)y^{1-n} = (1-n)Q(x). \quad (3)$$

*Multiplying both sides of equation (3) by the function  $r = r(x)$  we have [1]*

$$r(x)(y^{1-n})' + (1-n)P(x)r(x)y^{1-n} = (1-n)r(x)Q(x). \quad (4)$$

*Choose the function  $r = r(x)$  so that the following equality is satisfied*

$$(1-n)P(x)r(x)=r'(x) \quad (5)$$

If put equality (5) into equation (4), then we have [2]

$$r(x)(y^{1-n})' + r'(x)y^{1-n} = (1-n)r(x)Q(x). \quad (6)$$

If use the formula for the derivative of the product of two functions  $(uv)' = u'v + uv'$ , then equation (6) will be equal to

$$(r(x)y^{1-n})' = (1-n)r(x)Q(x). \quad (7)$$

If integrate both sides of this equality, we get [3]

$$r(x)y^{1-n} = C + (1-n)\int r(x)Q(x)dx$$

or

$$y^{1-n} = r^{-1}(x)\left(C + (1-n)\int r(x)Q(x)dx\right) \quad (8)$$

Now let's find the function  $r(x)$ . For this, from (5) we get

$$(1-n)P(x) = \frac{r'(x)}{r(x)} = (\ln r(x))'$$

From here

$$\ln r(x) = (1-n)\int P(x)dx$$

or

$$r(x) = e^{(1-n)\int P(x)dx}. \quad (9)$$

Then, by supplying (9) to equation (8), we obtain the following general integral (solution) of equation (1)

$$y^{1-n} = e^{-(1-n)\int P(x)dx} \left( C + (1-n)\int Q(x)e^{(1-n)\int P(x)dx} dx \right) \quad (10)$$

Now consider an example. Find the general solution to Bernoulli's equation

$$y' + \frac{k y}{x} = x^m y^n, \quad n \neq 0, n \neq 1, \text{ where } k, m, n \text{ are real numbers and } n \neq 0, n \neq 1$$

Solution. Multiply both sides of the equation by the function  $y^{-n}$

$$y^{-n}y' + \frac{k y^{1-n}}{x} = x^m.$$

$$\text{where } y^{-n}y' = \frac{1}{1-n}(y^{1-n})', \text{ then we obtain } \frac{1}{1-n}(y^{1-n})' + \frac{k y^{1-n}}{x} = x^m$$

or

$$(y^{1-n})' + \frac{k(1-n)y^{1-n}}{x} = (1-n)x^m.$$

Multiplying both sides by the function  $r = r(x)$  we have [4]

$$r(x)(y^{1-n})' + \frac{k(1-n)r(x)y^{1-n}}{x} = (1-n)r(x)x^m$$

Choose the function  $r = r(x)$  so that the equality is satisfied

$$\frac{k(1-n)r(x)}{x} = r'(x).$$

Then  $r(x)(y^{1-n})' + r'(x)(y^{1-n}) = (1-n)r(x)x^m$

[5] If use the formula for the derivative of the product of two functions  $(uv)' = u'v + uv'$ , then

$$(r(x)(y^{1-n}))' = (1-n)r(x)x^m.$$

Integrating both sides of this equality, we get

$$r(x)y^{1-n} = C + (1-n)\int r(x)x^m dx$$

or

$$y^{1-n} = r^{-1}(x)\left(C + (1-n)\int r(x)x^m dx\right)$$

Now let's find the function  $r(x)$

$$\frac{k(1-n)}{x} = \frac{r'(x)}{r(x)} = (\ln r(x))'$$

From here

$$\ln r(x) = k(1-n)\ln x = \ln x^{k(1-n)}$$

or

$$r(x) = x^{k(1-n)}$$

Then

$$y^{1-n} = x^{-k(1-n)}\left(C + (1-n)\int x^{k(1-n)+m} dx\right)$$

1. if  $k(1-n)+m \neq -1$ , then

$$y^{1-n} = x^{-(1-n)k} \left( C + \frac{(1-n)x^{k(1-n)+m+1}}{k(1-n)+m+1} \right)$$

and the general integral (solution) of the equation is [6]

$$y^{1-n} = Cx^{-(1-n)k} + \frac{(1-n)x^{m+1}}{k(1-n)+m+1}.$$

2. if  $k(1-n)+m = -1$ , then the general integral (solution) of the equation is [7]

$$y^{1-n} = x^{-(1-n)k} (C + (1-n)\ln x).$$

*The new method proposed in this work is less labor-intensive, and therefore more effective compared to classical methods for solving the Bernoulli differential equation.*

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# **SOLUTION OF ONE BOUNDARY VALUE PROBLEM OF PARABOLIC TYPE FOR UNLIMITED BODY BY FOURIER METHOD**

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## **РЕШЕНИЕ ОДНОЙ КРАЕВОЙ ЗАДАЧИ ПАРАБОЛИЧЕСКОГО ТИПА ДЛЯ НЕОГРАНИЧЕННОГО ТЕЛА МЕТОДОМ ФУРЬЕ**

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### **Abstract**

*This article considers a boundary value problem for a parabolic type equation that describes the behavior of processes in an unbounded region. In this case, it is necessary that a noticeable change in the temperature field occurs only in a given area of the body. The study of such problems is of great practical importance in various fields of science and technology, such as physics, engineering, biology and others.*

*One of the methods for solving such problems is the source method, which allows you to effectively simulate the behavior of a system in an unlimited area. The essence of the method is to represent the solution to the problem as a superposition of the fundamental solution to the source equation. This method is widely used due to its effectiveness and ease of implementation. We have considered a specific problem in an unbounded domain, which is an unbounded body. Assuming that a process described by a parabolic equation occurs in this area, we set the goal of finding a solution to this problem, taking into account the infinity of the area. Using the source method, we can represent the solution to this problem as the sum of the fundamental solution to the source equation and the contribution of the boundary conditions. This makes it possible to effectively take into account the behavior of the system both inside the region and at its boundary. However, it is worth noting that the implementation of the source method requires certain restrictions and assumptions about the nature of the source and the domain itself. For example, for the correct application of this method, it is necessary that the source be localized in space and time.*

*As a result of studying the boundary value problem for a parabolic type equation in an unbounded domain, a Fourier solution was obtained, which also plays an important role in solving problems for an unbounded body. Expanding a function into a Fourier series allows you to analyze its behavior at different points in space and time, which is key when studying systems in unbounded areas.*

*In conclusion, the source method and the Fourier transform are powerful tools for solving boundary value problems for parabolic type equations in unbounded domains. Their use makes it possible to effectively simulate and analyze various processes in science and technology, from physics to biology. However, it is necessary to remember the need for correct selection and limitations when using these methods.*

### **Аннотация**

*В данной статье рассматривается краевая задача для уравнения параболического типа, описывающая поведение процессов в неограниченной области. При этом необходимо, чтобы заметное изменение температурного поля происходило только на данном участке тела. Изучение таких задач имеет важное практическое значение в различных областях науки и техники, таких как физика, инженерия, биология и другие.*

Одним из методов решения таких задач является метод источников, который позволяет эффективно моделировать поведение системы в неограниченной области. Суть метода заключается в представлении решения задачи как суперпозиции фундаментального решения уравнения источника. Этот метод широко применяется благодаря своей эффективности и простоте реализации. Нами рассмотрена конкретная задача в неограниченной области, представляющей собой неограниченное тело. Допустив, что в этой области происходит процесс, описываемый параболическим уравнением, поставили цель найти решение данной задачи, учитывая бесконечность области. Применяя метод источников, мы можем представить решение данной задачи в виде суммы фундаментального решения уравнения источника и вклада граничных условий. Это позволяет эффективно учесть поведение системы как внутри области, так и на ее границе. Однако стоит отметить, что реализация метода источников требует определенных ограничений и предположений о характере источника и самой области. Например, для корректного применения этого метода необходимо, чтобы источник был локализован в пространстве и времени.

В результате исследования краевой задачи для уравнения параболического типа в неограниченной области получено решение Фурье, которая также играет важную роль при решении задач для неограниченного тела. Разложение функции в ряд Фурье позволяет анализировать ее поведение в различных точках пространства и времени, что является ключевым при изучении систем в неограниченных областях.

В заключение, метод источников и преобразование Фурье представляют собой мощные инструменты для решения краевых задач для уравнений параболического типа в неограниченных областях. Их применение позволяет эффективно моделировать и анализировать различные процессы в науке и технике, от физики до биологии. Однако необходимо помнить о необходимости корректного выбора и ограничений при использовании этих методов.

**Keywords:** Heat equation, boundary conditions, temperature distribution, source method, Fourier integral, Fourier transform, particular solution, general solution.

**Ключевые слова:** Уравнение теплопроводности, граничные условия, распределение температуры, метод источников, интеграл Фурье, преобразование Фурье, частное решение, общее решение.

*Введение.* Тело можно считать неограниченным, если имеется твердое тело, размеры которого очень велики по сравнению с интересующими нас его участками. К тому же необходимо, чтобы заметное изменение температурного поля происходило только на данном участке тела.

Рассмотрим задачу, когда температура изменяется только в одном направлении  $x$ ; в двух других направлениях  $y$  и  $z$  температура не изменяется  $\left(\frac{\partial T}{\partial y} = \frac{\partial T}{\partial z} \equiv 0\right)$ . Следовательно, изотермические поверхности будут представлять плоскости, параллельные плоскости  $yz$ . В начальный момент времени задано распределение температуры по направлению  $x$  в виде некоторой функции  $T(x, 0) = f(x)$ . Требуется найти распределение температуры в любой момент времени в направлении  $x$ .

*Постановка задачи.* Задача связана с решением дифференциального уравнения теплопроводности

$$\frac{\partial T(x, \tau)}{\partial \tau} = a \frac{\partial^2 T(x, \tau)}{\partial x^2} \quad (\tau > 0; \quad -\infty < x < +\infty) \quad (1)$$

при заданном распределении температуры в начальный момент времени:

$$T(x, 0) = f(x). \quad (2)$$

Граничные условия отсутствуют, но их можно заменить условием, учитывающим неограниченность размеров тела

$$\frac{\partial T(+\infty, \tau)}{\partial x} = \frac{\partial T(-\infty, \tau)}{\partial x} = 0. \quad (3)$$

Решение задачи можно получить по методу Фурье, но при этом на функцию  $f(x)$  накладываются определенные ограничения, связанные с возможностями представления функции  $f(x)$  в виде интеграла Фурье. Для этого достаточно потребовать, чтобы существовал интеграл  $\int_{-\infty}^{+\infty} |f(x)|^2 dx$ .

Поэтому ранее мы приводили решение по методу источников, который не требует этих ограничений для функции  $f(x)$  [3]. Были получены частное и общее решение уравнений (1).

Частное решение уравнения (1) имеет вид:

$$T = \frac{C}{\sqrt{4\pi a \tau}} \exp \left[ -\frac{(x-\xi)^2}{4a\tau} \right]. \quad (4)$$

Полное начальное распределение температуры в неограниченном теле равно

$$\lim_{\tau \rightarrow \infty} T(x, \tau) = \lim_{\tau \rightarrow \infty} \frac{1}{\sqrt{4\pi a \tau}} \int_{-\infty}^{+\infty} f(\xi) \exp \left[ -\frac{(x-\xi)^2}{4a\tau} \right] d\xi. \quad (5)$$

Это соотношение справедливо не только для начального момента времени ( $\tau \rightarrow 0$ ), но и для любого последующего промежутка времени, т.е. общее решение нашей задачи имеет вид

$$T(x, \tau) = \frac{1}{\sqrt{4\pi a \tau}} \int_{-\infty}^{+\infty} f(\xi) \exp \left[ -\frac{(x-\xi)^2}{4a\tau} \right] d\xi. \quad (6)$$

Решение. Теперь запишем общее решение (6) по-другому. Введем новую переменную  $u$  по соотношению  $\xi = x + 2\sqrt{a\tau}u$ . Тогда будем иметь

$$T(x, \tau) = \frac{1}{\sqrt{\pi}} \int_{-\infty}^{+\infty} f(x + 2\sqrt{a\tau}u) e^{-u^2} du. \quad (7)$$

Можно показать, что решение (7) удовлетворяет дифференциальному уравнению (1) и начальному условию, что при  $\tau \rightarrow 0$   $f(x + 2\sqrt{a\tau}u) \rightarrow f(x)$ . Следовательно, будем иметь

$$T(x, 0) = \frac{1}{\sqrt{\pi}} \int_{-\infty}^{+\infty} f(x) e^{-u^2} du = f(x) \frac{1}{\sqrt{\pi}} \int_{-\infty}^{+\infty} e^{-u^2} du = f(x).$$

Можно сделать обобщение на случаи плоской и пространственной задач. Именно, по аналогии имеем:

$$T(x, y, \tau) = \frac{1}{\sqrt{4\pi a \tau}} \int_{-\infty}^{+\infty} \int_{-\infty}^{+\infty} f(\xi, \eta) \exp \left[ -\frac{(x-\xi)^2 + (y-\eta)^2}{4a\tau} \right] d\xi d\eta, \quad (8)$$

$$T(x, y, z, \tau) = \frac{1}{(\sqrt{4\pi a \tau})^3} \int_{-\infty}^{+\infty} \int_{-\infty}^{+\infty} \int_{-\infty}^{+\infty} f(\xi, \eta, \varsigma) \exp \left[ -\frac{(x-\xi)^2 + (y-\eta)^2 + (z-\varsigma)^2}{4a\tau} \right] d\xi d\eta d\varsigma \quad (9)$$

Решение нашей задачи можно получить и по методу Фурье. Общее решение одномерной задачи имеет вид

$$T(x, \tau) = \sum_{n=1}^{\infty} C_n \sin k_n x e^{-a k_n^2 \tau} + \sum_{m=1}^{\infty} D_m \cos k_m x e^{-a k_m^2 \tau}.$$

Так как граничное условие отсутствует, то можно считать, что величины  $k$  образуют непрерывный ряд чисел и каждое последующее отличается от предыдущего на бесконечно малую величину  $dk$ . Тогда обе суммы перейдут в определенный интеграл, взятый от 0 до  $\infty$ . Кроме того, постоянные  $C_n$  и  $D_n$  будут некоторыми функциями от  $k$ .

Таким образом, имеем

$$T(x, \tau) = \int_0^{\infty} e^{-ak^2\tau} [f_1(k) \sin kx + f_2(k) \cos kx] dk. \quad (10)$$

Для определения  $f_1(k)$  и  $f_2(k)$  воспользуемся начальным условием

$$T(x, 0) = f(x) = \int_0^{\infty} [f_1(k) \sin kx + f_2(k) \cos kx] dk. \quad (11)$$

Из теории рядов Фурье известно, что если заданная функция  $f(x)$  удовлетворяет определенным условиям, то ее можно разложить в ряд Фурье, который можно заменить через интеграл Фурье

$$f(x) = \frac{1}{\pi} \int_0^{\infty} dk \int_{-\infty}^{+\infty} f(\xi) [\sin k\xi \sin kx + \cos k\xi \cos kx] d\xi. \quad (12)$$

Сравнивая соотношения (11) и (12), приходим к заключению, что введенные нами функции  $f_1(k)$  и  $f_2(k)$  равны, т. е.

$$f_1(k) = \frac{1}{\pi} \int_{-\infty}^{+\infty} f(\xi) \sin k\xi d\xi, \quad f_2(k) = \frac{1}{\pi} \int_{-\infty}^{+\infty} f(\xi) \cos k\xi d\xi.$$

Окончательное решение в форме Фурье нашей одномерной задачи для неограниченного тела будет иметь вид

$$T(x, \tau) = \frac{1}{\pi} \int_0^{\infty} e^{-ak^2\tau} dk \int_{-\infty}^{+\infty} f(\xi) \cos[k(\xi - x)] d\xi. \quad (13)$$

Вывод. Решение (6) или (7) для неограниченного тела имеет для нас вспомогательное значение. Оба эти решения удовлетворяют условиям неограниченности (3).

В нашем случае  $T(x, \tau) \rightarrow 0$  при  $x \rightarrow \pm\infty$ . Тепловой процесс в таком неограниченном теле состоит из выравнивания температуры, которое возникло в некоторый момент времени, принимаемый нами за начальный. Это возникновение неравномерного распределения температуры возможно в результате кратковременного действия некоторого источника тепла (мгновенного источника тепла), мощность которого пропорциональна  $f(\xi)$ . Поэтому рассмотренный метод решения задачи часто называют методом точечных источников.

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## Medical sciences

### EXPERIMENTAL STUDY OF VENOUS BLOOD VESSELS OF DORSAL ROOT GANGLIA

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**Introduction.** Morphofunctional study of local blood circulation of each organ is important, as well as the composition and structural characteristics of the vessels involving in the vascularization of organ. Lack of regular vascularization influenced to structural elements of DRG. Any disturbance on dorsal root ganglion (DRG), which initial part of spinal nerve participated in various type of neuropathies. Each arterial vessels in every organ accompanied by one or more venous vessels, therefore investigation on histotopography of venous vessels, types of formation and structure of their walls is very important.

**Aim of research** was to investigate the peculiarities, formation and direction of venous vessels, as well as composition its walls within dorsal root ganglia.

**Material and methods.** The object of research were dorsal root ganglia taken from 24 white rats at lumbar and thoracic level of spinal cord, weighing 200-220 gr. Experimental animals bred under special patogen free conditions at Scientific Research Center of Azerbaijan Medical University. Under ketamine/xylazine (100/10mg/kg) anesthesia opened the thoracic cavity of rats and through a catheter administred into cardiac cavity 2.5% glutaraldehyde solution prepared in 0.1M phosphate buffer (pH=7.4). After fixation by intravascular perfusion during 20-25 minutes from 12 rats prepared the Epon-Araldite blocks. Obtained the semithin sections (1-2  $\mu$ m) from the blocks on LKB-III ultratome were stained with methylene blue, azure II and basic fuchsin.

Into the ascending aorta of another 12 white rats after intravascular perfusion was injected the ink solution dissolved in 10% gelatin. The process continue until solution outflow from the vena cava inferior, then the dorsal root ganglia was taken, next fixed in 10% formalin solution, and frozen in a cryostat. Gained the total sections in thickness of 100 $\mu$ m were analyzed under light microscope. Both semithin and total sections were viewed under a Latimet (Leitz) microscope and the necessary parts of slides were taken photo with a Pixera digital camera system.

**Results.** The obtained data show the vessels of DRG histotopographically subdivided into extraorganic (vessels with large diameter arterial and venous vessels) and intraorganic (arterioles, precapillary arterioles, capillaries, postcapillary venules, collecting venules).

On semithin sections at higher magnifications of the light microscope after fixation by the intravascular perfusion method revealed that the vessels located within and around the spinal ganglia, as well as the cellular elements comprising their walls, also the higher density of the vessels located in the dorsal root ganglia. The vessels with diameter above 100 $\mu$ m placed mostly in peripheral regions, around dorsal root ganglia, but central region of organ occupied by precapillary arterioles giving rise to capillaries and drained to postcapillary venules. It should be noted the lumen of both the capillaries and the postcapillary venules along its course fluctuated between the expanded and narrowed regions. While the enlarged parts of capillaries and venules assist to increase the exchange surface areas of microvessels, the location of cells with the ability contraction around the narrow regions suggests that they participate in the regulation of intraganglionic blood flow.

*The diameter of capillary between 4-10 $\mu$ m, by joining the latter formed postcapillary venules in size 11-15 $\mu$ m in the endoneurial area of DRG, then by joining postcapillary venules with each other formed collecting venules with diameters equal to 30-55 $\mu$ m. In the subcapsular area the largest venous vessels by penetrating the capsule leave the organ. In the outer layer of the capsule were observed the venous sinuses with diameter 85-405  $\mu$ m, similar to the sinuses presenting in the dura covering the brain.*

*On ultrastructural level the endothelial cell of venous vessels are distinguished from endothelial cells of other vessels. The important sign - the nucleus located a central region of the endothelial cells was flat in shape, without bulging towards to the vascular lumen; in the subendothelial area not observed the structures that belonging to fragments of the internal elastic membrane; in the peripheral parts of endothelial cells revealed the vacuolo-vesicular clusters, which play a crucial role in the formation of transendothelial channels. Noticed signs especially predominant on pericytic venules, which wall composed of endothelial cell and pericyte. The pericytes that located in the periendothelial layer covered partially endothelial cell. In cytoplasm of this cells, especially in the perinuclear region were found Golgi complexes, granular endoplasmic reticulum, mitochondria, ribosomes, abundant caveolae and dense bodies united with their plasmolemma.*

**Conclusion** *Taking into account the venous vessels histotopographically placed in subcapsular area and penetrated capsule of DRG in diagonal direction, that result in regulation intraganglionic pressure and supported the internal hydrostatic pressure at the suitable level.*

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Asfendiyarov Kazakh National Medical University, Almaty, Kazakhstan***Abstract**

*In this scientific and analytical work, the indicators of incidence and mortality from cervical cancer, breast cancer and colorectal cancer in the regions of our country are considered. The screening methods currently used and the results of this preventive survey of the population are described in detail. Detailed step-by-step algorithms are presented, and the principles of organization and diagnostic capabilities of the screening program for the active detection of these nosological forms of malignant neoplasms in clinically asymptomatic individuals are reflected.*

**Keywords:** *cervical cancer, breast cancer, colorectal cancer, epidemiology, incidence, mortality, screening, Pap test, smear for oncocytology, mammography, hemocult test, fecal occult blood test - FOBT, total colonoscopy.*

*Today, one of the most important postulates of the oncology service continues to be the early diagnosis of malignant tumors. The purpose of screening is to identify asymptomatic (preclinical) cancer or precancerous conditions in an otherwise healthy target population. In this case, screening plays a leading role in secondary cancer prevention. The key concept of cancer screening is to identify pathology at a stage of development when the effectiveness of treatment is maximum and the prognosis is most favorable. When precancerous diseases are detected during screening, secondary prevention methods allow to prevent the transition of the initial pathological state to cancer. In this case, the main conditions*

for screening are the presence of trained personnel and a standard approach to identifying the trait being studied and evaluating the results. The methods used must be sufficiently simple, reliable and reproducible, as well as have sufficient sensitivity and high specificity [1-3].

Screening plays an important role in improving early diagnosis and treatment outcomes. According to the Guide to Cancer Early Diagnosis by Ilbawi A. et al. [4], screening aims to detect unrecognized cancer or its prior lesions in a typically healthy, asymptomatic population through tests or other procedures that can be applied quickly and are widely available to the target population. In screening, the target population is assessed for unrecognized cancer or precancer, and most people tested will not be diagnosed with the disease. Screening should be seen as a process and not as the performance of a specific test, examination, or procedure. The screening process includes a system of informing and inviting the target population to participate; administering the screening test; following-up with test results and referral for further testing among those with abnormal test results; ensuring timely pathologic diagnosis, staging and access to effective treatment with routine evaluation to improve the process. A screening program encompasses the process from invitation to treatment and requires planning, coordination and monitoring and evaluation.

To date, the republican oncological screening program includes three nosological forms of malignant neoplasms - cervical cancer (CC), breast cancer (BC), colorectal cancer (CRC). Let's consider the current epidemiological indicators, methodology and results of cancer screening in our country.

CC in the structure of all malignant tumors of both sexes of the population in 2022 took 6th place with a share of 5.51% (2021 - 4th place, 5.54%), in women - stable 2nd place - 9.7% (9.7%) [5].

The incidence rate per 100 thousand population increased from 9.4 to 9.92. In 10 regions of the republic, the incidence rate is higher than the national average: Pavlodar - 17.2 per 100 thousand people. (2021 - 16.7) - the highest level, East Kazakhstan - 14.3 (10.8), North Kazakhstan - 14.3 (10.2), Atyrau - 13.2 (13.8), Zhetysay - 11.7, Karaganda - 11.7 (12.0), Abay - 11.1, Akmola - 11.1 (11.9), Mangistau - 11.1 (9.7), Kostanay - 10.8 (10.6) regions.

Low incidence rates in Zhambyl region - 5.8 per 100 thousand population (5.7), Turkestan region - 6.1 (5.2), Aktobe region - 8.3 (11.6), Kyzylorda region - 8.5 (8.2) areas.

CC in the structure of causes of death from malignant tumors of the population of both sexes in 2022 rose from 9th to 8th position, with a share of 4.6% (2021 - 4.3%), mortality from CC is stable at 3.1 per 100 thousand population (3.1).

The mortality rate from CC in 10 regions is higher than the national average: Akmola - 4.2 per 100 thousand population (2021 - 3.1) - maximum level, West Kazakhstan - 4.1 (4.8), Pavlodar - 3.8 (5.6), Almaty - 3.7 (2.5), Zhetysay - 3.7, Atyrau - 3.4 (4.0), East Kazakhstan - 3.3 (3.8), Karaganda - 3.2 (4.7), Kostanay - 3.2 (2.4) regions and Almaty city - 3.4 (2.9).

Below the national average, mortality was recorded in Abay region, cities Astana, Shymkent - 2.9 per 100 thousand population, Mangistau - 2.8 (3.0), Turkestan - 2.3 (2.2), Aktobe - 2.2 (3.0), North - Kazakhstan - 2.0 (2.6), Kyzylorda regions - 1.7 (3.5) - the best result [5].

In 12 regions, a 100% level of morphological verification of the diagnosis was ensured, the lowest or worst indicator for the third year was in the Kyzylorda region - 94.3%, below the national average indicators in Akmola - 98.8%, Atyrau - 98.9%, Kostanay - 98, 9%, Mangistau - 97.6%, Pavlodar - 96.6%, regions and Almaty city - 98.5%;

In a number of regions, the frequency of diagnosis of stage I-II CC was below the national average (88.1%) - in Akmola - 76.2% (2021 - 73.6%) - the worst result in the country, in Karaganda - 77, 2%, Zhetysay - 82.9%, Abay - 83.8%, Kostanay - 84.3%, Aktobe - 85.5%, West Kazakhstan - 85.7%, Pavlodar - 81.3%, while that in the Atyrau region - 100.0% result.

The proportion of stage IV CC is higher than the national average (2.7%) in the following regions: the worst result is in Zhetysay (6.1%), above the national average in Karaganda - 5.1% (2021 - 5.6%), Akmola - 4.8% (2.3%), Kostanay - 4.5% (4.4%), North Kazakhstan - 3.9% (7.4%), Almaty - 3.7 % (5.1%), Zhambyl - 2.9% (0.0) regions, cities Almaty - 3.6% (1.8%) and Shymkent - 3.8% (5.9%). The lowest neglect is in the East Kazakhstan region - 1.0% (0.7%).

Late diagnosis rates (III-IV stages) for CC are above the national average - 11.9% (15.4% in 2021) were noted in Akmola - 23.8% (2021 - 26.4%) - worst result, Karaganda - 22.8% (35.2%), Pavlodar - 18.8% (20.8%), Zhetysay - 17.1% (24.2%), Abay - 16.2% (12.8%), Kostanay - 14.6% (15.6%), Aktobe - 14.5% (9.6%), West Kazakhstan - 14.3% (32.4%) regions. The lowest neglect is in the Mangistau region - 6.0% (20.8%).

Across the country, the five-year survival rate of patients with CC registered in 2018 was 59.9% in 2022, with a decrease from the level of 2021 (67.5% for those registered in 2017), and with a significant

range in by region, from the maximum – 72.9% (2021 – 70.7%) in the North Kazakhstan region, to the minimum – 34.9% (64.4%) in the Atyrau region [5].

CC screening is a periodic, comprehensive examination of women of a certain age group as part of a special medical program to prevent and reduce incidence and mortality from CC.

Type of screening - population. The purpose of screening is to identify pre-invasive diseases of the cervix with subsequent recovery. The screening method is a cytological examination of a smear for oncocytology from the cervix (traditional and liquid cytology). Coloring according to the "Papanicolaou test" (Pap test). Interval - 1 time in 4 years. Target group: women aged 30-70 years who are not registered in the dispensary for CC. The expected results are a decrease in incidence and mortality from CC.

Screening steps:

1) Preparatory - formation of target groups, information support and invitation to screening. The preparatory stage is carried out by the nurses of the primary health care organization responsible for preventive measures and includes: annual compilation of a list of women subject to screening in the coming year by November 15 of the current year, followed by monthly correction; informing target groups of the female population about the need for screening; screening invitation; ensure timely screening.

2) Screening - filling out a statistical card of a preventive medical examination (screening) of an outpatient (form 025-08/y), a register of patients subject to cytological screening and taking material for cytological examination from the cervix. The screening examination of the target groups of the female population is carried out by a specially trained midwife of the primary health care organization.

3) The final one is obtaining the results of cytology, informing the woman and developing further management tactics, fill out accounting and reporting statistical documentation. Responsible for the final stage of screening is the obstetrician-gynecologist of primary health care [6].

Cytological screening of CC is a complex of organizational and medical measures aimed at early detection of precancerous and neoplastic diseases of this localization and at reducing the mortality of this cohort of patients. For traditional cytology, a smear containing 8-12 thousand cells of stratified squamous epithelium (including cells of metaplastic epithelium) is considered adequate; for liquid cytology - 5 thousand cells. For both methods, the number of cells of endocervical epithelium and/or metaplastic epithelium (from the transformation zone) must be at least 10 (single or in clusters). If more than 75% of the cells of the stratified squamous epithelium are covered with erythrocytes, leukocytes, etc., then the quality of the smear is considered unsatisfactory.

Interpretation of the results of a cytological study is carried out according to the Bethesda-terminology cytological system:

Intraepithelial changes and malignant processes are absent (NILM). This group includes cytological conclusions about the normal state of the epithelium, as well as the presence of various non-neoplastic diseases. Normally, squamous epithelial cells, groups of cells of columnar epithelium and metaplastic epithelium, a small number of leukocytes, and rod/mixed microflora are found in preparations. In the presence of non-neoplastic processes, their nature and, if possible, the cause are specified: atrophic changes, reactive changes associated with inflammation, including typical regeneration. In addition, the presence of microorganisms is indicated: *Trichomonas vaginalis*, fungi, morphologically corresponding to *Candida spp.*, bacterial vaginosis, cellular changes corresponding to the defeat of Herpes simplex virus, squamous epithelial cells with atypia of unknown significance (ASC-US), squamous epithelial cells with atypia of unclear significance, not excluding the presence of a high degree of intraepithelial changes (ASC-H). Low-grade squamous intraepithelial changes (LSIL) include lesions associated with HPV and CIN I, high-grade squamous intraepithelial changes (HSIL) include CIN II, CIN III, carcinoma in situ and cases suspected of invasion, squamous cell carcinoma, cervical (glandular) epithelium with atypia of unknown significance, cells of the cervical (glandular) epithelium, possibly neoplasia, endocervical adenocarcinoma in situ, endocervical adenocarcinoma, endometrial adenocarcinoma, secondary adenocarcinoma, unclassified carcinoma, other malignant tumors.

There are certain features when taking material for oncocytology: firstly, the examined woman should be informed about the exclusion of sexual intercourse, vaginal manipulations, including douching, baths, tampons, etc. 2 days prior to sampling. Taking material for cytological examination is carried out by the midwife of the examination room of the department of medical examinations of the primary health care organization: the traditional method (2 glasses - with obligatory fixation in 96% alcohol, it is preferable to use glass slides with a polished edge, which are easily marked) or the liquid cytology method (one container with stabilizing liquid ); the code or surname of the patient, identical to the code and surname in the form for sending material for cytological examination, should be clearly marked on the

glasses or container [6].

At the same time, when using the traditional method, the biomaterial is delivered to the cytological laboratory as soon as possible after its collection in specialized containers for glass slides with 96% alcohol. If there are visible visual changes in the cervix, then the material is taken from the woman and, without waiting for the results, she is referred for an examination by an obstetrician-gynecologist.

A cytological study is carried out in centralized cytological laboratories at oncological institutions, where an archive of cytological preparations of patients involved in the screening examination is formed, regardless of the result, for a period of at least 10 years with the formation of a computer database.

What material and technical equipment is required to take material for a Pap test? It is as follows: soap and water for washing hands, a light source for cervical examination, a gynecological chair, a disinfected speculum and gloves, an Eyre spatula, a glass slide and a marking pen, a container with a stabilizing solution for liquid cytology, a fixative solution (96% alcohol), a container with warm water for lubricating and warming the vaginal mirrors, a 0.5% chlorine solution for disinfecting gloves and instruments, or another approved for this purpose. And, of course, the registration form itself.

For carrying out liquid cytology, you additionally need: a disposable cervix brush, a container with a stabilizing solution for liquid cytology, and a fixing solution.

At the same time, a smear for oncocytology cannot be taken: during menstruation, earlier than 48 hours after sexual contact or after using lubricants, vinegar or Lugol solution, tampons or spermicides, after vaginal examination or douching, and also during the treatment of genital infection.

Now, regarding the results of CC screening. In 2022, 771,282 women of the target group aged 30 to 70 years were examined during cytological screening (in 2021 - 757,454).

During cytological screening in 2022, 392 cases of cervical cancer were identified (319 in 2021). The detection rate increased from 0.42 to 0.51 per 1000 women examined

High detection of CC during screening is ensured in Aktobe, Almaty, Atyrau, East Kazakhstan, Kyzylorda, Pavlodar, North Kazakhstan, Turkestan regions and Shymkent city. The detection rate in these regions ranges from 0.55 to 1.59 per 1000 women examined. The best indicator is in Atyrau region - 1.59. Compared to 2021, there is an increase in detection in 10 regions, with the exception of Akmola, Aktobe, Zhambyl, Kostanay, Mangistau, North Kazakhstan regions and Shymkent city. The worst result in Astana is 0.15 per 1000 women examined [5].

Cytologically, cervical precancer was detected in 1.16% of those examined (2021 – 0.99%). The detection rate of precancer below 0.6% (the planned indicator for 2022, according to the Comprehensive Plan) was noted in Aktobe, Karaganda and Kostanay regions.

A high proportion of stage I CC (70% or more) was detected in 6 regions of the country (in 8 in 2021): Kostanay, Mangistau (94.7% - best result), North Kazakhstan, Turkestan regions, cities Almaty and Astana. Low levels of early detection of CC (below 50%) were not observed in any region.

Localized processes (stages I-II) were identified in 99.2% of all cases of detected cancer (96.5%). In the Akmola and Karaganda regions, cases of CC were identified not only in localized, but also in widespread stages of the process. A total of 3 cases of CC in stage III and no cases in stage IV were identified (11 and 0, respectively) [5].

BC ranks first in the structure of the frequency of malignant tumors of both sexes in the population with a share of 14.7% (2021 - 15.4%). This situation has been stable since 2004; in addition, BC ranks first and remains consistently in this position in the structure of female oncopathology. The incidence of BC in 2022 in the country as a whole increased to 26.5 per 100 thousand (2021 – 26.3). In the structure of cases, BC occupies the 1st ranking place in the vast majority of regions and cities of the country, except for three: Akmola, Kyzylorda and North Kazakhstan regions, where lung cancer takes the 1st ranking place [4].

Above the national average - 26.5 per 100 thousand of us. – incidence of BC in 10 regions of the country: Abay – 33.3, Akmola – 32.7 (2021 – 29.8), East Kazakhstan – 44.7 (39.9) – the highest level, West Kazakhstan – 31.2 (28.4), Karaganda – 40.2 (40.1), Kostanay – 37.5 (35.8), Pavlodar – 43.2 (47.4), North Kazakhstan – 34.7 (38.2) regions and Almaty city – 35.4 (34.5), Astana city – 31.5 (28.4). Below average indicators per 100 thousand of us. in Aktobe - 21.6 (24.3), Almaty - 21.9 (17.7), Atyrau - 22.8 (15.7), Zhambyl - 14.2 (15.1), Zhetysay - 22.8, Kyzylorda - 14.6 (14.4), Mangistau - 14.7 (17.3), Turkestan - 11.3 (11.7) regions and Shymkent city - 14.9 (21.9) [5].

BC ranks third in the structure of causes of death from malignant tumors in the population of both sexes for the thirteenth year in a row, amounting to 8.1% in 2022 (2021 – 8.7%). In the republic as a whole, mortality from BC decreased by 13.0%, from 6.2 to 5.4 per 100 thousand people.

The regions where mortality from BC is higher than the national average include: Abay - 10.1 per

100 thousand people (maximum level), East Kazakhstan - 8.0 (2021 - 8.5), Pavlodar - 7.1 (10.0), North Kazakhstan - 7.0 (11.4), Kostanay - 6.9 (7.5), Akmola - 6.5 (8.2), West Kazakhstan - 5.7 (6.9), Zhambyl - 5.5 (4.8) and Astana city – 6.3 (6.6), Almaty city – 6.6 (9.5). The indicators are significantly lower in Aktope - 4.5 (3.5), Almaty - 4.5 (5.8), Zhetysu - 4.0, Atyrau - 3.7 (3.0), Kyzylorda - 4.4 (4.1), Turkestan - 3.6 (3.6), Mangystau regions - 2.7 (3.6) - the lowest level [5].

Mass screening to identify BC patients should mainly involve healthy women without any signs of the disease or symptoms. Screening not only helps to detect hidden forms of cancer that can be treated, but also has psychological value for women. As a result of screening, women are convinced that they do not have BC, and this is the most important potential success of such programs. While the ultimate goal of screening is to reduce BC mortality, its immediate goal is to detect cancer before clinical manifestation. However, BC is a heterogeneous disease, which can significantly affect the effectiveness of screening. Screening models for BC are usually based on the fact that the majority of detected tumors are invasive cancers in the early stage of progression. In addition, it must be taken into account that the detection of cancer (or its precursors) before clinical manifestation increases the risk of false positive diagnosis [7,8].

Mammography has a sensitivity of 95% and a specificity of 97%. These indicators decrease when examining women with denser mammary glands (young age, use of hormone therapy), with low quality mammography, and also with insufficient qualifications of the radiologist. Detection of high-grade invasive cancer by screening, when the tumor is not yet detected by clinical examination (palpation), means the possibility of reducing mortality from BC [9].

Preventive screening for early detection of BC in the Republic of Kazakhstan includes [10]:

1) mammography of both mammary glands in two projections - direct and oblique in the mammography room of the city, district polyclinic (mobile medical complex). All digital mammograms in the presence of a system for archiving and transferring medical images are copied to CDs and other electronic media and transferred to the server of the mammography room of the Cancer Center using specialized licensed software integrated between medical organizations; in case of impossibility of digital transmission - they are printed on X-ray film at a scale of 1:1 - 100% (1 patient - 1 set - 2 or 4 mammograms) with subsequent transfer to the mammography room of the Cancer Center;

2) interpretation of mammograms according to the BI-RADS classification (M0t, M0d, M1, M2, M3, M4, M5) by two or more independent radiologists of the same medical organization - double reading or different medical organizations: a radiologist of the mammography room city, district polyclinic (mobile medical complex) - the first reading, and the radiologist of the mammography room of the Cancer Center - the second reading;

3) in-depth diagnostics - targeted mammography, ultrasound examination (hereinafter - ultrasound) of the mammary glands, trepanobiopsy, including under ultrasound or stereotaxic control for histological examination, which is carried out in case of detection of pathological changes on mammograms (M0d) in the mammography room of the Cancer Center.

◆ An average medical worker or a responsible person of the organization of outpatient care sends the patient for mammography to the district, city polyclinic.

◆ The X-ray laboratory assistant of the mammography room of the city, district polyclinic (mobile medical complex) performs mammography, fills out a referral for double reading of mammograms and transmits the referral through information interaction.

◆ Radiologist of the mammography office of the city, district polyclinic (mobile medical complex): fulfills the requirements for the safety and quality of mammographic examinations; evaluates the quality of the images provided and the correctness of the installation; performs repeated mammography in the M0t category (technical errors of mammography); determines the radiological density of the mammary glands on the ACR scale (A, B, C, D) indicating this parameter in the study protocol; conducts the first reading of mammograms with interpretation of the BI-RADS classification results. In the M0d category (undetermined or suspicious radiological changes requiring additional examination), the study protocol indicates the predominant pathology: education, asymmetry, violation of architectonics, microcalcifications; sends mammograms, electronic copies of mammograms through the archiving system and transfer of medical images to the workplace of the mammography office of the Cancer Center together with directions for double reading of mammograms; directs low-dose computed tomographic images through the system of archiving and transferring medical images to the workplace of the computer tomography office of the Cancer Center together with copies of images recorded on CD-ROMs or other electronic media and directions for double reading.

◆ The radiologist of the mammography room of the Cancer Center: evaluates the quality of the

provided images and the correctness of the styling. Viewing digital x-ray images transferred to the server or on digital media (CD, DVD) is carried out on a monitor for interpreting digital x-ray images with a resolution of at least 5 megapixels, which has a certified grayscale transmission in accordance with the DICOM standard; conducts a double (second) reading of mammograms with the interpretation of the results according to the BI-RADS classification, using, if necessary, archival images. Organizes the third reading according to indications. With double reading, an independent interpretation of the images is carried out (blinding method - the second radiologist does not know the results of the first reading); in the M0m category (technical errors in mammography), recommends repeat mammography; in the M0d category (uncertain or suspicious radiographic changes requiring additional examination), the study protocol indicates the predominant pathology: education; asymmetry, violation of architectonics, microcalcifications; recommends that the outpatient care organization, according to indications, invite the patient for in-depth diagnostics (targeted mammography, ultrasound of the mammary glands, trephine biopsy, including under ultrasound or stereotaxic control, followed by histological examination of the material); collects and archives all mammograms (films and electronic media) made as part of the examination. The shelf life of mammograms is at least 3 years after leaving the age subject to a screening study; the results of the double (second) reading are transferred to the outpatient care organizations through information exchange.

◆ Indications for in-depth diagnostics are the conclusions of double reading mammograms M0d (uncertain or suspicious X-ray changes requiring additional examination).

◆ In-depth diagnostics is carried out in two stages. At the first stage, ultrasound is performed, according to indications, targeted mammography, possibly with an increase (with asymmetry, violation of architectonics and the presence of microcalcifications). When visualizing a suspicious pathology (M4 and M5), the second stage is performed - trepanbiopsy, including under ultrasound control and stereotaxic control for histological examination.

◆ Histological examination is carried out in the laboratory of pathomorphology or pathological bureau. Morphological interpretation of the biopsy is carried out in accordance with the recommendations of the World Health Organization.

◆ Physician or responsible person of the outpatient care organization:

1) upon receipt of a mammography result according to the BI-RADS classification:

- in case of M0t (technical errors in mammography) - sends the patient for a second X-ray examination to the mammography room of the city, district polyclinic (mobile medical complex);

- with M0d (undefined or suspicious X-ray changes requiring additional examination) - sends the patient for in-depth diagnostics to the mammography room of the Cancer Center;

- with M1 (no changes detected) - recommends that the patient undergo a follow-up mammography examination after 2 years. With radiological density of the mammary glands, C and D are sent for ultrasound of the mammary glands to exclude a false-negative result of mammography;

- with M2 (benign changes), refer the patient for a consultation with an oncologist (mammologist) of the clinical diagnostic department, followed by a screening mammography examination after 2 years;

- with M3 (probable benign changes) - sends the patient for short-term dynamic radiation observation to the local doctor with the recommendation of control mammography or ultrasound in 6 months;

- with M4 (signs that cause suspicion of malignancy), M5 (practically reliable signs of malignancy) and if it is technically impossible to perform a trepanbiopsy or a biopsy is refused, a referral to an oncologist (mammologist) of the clinical diagnostic department for dynamic observation and decision on the verification of the identified pathology;

2) upon receipt of the result of a histological examination:

- benign education - refers the patient to an oncologist (mammologist) of the clinical diagnostic department for dynamic monitoring, followed by a screening mammography examination after 2 years;

- formation with an indeterminate malignant potential or carcinoma in situ - refers the patient to the Cancer Center for consultation and treatment, followed by dynamic observation by an oncologist (mammologist) of the clinical diagnostic department at the place of her attachment;

- malignant neoplasm - refers the patient to the Cancer Center for treatment and follow-up;

3) communicates the results of the screening examination to the patient in any available way (by telephone, in writing, through electronic means of communication);

4) enters the results of double reading, in-depth diagnostics, histological examination, recommendations of the radiologist of the Cancer Center mammography room into the information system.

*Establishing the size of the primary tumor is especially important in screening. Tumor size is an important criterion for evaluating the quality of screening and determining the ability of X-ray mammography to detect non-palpable tumors. Therefore, it is extremely important that pathologists measure tumor diameter as accurately as possible. The smaller the size of the primary tumor, the greater the likelihood of error in determining its size.*

*Let's analyze the results of BC screening. Mammography screening identified 1,570 cases of BC in 2022 (1,402 in 2021). The cancer detection rate increased from 1.78 to 1.94 per 1000 examined. The best result is in the Karaganda region – 2.63 per 1000 women examined. Low detection rate per 1000 examined, compared to the republican average, in Atyrau (1.72), Zhambyl (0.58), Kyzylorda (1.68), Mangistau (0.42 - worst result), Turkestan (1.22) regions and cities Astana (1.5) and Shymkent (1.58). Compared to 2021, there was an increase in the detection of BC in 9 regions, with the exception of Aktobe (decrease from 2.87 to 2.19 per 1000 women examined), Karaganda (from 2.73 to 2.63), Mangistau (from 1.10 to 0.42), North Kazakhstan (from 3.27 to 2.31), Turkestan (from 1.36 to 1.22) regions and cities Astana (from 1.54 to 1.50), Almaty (from 2.24 to 2.18) and Shymkent (from 2.35 to 1.58) [5].*

*In 2022, the proportion of patients identified during screening studies with early stages of BC (stage 0-I) was 50.2% during screening (in 2021 - 47.9%). A high proportion of stages 0-I BC (over 50%) was recorded in 8 regions (in 8 in 2021): Akmola, West Kazakhstan, Karaganda (70.8% - best result), Pavlodar, North Kazakhstan, Turkestan regions, cities Astana and Shymkent. Low levels of early detection of BC (below 40%) were noted in Aktobe (19.3% - worst result), Zhambyl (34.8%), Kostanay (39.5%), Mangistau (27.3%) regions and Almaty city (37.3%). Localized cancer (0-I and II stages) amounted to 96.2% (2021 - 95.5%), while not a single case was detected in stages III-IV in Atyrau, West Kazakhstan, Zhambyl, Kyzylorda, Mangistau, Pavlodar regions, cities Astana and Shymkent. A total of 46 cases of breast cancer in stage III and 14 in stage IV were identified (52 and 11, respectively) [5].*

*Epidemiological indicators of CRC in the form of colon cancer and colorectal cancer are considered separately for objective reasons.*

*Colon cancer with a specific gravity of 5.53% (2021 - 5.2%) in the structure of oncopathology of both sexes of the population has risen to 5th place, in men it remains in 6th place - 5.8% (5.5 %), for women - in the 5th - 5.3% (4.91%) The incidence rate of cancer of this localization in the country in the reporting year increased from 8.8 to 9.95 per 100 thousand population.*

*The incidence of colon cancer in 10 regions is higher than the national average - 9.95 per 100 thousand population: Kostanay - 20.7 (2021 - 15.9), Pavlodar - 18.8 (15.3), North Kazakhstan - 18, 0 (12.7), East Kazakhstan - 16.9 (13.4), Karaganda - 15.4 (15.0), Akmola - 14.6 (10.2), West Kazakhstan - 11.0 (10.1), Abay - 10.0 (9.0) regions and cities Almaty – 12.8 (12.1) and Astana – 10.5 (9.0). As in 2021, colon cancer was detected much less frequently in Turkestan - 3.1 per 100 thousand population (2.7), Kyzylorda - 4.1 (4.6), Zhambyl - 5.5 (5.8), Almaty - 6.3 (4.7), Zhetysay - 6.4, Mangistau - 6.8 (4.9) regions and Shymkent city - 5.0 (4.0) [5].*

*Rectal cancer in the structure of malignant neoplasms of both sexes retains 7th place in rank with a specific gravity of 4.9% (2021 - 4.92%), but in men it dropped from 4th to 5th place - 6.1%, for women – from 9th to 10th – 4.0%. The incidence rate per 100 thousand population increased from 8.4 to 8.8.*

*A high incidence rate was recorded in Kostanay - 17.8 per 100 thousand population (2021 - 16.2), East Kazakhstan - 17.7 (13.9), North Kazakhstan - 15.6 (15.1), Pavlodar – 14.9 (18.1), Karaganda – 13.3 (11.7), Abay – 12.9, West Kazakhstan – 12.9 (9.8), Akmola – 10.3 (13.1) regions and Astana city – 10.3 (9.0). Traditionally, a low incidence of rectal cancer is observed in Mangistau - 3.1 (2.8), Turkestan - 3.3 per 100 thousand population (2.7), Zhambyl - 3.7 (5.1), Kyzylorda - 4, 1 (5.3), Almaty – 5.3 (5.6) regions and in Shymkent city – 5.5 (5.0) [5].*

*Rectal cancer in the structure of causes of death from malignant neoplasms of the population of both sexes in 2022 remained in 5th place with a share of 5.41% (2021 – 5.41%). In the republic as a whole, the mortality rate from this form of cancer was 3.6 per 100 thousand population (3.87).*

*The mortality rate per 100 thousand population was higher than the national average in East Kazakhstan - 7.8 (2021 - 8.6) - the maximum level, Pavlodar - 7.5 (7.6), Abay - 5.9, North Kazakhstan - 5.8 (4.3), Kostanay - 4.9 (4.9), West Kazakhstan - 4.8 (4.2), Karaganda - 3.8 (5.2) regions. Below the national average - 3.8 per 100 thousand population, mortality in Aktobe - 3.2 (4.1), Almaty - 2.6 (2.6), Atyrau - 2.5 (3.4), Zhetysay - 2, 6, Zhambyl - 3.3 (2.7), Turkestan - 2.1 (1.6), Mangistau - 1.9 (1.2), Kyzylorda regions - 1.8 (2.1) - the lowest figure, and cities Almaty – 3.7 (4.3), Shymkent – 2.6 (2.1).*

*Colon cancer in the structure of causes of death from malignant neoplasms of the population of both sexes in 2022, as in 2021, ranks 6th, with a share of 5.2% (2021 – 5.0%). At the same time, the*

mortality rate in the country decreased by 5.6%, from 3.6 to 3.4 per 100 thousand population.

Mortality rates in 10 regions are higher than the national average: East Kazakhstan - 7.1 per 100 thousand population (2021 - 5.1) - maximum level, Pavlodar - 5.6 (6.0), Kostanay - 5.3 (5.6), Akmola - 5.2 (3.8), Abay - 5.1, Karaganda - 5.1 (5.6), West Kazakhstan - 4.8 (4.4), North Kazakhstan - 4.8 (5.0) regions and cities Astana - 3.6 (2.7), Almaty - 4.5 (5.3). Low mortality rates from colon cancer were noted in Kyzylorda - 1.2 per 100 thousand population (2.7) - the best result, Turkestan - 1.3 (1.7), Mangistau - 1.6 (2.6), Aktobe - 2.0 (2.5), Zhetysu - 2.4, Zhambyl - 2.5 (3.7), Atyrau - 2.5 (1.8), Almaty - 2.6 (1.8) regions and cities Astana - (2.7), Shymkent - (2.4).

For colon cancer (94.0%) - 100% verification level was achieved in 3 regions (Abay, Almaty and Turkestan regions), high rates in the Astana city (98.5%), Shymkent city (98.0%), Zhambyl (98.4%), Atyrau (98.2%) regions, low - in Akmola region (86.7%), Almaty city (84.3%), in the Kyzylorda region (61.8%) - the worst result since 2017.

For rectal cancer (97.4%) - in 6 regions there is a 100% verification level, the worst level is still in the Kyzylorda region - 85.3%, lower than the republican average in the Akmola region - 92.6%, Aktobe region - 96.8%, Mangystau region - 87.0%, Pavlodar region - 95.3%, Almaty city - 93.2% [5].

The frequency of diagnosis of stage I-II rectal cancer, as a visually accessible localization (68.9% - national average) in the regions, was: in Akmola - 34.6% - the worst result, as in 2021, in the country (2021 - 44.1%), Mangistau - 47.8%, Abay - 53.9%, West Kazakhstan - 59.1%, Almaty - 66.2%, Zhetysu - 68.6%, Karaganda - 65, 7% regions and Shymkent city - 62.9%.

For colon cancer (52.4%), early diagnosis rates are higher in Pavlodar (65.9% - best result), Abay, Aktobe, Atyrau, East Kazakhstan, Zhambyl, Zhetysu, Karaganda, Kostanay, Pavlodar, North Kazakhstan, Turkestan regions and Shymkent. The lowest figure (23.5%) is in the Kyzylorda region.

For colon cancer (17.3%), the rates of neglect at stage IV are higher - in Akmola - 31.0% - the worst result (2021 - 20.3%), Zhetysu - 27.3%, Abay - 23.1%, Turkestan - 22.2% (29.1%), Karaganda - 28.1% (28.6%), West Kazakhstan - 18.8% (8.2%), Mangistau - 17.6% (19.4%) regions and cities Astana - 18.0% (22.9%), Shymkent - 20.0% (22.7%). The lowest level of neglect is 2.9% in the Kyzylorda region (7.9%).

The proportion of stage IV in rectal cancer (13.1%) is higher in Akmola - 29.6% - the worst result (2021 - 19.4%), Abay - 19.7%, Kyzylorda - 17.6% (9.1%), Karaganda - 16.9% (28.4%), Almaty - 15.6% (17.0%), Kostanay - 14.8% (11.1%), Zhambyl - 13.3 % (13.6%) regions and Shymkent city - 14.5% (12.5%). The lowest level of neglect - 6.0% - is in the Atyrau region (12.5%).

Late diagnosis of rectal cancer as a visually accessible localization (stages III-IV) in 2022 amounted to 31.1% (in 2021 - 33.5%).

For rectal cancer, the level of neglect is higher than the national average - 31.1%, the indicators in Akmola - 65.4% (2021 - 55.9%) - the worst result in the country, Mangistau - 52.2% (38.1%), Abay - 46.1% (30.6%), West Kazakhstan - 40.9% (25.4%), Karaganda - 34.3% (46.5%), Almaty - 33.8% (35.7%), Zhetysu - 31.4% (34.1%) regions and Shymkent city - 37.1% (42.9%). The lowest neglect is in the Atyrau region - 12.0% (17.5%).

In the country as a whole in 2022, the five-year survival rate of patients with CRC registered in 2018 decreased to 40.4% (2021 - 52.9% for those registered in 2017); there is a significant dispersion of indicators by region, from maximum - 56.1% (47.5%) in the Kyzylorda region, to minimum - 24.3% (51.5%) in the Aktobe region [5].

Screening of CRC screening is the systematic use of screening studies in an asymptomatic population. The purpose of screening is to identify people with abnormalities suggestive of CRC. These persons in the future need additional examination to clarify the diagnosis. Opportunistic screening is the non-systematic use of screening tests in routine medical practice. A screening program is much more challenging than an early detection program. At the same time, the success of the screening program is largely determined by the awareness of the population and medical workers about the possibilities of early diagnosis of CRC. The feasibility of a screening program is determined by several factors that relate to the disease being screened, the screening test, the characteristics of the population, and the characteristics of the healthcare system.

The first factor is that the disease must be well understood, common enough in the target population to justify screening, have a recognizable early stage; treatment of the disease at an early stage should be more effective than at a later stage.

The second is that the test should be characterized by sufficient sensitivity, i.e. the ability to detect cancer among people with the disease; sufficient specificity - the probability that among people who do not have a disease, the test result will be negative; have a high positive predictive value (positive predictive value) or, in other words, the likelihood that people with a positive test result have the disease;

have a high predictive value of a negative result (negative predictive value), i.e. the likelihood that people with a negative test result do not have the disease; security; low cost; and acceptability - the likelihood that people for whom this test is intended will agree to the examination (which to some extent depends on the awareness of the population about the possibilities and importance of early diagnosis).

The third factor is that the healthcare system should be ready for maximum screening test coverage of the target group, have the resources to confirm the diagnosis, appropriate treatment and follow-up of people with positive test results, and regularly conduct screening tests at regular intervals. At the same time, the benefits of screening must outweigh the potential physical and psychological harm and justify the financial costs of its implementation [11].

The factors most significant for the development of CRC are:

- the presence of chronic inflammatory bowel diseases, adenomatous polyps, cancer of other localization, etc.;

- family history (presence of one or two first-degree relatives with CRC or familial diffuse intestinal polyposis);

- the age of men and women over 50 years old, taking into account the fact that more than 90% of patients with colorectal cancer are people of this age (medium risk).

Age, regardless of gender, is an important risk factor for CRC. After the age of 50, the incidence of CRC increases from 8 to 160 per 100,000 population. Thus, people who have reached the age of 50, even in the absence of symptoms, constitute a moderate risk group for CRC.

The second category of increased risk of CRC (20%) is made up of persons with a genetic and family predisposition, suffering from chronic inflammatory bowel diseases, diffuse familial polyposis.

The high-risk CRC group is determined by the so-called Amsterdam criteria (the presence of malignant tumors in two generations, the presence of cancer in a first-line relative under the age of 50 years), in this case, CRC screening should be carried out after the age of 30 years [12].

The degree of individual risk of developing CRC is determined before screening to select the scope of studies and the frequency of their conduct.

The interval for oncological colorectal screening is 1 time in 2 years, target group: men and women aged 50-70 years, with the exception of persons registered at the dispensary for CRC and colon polyposis. At the same time, when forming the target group, one should take into account the absence of severe concomitant diseases, such as the presence of a common malignant neoplasm, cerebrovascular diseases in the stage of decompensation, chronic obstructive pulmonary disease with respiratory failure, cirrhosis of the liver, myocardial infarction with congestive heart failure, diabetes mellitus with vascular complications. and others, which are highly likely to lead to death in the next 10 years.

The first step in screening for CRC is the fecal occult blood test (FOBT). Traditionally, such methods include a benzidine test for occult blood in the feces. This is a biochemical method based on the assessment of pseudoperoxidase activity of hemoglobin. There is ample evidence that invitation to guaiac FOBT screening (gFOBT) reduces CRC mortality by approximately 15% in age-matched average-risk populations.

To ensure the effectiveness of screening with gFOBT, the interval for screening under the national screening program should not exceed two years. To date, there is an immunochemical FOBT method - iFOBT, which is superior in efficiency to gFOBT in terms of the probability of detecting adenoma and cancer. iFOBT has improved analysis performance compared to gFOBT.

Immunochemical (immunochromatographic) examination of feces for occult blood - iFOBT or hemocult test is carried out for all men and women of the target group using an express method, which allows you to get a result within 3-5 minutes, without the participation of a medical worker. However, the evaluation of the test is carried out only by a medical worker in the PHC preventive department.

With a positive analysis of feces for occult blood, the second stage of colorectal screening is performed, which consists in endoscopic examination of the colon - total colonoscopy [6]. At the same time, in this case, this medical manipulation is of a therapeutic and diagnostic nature, since it allows one-stage removal of adenomatous polyps, which, according to various authors, occur in every third subject after 50 years of age. At the same time, women have 20% fewer polyps than men, but they have more right-sided lesions, which are more difficult to detect using fecal blood tests, because they are less traumatic [13, 14].

What results were obtained from screening for CRC? In 2022, 937,859 men and women of the target group aged 50 to 70 years were examined during colorectal screening (in 2021 - 920,640) [5].

Colorectal screening revealed 325 cases of colorectal cancer in the reporting year, which is 114 cases more than in the previous year (211 cases). The detection rate increased from 0.23 to 0.35 per

1000 patients examined. Low detection of colorectal cancer was noted in Zhambyl, Karaganda, Kostanay, Kyzylorda, Mangistau, Turkestan - the worst result, East Kazakhstan regions, Astana city - from 0.07 to 0.30 per 1000 examined. The best result is in the North Kazakhstan region – 0.81 per 1000 examined. Compared to 2021, there was a decrease in the detection of colorectal cancer per 1000 people examined during screening in Karaganda (from 0.22 to 0.21), Kostanay (from 0.29 to 0.28), Mangistau (from 0.20 to 0.12) regions and Astana city (from 0.20 to 0.19).

Colon precancer (adenoma detection rate) was detected in 27.5% of patients who underwent colonoscopy (2021 – 22.8%). The detection rate of precancer in Akmola, Aktobe, Almaty (8.5% is the worst result), West Kazakhstan, Zhambyl, Kostanay, Kyzylorda, Mangistau, Pavlodar, North Kazakhstan, Turkestan regions and cities is lower than the national average Astana and Shymkent. The best result is 36.2% in Almaty city. It should be noted that the planned indicator for the detection of precancer of the colon and rectum in the country for 2022, according to the Comprehensive Plan, was 23.0% and was achieved.

In 2022, the proportion of patients identified during screening studies with early stages of malignant neoplasms (stages 0-I) was 26.2% during colorectal screening (in 2021 - 27.5%).

High early detection of colorectal cancer (above 30%) was noted in Akmola, West Kazakhstan, Karaganda, Kostanay, Kyzylorda, Turkestan regions and Astana city (57.1% - the best result). Not a single case of early cancer has been identified in the Mangistau region. Cases of cancer in stages III-IV detected during screening were registered in Akmola, Aktobe, Almaty, West Kazakhstan, Zhambyl, Karaganda, Kostanay, Mangistau regions and Almaty city. A total of 21 cases of colorectal cancer in stage III and 3 in stage IV were identified (in 2021 - 18 and 5, respectively) [5].

The complex analysis carried out allows us to conclude that satisfactory results of cancer screening can be achieved only with its proper organization, high quality of implementation, active participation in population screening, the use of highly sensitive tests and instrumental methods of preventive examination, as well as subsequent accurate diagnosis of identified tumors and timely treatment. High-quality screening leads to early diagnosis of pedological diseases and malignant pathology in the early stages, which, in turn, increases the effectiveness of treatment and improves the prognosis of the disease. Target groups that, for one reason or another, do not participate in screening should be informed that there are no other methods other than screening that would reduce mortality from malignant neoplasms. Incidence and mortality rates from cervical cancer, breast cancer and colorectal cancer clearly reflect the epidemiological situation with this pathology in the regions of our country.

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## FEATURES OF TREATMENT OF HYPOTONUS DYSPHONIA IN SINGERS

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**Introduction.** The literature devoted to the diagnosis and treatment of functional voice disorders is extremely extensive. Phoniatriests have been involved in the prevention and treatment of functional voice disorders for many years, but this problem has not yet been completely solved [1-3].

In otorhinolaryngology, functional diseases of the larynx are common, but the lack of awareness of practical doctors in phoniatrie issues leads to incorrect treatment tactics. Such patients are prescribed various physiological procedures, drug treatment, etc. for a long time and without success [4,5].

Voice diseases often reduce the ability to work in practically healthy people and create a threat of professional unsuitability. Providing specialized care for these diseases acquires social significance, since restoration of voice function returns people to normal work activities. One of the most common forms of functional voice disorders is hypotonic dysphonia, which manifests itself in a decrease in the tone of the vocal folds [6,7].

**Aim.** Our research is devoted to the development of optimal methods for treating functional dysphonia in singers.

**Material and research methods.** The group of subjects with hypotonic dysphonia included 56 patients aged 15 to 55 years; men - 26, women - 30. The duration of the disease ranged from a month to over 5 years. 28 patients were treated at their place of residence for a long time (from 3 to 5 years) using various generally accepted methods: medications and physiotherapy. The following treatment methods were used

1. Drug treatment with physiotherapy.
2. Drug treatment with phonopedia.
3. Acupuncture.
4. Acupuncture in combination with phonopedia.
5. Complex drug treatment with acupuncture and phonopedia.

**Research results.** In the first method, medications were used with physiotherapy; treatment was carried out strictly individually, taking into account the nature of the disease, clinical data and the general condition of the patient. For hypotonic dysphonia, medications were used: eleutherococcus, pantocrine, B vitamins, proserin and neuromidin. Considering the lability of the nervous system of such patients, they recommended infusion of valerian, persen, novopassit, proserin in injections, solution of eleutherococcus, pantocrine, and multivitamins. For increased irritability, trioxazine, which does not have muscle relaxation, was prescribed. Contraindications for the use of these drugs are hypertension, atherosclerosis, bronchial asthma, and hepatitis.

Among the physiological procedures, electrical stimulation of the larynx was used (15 procedures). Electro-gymnastics tones the muscles, increases their metabolism, leads to an increase in muscle volume, and increases their performance. Electrical stimulation can be combined with simultaneous vocal exercises, but the combination of electrotherapy with acupuncture is not recommended in accordance with the indications and contraindications for the method of acupuncture and cauterization. Electrophoresis with proserin and vitamin B1 was prescribed to the larynx area (10-12 procedures). Therapeutic measures are aimed at increasing the tone of the vocal muscles to stimulate excitation exchange processes in interneuron synapses and to facilitate the conduction of nerve impulses.

In 18 patients out of 28 after treatment, voice improvement was noted only within 1-2 months. Then the voice disorder occurred again. 10 patients did not notice any improvement at all from the treatment.

Phonopedia with drug treatment was used in 12 patients with hypotonic dysphonia. The treatment regimen consisted of phonopedic exercises, which contributed to greater tension in the vocal folds. First, the patients were asked to sharply pronounce the consonant sound "k" while exhaling in combination

with one of the vowels: a, o, i, u, e, ka, ko, ki, ku, etc.; in the future, they recommended increasing the words: ko-ka, ku-ka, ka-ki, kri, kra, kru, krik, kruk, krok, etc.

When prescribing drug treatment, we pursued the goal of using the tonic and stimulating effects of drugs on the neuromuscular apparatus of the larynx.

After conducting phonopedic classes and drug treatment in 12 patients with hypotonic dysphonia, recovery occurred in 4, improvement in 5, there was no effect of treatment in 3 patients. After 4-5 months of treatment, relapse occurred in 10 patients.

The condition of patients with a disease duration of up to 5 months improved after treatment for a month or more. In 3 patients with a disease duration of more than 3-4 years, treatment was carried out without effect.

During indirect laryngoscopy, complete closure along the free edge (grade I) was observed in 5 patients, the presence of a narrow gap of up to 1-2 mm (grade 1) - in 4 patients, a narrow gap of 5 mm or more (stage IV) detected in 3 patients.

The time of maximum phonation improved in almost all patients and amounted to more than 20 seconds in 9 patients (grade I), in 3 patients it was from 12-17 seconds (grade II). During stroboscopy, in 8 patients, the presence of energetic phonatory sounds, uniform in amplitude and frequency phonatory vibrations of the vocal folds; short-term asynchronous phonatory oscillations in frequency and amplitude were detected in 3 subjects.

Twelve patients were treated with acupuncture for hypotonic dysphonia. We used the second version of the inhibitory method on general points with an exposure time of 20-25 minutes and the second version of the exciting method on local points with the introduction of 3-4 needles for 15 minutes. The course of treatment consisted of 10-12 sessions, after 2 weeks the course of acupuncture was repeated. As a result of treatment with acupuncture in patients with hypotonic dysphonia, recovery was noted in 5 patients, improvement in 6 patients, there was no effect in 1 patient with a disease duration of more than 2 years. After 6 months of treatment, relapse occurred in 2 patients. 6 patients had a normal voice (grade I), mild hoarseness after vocal stress (stage II) - in 5 patients, moderate hoarseness (grade III) - in 1 patient.

During laryngoscopy, complete closure of the vocal folds (grade I) was observed in 6 patients, the presence of a narrow gap of up to 2 mm (grade II) - in 5 patients and up to 3-4 mm (grade III) - in one patient. The time of maximum phonation for all was 18 seconds. Laryngostroboscopy revealed energetic phonatory vibrations of the vocal folds (grade I) that were uniform in amplitude and frequency in 8 patients; in one patient, phonatory vibrations of the vocal folds were asynchronous in frequency and amplitude (grade I). and one has phonatory oscillations asynchronous in frequency and amplitude (P st.).

Acupuncture in combination with phonopedia was performed in 12 patients. Better results were obtained compared to those using previous methods. In this group, recovery occurred in 7 subjects, improvement in 5, relapse in 2 after 5 months of treatment.

During the auditory assessment, 8 patients had a normal voice, 2 had mild hoarseness, and 2 had mild hoarseness only after vocal stress. During laryngoscopy, complete closure of the vocal folds was found in 8 patients, the presence of a gap of up to 1-2 mm (grade II) - in 2 patients, up to 3-4 mm (grade III) - in 2.

During laryngostroboscopy, the presence of energetic phonatory vibrations of the vocal folds, uniform in amplitude and frequency, was determined in 10 patients. In 2 patients, weakened phonatory vibrations of the vocal folds were detected, uniform in amplitude and frequency.

Complex treatment. As a result of complex treatment of 8 patients with the use of medications, phoniatric exercises and acupuncture according to the above schemes, recovery occurred in 7 patients, improvement in -1. Relapse was noted in 1 patient after 6 months of treatment with a disease duration of about 10 years. An auditory voice assessment revealed a normal voice in 7 subjects. Variable mild hoarseness was noted in 1 patient. The time of maximum phonation and phonation breathing, the stroboscopic picture was normalized in all patients.

**Conclusion.** For hypotonic dysphonia in patients with a disease duration of 1 to 2 years, a gradual improvement in voice was noted after 5-6 sessions of acupuncture. In people with a disease duration of more than 2 years, in response to voice disorders, secondary neuroticization of the personality more often occurred, as a result of which these patients needed longer treatment. They noted an improvement in their voice and general condition, most often after the 2nd course of acupuncture.

Thus, among the treatment methods, the most effective and lasting are acupuncture-reflexotherapy in combination with phonopedic exercises and complex treatment using acupuncture, phonopedia, and drug treatment.

Phonopedia with drug treatment is more effective in singers, less effective in people of other professions. For people with non-voice-speech professions, acupuncture reflexotherapy worked more effectively (both as an independent method and in combination with other procedures). When these methods are combined, it is effective for singers and people not in the voice-speech profession.

As a result of the drug treatment with physiotherapy, the method of acupuncture with phonopedia turned out to be the most effective. Acupuncture helps normalize the activity of the nervous system, and breathing and voice exercises help strengthen the neuromuscular apparatus of the larynx.

Phonopedia for hypotonic dysphonia promotes the development of compensatory mechanisms of voice formation, leads to normal closure of the glottis and contributes to the development of a more sonorous and sufficiently strong voice.

Acupuncture is a physiological and pathogenetic method of treating some forms of functional disorders of the vocal apparatus, as it helps to normalize the activity of the nervous system, and breathing and voice exercises help strengthen the neuromuscular apparatus of the larynx.

The main goal of phonopedic exercises for hypotonic dysphonia, phonasthenia, and aphonia is aimed at increasing the tone of the vocal folds. This is achieved by exercises with the explosion of the consonant "k" in combination with one from vowels: a, o, u, i, e; ka, ko, ki, ku, ke, then the words are pronounced on the exhale: ku-ka, ka-ke, ki-ku, ke-ku, kak, kuk, kru, kek, kro, cry, kruk, crack. In other cases, phonological exercises are aimed at eliminating excess tension in the laryngeal muscles during phonation by organizing the correct process of voice formation and voice guidance. Patients are advised to pronounce the following syllables: fa, fi, fu, fe, fo, ha, ho, he, shah, shuh, hah, hoh, fih, feh, etc. Before pronouncing this or that syllable, word, phrase, it is necessary to inhale the air correctly and spend it sparingly during phonation, i.e. When performing voice exercises, special attention should be paid to ensuring good breathing support. The duration of voice exercises was 5 minutes, after a short interval of 10-15 minutes. (at this time, breathing and other types of therapeutic exercises were performed). And again they repeated vocal exercises that helped to tense the vocal folds.

The phonopedia method is an effective means of therapy, but due to the duration and complexity of implementation and sometimes the negative attitude of patients, it was not always possible to achieve the desired result, so we often resorted to more effective methods, including phonopedia and other methods of complex treatments that were mentioned above.

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**SENSORINEURAL HEARING LOSS OF VASCULAR GENESIS IN MILD FORM OF COVID-19****Dzhamol Kholmatov***Department of Otorhinolaryngology of SEI "Avicenna Tajik State Medical University"***Shahnoza Isupova***Department of Otorhinolaryngology of SEI "Avicenna Tajik State Medical University"***Parichehra Murodova***Department of Otorhinolaryngology of SEI "Avicenna Tajik State Medical University"***Mirhasan Mardonaev***Department of Otorhinolaryngology of SEI "Avicenna Tajik State Medical University"***Abstract**

Recently, more and more evidence of otoneurological damage in SARS-CoV-2 has appeared in the world literature, accompanied by symptoms such as tinnitus and balance disorders, as well as disturbances of smell and taste, but sensorineural hearing loss of vascular origin in patients with COVID-19 has not yet been studied not enough. Studying the role of SARS-CoV-2 as an etiological factor in sensorineural hearing loss (SHL) in people suffering from cardiovascular insufficiency (hypertension, osteochondrosis of the cervical spine, diabetes mellitus, etc.) may provide an opportunity to turn to effective pathogenetic treatment for maximum clinical recovery and prevention of side effects.

**Material and methods.** In the ENT clinic of the national medical center of the Republic of Tajikistan "Shifobakhsh", we examined ten patients with sensorineural hearing loss of vascular origin who had suffered COVID-19. Adult patients with vascular disorders and positive for COVID-19 with a mild clinical picture were selected. All patients underwent a complete clinical, audiological and PCR (COVID-19) study before and after treatment.

**Research results.** In this article, each patient is described with a detailed analysis of the audiological characteristics before and after treatment. The selected algorithm for the diagnosis and treatment of patients with SNT of vascular origin, taking into account the mild form of COVID-19, aimed at improving the blood flow of the vertebrobasilar vascular system, with simultaneous specific antiviral therapy, gave a positive effect.

**Conclusions.** SNHL of vascular origin can worsen and be more severe, even with a mild form of COVID-19. Our experience leads us to emphasize the importance of prompt recognition and management of this and other unusual symptoms, allowing patients to receive timely, adequate treatment.

**Keywords:** Sensorineural hearing loss, vascular disorders, coronavirus, SARS-CoV-2, COVID-19, hearing loss.

**Introduction.** Sensorineural hearing loss (SNHL) is defined as a hearing loss (HL) exceeding a hearing loss level of 30 dB at at least 3 audiometric frequencies 0.5; 1.0 and 2.0 kHz. The cause of HF in most patients remains unknown. Although several etiological hypotheses have been proposed, the most likely causative sources appear to be cochlear damage due to impaired vascular perfusion or viral infection [1].

Idiopathic SNHL resolves spontaneously within two weeks in 32–65% of cases [2]. The observation that acute SNHL is usually unilateral and may resolve within hours or days suggests that disturbances in the microcirculation of the inner ear may play a key role in this syndrome. Disturbances in the blood flow of the ear labyrinth due to changes in plasma viscosity, aggregation capacity of cells and platelets, deformation of erythrocytes and endothelial tissue have been reported in patients with SNT of vascular origin [3]. This form of hearing impairment is very common in older people with cardiovascular disease. Recently, these vascular disorders have also occurred in younger people. Most often it affects people aged 40 to 54 years [4,5]. Early detection of hearing disorders is crucial in effective therapy and a favorable prognosis for the outcome of treatment of patients with SNT [6-7].

Neurological manifestations of viral infections are well known [8–10]. In patients with sensorineural hearing loss of vascular origin, the effect of the COVID-19 virus can damage the structures of the ear labyrinth or cause responses resulting from a cross-reaction of inner ear antigens [11].

Studying the role of SARS-CoV-2 as a factor aggravating the course of SNT of vascular origin may make it possible to revise the strategy of pathogenetic treatment of patients with this ear pathology in order to optimize clinical recovery and avoid deeper disorders of the auditory analyzer.

**Purpose.** Presentation of the results of a study of patients with SNT of vascular origin during COVID-19.

**Materials and methods.** The study was conducted in 2020 -2021 in the ENT clinic of the State Institution, the National Medical Center "Shifobakhsh" of the Republic of Tajikistan. Patients with SNT of vascular origin were selected from among adults who tested positive for COVID-19 and were hospitalized in the audiology department.

Inclusion criteria were:

- age from 45 to 65 years;
- diagnosis of SARS-CoV-2 infection using polymerase chain reaction (PCR) testing on oropharyngeal and nasopharyngeal swabs (OP/NP);
- asymptomatic to mild clinical picture of COVID-19 in accordance with NIH recommendations;
- compliance with the treatment regimen and adherence to dispensary observation.

None of our patients had:

- severe perceived hearing loss and/or tinnitus;
- previous ear pathology and/or otological surgery;
- pathology of the cerebellopontine angle or congenital malformations of the ear;
- use of ototoxic drugs;
- head and/or neck injury or barotrauma within the last 3 months.

Our study included ten patients with SNHL of vascular origin. All patients underwent a clinical audiological examination: including otomicroscopy, pure tone threshold and speech audiometry (PTTA and SA), acoustic impedance measurement (AI), registration of otoacoustic emissions (OAE) and short-latency auditory evoked potentials (SLEP). Subjective methods of hearing testing were carried out using a clinical audiometer "MA-31" (Maiko - Germany), and objective hearing testing was carried out using a hearing measuring device "Sentiero" (Path Medical Solutions - Germany).

Before the start of the first cycle of treatment for SNT, each patient underwent a complete clinical blood test, which determined: blood coagulation, average platelet volume, erythrocyte sedimentation rate, C-reactive protein, cholesterol assessment with the establishment of low and high density lipoproteins, triglycerides, homocysteine, glucose and fibrinogen in blood.

The above audiological tests were performed before each treatment.

All patients received first-line drug treatment for COVID-19: azithromycin (500 mg once daily for three days) and Paracetamol (1000 mg up to three times daily). Glucocorticoids were used short-term (3–5 days) at a dose no more than equivalent to 1–2 mg/kg methylprednisolone per day. All drugs were administered orally. As for infusion therapy, our patients received intravenous drips of Cavinton and Mildranat, Neuromidin and Sertogamma were prescribed intramuscularly. Among the physiotherapeutic procedures, iontophoresis with proserin was prescribed for the mastoid region and massage of the cervical-collar region. Each treatment cycle lasted ten days. In persons with vestibulopathy, betahistidine 24 mg was added to the main course of treatment - 1 tablet 3 times for 30 days.

After the course of treatment, to assess the degree of hearing recovery after treatment, modified Siegel criteria were used [12]:

- complete recovery (RF): final hearing better than 25 dB;
- partial restoration (PR): gain more than 15 dB, final hearing 25–45 dB;
- minor improvement (MI): gain more than 15 dB, final hearing loss less than 45 dB;
- without enhancement (BU): gain less than 15 dB, final hearing worse than 75 dB.

All patients underwent CT and MRI of the brain, which excluded brain diseases. All patients began the first treatment cycle the day after audiological assessment. They completed all prescribed treatment cycles, after which they were sent for long-term follow-up in an outpatient setting at their place of residence.

Data were analyzed using Statistical Packages for the Social Sciences (SPSS), version 26 (SPSS Inc., Chicago, IL, USA). Student t tests were used to compare numerical values before and after treatment.

**Survey results.** Patients suffering from hypertension who tested positive for SARS-CoV-2 received outpatient antiviral treatment on January 12, 2020. They noted that tinnitus, ear congestion and an asthenic condition appeared. For this reason, they were not examined or treated anywhere; On February 20, the tinnitus intensified and the level of hearing sensation decreased. New OP/NP swab (February 22) was negative for SARS-CoV-2. In the following days, patients complained of slight dizziness, hyperacusis, increased intensity of tinnitus and complete lack of hearing. All of them were hospitalized in the ENT clinic the next day and underwent a full audiological examination: TPA showed a normal hearing threshold in one ear and a pronounced hearing loss in the other, and some had bilateral hearing loss with

a limited tonal field at frequencies (3–8 kHz), continuous tinnitus with a frequency of 4 kHz and an intensity of up to 60 dB. The patients were diagnosed with SNT of vascular origin, complicated by the SARS-CoV-2 viral infection.

**Conclusions.** SNT of vascular origin, as well as of other origins, can be aggravated against the background of COVID-19, even with mild manifestations of the disease. Our experience highlights the importance of quickly recognizing and addressing unusual symptoms of HF in COVID-19, giving patients the opportunity to receive early treatment. To this end, we strongly recommend providing knowledge to all medical personnel who may be involved in the possible assessment of SNT, since early recognition is a mandatory and necessary process in the successful treatment of this pathology. Acute sensorineural hearing loss is one of the audiological emergencies that requires a diagnostic and therapeutic solution that should not be closed to patients with COVID-19.

Thus, taking into account the effect of SARSCoV-2 on the auditory analyzer, in order to timely detect hearing pathology, prescribe adequate treatment and prevent the progression of hearing loss, it is advisable to conduct an audiological examination of patients who have had COVID-19. Further studies with larger samples are needed to give this hypothesis greater statistical power.

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## REVIEW OF THE DEVELOPMENT OF EASTERN AND WESTERN MEDICINE IN ANTIQUITY

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## ОБЗОР РАЗВИТИЯ ВОСТОЧНОЙ И ЗАПАДНОЙ МЕДИЦИНЫ В ДРЕВНОСТИ

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The history of medicine dates back to ancient times and has undergone a long period of development. During the stages of development of medicine in the field of studying the structure and functions of the human body, prevention and treatment of diseases, a wealth of experience and knowledge has been accumulated. The history of medicine emerged as one of the earliest embryos of human culture. Both in the East and the West, medicine has been developing since ancient times, and the laws of medicine have been reflected in ancient scriptures. Azerbaijan is also one of the ancient stages of development of medicine. According to the unanimous opinion of researchers, the first mention of medicine in written texts is found in the Avesta.

**Аннотация**

История медицины восходит к древним временам и прошла длительный период развития. На этапах развития медицины в сфере изучения строения и функций организма человека, профилактики и лечения заболеваний накоплен богатый опыт и знания. История медицины возникла как один из ранних зародышей человеческой культуры. И на Востоке, и на Западе медицина развивалась с древних времен, и законы медицины нашли свое отражение в древних писаниях. Азербайджан также является одним из древних этапов развития медицины. По единодушному мнению исследователей, упоминание медицины в письменных текстах впервые встречается в «Авесте».

**Keywords:** *medicine, history, science, Avesta, diseases, history of medicine, researchers, clay inscriptions.*

**Ключевые слова:** *медицина, история, наука, Авеста, заболевания, история медицины, исследователи, глиняные надписи.*

**Введение.** Являясь одной из древнейших наук, медицина, прошла длительный период развития. На этапах развития медицины в сфере изучения строения и функций организма человека, профилактики и лечения заболеваний накоплен богатый опыт и знания.

Периодизацию и хронологию истории медицины можно классифицировать следующим образом.

- первобытное общество;
- древние времена;
- Средневековье;
- Новый век;
- Новейший период

История медицины возникла как один из ранних зародышей человеческой культуры. Так, еще первобытные общества пытались найти возможность излечивать многие болезни, точнее, находить способы их устранения. «В истории медицины первый этап развития этой области называется эмпирическим (или экспериментальным). Исследования в этой области показывают, что история медицины насчитывает 200 000 лет. Первый врачебный опыт

формировался практикой помощи людей друг другу при переломах и травмах. Этот фактор доказывает, что понятие медицинской помощи существовало еще с самых ранних времен формирования человечества» [3].

Цель исследования данной статьи заключается в изучении и анализе истории медицины, фокусируясь на различных периодах и культурах, таких как тибетская, древнегреческая и медицина в регионе Азербайджана. Исследование нацелено на выявление методов лечения, диагностики и общих принципов каждой медицинской традиции, а также на выявление взаимосвязей и влияний между различными медицинскими культурами. Основной упор делается на анализе первоисточников, включая тексты древних историков, трактаты врачей, и другие материалы, с целью лучшего понимания эволюции и разнообразия медицинских практик в различных культурных и временных контекстах.

**Методы и материалы исследования.** Для выявления сходств и различий между различными медицинскими традициями был проведен сравнительный анализ источников, включая тексты, описывающие практики и принципы лечения. Акцент делался на выделение ключевых элементов каждой традиции и их взаимодействия. Проведен литературный обзор античных произведений, включая работы Геродота и Страбона, с целью выявления уникальных методов лечения и гигиенических практик, применявшихся в медицине на территории современного Азербайджана.

**Экскурс в развитие Восточной и Западной медицины в древности.** По единодушному мнению исследователей, упоминание медицины в письменных текстах впервые встречается в «Авесте». К.Эльзуд в своей работе «A medical history of Persia and the eastern caliphate from the earliest times to the year 1932 AD» («Медицинская история Персии и восточного халифата с древнейших времен до 1932 года н.э.») констатирует, что в Авесте, написанной на основе теоретических наблюдений и в соответствии с принципами нравственной чистоты, болезни делились на две группы: физиологические и психологические заболевания. Посвященный в основном религиозным учениям зороастризма Раздел «Вендидад» Авесты содержит информацию о многих болезнях. Здесь упоминаются «умственная отсталость, проказа, горбатость, половая слабость, кариез, болезнь, приводящая к смерти вследствие образования пятен на теле (лат. anthrax — черная язва) и ряд напастей» [4, с. 39].

Одним из древнейших центров развития медицины является Месопотамия. Таким образом, один из развитых аспектов шумерской культуры, являющейся древнейшим очагом цивилизации на Востоке, был связан с медициной. Глиняная надпись шумерского периода (I тысячелетие до н.э.), хранящаяся в библиотеке Ашшурбанипала, считается древнейшим медицинским документом в мире.

Подавляющее большинство глиняных надписей по медицинским знаниям относится к медицинской науке. В этих клинописных документах, наряду с назначением лекарственных растений, приготовлением и рекомендациями по употреблению мазей из растений, упоминаются также знание анатомии и сведения о болезнях, а также отражена фармакологическая информация [5].

В отличие от Древнего Египта, в Месопотамии не было специальных школ для врачей, и знания передавались от отца к сыну внутри «касты» и стоили целое состояние. Однако эти цены варьировались в зависимости от категории.

В Вавилоне в Законе Хаммурапи о медицине встречается следующая запись по этому поводу: «Цена лечения мускенума (неполноправного человека) или раба в несколько раз меньше, чем у свободного человека с полными правами» [1]. Однако из законов становится ясно, что лечение и/или операция пациента стоили довольно дорого. Несколько успешных операций в год хватило бы врачу, чтобы прокормить всю свою семью и нескольких рабов.

В другом законе говорится: «№ 218. Если врач убил человека бронзовым ножом во время серьезной операции, или если он бронзовым ножом вынул этому человеку глаза, то ему следует отрезать руку» [1].

Эти надписи, в которых нашли отражение медицинские знания, можно разделить на 2 группы: надписи, содержащие первичные медицинские знания и сведения по фармакологии и знаниям по анатомии. Знания, касающиеся анатомии, состоят из двенадцати надписей. Рассматривая их, можно заметить также общие признаки психологии и психиатрии. Например, в вышеупомянутых надписях «ЛиББу», т.е. сердце, считалось основой души.

Лечебные книги по медицине, найденные в Месопотамии, были выгравированы в десяти глиняных надписях. Наряду с этим, было найдено 10 надписей по диагностике болезней, 6 — по гинекологии, а также 2 по педиатрии. «В этих надписях не только группировались болезни, но и

исследовались их причины. По свидетельству древних месопотамцев, было три бога, которые вызывали болезни: 1. Сатанинско-психические — это были болезни, связанные с разумом и сознанием; 2. Сатанинские заболевания печени; 3. Сатанинский — выкидыш или мертворождение. Встречаются и глиняные надписи, отражающие симптомы болезней» [4, с. 34].

«В древности медицина на Дальнем Востоке, особенно в Древнем Китае, Японии и Тибете развивалась достаточно своеобразно. Китайский император Хуан-Ди считается основателем традиционной китайской медицины. Так, в 770-476 гг. до н.э. в Китае существовала книга по медицине «Нэй Цзин».

В Китае, добившемся высоких для своего времени достижений в области медицины, в V веке до н.э. хирургические операции проводились под наркозом и асептики. Гигиена была развита в высших слоях общества. Для предотвращения заражения гельминтами использовались известные в современном обществе процедуры, такие как мытье рук перед едой, использовали гигиенические средства. Во времена династии Тан (618-907) китайские врачи уже изучали этиологию таких инфекционных заболеваний, как проказа, и думали о способах борьбы с ней. «Первые вакцины против оспы также были использованы в Китае за тысячу лет до Рождества Христова. В целях предохранения от острой формы болезни введение инъекции, содержащей пустул проказы, здоровым людям было позднее перенесено в Индию, Японию, Турцию, Византию, Малую Азию и страны Европы» [2].

Хотя корни тибетской медицины в большей мере связаны с медициной Хидд, со временем сформировались и собственные медицинские традиции тибетцев. Они основывались не только на индийской врачебной традиции, но и на медицинской практике Китая и других стран. Так, знания о некоторых природных препаратах, способах их обработки, некоторых видах лечебного массажа, акупунктуры основывались на китайских источниках. «Все эти знания отражены в главном тибетском медицинском трактате «Чжун-ши». Хирургические методы в тибетской медицине не применялись, а поскольку, по мнению тибетцев, тело имеет единую и неделимую особенность, невозможно было повредить какой-либо орган по отдельности. По этой причине тибетские врачи начинали лечение с укрепления нервной системы человека» [2].

«Развитие медицинской культуры в Европе связано с Древней Грецией. На сегодняшний день ценный вклад в древнегреческую медицину внес Гиппократ (446-377 гг. до н.э.), который считается символом врачебного гуманизма в мировой медицине. Гиппократ был первым, кто описал различные жидкости, присутствующие в человеческом теле, и попытался объяснить их природу» [3].

**Обсуждение.** Как следует из истории, с IV века до нашей эры, чтобы расширить свою территорию и контролировать торговлю, Греческая и Римская империи устраивали походы на Восток. Обычно они брали с собой и историков, чтобы сохранить триумфальное шествие в истории. К таким историкам относятся Страбон и Геродот. Находившиеся в Азербайджане во время походов эти историки также записали в исторических книгах различные сведения о нашей стране.

Сегодня можно сказать, что источники античного периода Азербайджана изучаются на основе этих произведений. «Поскольку древние источники в основном описывают историко-политические и историко-географические вопросы, сведения по медицине составляют меньшинство. Одним из античных авторов, дающих наиболее обширные сведения об Азербайджане и населявших его людях, был Б.Е. Геродот, историк, живший в 480-425 гг.

Геродот Галикарнасский в своем произведении «История» приводит сведения о скифах и саках, которые являются древними тюркскими племенами. Он отмечал, что гигиенические правила скифов, проживающих на территории Азербайджана, значительно отличались от правил в Икичаярах и что у них были свои особые методы уборки» [4, с. 34].

Далее в работе, основываясь на сведениях, предоставленные Геродотом, повествуется о своеобразии скифской гигиены. Так, скифы «собирали на раскаленном камне семена растения, называемого конопля или лен (лат. *Сannabis*). От жара растение начинало дымиться, и они очищали свои тела, окутываясь в пары этого растения. Кроме того, тот же ученый приводит сведения о скифских женщинах, изготавливавших маски для тела и лица» [4, с. 34].

Другим античным историком, предоставившим информацию об азербайджанской медицине, был Страбон Амасийский. В своей работе «География», состоящей из 17 разделов, написанной в VII веке до н.э., он отмечал, что на территории Азербайджана много растений и

богатый животный мир, а также привел сведения о лекарственном растении под названием «силфи» в этой местности [4].

**Заключение.** Из наших исследований становится ясно, что история медицины восходит к древним временам. И на Востоке, и на Западе медицина развивалась с древних времен, и законы медицины нашли свое отражение в древних писаниях. Азербайджан также является одним из древних этапов развития медицины. Существует много источников, которые доказывают, что азербайджанская медицина в основном основана на растениях.

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## ULTRASONIC SEMIOTICS OF ENDOMETRIAL PATHOLOGY IN WOMEN WITH ABNORMAL UTERINE BLEEDING

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### **Introduction.**

The aim of the research was to describe the ultrasonic characteristics of various endometrial pathologies in postmenopausal women with abnormal uterine bleeding, using the evaluation of the endometrium according to the International Endometrial Tumor Analysis (IETA) system.

**Materials and methods:** The study group comprised 127 women aged 55 to 73 years (mean age 64 years) with complaints of lower abdominal pain and abnormal uterine bleeding and BMI  $\geq 30$  (in 127 patients). All patients underwent laboratory and instrumental examinations: ultrasound, MRI, MSCT. All patients were referred for hysteroscopic biopsy to assess intrauterine pathology. Ultrasonic examination was performed using the MINDRAY Resona I9 apparatus with an intracavitary probe V11-3HS with a frequency of 3.0-11.0 MHz. Comprehensive transvaginal sonography was performed using color and power mapping modes, compression elastography, and shear wave elastography. B-mode scanning included assessment of the following parameters: endometrial thickness, echogenicity (hyper-, hypo-, heterogeneous), contours (outer, inner), assessment of the endometrial junctional zone (wavy, interrupted, not deformed), presence of cystic components. Color Doppler analysis involved visual assessment of patterns: presence of vessels in the endometrium, visualization of dominant vessels (number), origin (focal/multifocal), density of vessel distribution (1 cm<sup>2</sup>), vessel branching (chaotic/ordered). Elastography mode assessed qualitative changes in elastogram parameters depending on the nature of the pathology on the Tsukuba scale and quantitative parameters (Strain Ratio). The region of interest was the subendometrial layer of the myometrium and the endometrium.

### **Results.**

Histological analysis revealed endometrial adenocarcinoma in 44(34.6%), atypical endometrial hyperplasia in 19(15%), endometrial hyperplasia without atypia in 32(25.2%), endometrial polyp in 27(21.3%), intracavitary leiomyoma in 5(3.9%) women. B-mode scanning revealed endometrial thickening of more than 10 mm in 120(94.5%), increased echogenicity and heterogeneous structure with intracavitary inclusions of the endometrium in 72(56.7%), uterine cavity enlargement in 31(24.4%), and changes in endometrial contours in 87(68.5%). Increased vascularity in the form of the presence of multiple ( $\geq 2$ ) dominant vessels with chaotic branching was detected in 48(37.8%) patients. In compression elastography, when comparing the elastosonographic deformation ratios (B/A) between groups, it was found that groups with benign endometrial hyperplasia and endometrial polyps had significantly lower B/A ratios (indicating higher elasticity) than the group with malignant pathology. In endometrial hyperplasia without atypia, the uterus was colored in a blue-green color gamut, with red-green staining of the endometrium. The staining of endometrial polyps and intracavitary leiomyomas depended on their sizes. The stiffness of large formations exceeded the stiffness of the myometrium and was characterized by a "stiff" staining pattern. In patients with endometrial adenocarcinoma, intensified blue staining with blurred lines between the endometrium, myometrium, and cervix was noted. In endometrial cancer with signs of invasion, myometrial stiffness increased to 33.4 kPa (30.2-36.6 kPa). In patients with benign endometrial hyperplasia, the myometrial stiffness parameters averaged 18.5 kPa (14.2-22.8 kPa). Endometrial stiffness in hyperplasia without atypia ranged from 6.35 to 12.2 kPa (IQR 0.77-1.67). Stiffness parameters in patients with endometrial cancer reached.

### **Conclusion.**

Since large endometrial polyps, especially symptomatic ones, developed in postmenopausal women, tend to undergo malignant changes, special attention should be paid to multiparametric ultrasound examination of the endometrium to detect precancerous and malignant lesions. Endometrial stiffness, measured by elastography, had similar parameters in women with endometrial polyps and

*endometrial hyperplasia without atypia, but significantly differed compared to women with malignant endometrial pathology, in whom thickening of the endometrium and abnormal bleeding were the main complaints. Increased stiffness of pathologically altered endometrium allows to determine the presence and depth of invasion of a malignant tumor into the myometrium and cervix.*

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**CONSTITUTIONAL RANGE OF BORDERLINE ABNORMAL PERSONALITY (BAP)****Boev Igor Viktorovich***Federal State Budgetary Educational Institution of Higher Education "Stavropol State Medical University" of the Ministry of Health of the Russian Federation**Introduction.*

At the end of the twentieth century, A.E. Lichko [1] formulated the concept of character accentuations, according to which he identified 11 types of accentuation: hyperthymic; cycloid; labile; astheno-neurotic; sensitive; psychasthenic; schizoid; epileptoid; hysteroid; unstable and conformal personality types. The dynamics within the range of the psychological norm were highlighted: the middle band of the norm and the extreme boundaries of the norm, which were designated as accentuations. The author has repeatedly stressed that character accentuation is not a diagnosis: "this is the norm and nothing but the norm." At the same time, he argued that accentuation differs in its characteristics depending on the degree of severity of constitutional psychotypological variability. Representatives of a particular psychotype have the place of the least constitutional psychotypological predisposition. Psychological and mental stresses, psychotrauma addressed to the place of least resistance of the personality differed in that they could cause a vivid emotional and behavioral reaction. Due to the reliability of the psychobiological reserve of the personality, these reactions were compensated quickly enough, keeping behavioral reactions and personal experiences in the range of the psychological norm. The development of ideas about the psychological norm had a huge impact on psychiatrists in Russia, who began to pay more attention to the ideas of constitutional predisposition, which determines probabilistic personality and behavioral anomalies.

Many Russian, French and German researchers described such clinical psychological conditions as, for example, prepsychopathy, neurotic development, pathocharacterological development and other personal variability, which did not correspond to either the constitutional ranges of norm-accentuation, or psychopathy-sociopathy. An excursion into the history of the issue showed that as early as 1886 the provision on "transitional degrees" between psychopathy and a normal psychological state was put forward by V.M.Bekhterev, and in 1933 P.B. Gannushkin introduced the concept of "latent psychopathies", which indicates a high probability of personal variability in the constitutional-continuum space of personality. The pathological mental constitution with all its consequences, in particular, the presence of endogenous mental defense mechanisms that are genetically determined, determines a person's lesser dependence on social conditions of existence. The latter often turn out to be only a factor provoking the actualization of endogenous mental mechanisms of decompensation and maladaptation, which manifest themselves as gross personal and behavioral disorders of a subpsychotic level.

The question arises, is nature really so categorical and in the constitutional-continuum space of the individual, after the range of the norm, the range of the pathological mental constitution is immediately revealed. It is quite obvious to assume the existence of transitional constitutional ranges. Starting from 1982 to 2014, I.V. Boev [2] with the staff of the department, graduate students, applicants for the Clinic of Borderline Conditions of Stavropol State Medical University conducted systematic longitudinal experimental psychological, anthropological, pathopsychological and psychophysiological studies of more than 3,000 adolescents, and in the post-Soviet period another 2,846 adolescents, older age groups and youth in the Stavropol Territory. The research was conducted from the standpoint of constitutionogenesis, which resulted in the defense of 68 candidate's and 9 doctoral dissertations. The formulated concept of PAL is a methodological basis for an individual diagnostic, psychocorrective, psychotherapeutic approach, implementing an anthropocentric approach to the psychological experiences of a personality. The differentiation of the psychological norm, PAL and psychopathic personality is based on the analysis of stability-instability of the personality-characterological structure, socio-psychological adaptation- maladaptation, features of the formation of compensatory-decompensatory behavioral stereotypes, psychological and mental tolerance and reliability of the functioning of the individual barrier of adaptation under the destructive influence of external factors.

The empirical hypothesis of the study consisted of the provisions that in the same socio-psychological conditions of the environment, each individual has a special psychotypic set of characteristics that creates a unique personal image. One of the factors that allows you to differentiate the personality of a teenager is the combination of characterological qualities. The theoretical hypothesis assumed the assumption of continuity, continuity of the statistical distribution of the characterological

*characteristics of adolescents, which is based on the concept of "mental formation" as a living process that is in constant dynamics.*

#### *Research material and methods*

*There were 3 groups between the ages of 13 and 18. The first group included teenagers studying in secondary schools whose behavior corresponded to generally accepted cultural norms of society. The second group consisted of teenagers whose behavior was accompanied by various deviations – delinquent, parasexual, drug addicts. Almost all teenagers in this group were registered with the police, and in schools they were classified as at risk for antisocial behavior. Nevertheless, many of them studied well, demonstrating education, high intelligence, and the ability to learn new types of education, but in the event of a real threat of administrative or criminal punishment, they could quickly adapt to the demands of society. If the requirements from the microsocium (family) or macrosocium (society) did not differ in certainty, but, on the contrary, were characterized by a blurring of requirements, when the probability of real punishment depended on personal relationships within society, between adolescents and children, parents and society, teenager and society, then abnormally personal problems were easily aggravated in adolescents experiences and abnormal behavioral reactions. The third group of teenagers was in a colony for especially dangerous, juvenile repeat offenders who committed crimes against the person (robbery, violence, rape, murder).*

*Research methods: in this article, we present only an experimental pathopsychological examination method that included personal and clinical questionnaires - the pathoharacterological diagnostic questionnaire (PDO) by A.E. Lichko [3]; a methodology for determining the level of neuroticism and psychopathization (UNP) [4]; the Eysenck personality questionnaire [5]; a clinical questionnaire for identifying and evaluating a neurotic condition [6]; J. Taylor anxiety scale [7]; the results obtained formed the basis of a multi-vector pathopsychological analysis [8]. In order to analyze the obtained results of adolescents, a continuous nonparametric mathematical processing was carried out in the form of a discriminant analysis using the X<sup>2</sup> criterion, based on the null hypothesis that there is no difference between the compared groups [9].*

*The results obtained. It should be emphasized that adolescents of the first group were assigned to the constitutional range of norm – accentuation according to their average psychological, pathopsychological and psychophysiological parameters based on nonparametric discriminant analysis. The criteria for the range of the norm were formulated based on the results of mathematical analysis: 1 - the presence of psychological and mental health; 2 – a stable individual psychobiological barrier of adaptation and compensation; 3 – high tolerance to exogenous influences; 4 – the preservation of higher personality traits – modesty, conscientiousness, the ability to altruism, empathy, safety to anticipation...*

*The constitutional range of the pathological mental constitution (psychopathy or personality disorders according to ICD-10) corresponded to the following phenomenological and psychological criteria [10, 11, 12]:*

*1 - all manifestations and experiences are egosyntonic – individually acceptable to the individual and are perceived as part of their own "I", there is no alienness to the individual;*

*2 - gross total disharmony of the development of the emotional – volitional sphere, "disharmony of the whole mentality, which does not take the form of insanity" (S.S. Korsakov);*

*3 – lack of social emotions, feelings of sympathy, affection; inability to learn from negative experiences and work; lack of higher personality traits (anetopathy): they are unable to love, there is no modesty, conscientiousness, empathy, deficiency-lack of moral and moral properties; anticipation is deficient;*

*4 – brutality is expressed in the form of a tendency to drink alcohol, drugs, cruelty to animals, a tendency to violence against the weak, to sexual aggression; dysphoria with fits of rage; aggression acts as an affective discharge. Many authors note unconscious homosexuality, suppression of homosexuality;*

*5 – a tendency to pathological personal illegal behavior is expressed; impulsivity, anger, conflict, auto-destruction, escapes from home, manipulation of others by suicidality are expressed.*

*Thus, the pathological mental innate constitution manifests itself in the form of: "stability beyond stability."*

*Returning to the empirical hypothesis, we must state that the classification of a pathological mental constitution in accordance with ICD - 10 is borderline personality disorder, schizoid, paranoid personality disorder and other variants (see ICD – 10). In this regard, it is legitimate to assume that between the constitutional range of norm – accentuation on the one hand and the extreme constitutional range of the pathological mental constitution, there should be another transitional constitutional range, designated as the range of borderline abnormal personality (PAL), which included adolescents of the*

second group with average parameters of the PAL range.

Phenomenological and psychological criteria of the PAL range: 1 – psychotypological predisposition; 2 – typological predisposition of one – two – three organs and/or body systems; 3 – weakness of constitutional mechanisms of compensation and adaptation; 4 – instability of the individual barrier of compensation and adaptation; 5 – low tolerance to exogenous influences; 6 – tendency to abnormal personal 7 – the highest personality traits acquire an irreversible character – envy, hypocrisy, heartlessness, double-dealing, greed are formed.

Using the example of the schizoid psychotype of a teenager's personality, we present a phenomenological description of the range of norm-accentuation and the range of borderline abnormal personality (PAL).

Adolescents are accentuants of the schizoid type, or schizotimics according to the classification of E. Kretschmer. Schizotimics are an extreme variant of the psychological personality-characterological norm, therefore it is illegal to operate with psychopathological concepts and terms such as autism, apathy, and adequately use only psychological concepts and phenomenology. From our point of view, it should be noted that schizotimics can easily and for a long time tolerate a society that does not always suit them, but in the name of ideological, business, moral and ethical interests they will do this. Although with the same success they can indefinitely tolerate a limited number of communication partners or even their absence, which is almost impossible for cyclothymics or hysterothymics.

Nevertheless, others always accurately characterize schizotimics, noting both the weak intensity of their emotional experiences compared to representatives of the middle band of the norm, and the greater limitation of these experiences in time compared to other peers, and a purely rational shade in empathy.

The main psychological properties, the combination of which forms the structure of schizotimic adolescent accentuation, are, first of all, emotional balance, reaching the degree of emotional "coolness", rationality, pragmatism.

Schizotimics almost never demonstrate violent vivid emotional experiences. They are more characterized by rational pragmatic work of thinking, intelligence; and empathy of schizotimics are characterized by the predominance of their rational side, and the emotional component is somewhat reduced. This has a certain advantage for schizotimics, because in difficult life situations in which their relatives and friends find themselves, the empathy of schizotimics lies not in emotional manifestations themselves, but in real concrete proposals to find a way out of the current dramatic or trivial situations. They often offer pragmatic solutions aimed at easing frustrating tension, reducing the severity, significance of a life situation, and smoothing out its drama.

When hysterotimics sob and cry, sincerely empathizing with the victims, pathetically exclaim or ask scholastic, emotionally saturated questions: "what should I do?!", "what should I do?!" and with tears in their eyes, they can offer themselves as a victim in the name of saving the victim, schizotimics in the same situation provide real practical help without fuss, without external affectations, exaltation.

In the process of gaining experience in social communication, schizotimics learn quickly enough to demonstrate the habitual emotional component of empathy necessary for others, understanding intellectually, realizing that it is the emotional part of empathy that is important to others, strangely enough for the consciousness of schizotimics. In other words, schizotimics learn to behave the way others would like, even to the detriment of rationalism and pragmatism.

Despite the restraint, balance of their emotional manifestations, lack of emotional lability and a greater sense of emotional comfort in conditions of smooth and often monotonous human relationships, schizotimics, nevertheless, can easily demonstrate a wide range of emotional reactions, including expressive ones, if their personal interests or the need to express themselves in a more favorable light require it in the society they found themselves in. However, even after prolonged emotional communication, schizotimics need emotional rest, and they can happily spend hours and days alone or with a very selective circle of people. If given the opportunity to choose, they prefer pets and nature even to a narrow circle of people.

This is exactly where the extreme version of the psychological norm of schizotimic accentuants manifests itself. On the one hand, they are easily trained in generally accepted emotional patterns of behavior, but on the other hand, they need periods of solitude during which they can put their thoughts in order, determine the tactics and strategy of their life path, and finally, the system of their relationships in the society in which they rotate sporadically, or in that where the main part of their life takes place.

The physical, motor and pantomimic features of the behavior of schizoid-type accentuants are characterized by sufficient plasticity and harmony, although some anthropometric imbalances often

occur, which, however, do not violate the physical attractiveness of schizotimics. Emotional reactions at the pantomimic level are characterized by a relatively small set of expressive means. If we compare the pantomimic and motor reactions of schizotimics and other accentuants, they will be much more modest than those of hysterothermics and cyclothymics. By limiting the palette of pantomimic and motor reactions, schizotimics are closer to epileptotimics in a real social environment.

The world of schizotimics' hobbies is extremely interesting. Most often, they are awarded by nature with abilities for exact sciences, for abstract, intellectual comprehension of the world and achieve notable success in this field. Their high analytical abilities allow them to comprehend the "magic and secret power of numbers." Many of them become brilliant physicists, mathematicians, and programmers, noticeably exceeding the average level of representatives of these specialties. If schizotimics are interested in and engaged in the humanities, then again their analytical abilities, the ability to holographically perceive the world allow them to achieve noticeable success, significantly exceeding the average level of specialists from these fields. Schizotimics are more often interested in the content of their hobbies, their moral, ethical and aesthetic meaning. Schizotimics are aesthetes by nature, regardless of their instilled culture, intelligence and worldview. Schizotimics from a remote rural area, and a resort region where the level of culture is many times higher, or an administrative center are united by a high sense of aestheticism both in relation to the outside world and in the system of human relations. Schizotimics are always a bit idealistic, which does not prevent them, however, from putting the results of their hobbies at their real service. They always have a fairly harmonious relationship between the depth of their hobbies and their implementation in practice, their own lives.

That is why the life of schizotimics is sound, durable, practical, but without signs of excesses, sybaritism. In their everyday life, intellectual and spiritual values always stand above material, material ones. And in human relations, for schizotimics, spiritual, intellectual kinship is higher than material, which does not prevent them, nevertheless, from creating a good life for themselves and their loved ones, often above the generally accepted average standards. Unlike abnormal schizoids, schizotimics can understand and realize the need to achieve a certain comfort in everyday life for their loved ones, for those around them. Their heuristics and creativity still remain a mystery, although considerable efforts are being made to understand them (A. W. Bruschlinski, 1974; I. W. Eishornetal, 1975; S.C. Giltillan, 1935).

All schizotimics, regardless of their level of intelligence and culture, are characterized by signs of heuristic thinking, which manifests itself in the ability to identify and find latent signs of objects, phenomena, situations, which was brilliantly confirmed in experimental studies by Yu.V. Polyakov. And regardless of what abilities and inclinations and what their real realization in life situations is for schizotimics, whether they are car mechanics, painters or laboratory chemists, the heuristic thinking and approach to various situations distinguishes them favorably from representatives of the middle band of the psychological norm or from other accentuants. Rationalization and pragmatism of schizotimics' thinking and behavior allow them to be purposeful, purposeful, pedantic in achieving goals and performing daily work. Purposefulness and pedantry, combined with a natural desire for justice, some formalization in relationships with others, in the implementation of assigned tasks or tactical goals, also distinguishes them from their peers.

Having a sufficiently high vitality and, accordingly, high efficiency, responsibility, and a sense of duty, schizotimics move up the social ladder more easily than their peers and are firmly entrenched on the conquered social steps. The absence of excessive emotionality, talkativeness, denying gossip, allows them to avoid many misunderstandings and conflicts in the process of interpersonal communication. Growing up, peers increasingly appreciate their ability to rationally, rather than emotionally, solve life problems, and a natural sense of justice and reliability in friendly relationships often puts schizotimics in the ranks of leaders. It is interesting that schizotimics strive to be fair, to maintain honesty in friendly and partnership relations, even to the detriment of their own interests.

Quite often, schizotimics put public interests, a public idea above personal ambitions, momentary desires, achieving strategically much more in the eyes of others and specifically for themselves, peers pay tribute to the ability of schizotimics to follow the principles of reliability, fairness and honesty, often with a touch of straightforwardness and even uncompromising in friendly and partnership relations. The ability to predict and build multi-way combinations both in interpersonal relationships and in daily activities, achieving the ultimate goal distinguishes this group of teenagers favorably.

It is precisely because of these qualities of schizotimics that they have difficulty communicating with ixothymics (epileptothymics), who are constantly striving to change partnership and comradeship in their favor and even in cases of attempts to make a compromise decision, nevertheless, to find their personal benefit. It is the uncompromising and straightforward nature of schizotimics that is often an

*obstacle to the realization of the selfish plans of epileptotimics, to the delight of most peers. Schizotimics, combining heuristics, pragmatism, purposefulness, fairness and uncompromising, can limit and regulate the socially destructive, non-culinary, non-partner activities of epileptotimics.*

*Some formalization of behavior, the desire to follow circulars, written and unwritten laws allows schizotimics to inventively find options for making decisions and actions in the interests of the collective, rather than its individual members, overcoming the bureaucracy of instructions. Thanks to the ingenuity of schizotimics, they are able to overcome any circular, any instruction practically within the framework of the legal field. Such abilities provide them with a privileged position in the case of constitutional drift towards the range of borderline abnormal personality and the formation of manifestations of an antisocial behavior stereotype.*

*Thus, it should be emphasized that all of these personality and characterological features are involved in the creation of a psychological base of schizotimics, which determines a high tolerance to socio-psychological and other exogenous stressors. On the other hand, it allows schizotimics to easily find adequate ways, options for adaptation to changing socio-psychological conditions, and change the stereotype of their own behavior. Consequently, schizotimics have a constitutional psychobiological reserve that allows them to maintain a good level of adaptation, compensation and tolerance to external factors.*

*At the same time, if schizotimics, for one reason or another (upbringing, peculiarities of the social environment), embark on an antisocial path and antisocial behavior stereotypes are formed, we can observe how their emotional coolness and restraint are transformed into emotional callousness, and empathy is reduced to the extent that schizotimics do not need to improve their emotional the component of empathy.*

*Alcohol consumption often has a disinhibiting effect on schizotimics, provoking antisocial behavioral stereotypes, often inappropriate and pretentious, which can shock peers and alienate the latter from schizotimics. In another case, the behavior is assessed as original and exotic, and peers begin to realize how little they know about their comrades with the psychological structure of schizotimics. Unpredictable antisociality may appear in their behavior, often leading to conflicts and gross violations of existing laws. The consequences of even single drug use, in particular opiates, frighten schizotimics, causing them unusual states of altered consciousness up to derealization and depersonalization. Even single or episodic use of pineapple leads to feelings of psychosomatic discomfort, anxiety, provoking a feeling of hostility from the outside world, which leads to suspicion of peers, to emerging social situations, and these experiences often cause spontaneous, inadequate predominantly verbal heteroaggression.*

*Such an unusual experience of schizotimics, caused by alcohol and drug use and subsequent behavior changes, alarms peers and even pushes them away from schizotimics, increasing awareness of the differences between them and the bulk of peers belonging to the middle band of the norm. Nevertheless, the emerging psychological cruelty in relationships, combined with uncompromising, purposefulness, and heuristics, gives schizotimics a reason to maintain the palm of leadership even in an antisocial environment, in an antisocial subculture.*

*Having embarked on an antisocial path, schizotimics sacrifice their heuristic abilities, their capabilities for multi-way forecasting, and pragmatism to the altar of a delinquent or criminal subculture, which cannot but represent social value for the intellectual elite of the criminal world. Quite easily entering the elite of the criminal teenage world, schizotimics also demonstrate good adaptability and tolerance to negative socially stressful living conditions. Their natural justice, honesty and reliability in criminal partnerships are highly appreciated by representatives and leaders of the criminal subculture. The ability of the personality and characterological structure of schizotimics to "hold" social blows allows them to achieve and firmly maintain the positions of leaders of the criminal teenage world. Schizotimics are gradually becoming masters of intrigue, cruel, cold and uncompromising in achieving their goals. Easily calculating the hidden leaders of behind-the-scenes interpersonal intrigue due to pragmatic and heuristic intelligence, the ability to pedantically and purposefully impose their will on others, constantly bringing rational arguments consistent with the principle of "concepts", schizotimics eliminate and/or neutralize personal competitors in the criminal world with someone else's hands. The formation of an antisocial stereotype of behavior is the beginning of a personality-characterological drift towards the constitutional range of PAL.*

*The range of borderline abnormal personality is a schizoid variant.*

*It should be emphasized at once that the heuristic and intellectual pragmatism of the representatives of the PAL remains, but the pragmatism of actions and behavior is largely lost. There is a kind of dissolution of behavioral rationalism in emotional negativism, in the contradictory experiences of*

*constitutional schizoids. Their emotional callousness becomes noticeable and tangible to others. Peers do not hesitate to reproach radical schizoids for their emotional callousness, indifference, lack of an emotional component of empathy, unwillingness and inability to learn behavioral, emotional techniques that demonstrate the empathy of the personality, which is so dear and necessary in communication, especially in adolescence.*

*The weak manifestation of the emotional component of empathy leaves a significant imprint on the behavioral stereotype of constitutional schizoids. They hardly tolerate the society of their peers, where increased or even average, philistine communication skills, sociability, emotionality are required. Constitutional schizoids, due to their emotional isolation and coldness, prefer communication with the elective circle of peers, whose representatives they define for themselves, but peers often protest against the "inclusion" of their candidacy in this schematic, abstracted from real life, speculative circle of schizoids. That is why constitutional schizoids often remain alone, but are not burdened by them, and increasingly prefer the situation of loneliness, since there is a lack of understanding in the adolescent environment, and schizoids are often perceived as "white crows".*

*Physical, motor, and pantomimic dysplasticity also immediately catches the eye of others, with even greater conviction forcing them to classify constitutional schizoids as "white crows". In constitutional schizoids, uneven and disharmonious development of the upper and lower extremities is noticeable relative to each other and relative to the trunk; uneven development of muscle and adipose tissue on the limbs and trunk; motor awkwardness, lack of accuracy and synchronicity in the coordination of movements, especially small movements, which largely leaves an imprint on the handwriting of schizoids, which is more often characterized as "clumsy", with an ever-changing tilt of letters, a change in the geometry of letters. The pantomime of schizoids is characterized by a tendency to inadequate reactions (at funerals, a wandering half-smile, at name days - a grimace of detachment and / or sadness), which is the equivalent of ambivalence. Finally, pantomime is characterized by clumsiness, lack of plasticity. Sometimes, when walking, the legs are thrown forward in some special way, then the trunk is turned in a somewhat pretentiously special way, or the shoulders twitch, or the head protrudes in front of the trunk. In other words, a constitutional schizoid visually stands out in a crowd or when one is walking down the street. Facial expressions are more monotonous and without subtle nuance of emotional experiences.*

*Constitutional schizoids of PAL also retain all kinds of abilities, in particular, for the exact sciences. They easily comprehend the abstract world of geometry, physics, mathematics, radio electronics, programming, remaining indifferent to the elegance of the external forms of the panther and caterpillar or the almost human attractiveness of the mongrel. The algorithm of schizoid thinking is congruent to the algorithm of mathematical programs, art, which carries an abstract semantic content. They are relatively deeply experienced and aware of the mysteries of various ancient mysteries, the metaphysical nature of Eastern religious and philosophical teachings. It is easy to intellectually comprehend the deep meaning of concepts such as meditation, transcendence, "satori", "insight", etc. For schizoid representatives of PAL, it is easier to comprehend the deep meaning of Taoism, Zen Buddhism than the emotional and / or spiritual world of a loved one living next to them. It should be noted that schizoids comprehend abstract teachings somewhat mechanically. It is difficult for them to explain the meaning of their experiences, the content of intellectual comprehension of religious and mystical teachings. A touch of mechanicality, thus, disavows the meaning of teaching, comprehension and does not give anything for the practical life of the schizoid and limits the anticipatory, prognostic abilities concerning personal relationships. The latter is unable to transfer the creative principle of the teachings into real life and enjoy the fruits of study. For constitutional schizoids, all of the above becomes a dogma, which is stubbornly mechanically repeated, creating an aura of odium around the personality of a teenager. Peers do not see the point, the practical way out in the hobbies of schizoids, and this further pushes them away from each other.*

*There is a tendency to analysis, sufficient clarity and accuracy in predicting social situations and/or interpersonal relationships forces peers to listen to the opinion of constitutional schizoids and highly evaluate their abilities. However, the adolescent environment categorically rejects the claims of constitutional schizoids to leadership, if any. Formalization in assessments, robotization of behavior, callousness, intolerance to other people's opinions, callousness, lack of empathy is an insurmountable obstacle to taking the place of a group leader. Peers are burdened by more or less prolonged communication with constitutional schizoids, with whom it is quite difficult to find a common language, feel emotional warmth, come to a compromise solution, and most importantly, fulfill the conditions of compromise. The formalization of behavior and the inferiority of anticipation limits the productivity of*

*communication, joint decision-making, and actions.*

*The emotional callousness and callousness of constitutional schizoids repels their peers and alarms the latter. Emotional and behavioral inconsistency, as the equivalent of ambivalence, unpredictability of behavior makes peers always be on guard with constitutional schizoids and harshly warn them of any attempts to lead in the adolescent environment. Such a situation contributes to the appeal of constitutional schizoids to the world of dreams, fantasies, which, the more they do not correspond to the real conditions of the social environment, the more expensive and valuable they are for the psychological experiences of schizoids. Often, constitutional schizoids try to transfer the scheme of their dreams and experiences, forecasting interpersonal relationships into social reality, but when faced with powerful psychological resistance, they retreat, forced to prefer to look at the world and evaluate the social environment through the illusory prism of their own schemes.*

*In the everyday life of constitutional schizoids, chaos and confusion often reign. They are unable to arrange their life in accordance with the ideas of comfort in the middle band of the norm or schizotimics. Constitutional schizoids more often live by an all-consuming, historical, social, philosophical, and humanitarian idea, divorced from reality, to the detriment of their living conditions, for which they rightly receive complaints from their loved ones, giving the impression of practically unsettled people. The hobbies of constitutional radical schizoids are also characterized by isolation from reality, impracticality, and sometimes absurdity from the point of view of ordinary consciousness. When schizoid representatives of PAL explain the meaning of their hobby, then you can see the inner logic, high ethical or moral goals that are somewhat divorced from reality.*

*Often, constitutional schizoids are carried away by religious, mystical and utopian ideas, concepts about the reconstruction of the world, the improvement of man or humanity as a whole; concepts of genetic engineering, the purpose of which is the moral, moral improvement of man. At the same time, they can independently conduct hundreds and thousands of meaningless experiments with insects and animals. They easily comprehend the computer world and the world of social networks, most importantly, the world of virtual reality, which often becomes their real main place of activity to the detriment of real life, real human relationships and values. There is a reduced depersonalization with partial alienation of the real world in favor of the virtual one.*

*Often finding a common language on an intellectual level, according to interests with someone of their peers, schizoids, nevertheless, retain emotional isolation and the complexity of interpersonal communication. They are deprived of strong attachments and partner reliability, which is so characteristic of schizoid accentuants, however, representatives of PAL are not burdened by such cognitive dissonance, they do not even fully realize the established stereotype of relationships, since these relationships suit them.*

*Changes in the socio-psychological situation to such an extent that it begins to interfere and hinder the hobbies of schizoids, when it violates the established scheme of their inner world and, finally, when the situation provokes schizoids to move away from dogmatic ideas about the world, about a person and requires real immersion in the world of human feelings, relationships, experiences, such a situation is not only the peak of cognitive dissonance and pathogenically stressful for schizoids. It is precisely this socio-psychological traumatic situation that leads to an increase in abnormal personal and psychological experiences and creates conditions for the development of borderline mental disorders. After a certain time stage, Psychopharmacotherapy revealed a certain resistance to psychotropic drugs and electivity to various groups of these drugs.*

*A psychotraumatic situation or other exogenous impact (traumatic brain injury, infectious, toxic, environmental damage to the brain) provokes endogenous mechanisms of constitutional insufficiency of the brain, resulting in the development of psychogenic pathological reactions, pathoharacterological and post-reactive personality formations, neuroses, neurosis-like and psychopathic disorders. Such personal decompensations and behavioral maladaptation serve as the basis for the development of "marginal", acquired forms of personality disorders. Schizoid representatives of PAL are a cohort from which adolescents with deviant behavior patterns are formed. However, they are unable to take a leading position in a criminal or other antisocial subculture due to weak intuition, lack of empathy, ambivalence and ambiguity, and finally, formalized behavior and limited communication abilities. But in any case, there is a breakthrough of the individual barrier of psychological and mental adaptation, followed by maladaptive behavior, violation of relations with the social environment. Schizoid representatives of PAL cannot "hold" a social blow like, for example, schizoid accentuants.*

*The present observations confirm the much lower tolerance of schizoids to socio-psychological stressful situations and any exogenous influences in general; the limited adaptation, which is stable*

mainly in the elective social circle (family, industrial), the ease of occurrence of personal and characterological traits.

The results of longitudinal post-adolescent sample surveys of schizoid accentuants and representatives of PAL, 5 years after the initial psychological examinations of secondary school adolescents, repeated meetings, conversations, and biographical data collection were conducted with those who remained living in the same territory.

The results were as follows. The psychotypological features of the adolescent and post-adolescent periods coincided. Among schizoid accentuants, almost all of the re-examined (after the age of 20-21) studied at secondary and higher educational institutions or worked in prestigious organizations with good professional training. Almost everyone had a stable level of social adaptation, both in the microenvironment and in the macroenvironment. All the accentuants had strong psychological, intellectual, business and spiritual relationships with a certain circle of close relatives, with friends, with peers at school or work, and finally with members of their own family.

In response to socio-social stressful effects, 82% of the subjects had non-pathological mental and psychological sensitive and/or psychasthenic experiences in the form of hesitation, doubt, hypersensitivity and painful vulnerability to critical remarks from relatives about choosing a profession, work, friends, and creating their own family. Finally, the psychological experiences associated with the leveling of the state ideology, which turned out to be quite painful for the examined accentuants. It must be said that the majority of the surveyed schizoid accentuants (63%) did not fully accept the state ideology that existed in the pre-perestroika period, but they did not accept the ideological principles of the new Russian reality. They were even more convinced of the validity of their own ideological and ideological views, formed by religious and philosophical teachings, partially borrowed ideas from Sartre, Camus, Berdyaev. The remaining 19% of the surveyed revealed a fanatical commitment to communist ideology, taking extreme radical ideological positions, which did not prevent them, however, from successfully adapting to the emerging market relations.

Pathological mental reactions in the form of obsessive, hypochondriacal and phobic experiences in response to the effects of chronic social stress were found in 27% of schizoid accentuants. Of the same group, 9% of the subjects experienced exogenously conditioned pathological mental reactions caused by toxic and traumatic factors. Pathological mental reactions lasted from several hours to 2-3 weeks. Over the course of 5 years, such reactions occurred at least twice in 14% of the control group, at least three times in 5% and at least seven times in 4% of the surveyed. None of the examined schizoid accentuants had the development of borderline mental disorders or procedural genetically determined mental diseases such as schizophrenia.

In the group of re-examined constitutional schizoids belonging to PAL, a completely different psychological and mental picture was revealed. All the examined patients had subjectively unsatisfactory socio-psychological adaptation, objective tolerance to pathogenic socio-psychological factors was also unsatisfactory. Almost all (95% of the examined) constitutional schizoid patients easily gave pathological mental reactions in response to both social and other exogenous factors (environmental, traumatic, toxic) in the form of subdepressive-hypochondriacal, subdepressive-phobic, obsessive-hypochondriacal and asthenic-subdepressive reactions occurring at least once every three years. five months lasting from a few days to three to four weeks. Attention is drawn to the complex structure of pathological mental reactions, which predictably may indicate a high probability of drift from the normal range to the PAL range. During the development of pathological reactions, there was an increase in socio-psychological maladaptation in the form of an increase in isolation, isolation, restriction of socio-psychological ties, a poorly motivated break in interpersonal relationships and/or conflict. Maladaptation personality-characterological manifestations were directly linked to any external influences by the subjects themselves or their loved ones. None of the surveyed tried to draw a parallel between socio-psychological maladaptation and their own personal and characterological characteristics, which reflects the inadequate level of self-esteem of the surveyed.

Psychopathological disorders in the form of borderline mental illnesses were observed once in 36% of the examined constitutional schizoids, twice in 9% of the examined. Psychopathological syndromes, as well as pathological mental reactions, differed in the formation of a complex structure: subdepressive-hypochondriac, subdepressive-phobic, asthenic-subdepressive, obsessive-phobic. The structure of the psychopathological syndrome, although complex, was not stable. All the subjects sought help from internists, and only a few received specialized psychotherapeutic and psychiatric help by contacting a neuropsychiatric dispensary.

Conclusion.

*As a result of the conducted psychological, psychopathological longitudinal and comparative psychological and psychopathological studies, the substantial part of the schizoid psychotype of the constitutional range of PAL is revealed and it is proved that the basis of PAL is the constitutional-psychotypological predisposition of personality, reflecting phenotypic variability and varying degrees of dependence on genetic and socio-environmental factors.*

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## Pedagogical sciences

### THE USE OF DIGITAL TECHNOLOGIES IN PROFESSIONAL FOREIGN LANGUAGE EDUCATION

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#### **Abstract**

The article is dedicated to studying the use of digital technologies in professional foreign language education. The purpose of the article is to present the most efficient way of using digital technologies in professional foreign language teaching. The article describes the importance of using digital technologies in professional foreign language education. The article presents digital technologies used in teaching professional foreign languages. The technology of artificial intelligence and its application in teaching foreign languages were described. The technology of virtual reality and its application in teaching foreign languages were characterized. Blockchain technology and its application in foreign language education were analyzed. Digital educational platforms for using blockchain technology in foreign language education were presented. The reason for using blockchain technology for effective foreign language learning was explained. The scientific novelty involves studying the use of blockchain technology for teaching foreign languages. The obtained results can be used in the development of methods for teaching foreign languages, in the training of future specialists, and in advanced training courses.

**Keywords:** professional foreign language education, digital technologies, artificial intelligence technology, virtual reality technology, blockchain technology

#### **Introduction**

Undoubtedly, digital technologies are currently highly regarded in teaching foreign languages, since they provide a wide range of authentic material for better foreign language acquisition. Due to the rapid development of the Internet system, there is an opportunity to use digital technologies in learning and teaching foreign languages. Relying on the Internet, foreign language teachers can now quickly and unlimitedly access authentic materials about the culture of the nation of the learning language, they are able to prepare meaningful assignments and create a communication environment. Obviously, a direct access to language and culture also expands opportunities for learning foreign languages beyond classical classes where the only source of education is the teacher. Students are given the opportunity to practice a foreign language on their own in a real and full-fledged environment. In classrooms equipped with the Internet, students have access to a plethora of digital resources. They facilitate study, comparison, and development of knowledge related to the language and culture being taught. Teaching foreign languages is of paramount importance in teaching foreign language students from higher educational institutions, as these students are involved in foreign language acquisition in depth and in this respect digital technologies are taken for granted. High school students are those responsible for the development of any country, therefore it is significant to focus on the use of digital technologies in professional foreign language education.

#### **Discussion**

Emphasizing the role of digital technologies in professional foreign language education, D. Dzhussubaliyeva highlights that digital technologies facilitates teachers to present the learning material in a more interesting way due to a variety of digital content. Meanwhile A. Tazhigulova notes that digital technologies enable the use of digital educational platforms which help to produce digital content to deliver foreign language lessons in a more systematic and interesting way. In her article, S.V. Mikheeva states that digital technologies vary in terms of the purpose of teaching foreign languages and they alleviate the process of foreign language language acquisition [3, p.81]. So, to date a number of digital

technologies are used in foreign language education. These include virtual reality, artificial intelligence and blockchain technologies.

As noted by A. Yamaletdinova and A. Medvedeva, virtual reality technologies help students to interact in the virtual world using computer programs or immerse themselves in that world. Besides this, this technology implies that the real world is connected with the virtual world, that is, they are united with each other. Virtual reality allows to hold video conferences that are more effective than web conferences and reminiscent of telephone conversations [4, p. 1136]. These technologies are used for the purpose of virtual travel, familiarization with another culture, and learning foreign languages.

According to Y. Chen, programs with self-learning algorithms based on artificial intelligence (thereafter referred as AI) technologies can perform some tasks comparatively better than teachers. IT technologies can be used in the development of educational programs and methodology. Predictive analytics based on artificial intelligence allows to adapt the content of education in an intuitively understandable way, taking into account the knowledge acquired by the learners. AI can also act as a "digital coach" and share "experience" [5, p.5]. Thus, the teacher can create training programs by correcting mistakes or improving pronunciation, setting an example in the process of foreign language learning.

In addition, Y. Chen believes that blockchain technology is used to store and create information on any device, such as a computer, tablet, or mobile phone. The mechanism of blockchain work is based on individual chains of data in different tokens. Options for using blockchain in the educational system are not limited to storing documents in a database. The advantages of this technology can radically change the educational system, for example, facilitating online learning or developing a foreign language course [5, p.8].

Despite the rapid development of digital technologies, not all educational institutions are equipped with digital technology. The use of artificial intelligence technology and virtual reality technology can complicate the teaching process for the teacher. Therefore, we believe that the use of blockchain technology is more convenient, because the teacher can develop their own course, which will be accessible to the students through the device that is convenient for them.

In the course of teaching foreign languages, it is possible to create a series of blocks of different values using digital educational platforms (thereafter referred as DEPs) available on the Internet. DEPs such as wix.com, site123.com, tilda.cc and google sites can be the basis for this. They are designed to develop digital educational sites that can store multi-valued data blocks. Since learning foreign languages involves the formation of competences related to listening, communication and reading, there are many DEPs for their development. All these DEPs can be integrated with wix.com, site123.com, tilda.cc and google sites. In this way, a series of multi-valued blocks is created in order to create the necessary competences in learning a foreign language. For example, flipgrid.com, jamboard.google.com, and conversationexchange.com focus on communication, breakingnewsenglish.com and smithsonianmag.com focus on reading, and animato.com and speechyard.com focus on listening.

Flipgrid is a digital education platform for writing a story or answering any question. Students can answer questions or upload performance videos during the lesson. The teacher can write videos and assignments for students.

Jamboard is a digital learning platform that focuses on communication by creating interactive activities. The teacher can ask questions, and students can answer on the platform. The teacher can also post pictures that the students can discuss.

Conversation Exchange is a digital education platform that enables student to exchange ideas with each other and with the teacher. By creating discussion topics, the teacher can enhance communication.

Breaking News English is a digital educational platform featuring authentic texts. They are divided by levels. Tasks are provided for each text as well. The teacher can select the text depending on the topic and conduct the study.

Smithsonianmag is a digital educational platform that offers popular science texts. The teacher can search articles by level and topic. Educators can register to access the Educator Dashboard, where they can assign articles and authentic tests to learners and track data.

Animato is a digital education platform focused on creating, editing and publishing videos through a video editor. It also allows teachers to combine photos, video clips and music to create quality videos in minutes. The teacher can create videos for listening in a foreign language and give his assignments.

Speechyard is a digital education platform that helps students learn a foreign language and expand their language skills through authentic materials. While watching the video, learners can click on any

word or select a phrase to add to view, listen to, or further study its translation. The teacher can create a video using the script, students can listen to the video and learn the words.

Thus, regardless of the learning stage, all the above-mentioned DEPs create an ideal sequence of multi-valued blocks, in which learners receive information step by step with the help of their devices. By creating a chain of data blocks, the use of blockchain technology facilitates learning a foreign language, as this chain is created through digital educational platforms.

### Conclusion

The use of digital technologies in teaching foreign languages contributes to the modernization of education and the improvement of the quality of education. The implementation of digital technologies in the context of traditional lessons makes the learning process interesting, comprehensive and intensive. The introduction of digital technologies in foreign language teaching allows the use of digital educational platforms in the process of foreign language teaching, which contributes to the effective learning of the language and speech material in foreign language classes. As a result of the use of digital technologies, students develop the necessary competence in the field of foreign languages. This article describes the types of digital technologies used in foreign language teaching and recommends the use of blockchain technology. Because this technology makes it possible to create a systematic chain of data blocks developed through digital educational platforms. Hence, the use of blockchain technology, which is part of digital technologies, facilitates the teaching of foreign languages, since it forms a teaching system.

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## THE ROLE OF MOTIVATION AND FLIPPED CLASSROOM TECHNOLOGY IN ENGLISH LANGUAGE TEACHING

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### Abstract

*This article aims to assess the effectiveness of the flipped classroom strategy on 11<sup>th</sup> grade students. The purpose is to analyze the impact of the flipped classroom model on academic achievement and explore its potential benefits in enhancing student learning outcomes. The study is grounded in the theoretical framework of constructivism and active learning. It investigates the flipped classroom strategy, which involves a reversal of traditional teaching methods, where students engage with instructional content outside the classroom through pre-recorded lectures or online resources, allowing for more interactive and collaborative activities during class time.*

**Keywords:** *Flipped classroom, active learning, student performance, academic achievement, engagement, critical thinking, constructivism, technology integration, inclusive education*

*The computerization of educational institutions and the development of modern ICT had a significant impact on the educational process at school. Often in a modern school, students receive knowledge that does not meet the requirements that society imposes on school graduates today.*

*Due to the lack of classroom time and, in practice, the lack of personal communication between the teacher and the student during school time, there is a need to optimize the learning process by revising the traditional lesson model and transforming its classical structure. Today in front of teachers the challenge is how to rebuild the classroom in such a way that it is possible to use the lesson time as productively as possible.*

*To solve this problem, the creators of the "Inverted Classroom" model decided to completely change the structure of the lesson: swap the usual parts of the educational process (homework and classroom work) so that acquaintance with new material takes place at home, and practical tasks, discussions and fixing.*

*Flipped classroom or "inverted classroom" is a learning technology that is one of the types of so-called "blended learning". This lesson model assumes independent assimilation of the main or additional educational material at home when watching video lectures, reading educational literature, passing educational tests for initial assimilation of the topic, while classroom time is devoted to analyzing problematic issues of the theoretical part, as well as performing practical and creative tasks under the supervision of a teacher [3].*

*Obviously, the program in high school is full of educational material and involves studying computer science for one hour a week.*

*In the allotted time, it is difficult, and often impossible, to systematize the necessary amount of information and form stable practical skills among students using traditional means of classical pedagogy.*

*To implement existing computer science programs, we have to look for ways to increase the productivity of lessons.*

*The proposed "inverted training", in particular, provides for the rejection of such ineffective techniques in conditions of limited time as:*

- 1) performance of students near the blackboard;*
- 2) front-end survey;*
- 3) dictation of notes;*
- 4) watching long educational films and presentations*

*Instead, the "inverted classroom" technology activates elements of the pedagogy of cooperation: the teacher acts as a partner and consultant. Students master the educational material, to a large extent*

with self-study, which, in our opinion, contributes to the development of cognitive activity and independence [4].

Currently, the network community of "inverted teachers" has about 16,000 people. We conducted an experiment with the use of "inverted learning", which showed that such a lesson model forms the skills of independent work of students.

In the process of self-study of computer science, students develop such skills as:

- 1) independently plan your activities;
- 2) independently work with educational and additional literature;
- 3) extract the most significant information from the text, highlight the main thing
- 4) independently acquire and deepen knowledge;
- 5) analyze, compare;
- 6) repeat the studied material and consolidate the already studied;

7) repeatedly perform certain actions or activities that have the purpose of their assimilation, based on understanding of this goal and the general program of action and accompanied by conscious control and adjustment;

8) clearly and clearly express their thoughts, take into account the individual characteristics of their mental activity and physiological capabilities;

9) independently compare, prove, draw conclusions, formulate questions;

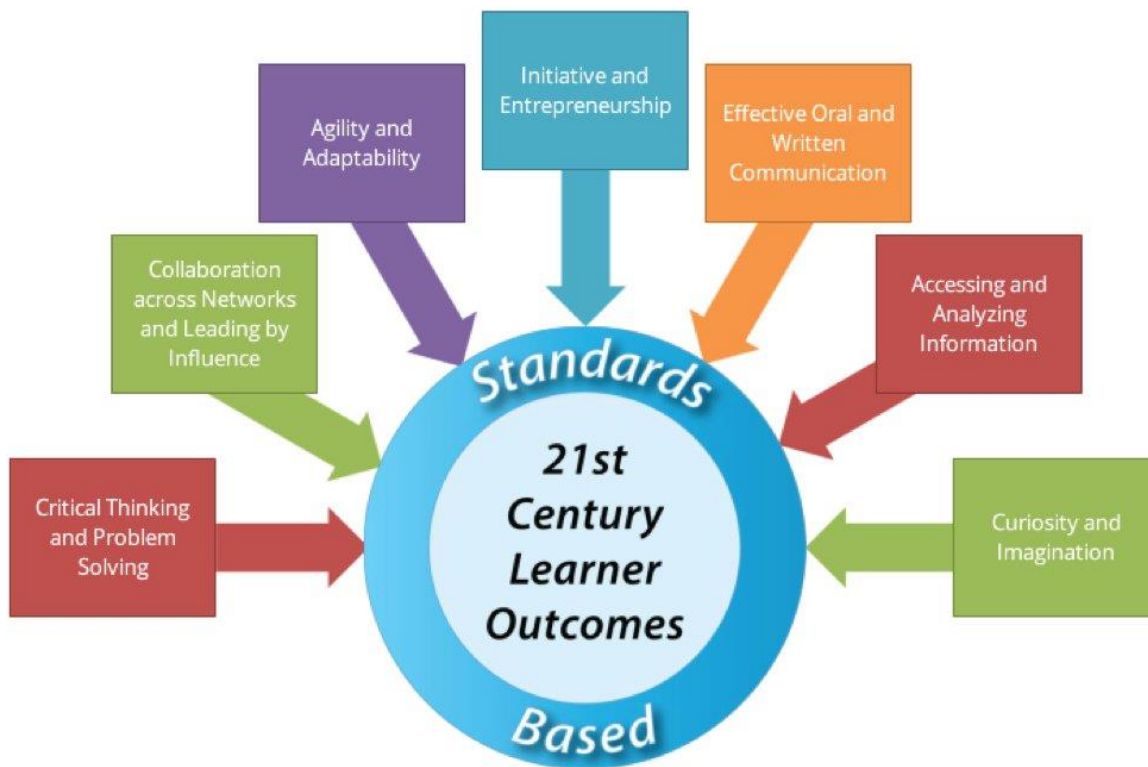
10) independently systematize the material.

The development of independent work skills is practically the main goal of training. After all, independence is one of the main qualities of students and the most important condition for their learning. It is obvious that the higher the level of independence of students, the more effective their promotion in educational activities [2].

Thus, the technology of "inverted learning" motivates students to independent activity, which in turn contributes to the formation of independence.

Bishop, J. L., & Verleger, M. A. made significant contributions to this field through their investigation into the impact of a flipped classroom model on the academic performance in a biochemistry course[5]. They found students' performance in the flipped classroom significantly surpassed that of a control group, thus confirming the positive influence of this pedagogical approach on exam scores. Lage, Platt, and Treglia's study in 2000 laid additional groundwork in this arena, demonstrating that students who participated in the flipped classroom approach in an introductory economics course achieved better final exam scores and overall course grades than their counterparts in traditional instruction models. Strayer's study expanded the understanding of the flipped classroom's effect, focusing on student engagement in a college algebra course. The research discovered students experienced heightened engagement under the flipped classroom model, evident in higher attendance and participation rates, and task completion.

Pierce and Fox examined undergraduate chemistry students' perception of the flipped classroom approach. They discovered this approach fostered greater student engagement, active participation, and deeper conceptual understanding, therefore enhancing overall learning outcomes[5]. Chen, Y. L., Wang, Y. M., Kinshuk, & Chen, N. S.'s study extended the investigation to the field of nursing education, where the flipped classroom model led to increased student satisfaction and improved learning outcomes, demonstrating the model's cross-disciplinary utility[6]. Hew and Lo's systematic review across multiple disciplines strengthened the evidence for the positive impact of the flipped classroom strategy, citing enhancements in student satisfaction, engagement, and academic performance. Their work reinforced the notion that the flipped classroom model could be a universally applicable strategy for improving student academic performance[7]. Strayer made a particularly crucial contribution by investigating the flipped classroom approach's impact on students' critical thinking and problem-solving skills in a psychology course. The study identified the flipped classroom as a potent catalyst for improving cognitive abilities in students compared to traditional teaching methods. McLaughlin et al.'s work added to the collective understanding of the flipped classroom's effects on problem-solving abilities in medical education. The study highlighted the approach's positive influence on students' ability to apply knowledge and utilize critical thinking skills[8].



**Figure 1. 21<sup>st</sup> century learner outcomes**

*It is in high school age for a teenager to become the most relevant understanding of the self, self-knowledge. is he allocates for himself a certain sphere of interests and activities, it is determined which profession he wants to choose in the future. Based on the analysis of approaches to the study of senior school age several authors, it was concluded that can not be considered separately the physical maturation of the high school student and the social environment, as they affect the development of personality in a complex. Adolescence is critical, spasmodic, from the period of throwing and growth of spirit independence, the senior student is gradually moving towards awareness own values, understanding and acceptance of oneself, formation own personality.*

**Advantages of flipped classroom:**

- The flipped classroom strategy improves student attendance and participation. With pre-class materials serving as a foundation for in-class activities, students recognized the importance of attending classes regularly and actively participating in discussions. This led to increased class attendance rates and more engaged classroom environments.
- The flipped classroom strategy promotes technology integration in education. The use of online resources, multimedia materials, and learning management systems played a central role in implementing the flipped classroom approach. Students developed digital literacy skills and became familiar with various technological tools, preparing them for the digital age.
- The flipped classroom strategy accommodates diverse learning styles and preferences. Students with different learning styles and preferences could engage with the course content in a way that suited their individual needs. Visual learners could watch videos, while auditory learners could listen to audio recordings, ensuring an inclusive learning experience for all students.
- The flipped classroom strategy encourages self-regulated learning. Students took responsibility for their learning by actively engaging with the pre-class materials, setting goals, monitoring their progress, and reflecting on their learning outcomes.
- The flipped classroom strategy facilitates individualized feedback and support. With pre-class activities providing a foundation, instructors had more opportunities to provide personalized feedback and address individual learning needs during in-class interactions. This targeted support helped students overcome challenges and enhance their understanding of the course material.
- The flipped classroom strategy promotes a deeper understanding of complex topics. By introducing concepts before class, students had time to process information and develop initial comprehension. In-class activities then focused on deepening understanding, applying knowledge to real-

world scenarios, and addressing any misconceptions, resulting in a more profound understanding of complex topics.

➤ The flipped classroom strategy prepares students for lifelong learning. The skills and approaches developed in a flipped classroom, such as self-directed learning, critical thinking, problem-solving, and collaboration, are transferable skills that are valuable beyond the classroom. Students are better equipped to continue learning independently and adapt to new challenges in their academic and professional lives[9].

### Conclusion

To sum up, I can say that the potential of the flipped classroom strategy to bridge the gap between theory and practice. By engaging with pre-class materials that introduce theoretical concepts, students have a solid foundation to apply their knowledge during in-class activities that involve practical applications, case studies, or simulations. This bridge between theory and practice enhances students' ability to connect concepts with real-world scenarios, preparing them for future professional endeavors. Moreover, the flipped classroom strategy encourages active learning not only for students but also for instructors. The role of the instructor shifts from a traditional lecturer to a facilitator of learning. Instructors have the opportunity to guide and support students' learning journeys, foster critical thinking, and provide individualized assistance. This dynamic teaching approach creates a collaborative and interactive environment that benefits both students and instructors.

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## FOSTERING PROFICIENT RESEARCH APTITUDE IN PROSPECTIVE ELEMENTARY EDUCATORS

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### **Abstract**

*The education of citizens in the modern era hinges on the academic prowess, teaching acumen, and professional aptitude of educators. Central to this endeavor is the examination of the training framework for primary school teachers, who must adeptly navigate evolving social expectations, embrace new methodologies, and spearhead educational advancements. With the societal landscape continuously shaped by innovation, there is a pressing need to scrutinize and synthesize the scientific-theoretical underpinnings of pedagogical practices among future elementary educators. Primary school teachers are tasked with acquiring basic knowledge and skills and grasping and implementing innovative pedagogical concepts, which emphasizes the increasing importance of research work.*

### **Introduction**

*In the dynamic realm of modern education, elementary teachers play a crucial role in fostering critical thinking and inquiry skills among young learners, essential for adapting to evolving educational paradigms. Equipping educators with the tools to engage in evidence-based practices and refine instructional methodologies is paramount. Addressing the need for research skills in prospective elementary teachers is pivotal. This discourse explores the significance of cultivating research competencies in future educators and outlines effective strategies to nurture these abilities.*

*In contemporary educational settings, the primary goal of schools is to cultivate an educational atmosphere conducive to students' holistic development. Central to achieving this objective is the professional competence of the teaching staff. Professional competence, encompassing a blend of professional expertise and personal attributes, underscores a teacher's theoretical knowledge and practical skills essential for effective pedagogical practice. A proficient teacher operates at a level of excellence, consistently yielding positive outcomes in student learning. Nurturing a teacher's professional competence involves fostering their capacity to embrace pedagogical innovations and adapt to the evolving educational landscape, thereby ensuring dynamic and impactful teaching practices. [4, 179]*

### **Contents of the study**

*The evolving landscape of modern education necessitates continuous improvement and professional development for teachers. A teacher's ability to think independently, anticipate outcomes, and shape the educational process is paramount to achieving desired goals. Cultivating a desire for enhanced professionalism is essential, alongside creating conducive educational environments that foster the urge to elevate pedagogical qualities and research aptitude. Teachers can refine their expertise and research prowess through diverse avenues, embracing opportunities for growth, reflection, and innovation within the dynamic realm of education:*

➤ *Research in teaching methodology, focuses on the integration of modern technologies and innovative training methods.*

➤ *Research in the field of profession*

➤ *Research in pedagogical psychology, explores psychological principles in education.*

*The teacher selects a methodical focus for enhancement based on an individualized needs assessment. In crafting a tailored work plan, the teacher identifies specific challenges and sets forth objectives aligned with the chosen topic. To facilitate professional growth, the teacher embarks on a research journey encompassing various domains, including pedagogical methodologies, curriculum design, educational psychology, and technology integration [3, 364]. Through this comprehensive approach, the teacher aims to refine teaching practices, foster student engagement, and ultimately elevate instructional effectiveness within the learning environment:*

➤ *Engagement in psychological-pedagogical literature analysis.*

➤ *Creation of program-methodical materials for educational activities.*

➤ *Exploration of self-education topics.*

➤ *Contribution to the school's methodical work system.*

- *Integration of fellow teachers' professional development insights.*

*Crafting a research plan is an inherently creative task for educators, as it involves envisioning innovative approaches to investigating relevant topics within their field. Each activity outlined in the plan must be meticulously scheduled to ensure efficient implementation. From literature reviews to data collection and analysis, every step demands thoughtful consideration and a strategic timeline. By meticulously noting the duration required for each activity, educators can effectively manage their time and resources, ultimately facilitating the seamless execution of their research agenda. The ways of realizing that plan are through the following activities:*

- *actively participate in scientific councils, conferences and seminars;*
- *to acquire modern educational technologies, methodical methods and pedagogical tools;*
- *master information and communication technologies;*
- *participate in various competitions, projects and research works;*
- *summarizing one's own experience and publishing it in journals.*

*Training plays a pivotal role in honing the research acumen of educators. Through seminars, conferences, and workshops, pedagogical teams gather and synthesize information, embracing novel approaches to address pertinent educational issues. Seminars-practicums serve as a cornerstone in cultivating the research capabilities of teachers, offering an effective platform for knowledge enrichment and skill enhancement. These sessions facilitate information assimilation, encourage systematic knowledge refinement, and foster skill development through hands-on activities. Participants benefit from a blend of theoretical insights, practical exercises, visual demonstrations, and pedagogical analyses, ensuring a holistic learning experience. Moreover, seminars-practicums serve as a forum for sharing pedagogical expertise, emphasizing the dissemination of best practices. Consequently, these events hold significant value in nurturing the research skills essential for educational advancement.*

*In today's digital era, leveraging Internet resources and technologies to enhance the research skills of primary school teachers is not just optimal but essential. With the vast array of educational content available online, teachers can access a plethora of resources to stay updated with the latest teaching methodologies, curriculum developments, and innovative pedagogical approaches. Online platforms offer interactive tutorials, webinars, forums, and digital libraries, providing teachers with diverse tools and strategies to improve their research skills. Embracing these digital tools not only fosters continuous professional development but also empowers teachers to create dynamic and engaging learning environments for their students, ultimately enhancing the quality of education in primary classrooms. For this purpose:*

- *To participate in distance courses for teachers;*
- *To participate in remote conferences and seminars;*
- *Participating in distance competitions is an important issue.*

*In essence, the role of a daily teacher necessitates ongoing learning. Integral to this profession is the continuous cultivation of research skills. Engaging in research not only enhances the educator's own knowledge base but also enables them to effectively adapt to evolving educational paradigms. Through research, teachers can explore innovative teaching methodologies, stay abreast of advancements in their field, and tailor their approaches to meet the diverse needs of their students. Thus, fostering research skills is a fundamental requirement for educators committed to delivering quality education and fostering intellectual growth in their students.*

*Enhancing teachers' active research skills in contemporary settings is pivotal for ensuring the delivery of high-quality education to students. Consequently, it is imperative to revamp and advance the teacher improvement system within educational institutions to bolster research competencies. Research skills serve as the bedrock of effective teaching methodologies [1, 179]. Within the realm of primary education, honed research skills empower educators to discern students' learning requirements, craft tailored teaching methodologies, and assess the efficacy of instructional techniques. Moreover, a research-oriented pedagogical approach enables teachers to adeptly navigate diverse learning environments, cater to individual variances, and foster an ethos of inclusive education.*

*Developing robust research skills among future elementary school teachers cultivates a climate of perpetual learning. By cultivating critical thinking abilities, educators are empowered to remain attuned to evolving educational paradigms, incorporate pioneering pedagogical approaches, and actively participate in the advancement of educational expertise. This not only enriches their professional practice but also nurtures a dynamic educational environment that fosters growth and innovation.*

*Incorporating dedicated modules on research methodologies into teacher training programs is imperative for ensuring educators are equipped with the necessary skills to engage in evidence-based*

practices. These modules should encompass a comprehensive exploration of various research paradigms, methodologies for data collection, and analytical techniques [2, 45]. Practical experiences, such as conducting small-scale research projects or literature reviews, can offer invaluable insights into the research process and empower educators to critically evaluate educational practices. By integrating research training into the curriculum, teachers can cultivate a deeper understanding of educational theory and practice, ultimately enhancing their ability to effectively address the diverse needs of students in the classroom.

Promoting critical evaluation of educational research among pre-service teachers serves as a cornerstone in developing their capacity to discern credible evidence from mere claims. Within teacher education programs, an emphasis on evidence-based practice cultivates a mindset of inquiry and intellectual rigor. Offering access to reputable scholarly resources and avenues for professional development further instills a commitment to ongoing learning and inquiry. Interacting with diverse student demographics, collaborating across disciplinary boundaries, and tackling authentic educational issues enriches the research journey, enhancing its applicability in real-world teaching scenarios. Through this process, educators integrate practical teaching methodologies seamlessly into their instructional practices, ensuring meaningful and impactful learning experiences for their students.

### Result

Fostering research skills among future elementary teachers is fundamental to enhancing the quality of education. By providing teachers with the necessary tools for evidence-based inquiry, teacher education programs empower them to effectively navigate dynamic educational landscapes, prioritize student-centered learning, and advance the teaching profession. Embracing a culture of research-informed pedagogy not only enriches primary education but also cultivates a dedication to ongoing professional growth and innovation within the educational community.

Building research skills in future primary school teachers is crucial for several reasons. This enables educators to continuously improve their teaching methods and adapt to the evolving needs of their students by keeping them up-to-date with the latest educational practices and theories. There are a number of methods for developing research skills in future primary school teachers:

- Integrate courses or modules on research methodologies within teacher training programs. These courses should cover topics such as literature review, research design, data collection methods, analysis techniques, and ethical considerations.
- Emphasize critical thinking skills during teacher training by engaging students in discussions, debates, and analysis of educational research papers and case studies. Encourage them to question assumptions, evaluate evidence, and think analytically.
- Offer opportunities for future teachers to conduct their research projects. This could involve designing and implementing small-scale research studies within the classroom or community, under the guidance of experienced educators and researchers.
- Introduce future teachers to online databases, academic journals, and educational websites where they can access research articles, teaching resources, and professional development materials. Teach them how to navigate these resources effectively to find relevant information.
- Encourage future teachers to collaborate with peers, mentors, and professionals in the field of education. Participation in workshops, conferences, and online forums can provide opportunities for networking and exchanging ideas with others who share similar research interests.
- Assign mentors or faculty advisors to support future teachers in their research endeavors. These mentors can provide guidance on research topics, methodology selection, data analysis, and the interpretation of findings.

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**SOCIAL EDUCATION OF CHILDREN IN THE FIGHT AGAINST EMERGING CONFLICTS***Ismayilova Dinara Fariz**Baku Slavic University, Baku, Azerbaijan***СОЦИАЛЬНОЕ ВОСПИТАНИЕ ДЕТЕЙ В БОРЬБЕ ПРОТИВ ЗАРОЖДАЮЩИХСЯ КОНФЛИКТОВ***Исмаилова Динара Фариз гызы**Бакинский Славянский университет, Баку, Азербайджан***Abstract**

*The article is dedicated to the role of social upbringing of children in preventing and resolving conflicts in the modern society. It discusses the influence of family, schools, and other social institutions on shaping children's communication skills, respect for others, and abilities to resolve conflicts peacefully. Special attention is given to the importance of emotional intelligence and empathy in children as key qualities that contribute to successful interaction with others and the prevention of violence and aggression. The article also explores methods and approaches to social upbringing of children that contribute to the development of their social skills and the reduction of potential conflicts in society.*

*Social upbringing of children plays a crucial role in preventing and resolving conflicts in society. The article analyzes how parents, educators, and other adults can help children develop social interaction skills and constructive conflict resolution.*

*The main focus is on the importance of developing emotional intelligence in children, which leads to better understanding and management of their emotions, as well as the ability to empathize with others. These skills help children to build healthy and harmonious relationships with others and avoid aggression and conflicts.*

*Additionally, the author emphasizes the importance of teaching children communication and adaptation skills in various situations. The ability to express thoughts and feelings clearly and constructively, as well as the ability to find compromises and seek understanding with others, enable children to successfully deal with conflicts and prevent their occurrence.*

*Furthermore, the article discusses the importance of teaching children problem-solving skills and conflict resolution in a group setting. Participation in games, role-playing exercises, and other pedagogical methods helps children understand how to work together, respect others' opinions, and find mutual understanding within a group.*

*In conclusion, social upbringing of children is the foundation for creating a harmonious and peaceful society, where every member can respect others, find common ground, and build trusting relationships. The article underlines that investing in social upbringing of children is an investment in the future, where conflicts and disagreements can be resolved without violence and aggression.*

*This work highlights the role of social upbringing in preventing conflicts among children. It focuses on the development of key social skills such as empathy, communication abilities, and understanding others' emotions, which contribute to harmonious interactions and minimization of conflict situations. Practical methods and strategies are discussed, including play methods and role-playing games aimed at strengthening social understanding and preventing conflicts in educational environments. The document emphasizes the importance of the active role of adults in shaping children's skills necessary for peaceful conflict resolution and effective social interaction.*

**Аннотация**

*Статья посвящена роли социального воспитания детей в предотвращении и разрешении конфликтов в современном обществе. Рассматривается влияние семьи, школы и других социальных институтов на формирование у детей навыков коммуникации, уважения к другим и умениями разрешения конфликтов мирным путем. Особое внимание уделяется значению эмоционального интеллекта и эмпатии у детей как основных качеств, способствующих успешному взаимодействию с окружающими и предотвращению насилия и агрессии. В статье также обсуждаются методы и подходы к социальному воспитанию детей, способствующие развитию их социальных навыков и уменьшению возможных конфликтов в обществе.*

Социальное воспитание детей играет ключевую роль в предотвращении и разрешении конфликтов в обществе. В статье анализируется, каким образом родители, педагоги и другие взрослые могут формировать у детей навыки социального взаимодействия и конструктивного разрешения конфликтов.

Основное внимание уделяется важности развития эмоционального интеллекта у детей, которые способствуют лучшему пониманию и управлению своими чувствами, а также умению эмпатии к другим людям. Эти навыки помогают детям строить здоровые и гармоничные отношения с окружающими и избегать агрессии и конфликтов.

Кроме того, автор статьи обращает внимание на важность обучения детей навыкам коммуникации и адаптации в различных ситуациях. Умение выражать свои мысли и чувства четко и конструктивно, а также умение находить компромиссы и искать взаимопонимание с другими, позволяют детям успешно справляться с конфликтами и предотвращать их возникновение.

Кроме того, в статье обсуждается важность обучения детей навыкам решения проблем и конфликтов в коллективе. Участие в играх, ролевых моделях и других педагогических методиках помогает детям понимать, как работать сообща, уважать мнения других и находить взаимопонимание в коллективе.

Итак, социальное воспитание детей является основой для создания гармоничного и мирного общества, в котором каждый член сообщества умеет уважать других, находить общий язык и строить доверительные отношения. В статье подчеркивается, что инвестирование в социальное воспитание детей - это вложение в будущее, где конфликты и разногласия могут быть разрешены без насилия и агрессии.

В данной работе освещается роль социального воспитания в предотвращении конфликтов среди детей. Акцентируется внимание на развитии ключевых социальных навыков, таких как эмпатия, коммуникативные умения и умение понимать эмоции других, что способствует гармоничному взаимодействию и минимизации конфликтных ситуаций. Рассматриваются практические методы и стратегии, включая игровые методы и ролевые игры, направленные на укрепление социального понимания и профилактику конфликтов в образовательной среде. Документ подчеркивает значимость активной роли взрослых в процессе формирования у детей навыков, необходимых для мирного решения конфликтов и эффективного социального взаимодействия.

**Keywords:** social education; conflict; pedagogy; psychology; stages of training; stress; observation; confidential conversation

**Ключевые слова:** социальное воспитание; конфликт; педагогика; психология; этапы обучения; стресс; наблюдение; доверительная беседа

Разделы:

1. Развитие методологии конфликтологии в детских коллективах Азербайджана
2. Значимость учебного пособия Чингиза Бедалова
3. Пособие «Методика преподавания русского языка в азербайджанской школе»
4. Вклад азербайджанских педагогов и профессора Аиды Шахбазовой
5. Эволюция методов обучения и социального воспитания в Азербайджане
6. Работа теоретиков-методистов и учителей-практиков в направлении социального воспитания
7. Построение системы социального воспитания учеников младших классов
8. Значение интересов, мотивации и методов социального воспитания
9. Предотвращения конфликтов и повышения общего уровня IQ учащихся.
10. Роль методов и путей в социальном воспитании детей
11. Особенности методов формирования социального поведения детей
12. Значимость метода общения в предотвращении конфликтов

В последнее время в Азербайджане многие из методических трудов, посвященные проблеме конфликтологии в детском коллективе, получили большое признание, порою выходящее за пределы нашей республики. В начальных школах среди учителей до сих пор пользуется заслуженным успехом широко известное учебное пособие Чингиза Бедалова «Методика

преподавания русского языка в азербайджанской школе» [2]. В учебнике есть небольшие разделы, связанные и с социальным воспитанием детей. Правда, в этом пособии нет прямой связи между данным явлением и зарождающимся конфликтом, но о данном негативном явлении читается, как говорится, между строк.

Ближе к избранной теме имеются очень ценные статьи азербайджанских педагогов. Это работы Х. Алиева, М.М. Мехтизаде, Л.Г. Векиловой, А.Г. Дахновича, А.Ш. Шабанова, Г.А. Яббарова, А.О. Османзаде, А.Дж. Пашаева, Л.Ф. Гахрамановой, А.Н. Зейналовой и некоторых других. Наряду с вышеназванной настольной книгой Ч.А. Бедалова, определённый вклад в теорию конфликтологии внесла профессор Аида Шахбазова. Её центральная монография – «Развитие методической мысли в Азербайджане» [7], без сомнения, бесспорно, дала ощутимый толчок развитию социальной культуры воспитания детей, интегрированных в школах нашей республики. Важно подчеркнуть, что после выпуска в свет этой книги появились, стали развиваться и совершенствоваться в нашей республике также новые методы обучения и социального воспитания детей. Не могло это не коснуться и отдельных вопросов, связанных с зарождающимися конфликтами с дальнейшим изложением путей, форм и методов их устранения.

Так, по следам названных и некоторых других учёных уже в отношении младше-классников в интересующем нас направлении активно работают такие азербайджанские теоретики-методисты и учителя-практики, как Х.Ф. Гасанова, Н.А., Гарагёзова, Г.Б. Гасанов, О.Г. Гилязова, С.Р. Гаибова. И т.д. Поучительно, что многие молодые азербайджанские учёные, с одной стороны, сохраняют и приумножают лучшие традиции вышеназванных исследователей прошлых десятилетий. С другой стороны, они перенимают опыт ведущих русских педагогов и научных работников: Л.З. Головановой, Г.А. Монаховой, И.П. Подласого, Н.С. Сердюковой, В.К. Сидоренко. Тем самым осуществляется синтез передовых идей в аспекте погашения конфликтов на стадии их зарождения. Вместе с тем вынуждены признать, что в трудах перечисленных учёных рассматриваются, главным образом, лишь отдельные аспекты проблемы. Целостной картины социального воспитания в борьбе против зарождающихся конфликтов на основе отдельных фрагментов далеко не всегда удаётся создать. А ведь разработка наиболее популярных путей и методов такого рода преодоления конфликтов крайне необходима. В противном случае они просто переходят в стадию стресса. Тогда бороться с ним уже гораздо сложнее.

Исходя из указанных трудов азербайджанских и русских теоретиков-методистов, применительно к нашей теме вырисовывается следующая картина. Современная педагогическая наука располагает большим арсеналом путей и методов социального воспитания младше-классников. Теперь, после данной преамбулы, считаем в статье необходимым в тезисном виде определиться с главными терминологическими понятиями. Итак, под формами дошкольного воспитания понимают прежде всего пути организации воспитательного процесса в целом. Они же, в свою очередь, как подчёркивает С.Л. Вигман, «включают в себя основные цели, принципы, задачи, методы, закономерности и различные приёмы воспитания в современных условиях» [3, 107-108]. Установить, как перечисленные и им сопутствующие признаки или параметры связаны с различными путями и методами борьбы с зачатками конфликтов в детском коллективе посредством воспитательных норм – задача настоящей статьи.

Итак, что понимают современные учёные под социальным воспитанием? Это такое сложное, много векторное и разноплановое явление, которое включает в себя большой комплекс разных форм и средств организации воспитательного процесса в общественных местах. Эффективность их применения в школьной практике зависит, на наш взгляд, от нескольких факторов. Во-первых, от потенциально используемых личностных возможностей, во-вторых, от умелой деятельности учителей, в-третьих, внутренней активности самих детей, в-четвёртых, этики, такта. Это необходимо при ликвидации конфликтов. В-пятых, осторожности в своих суждениях, не допускающих перехода конфликтов в стрессовые ситуации. Наконец, в-шестых, от психологического климата в классе, группе, характере спаянности детского школьного коллектива.

Прогрессивно мыслящие азербайджанские, русские и европейские исследователи практически единодушны в том, что на сегодняшний день насчитывается очень большое количество форм в воспитательной работе с выраженным социальным уклоном. Этот уклон отвечает за регулировку настроения в классе, а это, понятно прямой путь к недопущению

конфликтов. Скажем больше того: если даже попытаться составить их перечень, опираясь на концепции методистов-теоретиков или школьных учителей-практиков, то всё равно он, скорее всего, окажется далеко не исчерпывающим. Его всегда возможно корректировать, видоизменять, осуществлять своего рода «подгонку» под те или иные требования социально-воспитательного школьного процесса. И т.д.

В таком случае резонно задаться таким вопросом: что же предлагается взамен? По мнению абсолютного большинства методистов, работающих с младше-классниками, это чуть ли не бесконечное многообразие поможет в некоторой степени унифицировать метод классификации признаков. Каждому из них присущи специфические возможности воспитательного характера. В свою очередь, индивидуальный подход к ученику в результате социализации воспитательного процесса в целом поможет учителю заблаговременно выявить круг острых и наиболее проблемных вопросов учащегося. Значит, распознав их, можно примирить ребят, которые в противном случае оказались бы во враждебном лагере. Но здесь следует непременно добавить и такой существенный момент: многое зависит от мастерства самих наставников. Связка учитель – ученик вообще крайне важна для погашения зарождающихся конфликтов среди младше-классников. Одновременно с тем конкретная реализация всевозможных путей и методов в социальном аспекте целиком и полностью ложится на плечи школьных учителей. Варьирование методических приёмов, их уместное использование в зависимости от возраста детей вполне допустимо.

Приведём для иллюстрации одну из таких классификаций. Её предлагает нам на рассмотрение современный теоретик-методист И. Подласый. Методы социального воспитания в деле предупреждения конфликтов в ранней детской среде он делит на типы, которые в свою очередь подразделены в соответствии с отдельными чертами или же признаками. А признаки имеют различные вариации с конкретными формами. И. Подласый выделил три главные формы: «мероприятия, игры и дела. Они отличаются такими признаками, как целевая направленность, распределяющая позиции учителей и учащихся, то есть главных участников воспитательных процессов» [5, 111-112].

Однако, говоря о любых формах современного социального воспитания младше-классников, следует непременно помнить, что это внешние, то есть соподчинённые содержанию признаки в процессе ликвидации конфликтов. Хотя оба понятия неразрывной цепью взаимосвязаны, всё же содержание объективно, бесспорно, главенствует над формой, видоизменяя его сущность. Взятые в отдельности, они не определяют путей и методов формирования социального воспитания в школе. В ходе привития искомого понятия детям сохранение учителями единства содержания и формы помогает в выборе конкретных путей и методов. Но чтобы их внедрить в практику школьного образования и воспитания, следует элементарно пробудить в детях желание получать новые знания. (Образование и социальное воспитание – два взаимосвязанных понятия).

По нашему мнению, это несложно доказать. Среди младше-классников нередко возникают конфликты на, казалось бы, зыбкой, непредвиденной для более взрослых почве. Например, обиденная детская зависть слабого ученика – к более грамотному и успешному. Конфликт искусственно провоцирует, по очевидным причинам, первая сторона. Но стоит только найти правильный подход к отстающему ученику и вооружить его новыми знаниями (чаще – в игровой форме), как подтянувшийся ребёнок уже не будет испытывать столь острой зависти к успевающему. Конечно, ещё сложнее обстоит дело, если это чувство пропитывается недоброжелательством к целой группе школьников. Подачей одних только новых знаний здесь, как правило, не обходится. Нужны более действенные формы общения учителя с «трудным» учеником. Но в первом случае мы имеем дело с совпадением мотивов и интересов как важный фактор предотвращения конфликта. Таким образом, современные учёные приходят к необходимости постулирования интересов и мотивов. Фактически это две стороны одного явления, однако, имеют характерные отличия. Вкратце укажем на них, так как считаем, что это своего рода подступ к путям и методам социального воспитания в избранном нами направлении.

Итак, привитие интереса – это фактор сосредоточенности на каком-либо конкретном предмете. При этом опытный учитель стремится к реализации в школьниках младших классов активной познавательной направленности на соответствующий предмет. Так, одним из организационных методов, базирующимся на развитии интереса у младше-классников, является наблюдение. По определению некоторых современных методистов, оно может быть

включенным. В этом случае достигается путём налаживания контакта между учителем и ребёнком. Систематическим. Может быть длительным, непрерывным или же распределённым по циклам. Наконец, ситуативным (путём создания соответствующей ситуации). Есть методисты, выделяющие и так называемый тип, или же вид не систематического наблюдения (экстремальная школьная ситуация). Главное, что способствует скорейшей реализации указанных путей при методе наблюдения – это фиксация эмоционального всплеска детей, их нравственная реакция. А помогает этому в первую очередь эмоциональный интерес, являющийся в дошкольном социальном воспитании существенным стимулом в деле приобретения новых знаний, ключом к расширению общего кругозора.

Зададимся естественным вопросом: как этот метод может помочь предусмотреть конфликт в его начальной стадии? Наблюдение – это один из важных инструментальных средств ознакомления с психологическими мотивами поведения ребёнка. Наблюдение со стороны в учителей в школе – дополнительное средство предотвращения конфликта, который может начаться в семье, а завершиться уже в процессе учёбы.

Далее, методисты, работающие с младше-классниками, выявили, что интересы бывают как устойчивыми, так и неустойчивыми. Понятно, что последние кратковременные, быстро возникают и также быстро угасают. Если на уроках с учащимися младших классов нет ни игрового, ни общего познавательного интереса, то, скорее всего, ученик, легко увлечённый начальной стадией задачи, легко к ней впоследствии и охладевает. Очень важно в теории социального воспитания открыто позиционировать учителям такие пути и методы, в результате которых случайные, поверхностные и явно неустойчивые интересы потенциально способны превратиться в более стойкие, глубокие. Если интерес неожиданно гаснет, то у детей как бы в компенсацию появляются другие привычки. Некоторые из них могут быть вредными, опасными. Они симптоматично ведут к дислокации, уединённости ребёнка, отстранения от коллектива. Следовательно, возникает ещё одна явная причина для разжигания конфликта.

Конечно, скептики могут нам возразить, что эти пути и методы ярче отражаются на социальном поведении в средних и тем более старших классах школ. Но не будем забывать о той педагогической аксиоме, что заложенное в детях с I по IV классы, как правило, прочнее развивается и совершенствуется впоследствии. Отсюда, кстати, и более глубокие знания учащихся.

Вот, к примеру, к какому выводу пришёл коллектив педагогов-методистов – авторов «Современного словаря по педагогике». «В арсенал социального образования и воспитания органично входят интересы, с помощью которых учителя могут применять всевозможные пути и методы привития детям основ культуры. Интерес стимулирует активность поведения в обществе. В этом процессе очень большую роль играет также качество подачи материала, в котором будут доминировать эмоциональная живость, яркость, равно как и умение общаться, правильно выстраивать отношения с педагогом и учащимися-сверстниками» [6, 284-285].

С интересами тесно связаны и мотивы. Это своеобразный побудитель учебной деятельности, чаще всего проявляющийся в игре. Ребенок приходит в школу, руководствуясь в основном мотивом, связанным с интересом к пребыванию в учебном заведении, а игра, контролируемая учителем, реально помогает его активному включению в общественную жизнь. Современные игровые технологии (а они в наши дни в азербайджанских школах оснащены инновационными приёмами) – это тоже методический путь к правильному поведению детей в обществе. Значит и к снижению планки конфликта. Однако игровые технологии – это такой широкий пласт в современном социальном воспитании, что ему может быть посвящена отдельная статья. Необходимо только добавить, что по мере взросления ребёнка эти мотивы претерпевают изменения: в одних случаях возникает интерес к получению хорошей отметки, в других – интерес к самому содержанию знаний. Но в любом случае проявление к чему-либо интереса и мотивация при нём – это один из радикальных путей поднятия общего уровня IQ младше-классников, что, с одной стороны, важно в социальном воспитании, с другой, как одна из форм борьбы учителей с конфликтами.

После выяснения назначения интересов и мотивов нас в статье прежде всего интересуют такие методы и пути в социальном воспитании детей, которые можно, на наш взгляд, рассматривать по отдельности в зависимости от их основного функционального назначения. Например, метод «упорядоченного мышления» [4, 77-78] можно подразделить на несколько

групп. Каждая из них, по нашим соображениям, в сущности идентична путям формирования искомого предмета исследования.

Итак, первая группа даёт педагогам сведения об уровне сознания детей (их взгляды, оценки, понятия, суждения, наконец, мировоззрение). Вторые – формируют эмоциональные чувства и стремления (мотивы, психологические устремления, насущные потребности в школе и дома, и как следствие, – идеалы). Третьи – демонстрируют факторы самовоспитания, или, как говорил в своё время Л.Н. Толстой, «самосовершенствование личности» (самооценка, самоконтроль, самодисциплина и самоорганизация). Четвёртый путь, главным образом, сказывается на формировании факторов такого социального поведения детей, которое ярче обнажает их привычки, отношения в коллективе с окружающими и т.д.

Очень важным в стенах школы становится метод общения. В России, Азербайджане и Европе существует колоссальная критическая литература относительно общения младшеклассников дома и в школе. Это, понятно, взаимоотношения раздельные. Оставим в стороне общение на домашнем уровне, как не относящееся к теме нашей статьи. Однако в школе связка «учитель – ученик» – средство важнейшее, неотъемлемая часть социального воспитания детей.

Логично предположить, что метод общения в школе необходим как дополнение к наблюдению. Именно после него можно и должно вступать в доверительные беседы с учащимися. Они, бесспорно, помогут выявить те душевные волнения, которые переживает ребёнок, но в силу природной и возрастной застенчивости чаще всего замыкается в себе, не любит на данную тему распространяться. В какой-то определённый момент вполне может произойти выплеск отрицательной энергии, что является предтечей конфликта. Задушевная беседа учителя с учеником также поможет это предотвратить.

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## Philological sciences

### COUNTRIES INHABITED BY GERMAN EMIGRATION LITERATURE

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#### **Abstract**

*As the author notes, the main countries populated by German emigration literature are:*

*It consisted of cities and countries around Germany - Vienna, Prague, Paris, London, Switzerland, Scandinavia, USSR, because they hoped that the war would end soon and they would return to their homeland, and therefore they preferred to settle in these countries. As the author shows, after a while most of these areas lost their importance. Therefore, with the beginning of the war, a large number of immigrant writers had to move to both North and South America. During all twelve years, only the USSR remained among the European countries as a reliable base of German emigration. German émigré writers were actively engaged in anti-fascist work in Moscow. The "International Literature" magazine, which was previously published here, began to be published in German.*

*One of the centers where German immigrant writers gathered was the city of Vienna. The city attracted immigrant writers, not least because they had the opportunity to be published in their native language. Some of the writers continued their underground activities in Czechoslovakia, France, Holland and other countries.*

*Even at the very beginning of emigration, H. Mann wrote: "If Germany ever becomes better than it is now, then it will consider emigration literature as its moral basis." The writer was not mistaken. The author spoke in detail about the heavy moral creativity of the emigration years, the intense involvement of all forces in the fight against fascism. This period was distinguished by its exceptional productivity in German literature of the 20th century.*

*As the author says, the indicators of the German emigration literature were not so great from a purely quantitative point of view. About two thousand books were published in twelve years, and the circulation of the vast majority of them was not very high. But the importance of the literature of this period is not in quantity, but in its quality, in its active influence on both the German and the world literary process. World literature of the 20th century cannot be imagined today without the best examples of German emigration literature.*

**Keywords:** German emigration literature, war, fascists, geography of German emigration, Immigrant writers

*One of the characteristic features of German emigration literature was the change in the outlook and thinking of a number of prominent writers during these years. As an example, the artistic and journalistic works of T. Mann and L. Feuchtwanger can be shown.*

*In the first years of emigration, writers hoped that everything would end soon and lived with the desire to return to their homeland. A. Deibln, remembering this song, which is typical for the early years of emigration, wrote: "There was a feeling that we were just caught in a storm and the best thing is to wait." Probably because of this, because they lived with this hope, German immigrant writers preferred to settle in the cities and countries around Germany - Vienna, Prague, Paris, London, Switzerland, Scandinavia, USSR. [9]*

*The main geography of German emigration covered these areas. After 1938-40, most of these areas lost their importance. Because a large part of these territories were occupied by German fascists. Therefore, with the beginning of the war, a large number of immigrant writers had to move to both North and South America. During all twelve years, only the USSR remained among the European countries as a reliable base of German emigration.*

*German émigré writers were actively engaged in anti-fascist work in Moscow. The "International Literature" magazine, which was previously published here, began to be published in German, and from 1939 it was called "Deutsche Blätter". The German edition of the magazine was headed by I.P. Becher. German anti-fascist literature "Natives and Acquaintances" (B. Bredel), "Exile" (L. Feuchtwanger), "The*

*Wisdom of Henry IV" (H. Mann), "The Seventh Cross" (A. Zeghers), "Beaumarchais" (F. Wolff) was published for the first time in this magazine. [5]*

*In 1936, the magazine "Das Wort" ("The Word") merged with "International Literature" in Moscow. This magazine was headed by B. Brecht, B. Bredel and L. Feuchtwanger. Among the anti-fascist writers, T. Mann, Y. Roth, J. Zweig, A. Deblin, H. Mann, A. Zeghers, L. Renn, A. Scharrer and H. Lukacs, the literary works were published in this magazine. On the pages of this magazine, there were polemics between A. Zeghers and H. Lukacs regarding the issues of creative method. H. Lukács denied the qualitative uniqueness and novelty of socialist realism and took the works of O. de Balzac and L. N. Tolstoy as the ultimate limit of the development of literature.*

*On the contrary, A. Zeghers saw social realism as a qualitatively new creative method. In this matter, B. Brecht defended A. Zeghers. Time is the judge who best sums up the disputes between H. Lukacs and A. Zegers. Lukács was surely mistaken in assuming that fiction had reached the limit of its development with Balzac and Tolstoy. But it is equally certain that he is not wrong in his conclusions about social realism. [3]*

*One of the centers where German immigrant writers gathered was the city of Vienna. The city attracted immigrant writers not least because they had the opportunity to be published in their mother tongue. Many Austrian writers, for example R. Muzil, H. Brox, F. Bruckner, E. von Horwath, were among the emigrants. It was as if history forced them back to Austria, the homeland they had left. But the fences of the motherland could not be a reliable shelter for them. There was no freedom of speech in the country. After the fascist occupation of 1938, the remaining opportunities disappeared. Now only "neutral" press organizations were allowed to publish. However, before the fascist occupation, R. Muzil was able to publish the work "Inheritance while alive", the second part of T. Mann's novel "Joseph and his brothers", H. Brox and F. Werfel a number of works.*

*After the occupation of Austria by the Nazis, a number of writers had to flee their native land, which resulted in tragedy for many of them. The famous critic and essayist E. Friedel committed suicide in order not to fall into the hands of the fascists; the talented playwright and poet Yura Zoyfer fell into the hands of the fascists while crossing the border and died. [1] Unlike Austria, Switzerland was not "integrated" into Germany, but anti-fascist activity was extremely difficult here. The Swiss magistrates were clearly afraid of their cruel enemies, and even occasionally did not hesitate to show them their sympathy. Max Frisch remembered this when he received the Buchner Prize (1958). Although he admitted that Switzerland was a refuge for writers such as T. Mann, R. Muzil, G. Kaiser, he pointed out that visas were not issued to unpopular writers, and for many, this country played the role of a "trap". Due to political factors, the "Pfeffermühle" cabaret, where German émigré writers gathered, was closed. Direct, open speeches against the fascist Reich were forbidden in the country. Because of his anti-fascist activities, the revolutionary writer-publicist V. Viktor was sent to exile. Therefore, for B. Brecht, H. Mann, A. Zeghers, L. Frank and many other writers, Switzerland played the role of a waypoint and stop on the emigration routes. In addition, despite all the difficulties of the situation, the anti-fascist movement in Switzerland did not stop. For example, anti-fascist publications were published in Zurich. Among these publications were articles by H. Mann and T. Mann, "Lissi" by F. K. Weiskopf, "Swamp Soldiers" by B. Langhof, dramas by H. Kaiser and F. Wolff. [4] From September 1937, the magazine "Maß und Wert" ("Measure and value") was published in Zurich under the editorship of T. Mann and K. Falk. R. Muzil, T. Mann, H. Hesse, F. Werfel, A. Deblin, R. Shikel, E. Kaler, the journal defending the classic norms of beauty and traditional humanism in the "catastrophic epoch" E. Bloch published the works of A. Kolb in this corresponding spirit. The magazine's political section was headed by T. Mann's son, historian Holo Mann. The political moderation of the magazine was derived from the known situation and attitude in Switzerland. The situation of German émigré writers was relatively good in Czechoslovakia. The anti-fascist center in Prague, which lasted until 1939, had a more militant character. German émigrés published several newspapers and magazines in Prague that were openly and fundamentally anti-fascist in nature. The plays of anti-fascist playwrights E. Horvat and F. Bruckner were staged here. Various anti-fascist clubs, "sex" and associations were often opened here: "Bertold Brecht's Literary Section Club", "Thomas Mann's Club", "Writers' Club with the Human Rights Society", etc. "Malik-ferlag" democratic publishing house, which came from Berlin in 1933, was active in Prague. This publishing house published W. Bredel's "Trial", A. Scharrer's "Moles", E. Sommer's "Embassy from Granada", B. Brecht's two volume plays, E. Horvath's collection of plays and M. Zimmering's poems.[12] In 1933, the magazine "Neue deutsche Blätter" was published in Prague, which was headed by O. M. Graf, A. Zegers, V. Hertzfelde and the Berlin-based writer Jan Petersen, who was conducting secret political work. The leading authors of the magazine include I. Bexer, B. Brecht, B. Bredel, L. Feichtwanger, St. There was also Sveig. The militant*

anti-fascist program of the magazine was reflected in the slogan in the main article of the first issue: "Who writes, he exists!" These words were often repeated in the article: "The National Socialists are furious in Germany. We are at war. There can be no neutrality here. Especially for writers. Whoever is silent is participating in the struggle. Whoever avoids personal life, is afraid of the course of events, for whom words are a toy or decoration, whoever is engaged in pure poetry, he exposes himself to social and artistic infinity and gives the field to the enemy". [3] During the emigration, two publishing houses in Amsterdam played a big role: "Querido" and "Allert de Lange" ("All languages"). In general, a significant part of German emigrant literature fell to the Netherlands. B. Brecht and A. Zegers, M. Brod and F. Bruckner, F.T. Chokor and A. Deblin, B. Frank and L. Frank, L. Feichtwanger and L. Furnberg, I. Coyne and G. Kesten, E.E. Kisch and A. Neumann, H. Mann and K. Mann, E. M. Remarque and Y. Roth, R. Schkele and E. Toller, A. Schweig and St. Schweig, as well as many other German émigré writers were published here.

Almost all the writers whose names were mentioned published their works, especially their historical novels, which were the most typical and included in the golden fund of anti-fascist literature for that period. "Die Sam-mlung" ("The Gathering") magazine was published in "Querido" publishing house. It is true that this magazine did not have an overt political character, but it did not hesitate to express its negative attitude towards what was happening in Germany. K. Mann, the editor of the magazine, stated that its main goal is to bring together "spirituality" and "militancy". Discussions were organized on the pages of the magazine, in which not only German immigrant writers, but also E. Hemingway, O. Huxley, A. Morua, A. Jid, I. Erenburg participated. But like many other magazines, this magazine could not be long-lived due to financial difficulties, it was published until 1935, only 24 issues were published. [11] The unexpected attack of the German fascists on the Netherlands completely paralyzed the activities of the emigrant-anti-fascists in this country. "Querido" publishing house could barely move to America. "Allert de Lange" publishing house was destroyed by fascists. From 1933, France was one of the main places of refuge for German immigrants. During a short period of time - from the annexation of Austria to Germany and the occupation of Czechoslovakia until the war with France, a large majority of immigrants settled in this country. Many of the writers settled in Sanari, a fishing village on the coast of the Mediterranean Sea, and lived as a colony: H. Mann, R. Shkele, L. Feichtwanger, A. Sveig, E. Toller, Gazenklever, G. Kesten, A. Kepp and others. Back in 1933, R. Leongard was the chairman of the German Writers' Union established in Paris. The union included T. Mann, O. M. Graf, E. E. Kish and F. Bruckner. The Union's sole purpose was not simply to provide financial support to writers, but to develop a unified anti-fascist program. He was one of the main participants in the preparation of the international congress held in Paris in 1935 under the motto of defending the culture of writers. Many German writers were among those who spoke and participated in the congress. H. Mann was elected to the leadership of the writers' culture protection association.[5]

The extraordinary conference of the international union of writers was held in Paris on July 15, 1938. The main theme of the conference was called: "Duties of writers in the face of increasing danger of fascism". The chairman of the conference, T. Dreiser, was elected. T. Mann wrote in his congratulatory letter to the participants of the conference that in the present conditions, the boundaries between literature and life, literature and politics have been erased; the original humanism of the writer is now determined by his anti-fascist position. He expressed his conviction that despite the tragedy of the civil war in Spain, history will not be written with fascist feathers. Speaking at the conference, E. Toller urged writers to get rid of "abstract pacifism" and wrote: "We don't know where the struggle will start tomorrow. There is only one thing left for each of us now: to stick to our position! To protect him as a man. To prove this loyalty in each of his works, in each of his works." The fight against fascism is the battle of literature - said A. Zeghers in his speech. [6] As in Prague, the plays of German émigré dramatists were often staged in Paris. B. Brecht's play "Fear and Begging of the Third Empire" and other works were shown with great success. French immigrants published most of their works in Holland. But in the field of publication of secret literature, Paris was in the first place among European cities. Most of these publications consisted of political articles, appeals and manifestos, as well as speeches by writers on acute political issues. Examples of these include B. Brecht's pamphlet "Five Difficulties in Writing the Truth", T. Mann's report "On the Future Victory of Democracy", H. Mann's collection of publicist articles, B. Uze's story "The Last Battle", R. Leongard's poems and contributions to the German Nazis. You can show other works that don't. Among them, there was even an anthology with anti-fascist content called "German for the German" with a rather large volume. [2]

A large, weekly émigré journal published in Paris was called *Das neue Tagebuch* ("The New Diary"). L. Schwarzschild, the editor of the magazine, came to Paris from Berlin in 1934. As he wrote in one of his articles, he wanted to prove that emigration "doesn't just publish an attitude to events, but also sharpens

this attitude." The magazine did not publish much fiction, but instead, the magazine devoted a lot of space to articles on anti-fascist works. The magazine with a left-liberal political position did not challenge communists on its pages. This is probably why the magazine did not accept the idea of the People's Front, and this prevented the creation of a single anti-fascist front. [10] One of the anti-fascist immigrant centers in Europe was London. In 1934, a new PEN club headed by A. Kerr and consisting of a German group was created here. In the same year, the publishing house "Malik-ferlag" came to London from Prague. At that time, the Union of Free German Culture also had its own publishing house in Stockholm. German writers T. Mann and others' angry radio broadcasts were transmitted from London to Germany. German writers H.Y. Refish, A. Lazar, E. Fried and others participated in the preparation of these programs. At this stage, new centers of German emigration appeared mainly in Palestine, the United States, Mexico and South America. A group of emigrants, consisting of writers A. Zweig, M. Brod, E. Lasker-Shuler, L. Furnberg, G. Politzer, settled in Palestine. For a while, "Weltrundschau" ("View of the World") and "Orient" ("East") were published here, which mainly published philosophical articles and poems. In the verse drama "I and I" (1944), rich in reminiscences from "The Bible" and Goethe's "Faust", the old German poetess E. Lasker-Shuler looked at the fate of the German intelligentsia during the period of fascism as the eternal impotence of the soul before the government. Among the works of novels created in this immigrant center, the only one that was liked was A. Zweig's "Wandsbeck Ax". The activities of the Palestinian refugee center were under constant threat from the Zionist organizations, which had a physical score with those who thought otherwise. [8] After the war, a large number of German immigrants had to move from Europe to the United States. The American center of German cultural figures was the town of Santa Monica near Los Angeles. Composers A. Schoenberg and H. Eisler, directors E. Piscator and M. Reingardt, writers T. Mann, H. Mann, L. Feichtwanger, B. Brecht, B. Frank, L. Frank, F. Bruckner and others had gathered. But the activity of immigrant writers was not as intense here as in Europe, and there were some reasons for this: language barriers, being far away from lively political events, etc. But the anti-fascist writers were not going to lay down their arms in America. For example, Thomas Mann recorded his "Appeal to the German People" and sent it to London, and from there this appeal was broadcast to Germany by radio. [4]

In October 1938, the founding congress of the "Union of German Writers Living in America" was held in New York. Its honorary chairman was T. Mann, and its deputies were elected O. M. Graf and F. Bruckner. Eleven German writers - E. Bloch, B. Brecht, F. Bruckner, A. Deblin, L. Feichtwanger, O. M. Graf, B. Hertzfelde, H. Mann, B. Firtel, E. Waldinger and In 1945, F.K. Weiskopf founded the private publishing house "Aurora" on a cooperative basis in New York. The founders of the publishing house saw their main task in publishing works that served the revival of German culture after the war. The publishing house was able to publish twenty books, examples of which are B. Brecht's "Third Empire Fear and Begging", H. Brock's "Vergil's Death", F. Bruckner's "Simon Bolivar" and other books. German émigré writers gathered in Mexico were more numerous in comparison. The anti-fascist organization "Free Germany" headed by L. Renn operated here. The "Heinrich Hayne Club" was opened here, plays by B. Brecht, F. Bruckner, E.E. Kish were staged. "El libro libre" ("Free books") publishing house published fiction works by A. Zeghers, B. Uze, A. Kolb and others, essays and articles by E. Bloch, U. Bexer, T. Mann and H. Mann. . In 1941, the magazine "Free Germany" was created in Mexico, which was later, renamed "New Germany". Its editors were communists - first B. Fry, and then A. Abush. [10] Another German magazine - "Deutsche Blätter" was published in 1943-46, the editors of which were U. Rukser and A. Tayle. With his slogan "for European Germany against German Europe" he approached the magazine "Maß und Wert" published in Switzerland. There was no other period in the history of German literature when writers belonging to different aesthetic and ideological tendencies could mutually understand and cooperate with each other, as in the years of the struggle against fascism. F.K. Weiskopf rightly wrote: "There was no quiet corner in emigration where it was possible to be isolated from the world, time repeatedly set practical tasks in front of emigrants and forced them to be in the brotherhood of fate. That's why emigrant writers cooperated more closely and effectively than before emigration. Even at the very beginning of emigration, H. Mann wrote: "If Germany ever becomes better than it is now, it will consider emigrant literature as its moral foundation." The writer was not wrong. The heavy spiritual creativity of the emigration years, the intense involvement of all forces in the fight against fascism, did not go to waste. This period was distinguished by its exceptional productivity in German literature of the 20th century. [1]

From a purely quantitative point of view, the indicators of German emigrant literature were not so great. About two thousand books were published in twelve years, and the circulation of the vast majority of them was not very high. But the importance of the literature of this period is not in quantity, but in its

quality, in its active influence on both the German and the world literary process. World literature of the 20th century cannot be imagined today without the best examples of German emigrant literature. [7] During the years of emigration, social realism was strengthened and qualitatively developed under the leadership of I. Becher, A. Zeghers, B. Bredel, F. Wolf, E. Weinert. They created a new type of hero who actively participated in the historical process. The ideas of critical realists about man and his relationship with society deepened. Their representatives, such as H. Mann and A. Zweig, tended towards social realism to a certain extent. Some examples of German psychological and historical novels, which were particularly successful in this period, became among the pearls of 20th century world literature. The most common aspect of German émigré literature was related to the problems of intelligence and people, literature and politics, national tradition and innovation. While united around a common anti-fascist spirit, German émigré literature was characterized by extraordinary artistic breadth and stylistic diversity. It covered the most diverse genres, from the monumental historical novel to sharp anti-fascist reportage and revealing journalism. [12] After 1933, the first factor that gave impetus to many writers in connection with the coming to power of the Nazis was the attempt to warn the world about the horrors that had happened and would happen in Germany. B. Bredel's novel "Test" had a special place among such works. A large number of historical-chronicles and novels-reportages about the fascist regime were created in connection with the historical circumstances when the Germans came to power. F.K. Weiskopf's novels "Towing" (1937), B. Langhoff's "Warrior soldiers" (1935), B. Shenstedt's "He was shot when he tried to escape" (1935) warned the world and called for the fight against fascism. The deep anti-human nature of the racist policy of German fascism was revealed in the novel "The Oppenheimer Family" by L. Feix van Ger, as well as in the plays "Pastor Gall" by E. Toller, "Professor Mamlok" by F. Wolff, and "Races" by F. Bruckner. L. Feuchtwanger revealed the racist policy of Hitlerism in both contemporary and historical works. E. Zommer used the same method. In his novel "Embassy from Granada" (1937), he talked about the persecution of Jews by the Spanish Inquisition in the fifteenth century. The theme of the writer's novel "The Uprising of the Saints" (1944) was about Poland, which was occupied by the German fascists. The works created in the anti-fascist immigrant literature can be divided into two parts: If L. Feuchtwanger, as well as G. Sur-Meulen ("Our girls are Nazis", 1938) and I. Coyne ("After Midnight", 1937) focused on the crimes against humanity of fascism, B. Bredel, A. Zweig, B. Lanchow, A. Neumann ("They were six people", 1944) talked about the heroes of the German resistance movement who entered into a life-and-death struggle with brown-shirt bandits. A classic example of the epic description of the glorious struggle of the best representatives of the German people against fascism was the novel "The Seventh Cross" by A. Zeghers. [8]

The German social novel, which covers the period from the beginning of the century to the fascist revolution in Germany, entered its development stage during the emigration years. A. Zweig, A. Deblin ("Citizens and Soldiers"), I. Becher ("Farewell"), B. Bredel ("Natives and Acquaintances"), who continued to work on his epic "The Great White War" in exile, different writers such as K. Mann, A. Scharrer, O. M. Graf contributed to this work. In the 1920s, Oskar Maria Graf (1894-1967) gained fame as an author of stories and novels about the Bavarian countryside. The Nazis, who rewarded writers with "blood and soil", wanted to include O. M. Graf in this list. Only the writer's novel "We Are Trapped" (1927), about the Bavarian Soviet Republic, was banned. In 1933, the writer immigrated to Austria (and then to Czechoslovakia and the United States) with an appeal to the fascist government: "Burn me!" wrote an open letter. In his letter, he angrily protested the fact that the Nazis included him in the ranks of "their own", emphasizing that he perceived this "mercy" towards him as a great insult. "Burn me!" In those years, his words became a winged expression, meaning reconciliation with fascism and a call to fight against it. [4] O. M. Graf, who was a baker by birth, and then a soldier and revolutionary, consistently followed the revolutionary movement in 20th century Germany in his work. Following We Are Trapped, he wrote One against All (1931), exposing the treachery of the leaders of the Social Democrats, such as Ebert, Scheidemann, Noske, in 1918-23. Ten years later, the social democrats did not trust the communists and gave the square to the fascists and became their victims, the writer showed in his novel "Emptiness" (1936), which he wrote while in exile. The novel "Void" consists of two main fragments. The first fragment was dedicated to the shameful role of the social democrats, and the second to the anti-human nature of German fascism in the history of Germany. In the image of the main hero of the novel, Josef Hoyer, the writer created a generalized image of inconsistent social democrats that were constantly wavering. As L. Feuchtwanger said in his review dedicated to "Emptiness", the real image of social-democrat Hoxeger is more convincing than dozens of articles dedicated to social-democrats. The next work of O. M. Graf was the satirical novel "Anton Zittinger" (1937). In the novel, the social-democracy's violent nature became the target of satire. The main character of the work, Anton Zittinger, is the direct successor of

Josef Hoxeger. He is the kind of rascal who is able to adapt to everything, bases his domestic desires on the spirit of Nietzsche and Machiavelli and, as a result, justifies fascism. O. M. Graf's success in this novel lies in the fact that by skillfully showing the mesh Shan type, he was able to convincingly reveal that this meshshan prepared a favorable ground for fascism. In the novel "Agyr Alver" (1935), O. M. Graf returns to his favorite topic, talks about the contradictions in the Bavarian village at the beginning of the century. He remains faithful to this theme in his post-war novel "Anxiety Created by a Peacemaker" (1947). The author wrote this novel in America, where he stayed until the end of his life. It was in this novel that he was able to give the deepest social and artistic interpretation of the Bavarian theme. [11] O. M. Graf's novel "Emptiness" ended with these words: "Emigration is a merciless dancing machine: it scatters the dust, and the seed remains, and one seed grows into a hundred." O. M. Graf's compatriot Adam Scharrer (1889-1948) was an equally consistent and uncompromising anti-fascist. As with O. M. Graf, the Bavarian village during the period from the beginning of the century to the coming to power of the fascists occupied a central place in his work. He was able to present this topic best in his historical chronicle "Moles" (1934).

In this chronicle, he not only showed how fascist demagogic propaganda penetrated the retarded German village, but also reflected the gradual awakening of the consciousness of the German peasant. The main character of the novel leaves the monotonous rural environment and joins the ranks of fighters for a new, just society, and this determines the optimistic spirit of the novel. The novel "Shuman Family" (1939), written by A. Sharrer while in exile, was not very successful. He shows the political differences in Germany on the example of a family; he talked about the political conflicts between communists and fascists in the political arena of the late 20s and early 30s. However, the schematism of the novel and the inclination to certain naturalistic details greatly weaken the artistic influence of this anti-fascist work.[11] After "The Schumans", A. Sharrer returned to the theme of "Moles" and wrote the novel "The Shepherd of Rauweiler" (1942). The work brought great fame to its author as a skillful description of the Bavar village and a skilled master of the social novel. During the years of emigration, another socialist realist, Hans Marxwitsan (1890-1965), also entered the stage of maturity. Following the traditions of E. Solya and M. Gorky, the writer wrote the novel "Kumyaks" about the life of coal miners in 1934. The writer, who came from the working class, went through a complicated and difficult life path, actively participated in the revolutionary struggles full of trials, and also addressed the life of the miners in his previous works. However, this topic found its original artistic reflection in the novel "Kumyaks". The author chose the following words spoken by M. Gorki at the First Congress of Soviet Writers as an epigraph to his novel: «Мы живем во времена полного разрушения старого быта, во времена просыпания в человеке чувства личного достоинства, осознанного им как полной силой готовой изменить мир...Мы героями наших книг должны изменить труд, моист человека, который формировался в процессе труда». Translation: "We are living in a time when the old way of life is radically disintegrating, in a time when a person's sense of individual dignity is awakened, in a time when he himself perceives the world as a force capable of truly changing... We are the basis of our books. We should choose labor as our hero, or rather, the person formed in this labor process" (translation by Ofelya Muslimova). [10]

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**PRIORITIES OF MORAL VALUES OF MODERN SOCIETY IN THE WORKS OF CH. T. AITMATOV****Asanova D.A.***Candidate of Philological Sciences, Associate world Literature, Faculty of Russian Philology, Osh State University***Sabirova V.K.***Doctor of Philology, Professor of Osh State University***Isakov K.A.***Doctor of Philosophy, Professor at Osh State University***Abytova Gulsana Zamirovna***Ph.D. assistant professor,***Alimbaeva Seidanakan Abdykadyrovna***master, senior teacher***Ismailova Altynay Torobaevna***master, teacher***Miskichekova Z.Ya.***senior teacher at Osh State University  
Kyrgyzstan, Osh city, st. Masalieva 95a***ПРИОРИТЕТЫ НРАВСТВЕННЫХ ЦЕННОСТЕЙ СОВРЕМЕННОГО ОБЩЕСТВА В  
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Кыргызстан, город Ош, ул. Масалиева 95а***Abstract**

At the beginning of the 20th century, the meaning of the word began to acquire actual significance. What does the word "degrade" mean in the modern world? This is the process of transition from a complex state to a simpler one, when there is a gradual simplification, destruction, decline or loss of properties, qualities of a person, another organism, society, nature, system, molecules. Degradation affects all spheres of life and can affect any phenomenon, process. A phenomenon that is in the center of attention and is being studied by many scientists from completely different sciences and fields. By itself, a person does not contain the potential for destruction, but such cases are still observed. What does personality degradation mean? This is, first of all, the appearance of two important signs - depression and apathy. A person begins to lose balance, learning ability, the desire to learn about the world around him, to develop, to constantly be in dynamics. What does human degradation mean? This is a process of loss of qualities and properties inherent in a person, feelings, judgments, abilities, laid down at birth, are lost. Memory worsens, the ability to concentrate attention, there is no interest in life and the world around. One

*of the central problems in modern humanities is the problem of personality degradation, which involves understanding the negative trends in the life of modern society.*

*The designated topic is raised within the framework of religious studies, philosophy, sociology, history, and ethnography. cultural studies, psychology, political science and other sciences. Many predictions regarding the future of mankind, the risks of modern civilization and ways to minimize them, are made in art. They are of particular interest for research, since art, along with rational judgments, reflects the result of an intuitive comprehension of being. That is why an important direction is the analysis of the problem of personality degradation, carried out both on the material of individual literary works, and in the creative heritage. The article deals with the degradation of the personality: the impoverishment of the spirit, the moral decline of the personality in the works of Ch. Aitmatov "When the mountains fall", "The chopping block", etc. The image of the mountain, its greatness occupies a priority place among other natural images. The writer shows a person who is able to betray his land and his mountains, to trample on all existing values in pursuit of money. And if a person does not stop now, does not change his mind, then a catastrophe will break out in the human mind, a person will degrade, and as a result, we can lose our human face and our homeland.*

#### **Аннотация**

*В начале XX века значение слова стало приобретать актуальную значимость. Что означает слово «деградировать» в современном мире? Это процесс перехода от сложного состояния к более простому, когда наблюдается постепенное упрощение, разрушение, упадок или утрата свойств, качеств человека, иного организма, общества, природы, системы, молекул. Деградация затрагивает все сферы жизни и может повлиять на любое явление, процесс. Явление, которое стоит в центре внимания и изучается многими учеными совершенно разных наук и сфер. Сам по себе человек не содержит в себе потенциала к разрушению, но такие случаи все же наблюдаются. Что значит деградация личности? Это, прежде всего, появление двух важных признаков - депрессии и апатии. Человек начинает терять уравновешенность, обучаемость, стремление познавать окружающий мир, развиваться, постоянно находиться в динамике.*

*Что значит деградация человека? Это процесс потери свойственных человеку качеств и свойств, утрачиваются чувства, суждения, способности, заложенные еще при рождении. Ухудшается память, способность концентрировать внимание, отсутствует интерес к жизни и окружающему миру. Одной из центральных проблем в современной гуманитарной науке является проблема деграции личности, предполагающая осмысление негативных тенденций в жизни современного общества. Обозначенная тема поднимается в рамках религиоведения, философии, социологии, истории, этнографии, культурологии, психологии, политологии и других наук. Многие прогнозы касающиеся будущего человечества, рисков современной цивилизации и способов их минимизации, делаются в художественном творчестве. Они представляют особый интерес для исследования, поскольку в искусстве наравне с рациональными суждениями отражается результат интуитивного постижения бытия. Именно поэтому важное направление представляет анализ проблемы деграции личности, проведенный как на материале отдельных литературных произведений, так и в творческом наследии писателей-философов целого периода, например, конца XX начала XXI веков.*

*В статье рассматривается деградация личности: обнищание духа, моральное падение личности в произведениях Ч.Айтматова «Когда падают горы», «Плаха» и др. Образ горы, её величие занимает приоритетное место среди других природных образов. Писатель показывает человека, способного предать свою землю и свои горы, растоптать все имеющиеся ценности в погоне за деньгами. И если человеку сейчас не остановиться, не одуматься, то грянет катастрофа в человеческом сознании, человек деградирует, и в итоге можем потерять своё человеческое лицо, и свою родину.*

**Keywords:** *Degradation, personality, impoverishment, mountain, cradle, avalanches, morality, spirit, conscience.*

**Ключевые слова:** *Деградация, мораль, личность, оскудение, гора, колыбель, снежные лавины, мораль, дух, совесть.*

Вспоминая о годах своей юности, Чингиз Айтматов с большой любовью рассказывает о том, когда он, будучи еще мальчишкой, весело проводил время на горных просторах. Наполняя глубинным смыслом образы гор в произведениях, Айтматов изображает их как символ родного края, величия, монументальности, незыблкости. Писатель с неповторимым чувством заявляет: «Небесные горы – это колыбель киргизов, а снежные лавины – драконы гор» [2, с. 6]. Одновременно образы великих гор выступают как символ народного плача, утраты, предвещения опасности. В связи с этим люди, отправляясь в путь, читают молитвы, заклинания духа великих гор. Строка одного из таких заговоров была взята Ч. Айтматовым за название последнего романа «Когда падают горы» («Вечная невеста»), изданного в 2006 г.

Ядро романа заключается в основном вопросе: отчего вековые, незыблемые, крепкие горы могут упасть? И это падение не ассоциировано с каким-либо природным катаклизмом. Трагедия связана с деградацией человеческой личности, с опустошением его внутреннего мира, погоней за наживой, деньгами. Современное общество, люди в беготне за деньгами, властью, ценностями в жизни современных людей поменялись. На смену совести, нравственности, гуманности, духовности, доброты пришли такие резко выраженные ценности как: деньги и причем героев нашего времени волнуют только большие деньги, власть, эгоизм, жадность, мелочность души, отсутствие воспитания, культуры, низость в поступках и поведении. Не это ли? деградация личности, трагедия XX века? Трагедия духа человеческого – это и трагедия великих гор: горы падают, разрушаются, как падает на дно жизни человек! Раскрываемая писателем метафорическая идея разрастается в контексте произведения, обретая черты грандиозного, величественного образа.

Оставаясь верным своему традиционному принципу изображения во взаимосвязи природного и человеческого начал, Чингиз Айтматов и здесь включает элементы сравнения: отрешенность и усталость, старость прежде сильного горного барса и молодого, отчужденного от мира человека.

Жизни и судьбы Арсена Саманчина и Жаабарса сплелись воедино с родными горами: оба тосковали по ушедшим временам и по былой счастью, каждый из них мечтал о достижении своей вершины в жизни: «Зрела наперекор всему – сила внутренняя, неодолимая, повелевающая как можно скорей покинуть здешние места, исчезнуть навсегда, удалиться в иной мир, который находился не где-нибудь, а за перевалом, за великим перевалом поднебесного вечноснежного хребта» [1, с. 29]. Величие гор переплетается с поисками героев личного счастья, покоя, умиротворенности. Образ великого горного хребта у Айтматова многоплановая: с одной стороны, он напоминает о счастливых моментах, которые испытал юный Жаабарс в горах; с другой – именно здесь, в родимых местах, ему было предопределено встретить тяжелейшие мгновения затухающей, уходящей в небытие жизни.

Чингиз Айтматов раскрывает взаимосвязь и взаимовлияние двух противоположностей, двух полюсов. Бесценное природное явление – рождение противопоставлено вечному забвению пройденного пути – смерти. Все в этом противопоставлении – смелость и трусость, мужество и слабость, честь и бесчестье, необычайное устремление к вершинам и безудержное падение – тесно переплетаются в образе величественных гор у Ч. Айтматова.

И в последующем линия «великие горы – человеческие образы» наполняется опустошенностью, неприступностью, отрешенностью и глубоким трагизмом: «Жаабарс скреб когтями мерзлый каменистый грунт, и если бы дано было ему заплакать в голос, то разрыдался бы он так, что горы сотряслись бы вокруг» [1, с. 29].

Даже второе название романа – «Вечная невеста» – воссоздает смысловую палитру, ассоциированную с величием горных вершин: «Сказание в наших краях, среди грациозных горных вершин живет давно, и все верят, что она бродит где-то по горам, ищет пропавшего жениха». Связанность мифологического сюжета введенной в повествование писателем легенды с реальным действием в романе выступает как символ мифологемы горных вершин: жених вечной невесты пропадает в горах также, как пропадает Жаабарс из пещеры Молоташа.

Природная прелесть, великолепия гор выступает как необъятный мир, всеобъемлющий, великолепия и величием своим непохожий ни на какой другой. Однако человек деятельностью своей, поглощенный инстинктами выживания, жаждущий быстрой наживы, готов уничтожить все, когда-то созданное им, – священные традиции, глубокую веру, почитание заветов предков, высокую нравственность и духовность – все, что является составляющими гордого званья – человек! Именно тогда могут «упасть горы», когда темные стороны души человеческой овладеют им без остатка.

Таким образом, Чингиз Айтматов показывает, что даже вековые горы могут упасть, если человек не осознает свою ответственность, не перестанет предаваться соблазну всё больше и больше завоевывать и покорять природу.

Ч.Айтматов говорит, что таких людей горы не принимают. Они являются их "кровными врагами". Борьба здесь идёт не на жизнь, а на смерть. Поэтому Ч.Айтматов словами Арсена заявляет: «Я не дам вам уничтожить наших зверей! Мотайте в свои Дубай и Кувейты, прочь с наших священных гор!» [1, с. 12]. Образ горы символизирует священную сущность родного края для тех, кто родился и вырос на этой земле.

Ч. Айтматов ещё раз напоминает нам, как человек тесно связан с землёй, со средой своего обитания. Это мы уже видели в целом ряде его произведений. Здесь же художник мастерски изображает, как горы накладывают свой отпечаток на жизнь героев, как влияют на их судьбу, на их настроение, характер, духовность: «На таких горных высотах происходит «вахтовая смена души», что-то вроде перезагрузки, обновление настроения и восприятия окружающего мира» [1, с.7]. В многообразии определяется соучастие неба, гор и земли, составляющих пространственную триаду в бытии человека, и образ вершины преобразуется, в конце концов, в вечный и чистый, незыблемый и светлый символ, о чём свидетельствует голова, руки и основания Узенгилеш-Стремянных высот.

Образ горы в данном произведении выступает и как символ судьбы, поскольку именно он связал две жизни, которые окончились именно здесь. И Жаабарс мечтал остаться на вершине высокой горы, и Арсен хотел обрести счастье со своей возлюбленной в горах, пещере Молоташ: «Волею случая ли, судьбы ли оказались в пещере, их было двое в этом их последнем пристанище – умирающий человек и зверь дикий, рядом умирающий. Оба одинаково закончили свой земной путь. Вот и встретились напоследок» [1, с. 14].

Таким образом, необходимо отметить, что образ горы противопоставлен такому явлению современного общества как деградация-обнищание человеческой личности, «коррозии» его духа. Образ горы, её величие в творчестве Ч. Айтматова занимает приоритетное место среди других природных образов и разрастается до уровня художественного символа. Кроме того, образ горы обретает большой смысл, который очень актуален для нас сегодня, так как писатель показывает человека, способного предать свою землю и свои горы, растоптать все имеющиеся ценности в погоне за деньгами. И если сейчас не остановиться, не одуматься, то грянет катастрофа в человеческом сознании, бытие и мы можем просто потерять и своё человеческое лицо, и свою родину. Вот о чём идёт речь в этом романе, вот, что, на наш взгляд, хотел сказать нам писатель с высоты своего жизненного опыта, своей «высокой горы».

Учения о конце истории, который может наступить из-за того, что человек отступает от «вечных» законов, т.е. из-за деградации личности возникли еще в глубокой древности, однако в 1960-е годы произошел всплеск эсхатологических идей. Он усугубился на рубеже тысячелетий - времени, когда принято подводить итоги и уделять больше внимания осмыслению тенденций развития цивилизации. Напряженные искания философов, ученых, общественных деятелей и писателей связаны с новыми цивилизационными рисками, возникшими на закате века: благодаря научно-техническому прогрессу у людей появились такие возможности, которые позволяют качественно преобразовать человеческое тело, серьезно трансформировать принципы мышления, изменить пространство вокруг себя, повлиять на развитие жизни на планете Земля или даже оборвать ее. В конце XX столетия встал вопрос о том, существовать ли человеку как существу, созданному по образу и подобию Божьему, или он может отказаться от многовековых морально-этических законов, модифицировать тело и душу, фактически превратившись в киборга.

Система негативных тенденций развития общества, которые ведут к деградации личности т.е. изменению природы человека и существенно снижают его личностный потенциал, заставила ученых в 60-е годы прошлого века зафиксировать проблему антропологического кризиса. Мыслители сходятся в том, что негативные тенденции развития цивилизации ведут к деградации. Личности, что грозят человечеству гибелью. На рубеже тысячелетий чрезвычайно остро встают вопросы о том, каким должны быть взаимодействие между людьми, отношение человека к окружающему миру, чтобы сохранить жизнь на планете Земля. К многовековому спору о мере человека, его месте в мире и тем нравственным законам, которые позволяют сохранить ему в себе человеческое, присоединяются Философы, общественные деятели и представители сферы искусства.

Много внимания проблеме деградации личности в художественном и публицистическом творчестве уделяют писатели, которые пользовались высочайшим авторитетом в отечественной культуре 1970-х - 1980-х годов, это Чингиз Айтматов, В.Распутин и др.

Начав свой творческий путь в рамках соцреализма, они обратились к проблемам вселенского масштаба. Тематика и особая оптика, которая сформировалась благодаря широчайшему историческому контексту, позволили художникам преодолеть каноны соцреалистического художественного метода, подключиться к традициям русской классической прозы, проповеднического слова, европейского романа и отыскать новые формы художественного повествования. В прямых, вне художественных высказываниях писатель обозначает основные черты современного кризиса и намечают пути выхода из него. По мнению писателя, к спасению человека от деградации способны привести труд, вера, память рода, национальная культура. Ч. Айтматов, дорожа богатством национального фольклора, настаивает на том, что человечеству необходимо объединиться ради спасения от антропологического кризиса. Все живое на планете Земля мыслится ему как единый организм. В позднем художественном творчестве Айтматова проблема преодоления пагубных для человека как духовного существа процессов становится ключевой. Напряженный поиск путей преодоления пагубных последствий определяет мотивную структуру произведений, своеобразие пространственно-временной организации, природу образов.

В ранних произведениях Ч.Айтматов описывал жизнь малых селений в киргизских горах и казахских степях. Осмысляя судьбу людей, живущих вдали крупных городов, писатель задавался вопросами о связях роста цивилизации и деградации личности, совсем узких сообществ со Вселенной, о мере человека и его месте в современном мире. И Айтматов настаивает на том, что любая личность теснейшим образом связана с развитием всей цивилизации, поэтому его интересы не могут быть принесены в жертву прогрессу, интересам «мирового человечества».

Ч. Айтматов рассматривает судьбу всего человечества с точки зрения малых локусов, но в их произведениях по-разному происходит расширение пространственно-временных континуумов. В айтматовских романах доминантой пространственно-временной организации становится космизм. формами его реализации на уровне организации художественного текста являются мотивы единства человеческого рода, теснейшей взаимосвязи человека и природы; взаимопроникающие сюжеты и мифологическое пространство; параллели между судьбами людей и животных. Писатель воспринимает судьбу отдельного человека как неотъемлемого представителя земной цивилизации, по-новому осмысляет единство людей как жителей одной планеты, судьба которой теснейшим образом связана с судьбой всего живого на Земле. По-особому организовано и время в текстах Айтматова. Современность воспринимается им как тонкий слой, мгновение с точки зрения вечности. Специфика настоящего времени детерминирована прошлым и в свою очередь определяет будущее. Вглядываясь в особенности сегодняшнего дня, тщательно, порой с публицистической беспощадностью детализируя приметы времени» современности, писатель воспринимает наши дни с позиций «большого».

В произведениях Ч. Т. Айтматова очень важен план трансцендентного. Человек в произведениях показан в контексте вечности. Для анализа прозы Айтматова важно понятие меры человека - той степени значимости жизни индивида, которая дана Богом. Трагедией грозят ситуации, когда человек превышает данную изначально меру, чувствует себя всемогущим существом, которое вправе распоряжаться жизнями других людей, изменять окружающий мир и природу человека, вмешиваться в таинство зачатия, как это пытались сделать Чингисхан и Андрей Крыльцов. Человек не вправе принижать ближних, превращать их в орудие для достижения корыстных целей, манкуртов, бесправных рабов, не осознающих себя как творение Божие, или икс-родов, исключенных из цепи поколений и в силу этого деградированных личностей, лишенных человеческой природы, гуманистических устремлений. Чингиз Айтматов видит путь спасения человечества от деградации в жертве, принесенной ради ближних. Именно жертва, по мнению писателя, является высшей формой проявления нравственной ответственности, которая способна вывести человека на новый уровень развития не деградируя. В его концепции жертва рассматривается исключительно на социальном уровне: она может возродить человечность лишь в том случае, если будет верно интерпретирована окружающими.

Противостоять вызовам современной цивилизации, и по мнению Айтматова, позволяет осознание себя в качестве звена уходящей вглубь веков родовой цепи. Для Чингиза Айтматова как представителя тюркской культуры понятие рода особенно значимо. Уважающему себя

киргизу важно помнить род до седьмого колена. По мнению Ч.Т.Айтматова, память о роде теснейшим образом связана с идеей ответственности и нравственной чистоты: человек поступает по совести, чтобы быть достойным своих предков и чтобы не опозорить детей и внуков, которым придется разделить ответственность за все его дела. Цель Айтматова, на наш взгляд, состоит в том, чтобы раскрыть особенности тюркской культуры мировому сообществу, вступить в диалог с представителями других государств, создать почву для межнационального общения и обогащения национальных культур. Именно живое народное слово, по мнению писателя, хранит в себе зерно духовности и человечности, которые способны привести человека к спасению.

Поздние произведения Чингиз Айтматов создает только на русском языке, стремясь, чтобы его романы скорее были переведены на множество языков и стали фактами мировой культуры. Для Айтматова крайне важно довести идеи о развитии цивилизации до каждого, кто живет на Земле. Ради того, чтобы его идеи были восприняты представителями разных поколений и социальных групп, он готов перейти на усредненный стиль письма, используя многочисленные жаргонизмы, разговорные выражения, заимствованные слова. Взаимопроникновение художественного, философского и публицистического начал в прозе, позволяет, на наш взгляд, говорить о развитии самой природы словесного творчества, когда оно призвано спасти человечество от близкой катастрофы. Контекстом такой литературы становятся произведения метафизической значимости, рожденные на самых крутых поворотах мировой истории. Айтматов обращается к жанру романа-предупреждения, развивает форму художественной проповеди. В поисках способов воздействия на читателя писатель по-новому сплетает эпическое, философско-лирическое и публицистическое начала. Изображая современность с помощью репортажных приемов, писатель вглядывается в свое время с точки зрения вечности.

Изучение проблемы деградации личности в художественной литературе должно быть продолжено. Писатели, находясь, как правило, в гуще общественных споров, интересуясь экологическими, социальными, экономическими политическими вопросами, обладают еще и особым художественным зрением, поэтому острее чувствуют только намечающиеся тенденции и видят связи между далекими, на первый взгляд, явлениями жизни. Перспективным объектом исследования могут быть особенности изображения деградации личности в художественных произведениях разных мировоззрений, разных стилей и жанров. Кроме того, важно проанализировать и обобщить, с помощью каких художественных средств изображаются черты деградации личности, как искусство сопротивляется этой деградации.

Ч.Айтматов чаще говорит о судьбе всей человеческой цивилизации, а не одной национальной культуры. Он отмечает, что преодолеть кризис может лишь все человечество, совместными усилиями, однако для этого каждый должен понять, что лично он-среди тех, от кого зависит будущее планеты Земля, и что «Перед каждым человеком стоит неизбывная задача – быть человеком, сегодня, завтра, всегда» /Ч.Т.Айтматов/.

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## OFFICIAL BUSINESS STYLE, ITS SUBSTYLES AND MAIN FEATURES

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## ОФИЦИАЛЬНО-ДЕЛОВОЙ СТИЛЬ, ЕГО ПОДСТИЛИ И ОСНОВНЫЕ ЧЕРТЫ

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**Abstract**

*In this article discusses issues of official business style, as well as its substyles and main features. It explores the concepts of business acts, legal laws, regulations, official correspondence, and business documents. The article specifies the diplomatic business style; documentary business style and casual business style. Here, clarity is also brought to the terms: status quo, persona non grata, preamble, etc. Each of these terms is considered separately.*

**Аннотация**

*В данной статье рассматриваются вопросы официально-делового стиля, а также его подстили и основные черты. Здесь исследуются понятия деловых актов, юридических законов, постановлений, официальной переписки, а также деловых документов. В статье конкретизируются дипломатический деловой стиль; документально-деловой стиль и повседневный деловой стиль. Здесь, также вносится ясность в термины: статус-кво, персона нон грата, преамбула и др. Каждый из этих терминов рассматривается по отдельности.*

**Keywords:** style, law, official correspondence, term, law, diplomat, text, communication, citizens, document.

**Ключевые слова:** стиль, закон, официальная переписка, термин, право, дипломат, текст, общение, граждане, документ.

Официально-деловой стиль является стилем документов: международных актов, юридических законов, указов, постановлений, инструкций, официальной переписки, деловых документов и т. д.

Официально-деловой стиль является одним из самых традиционных стилей литературного языка любой страны. Этот стиль служит праву, делопроизводству (включая сюда деловую переписку), правоотношениям. Он стремится к объективности, обобщению, логической организации изложения, смысловой ясности, однозначности и достоверности. Официально-деловой стиль является средством официально-документального общения между государствами, между государством и гражданами. Каждый текст этого стиля имеет характер документа. Поэтому официально-деловой стиль использует строгие стандарты выражения. Все тексты этого стиля носят рецептурный характер и являются наиболее консервативным из всех стилей. Языковые изменения, которые постоянно наблюдаются в других стилях происходят очень медленно и редко. Этот стиль делится на несколько подстилей: дипломатический деловой стиль; документально-деловой стиль; повседневный деловой стиль.

Дипломатический деловой стиль используется в международных соглашениях, конвенциях, декларациях, меморандумах, доверительных документах, личных записках и заявлениях, устных записках, памятных записках. Для этого подстиля характерно использование специальных международных терминов (например: статус-кво, персона нон грата, преамбула и др.).

Статус-кво — латинское слово, означающее «изменение». Но это означает защиту фактической или правовой ситуации, которая существовала или существует в настоящее время.

Персона нон грата — латинское слово, означающее «нежелательный человек». В межгосударственных отношениях лицо, которому правительством этой страны запрещен

въезд или пребывание в стране, называется персоной нон грата. Этому человеку предоставляется политическая неприкосновенность, его нельзя арестовать или допросить.

Преамбула — французское слово, означающее «предыдущее, начало, введение». Это слово в настоящее время употребляется в трех значениях: 1) введение или преамбула законодательного акта или иного правового акта, а также декларации или международного договора; 2) в официальных документах - вводная, пояснительная часть любого документа, решения, закона, свода законов; 3) введение в беседу в переносном смысле.

Международное соглашение — это соглашение между двумя или более сторонами по какому-либо вопросу.

Конверсия происходит от латинского слова *conventio*, что означает «договор, соглашение». Это международно-правовой документ. В отличие от декларации или заявления, конвенция имеет статус закона. Его выполнение подписавшими и ратифицировавшими его государствами (членами соответствующих международных структур) является обязательным.

Декларация (лат. *declaratio*) — одностороннее, двустороннее, многостороннее заявление, издаваемое государствами для выражения принципов их внутренней и внешней политики или их позиции по внешним вопросам. Часто подписываются двусторонние и многосторонние декларации. Однако она может быть принята и без согласия сторон тоже. На практике главы государств и правительств, министры иностранных дел и другие государственные чиновники имеют опыт издания совместной декларации в рамках международных организаций. Также признание государства и организаций может осуществляться посредством деклараций. Кроме того, возможно также заключение международных договоров в форме декларации.

Меморандум — латинское слово. Это дипломатический документ, в котором любой вопрос разъясняется с точки зрения правительства. Меморандум — одна из форм дипломатической переписки (после ноты по значимости). Он оформляется в виде описания фактической или юридической стороны обсуждаемого вопроса. В большинстве случаев оно добавляется в примечание с целью обоснования и развития его положений. В этом документе подробно рассматривается фактическая сторона любого вопроса. Меморандум отправляется лично или курьером. Он печатается на бумаге для записей без эмблемы. Слово «меморандум» должно быть написано в центре. Номер, марка, место и дата не указываются. Раньше меморандум по-французски часто называли *deduction* (заключение) или *Expose des Motifs* (запись мотивов).

Дипломаты могут воздержаться от обсуждения каких-либо тонких принципиальных предложений во время конференции или по указанию своего правительства. В таком случае дипломат может сам обсудить упомянутый вопрос и оставить неофициальный документ (*non-rare*), в котором вопрос отражен в расплывчатой, несколько абстрактной форме.

*Non rare* (в переводе с английского означает «несуществующая бумага») — вид документа, широко используемый в современной дипломатической и политической практике. Уникальный, обезличенный меморандум представляет собой краткое изложение, отражающее суть вопроса и являющееся предполагаемой формой обсуждаемого документа.

Обычно такой документ не имеет заголовка и подписи, хотя может содержать технические подзаголовки. Использование таких документов дает возможность определить предлагаемое предложение, ситуацию на переговорах, а также включить новые элементы для рассмотрения другой стороной. Как правило, такие документы не считаются официальными документами и служат рабочим материалом. Ссылка на предоставление неофициального документа принимается только в том случае, если не указан автор документа. Неофициальный документ не предназначен для цитирования, а иногда и для того, чтобы его нельзя было обнаружить. Однако в ряде случаев этот документ предлагается, как способ получить общественно-политические комментарии и оценки по тому, или иному вопросу.

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## Political sciences

### FORMATION OF LEADERSHIP IN NEW POLITICAL CONDITIONS

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#### **Abstract**

*In political management practice, the formation of the image of a politician begins with the development of a preliminary program of action, which is determined by elections. To create such a program, the contingent is carefully studied or (as it is commonly called in political science literature) the "target audience" of a political image. This process occurs using various sociological and socio-psychological technologies for analyzing representations, opinions and other manifestations of mass consciousness, conducting expert surveys, observation focus groups, etc. Using these methods, the so-called "ideal image" of a given audience is calculated.*

*The specific directions of knowledge are studied by the corresponding varieties of political image. The political image, on the one hand, has much in common with the objects of political cognition, on the other, it corresponds to the principles of a systematic classification of political knowledge.*

**Keywords:** *image, political leadership, power, problem, position.*

*Political science factors of leader formation make it possible to determine and substantiate the main political technological schemes to maintain a balance of interests in foreign and domestic politics. In this regard, the further implementation of political, socio-economic and cultural transformations, concern for improving the welfare of the population (regularly analyze and optimize the public image of the leader; conducting public speaking trainings, psycho-linguistic examination of the texts of the leader's speeches, their correlation, depend on them) with a specific political context; the constant implementation of individual programs for meetings of the leader with voters, representatives of the media, business, cultural and political elites, visits to regions, etc.), with which you can carry out further political modernization and crisis-free management.*

*In this regard, the study of the political perspective of the image of a leader is a purposefully constructed structure. It reflects the perception of political, psychophysiological, social and other criteria of personality and activity of a political leader. The image is formed and functions only as a result and / or the process of relations of the political leader with groups, adapting to the socio-political field, and changes under the influence of external and internal factors.*

*As you know, political leadership is a hot topic in modern political science. In theoretical terms, it addresses the decision in the scientific literature on the role of the individual in history, on the boundaries and possibilities of the influence of political figures on the historical process. Today it is one of the constituent parts of the political process, which is confirmed, for example, by the next wave of actualization of the indicated problem, that is, the problem of clarifying "the situation determines the policy or it is the situation". In the research literature, the theoretical unresolvedness and complexity of assessments of this aspect leave room for its further development. Thus, new trends in this direction are noticeable thanks to the hypothesis of the "planned history" of A. Zinoviev. According to the researcher, "we live in an era of planned history." This time is characterized by an unprecedented increased role of political figures in the construction of social and political systems and a change in the quality of their participation in the historical process.*

*Despite the fact that today there are two main approaches to the definition of the concept of "image". The first is historical. His supporters tend to believe that it has always existed. The concept of "image" is associated with the development of statehood, because it was not by chance that it was reflected even in the nicknames of kings and rulers (for example, Yaroslav the Wise, Charles the Great, etc.). Supporters of the second opinion are convinced that the time the concept "image" appeared was*

connected with the beginning of the 20th century. It was during this period that mass production of various types of mass media and, in particular, television, appeared and developed everywhere at a rapid pace. The 21st century, like the previous one, is the time of the creation of political idols. This can explain the need for conscious design of what others need.

In accordance with our point of view, it is advisable to talk about the close relationship of political leadership and the image of a political leader. First, let's clarify what is political leadership in general.

First, wherever groups arise, leadership appears. One researcher noted that "leadership is as old as humanity." It is universal and inevitable. It exists everywhere: in large and small organizations, in business and in religion, in trade unions and charitable organizations, in campaigns and universities. "Any leadership is a group phenomenon. "There cannot be a single leader, a leader" in his own right, "without communication with his followers."

Secondly, leadership can be considered from the point of view of managerial status, a social position related to the adoption of certain decisions. This understanding of leadership stems from a structurally functional approach that considers society as a complex, hierarchically organized mechanism with its own system of social positions and roles. Occupation in this system of certain niches depends on the performance of certain managerial functions, which, in turn, gives a person the status of a leader. If you take into account this opinion, the leader is a kind of symbol of community and a model of the political behavior of the group. As a rule, his nomination takes place mainly spontaneously from below and then is accepted by followers.

Thirdly, political leadership is a constant priority and legitimate influence of one or more persons who occupy power positions on the whole society, organization or group. So, in the opinion of J. Blondel, political leadership is "power, because it consists in the ability of one person (or several persons), who are "on top", to force others to do something positive or negative that they would not do either ultimately could not do at all. But, of course, leadership is not every kind of government. Leadership is top-down power." [1, P. 156].

Therefore, according to Blondel's theory, the differences between "natural" and "artificial" structures tend to increase, since the policies of the latter are addressed to a large extent to the whole of society, and not to representatives of its individual part. This paradigm of "artificial" structures gives politics a "national" character. And by this they contribute to the struggle of political leaders with narrow-group trends, which is so inherent in "natural" structures. Nevertheless, "artificial" structures far from always can provide the same strong loyalty that is characteristic of "natural" structures. In the emerging conflict between "natural" and "artificial" structures, citizens may be more likely to cast their votes for the political image of those leaders who represent "natural" structures, and not state ones, despite the fact that these may be formal organizations provided for constitutional, or informal, such as political parties or interest groups.

However, this definition of political leadership is not the only one. However, it seems to us heuristic, especially when analyzing leadership in macrosocial groups. In this case, it represents a kind of intervention of power relations in the communicative process of large social communities.

The interaction of leadership as a specific mode of behavior (that is, the fulfillment of a role) and leadership as a "top" position (that is, possession of this status) is accompanied by the appearance of two problems. The first of them is connected with real leadership, which should be separated from formal (holding a position). In the theory of political leadership, occupation of a certain position which is usually called "positional". Leadership itself becomes a characteristic of real power and is called "behavioral". It is only partly the product of an occupied position.

The second type of problem is related to the fact that a positional leader is easy to detect, but it is more difficult to identify a behavioral leader. Although, despite these difficulties, in both cases, leadership is associated with power, because a leader (in a behavioral sense) is a person who has the ultimate influence on changes in the course of events. In addition, even Machiavelli pointed out that it is much more difficult to be able to hold than to conquer. To achieve this goal, something more is required than status. In reality, the formal position and real power, the practical ones always interact.

As already mentioned above, all modern concepts of leadership have a common feature: they recognize the fact of the influence of one or more individuals on most people. But what does it mean to "influence"? Influence is represented, for example, as the priority behavior of one subject, which changes the behavior of another.

Of course, such an understanding of "leadership" is not limited only to the interpretation of the concept of "influence". This process is aimed at joint actions and means that all its participants strive to

achieve common goals. According to S. Djibb, J. Julian and E. Hollander, "the influence of a leader implies his positive assistance in achieving shared goals" [2, P. 91].

Thus, the image of a political leader is one of the main factors that can have a significant impact on the relationship between formal and informal structures in the modern political system. The political leader can have this effect in several ways. Among them: 1) interaction with political institutions, 2) rivalry with them, 3) leadership of them, 4) creation of new structures. In all the above cases, the image of a political leader can be a bargaining chip in the game on the side of both informal and formal institutions or represent both types of structures.

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## Sociological sciences

### CULTURAL MODERNIZATION OF THE CITY OF SHUSHA AFTER THE SECOND KARABAKH WAR

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#### **Abstract**

Shusha's development impulses were determined after the Second Karabakh War. In order to emphasize and protect the historical and political importance of Shusha, the process of modernization in the cultural field has been started. Shusha will become one of the most beautiful cities in the world, reflecting both history and modernity, as the main symbol of our great historical victory. In a short period of time, planned reconstruction works have been carried out.

**Keywords:** War, Shusha, modernization, TURKSOY, Karabakh

*The process of cultural modernization in Shusha is taking place in two directions after the war.*

*The first direction - First of all, it is carried out with the restoration of the historical and cultural heritage.*

*In the direction of cultural modernization of Shusha after the war, restoration of 210 historical and cultural monuments, 20 culture houses, 19 libraries, 8 music schools, 7 museums, 1 gallery, 1 theater institutions was planned. As a result of restoration works in Shusha, the previous activity of all springs that once existed in the city is being restored.*

*The second direction is to create conditions for holding meetings and events in the international arena, especially in Shusha.*

*The summit of heads of state and government of the Organization of Turkic States, which will be held in Shusha in July 2024, has special relevance. So this is not only of political importance. This is also a sign of cultural solidarity in the Islamic world and the Turkish world. Since solidarity is one of the main factors of modernization, this will open opportunities to achieve significant results in the cultural modernization of Shusha city.*

#### **Conclusion**

*As a result of the cultural modernization of the city of Shusha after the Second Karabakh War, the International Organization of Turkish Culture (TURKSOY) declared Shusha the cultural capital of the Turkic world for 2023. In the capital program, Minister of Culture Adil Karimli nominated Shusha, considered the cradle of our culture, to be the cultural capital of the Islamic world for 2024, and Shusha became the capital of the Islamic world for 2024.*

*The Commander-in-Chief repeatedly voices the truth also that "there is no Azerbaijan without glass" in his interviews with foreign and local media. I believe that there is no modernization without Shusha.*

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## Technical sciences

UDC 669-1

### CHARACTERIZATION OF DUST FROM COPPER-LEAD PRODUCTION

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#### **Abstract**

Complex problems in metallurgy arise from the formation of metal-bearing waste with varying chemical and mineralogical compositions in different states of the process. The formation of dust is a part of the copper and lead production process.

An important prerequisite for organizing a separate production for the processing of dusts is their multicomponent nature and value: dusts contain lead, zinc, copper, cadmium and other rare metals, in particular, rhenium, osmium, selenium, tellurium, thallium and others. In recent years, they have significantly increased the content of arsenic and other related harmful elements (Pb, Cd, Sb, etc.), which put pressure on the environment and human health.

To organize the production of dust processing with the production of commercial and target products from them, cost-effective and environmentally friendly technologies are needed that would improve the technical level of production of commercial and intermediate products from dust, taking into account known trends and directions of technology development.

The main aim of this research was the characterization of dusts produced in copper and lead production (dust of reverberatory furnaces, shaft furnaces, electric furnaces, Vanyukov furnace) to determine their composition and mineral phases, as an indispensable preliminary step towards choosing the best available technology for recovery of metals.

**Keywords:** Copper-Lead production, dust of reverberatory furnaces, shaft furnaces, electric furnaces, Vanyukov furnace, dust chemical and mineralogical compositions.

#### **INTRODUCTION**

Kazakhstan is one of the major regions of the world with large reserves and the prospects for expansion of mineral resources of non-ferrous heavy metals. At the same time, a large amount of waste is released into the environment in the Republic of Kazakhstan. In 2021, Kazakhstani enterprises emitted 2.1 million tons of pollutants into the atmosphere. Of these, 491.7 thousand tons were solid pollutants [4].

Complex problems in metallurgy arise from the formation of metal-bearing waste with varying chemical and mineralogical compositions in different states of the process. The formation of dust is a part of the copper and lead production process, and refers to the dust collected during the melting of copper in reverberatory furnaces [5], electro furnaces [6, 7, 8], shaft furnaces [5, 9].

Solid particles carried out by the off-gas are trapped in the separation system. The chemical composition of these dusts depends mainly on the furnace, the type concentrate and chemical composition of the concentrate. Even a slight change in operating conditions and concentrate chemical composition could result in a change in dust composition [12-17]. These dusts are characterized by considerable heterogeneity of grain size, chemical, and mineralogical composition [18-23].

In considering these facts, the main aim of this research was the characterization of dusts produced in copper and lead production to determine their composition and mineral phases, as an indispensable preliminary step towards choosing the best available technology for recovery of metals.

#### **MATERIALS AND METHODS**

##### **Origin of dust**

Dust of reverberatory furnaces, shaft furnaces, electric furnaces, Vanyukov furnace from various enterprises of Kazakhstan were chosen as initial products. The dust samples were collected during a month period from the smelting operation. The as-received samples were re-weighed and subjected to

*mixing, quartering, and dividing sample preparation methods to obtain representative samples of the dust. The bulk of the waste material occurs in the particle size range below 74  $\mu\text{m}$  (-200 mesh).*

#### **Methods**

*The chemical composition of the dust samples was quantitated by the inductively coupled plasma mass spectrometer Agilent 7700 Series ICPMS (USA).*

*Infrared spectroscopy (IR spectra) were recorded on a Specord M-80 two-channel IR spectrophotometer (Russia) from samples prepared in the form of suspensions with vaseline oil in the spectral range of 3800-400  $\text{cm}^{-1}$ . The absorption bands of vaseline oil were compensated by placing a cuvette with oil in the comparison channel.*

*X-ray phase analysis (XRF) was carried out on a DRON-3M diffractometer (Russia) using the powder method in the angle range of 15-120° in Co-K  $\alpha$ -radiation. To eliminate Co-K  $\beta$ -radiation, a  $\beta$ -filter was used. The registration of the diffraction pattern was carried out by automatic recording on a chart tape at a counter movement speed of one deg/min.*

*Powder X-ray diffraction (XRD) was performed on an apparatus D8 Advance (Bruker, Germany),  $\alpha$ -Cu, tube voltage 40 kV, current 40 mA. Processing of the obtained data of diffraction patterns and calculation of interplanar distances were carried out using the EVA software. The interpretation of samples and the search for phases were carried out using the Search/match program using the PDF-2 powder diffraction database.*

#### **RESULTS AND DISCUSSION**

##### ***Analysis of lead-containing dusts from lead-zinc and copper smelters***

*Chemical composition*

*Chemical composition of the all investigated dusts are different.*

*The chemical composition of the average monthly dust of various melts is shown in table 1.*

Table 1. Chemical composition of average monthly samples of smelting dust

| Elements      | Shaft smelting |               | Shaft reduction smelting |               |                        | Electric smelting |               | Electric smelting      |          | Vanyukov process smelting |
|---------------|----------------|---------------|--------------------------|---------------|------------------------|-------------------|---------------|------------------------|----------|---------------------------|
|               | smelting       | agglomeration | smelting                 | agglomeration | agglomeration-smelting | smelting          | agglomeration | agglomeration-smelting | smelting |                           |
| Pb, %<br>mass | 54.9           | 57.4          | 44.0                     | 55.8          | 37.5                   | 47.5              | 53.8          | 49.8                   | 38.0     | 43.0                      |
| Cu, %<br>mass | 0.19           | 0.587         | 0.70                     | 0.72          |                        | 0.44              | 0.48          | 0.24                   | 10.7     | 3.4                       |
| Zn, %<br>mass | 10.45          | 0.517         | 23.7                     | 3.4           | 7.22                   | 30.1              | 1.32          | 19.33                  | 3.67     | 2.3                       |
| Cd, %<br>mass | 2.76           | 3.29          | 2.44                     | 1.4           | 1.17                   | 1.0               | 1.31          | 2.64                   | 1.37     | 1.1                       |
| As, %<br>mass | 2.07           | 0.28          | 3.6                      | 7.6           |                        | 0.35              | 1.1           | 1.74                   | 5.68     | 1.7                       |
| Sb, %<br>mass | 0.018          | 0.027         | 0.1                      | 1.0           |                        | 0.03              | 0.37          | 0.49                   | 0.3      | 0.5                       |
| Re, %<br>mass |                |               |                          |               |                        |                   |               |                        |          | 0.02                      |
| Te, %<br>mass |                |               |                          |               | 0.024                  |                   |               |                        |          |                           |
| Se, %<br>mass | 0.034          | 0.075         | 0.44                     | 0.65          | 0.04                   | 0.2               | 1.4           | 0.075                  |          | 60                        |
| In, ppm       | 147.7          | 17.2          | 76.8                     | 14.8          | 1.0                    |                   | 10            | 75                     |          | 5                         |
| Os, ppm       |                |               |                          |               |                        |                   |               |                        |          |                           |
| Tl, ppm       |                |               |                          |               | 5.0                    |                   |               |                        |          |                           |
| Au, ppm       |                |               | 0.6                      | 0.73          |                        | 0.5               | 1.5           |                        | 0.3      |                           |
| Ag, ppm       |                |               | 120.8                    | 191           |                        | 12.5              | 146.5         |                        | 24.7     |                           |

**Infrared IR spectra**

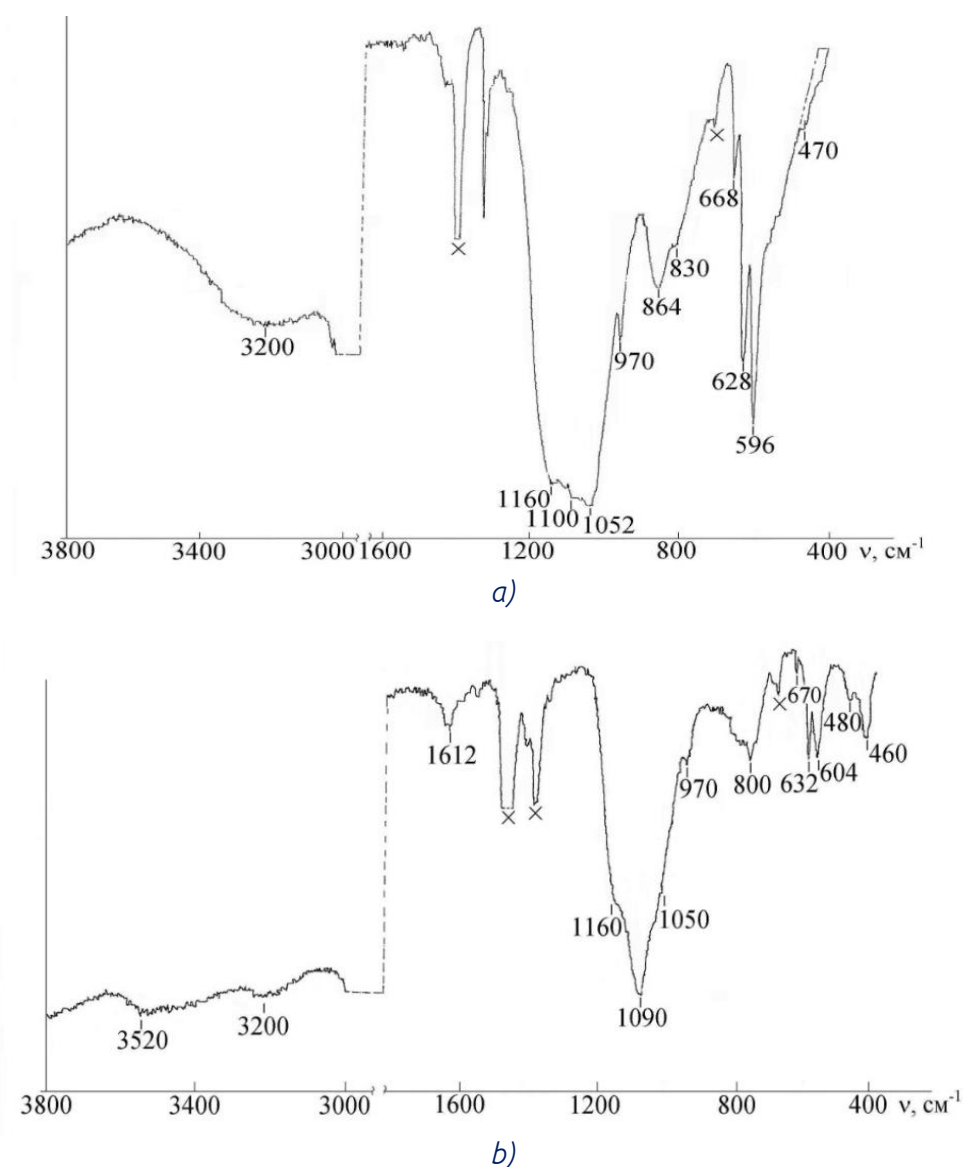
IR spectroscopy was used to determine and compare the phase composition of the lead-containing dust of modern metallurgical plants:

- dust of the Vanyukov process copper smelting (mass. %): Pb – 42.93; Cd – 1.14; Cu – 3.43; Re – 0.0162; Se – <0.008; Os – <0.0005;

- mixed dust of dry electrostatic precipitators of the electric smelting and Vanyukov process copper smelting (mass. %): Pb – 50.29; Cd – 8.97; Cu – 1.68; Re – 0.071; Cl – 19.92; As – 1.73; Zn – 0.97;

- dust of electric smelting (mass. %): Pb – 38.93; Zn – 2.65; Cu – 0.22; Cd – 0.086; As – 0.42; Sb – 0.49; In – 0.004.

As a result of comparing the IR spectra of all three types of dust (Figure 1), it was found that the basis phase of dust is anglesite ( $\text{PbSO}_4$ ). This is indicated by a set of bands: in the dust of the Vanyukov process copper smelting: 596, 628, 970, 1052, 1100, 1160  $\text{cm}^{-1}$ , in the mixed dust of dry electrostatic precipitators of the electric smelting and Vanyukov process copper smelting: 604, 632, 970, 1050, 1090, 1160  $\text{cm}^{-1}$ , in the dust of electric smelting: 600, 632, 970, 1050, 1092  $\text{cm}^{-1}$ .



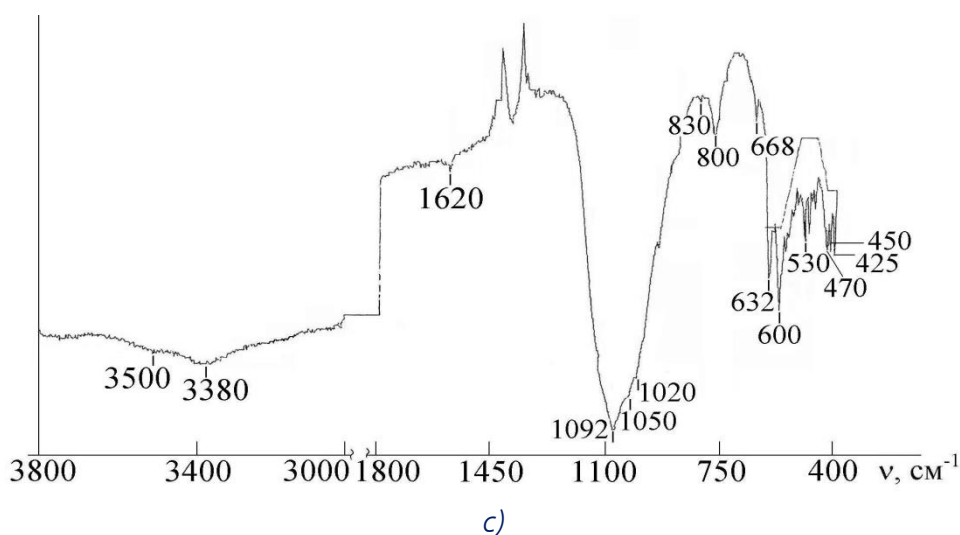


Figure 1. IR spectra of all three types of dust

- a) the dust of the Vanyukov process copper smelting,
- b) the mixed dust of dry electrostatic precipitators of the electric smelting and Vanyukov process copper smelting,
- c) the dust of electric smelting

Further analysis of the IR spectra of the Vanyukov process copper smelting dust (Figure 1a) shows that the set of bands at 596, 628, 1100, 1160  $\text{cm}^{-1}$  and 596, 628, 668, 830, 864, 1100, 1160, 3200  $\text{cm}^{-1}$  indicates the presence zinc crystal hydrates: goslarite ( $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$ ) and gunningite ( $\text{ZnSO}_4 \cdot \text{H}_2\text{O}$ ). The bands at 470, 596, 628, 830, 970, 1052, 1160  $\text{cm}^{-1}$  characterize the presence linarite ( $\text{PbCu}[(\text{OH})_2\text{SO}_4]$ ) in the dust. Cadmium can presumably be in the form of the cadmium sulfate ( $3\text{CdSO}_4 \cdot 8\text{H}_2\text{O}$ ), but since its content in the dust is insignificant, and the absorption bands in the spectrum overlap with the above compounds, it is difficult to indicate its characteristic peaks.

The mixed dust of dry electrostatic precipitators of the electric smelting and Vanyukov process copper smelting (Figure 1b) may also contain cadmium sulfate ( $3\text{CdSO}_4 \cdot 8\text{H}_2\text{O}$ ) and linarite ( $\text{PbCu}[(\text{OH})_2\text{SO}_4]$ ) with bands 480, 604, 632, 970, 1050, 1160  $\text{cm}^{-1}$ . According to chemical analysis, the content of zinc in the dust is less than 1%, so it is difficult to talk about its compounds.

Unlike the previous two types of dust, lead oxide ( $\text{PbO}$ ) was detected in the dust of the electric smelting process (Figure 1c), as indicated by the bands 470, 530  $\text{cm}^{-1}$ . Absorption at 470, 3380, 3500  $\text{cm}^{-1}$ , 425, 450, 530, 600, 630, 830, 1620  $\text{cm}^{-1}$  can characterize linarite ( $\text{PbCu}[(\text{OH})_2\text{SO}_4]$ ). In addition, gunningite ( $\text{ZnSO}_4 \cdot \text{H}_2\text{O}$ ) is possible in the dust of the electric smelting process - 600, 632, 668, 800, 1092, 1620  $\text{cm}^{-1}$ .

#### Powder X-ray diffraction (XRD) analysis

The dust of the electric smelting and Vanyukov process copper smelting

The composition of the dust is presented in Table 3. The metals content varies significantly depending of the initial material composition and the smelting conditions. Dust contains lead, zinc, and copper in significant quantities.

The phase composition of dust is complex and is mainly represented by sulfates, oxides, sulfides, and metal halides. Lead sulfate is the basis phase of smelting dust (Table 2). The X-ray diffraction pattern of the electric smelting and Vanyukov process copper smelting dust is presented in Figure 2.

Table 2. Basis phases of smelting dust by XRD calculation

| Components                               | Electric smelting process | Vanyukov process |
|------------------------------------------|---------------------------|------------------|
| $\text{PbSO}_4$                          | 83.7                      | 71.4             |
| $\text{ZnSO}_4 \cdot \text{H}_2\text{O}$ | 16.3                      | 28.3             |

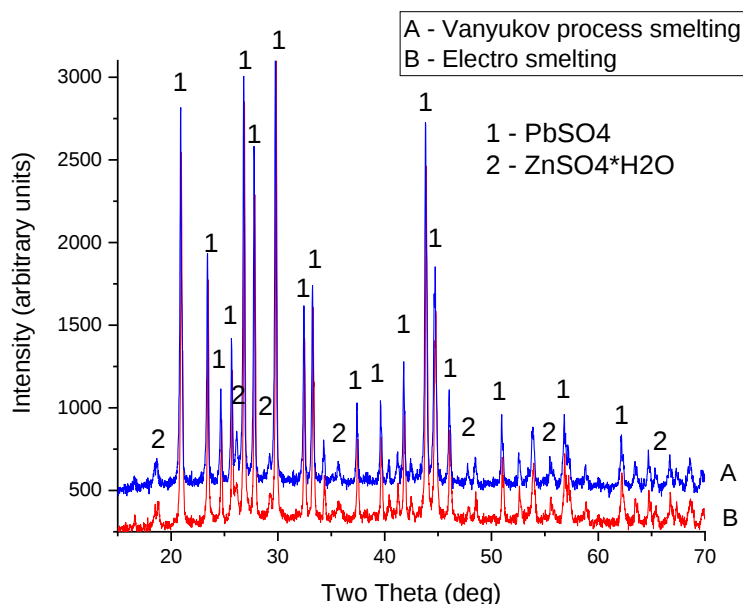


Figure 2. X-ray diffraction (XRD) pattern of the Vanyukov process (A) and electric furnace (B) copper smelting dust, measured as described in the Methods section.

There are arsenide, chalcogenide, ferrite, silicate, metal carbide in small quantities in the dust. A certain amount of rhenium oxides -  $\text{ReO}_2$ ,  $\text{ReO}_3$  (0.02 – 0.03%) was detected in the dust using X-ray fluorescence analysis (XRF).

### CONCLUSIONS

Complete chemical, XRD, XRF and IR spectrometric analyzes of the starting materials were performed. It was found that the dusts of modern metallurgical enterprises are distinguished by a different content of heavy non-ferrous and rare metals, an increased content of arsenic. It has been established that the basis of dusts are compounds of lead, zinc and cadmium. XRD and IR spectral analyzes have established that if earlier (before 1990) the basis phases of dusts was oxides of the above metals, at present these metals are present in dusts mainly in the form of sulfates and oxy-sulfates.

Based on comprehensive studies, new data were obtained on the forms of non-ferrous and related metals in the industrial dust of the Cu-Pd material smelting processes.

Established high content of arsenic in the dust of copper and lead production (1 – 3 % As) show that when developing new technologies for their separate processing, it is necessary to provide for the preliminary removal of arsenic from the technological scheme at the first technology stage.

The use of the obtained data in industrial conditions requires laboratory and pilot studies to create new technologies for the complex processing of lead-copper-arsenic containing semi-products and secondary metallurgical raw materials. The solution of this problem is especially important in connection with the continuing deterioration of environmental problems.

### ACKNOWLEDGMENTS

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## ANALYSIS OF EDUCATIONAL MANAGEMENT SYSTEMS

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### Abstract

Despite the fact that learning management systems (LMS) were originally developed for educational institutions, today the demand for them is increasing day by day, and many organizations have begun to widely use such systems in order to retrain their employees. This article briefly analyzes the existing education management systems and describes the features of widely used systems. In addition, the general structure of education management systems is mentioned in it. Based on the results of the analysis and comparison of education management systems, a relatively optimal tool for creating an electronically controlled course is proposed.

**Keywords:** learning management system, course, competition, higher education system, HTTP, API.

### Introduction

In recent years, the level of use of e-learning in higher education institutions has been increasing. This is largely due to the coronavirus pandemic that occurred several years ago. It is worth noting that a new stage of education has emerged as a result of the pandemic. In this case, not only the requests and requirements of the student's educational environment but also new ways of organizing the relationship between the teacher and the student on the basis of effective and understandable tools that affect education. Interaction between teacher-student and students takes place in the digital learning environment [1]. The digital learning environment allows for education along with professional activities. In addition, digital education is a convenient tool for obtaining higher education, regardless of the student's financial situation and residence address.

Electronic education not only increases the position of the teacher, but also imposes several additional tasks on him. In particular, in new conditions, it is necessary for the teacher to manage the educational process, take into account the interests of students, in particular, to model the educational process in certain conditions, that is, to determine the laws in it, to express it in the form of mathematical models [2]. In addition, the teacher is required to predict the process. It is also necessary for him to develop educational courses on the basis of predictions and improve his qualifications based on the development of education. In this regard, it is urgent to develop educational tools according to the requirements of the time. This requires an optimal education management system. The main goal of the learning management system (LMS) is to manage all the specific features of the educational process and control the process. Many people think that LMS is unique to distance learning. However, it is possible to organize a voluntary form of education on the basis of modern LMS [3]. Including remote, daytime, external, individual and group view. It is worth noting that LMS has the ability to organize various relationships between students and teachers [4].

Currently, LMS is considered as an optimal solution for organizing distance education, but within it there is an opportunity to independently choose the schedule and sequence of studying the material.

It is also possible to monitor each student's learning and identify their strengths and weaknesses [5].

LMSs are intended for use in schools, colleges, universities, and institutes, but since recent years, private companies have also widely used LMS. This is not surprising, because companies striving for development must work using modern technologies and tools and train their employees. Of course, they can also organize traditional offline training, but this may not always be economically correct. Therefore, when there is a need to retrain a large number of employees, organizations take distance education systems as the most optimal decision for the company [6].

Speech recognition technology in LMS enables the conversion of spoken speech into text, enabling users to interact with computers, devices and applications through speech. In doing so, recognition is done through speech signal processing algorithms [7-10], and as a result, by providing voice-controlled navigation and input options, LMS platforms ensure that all students, regardless of their physical abilities, can participate in activities.

Currently, there are 3 types of LMSs, i.e. cloud, box and open source types. Cloud platforms are systems installed on the servers of platform manufacturers. Boxed systems can be installed on their own servers or local computers. Open-source systems are programs that can be changed by programmers in accordance with the needs of the user [11, 12].

Modern LMSs usually cover the following components [13]:

- educational administration;
- user management (such as students, tutors, course authors and system administrators);
- testing and assessment of knowledge (such as creating reports on student's progress in the course and managing the learning of the content during the study of the course);
- course learning management;
- learning sequence management;
- educational content management, content delivery management;
- APIs (software interfaces) for interaction with external subsystems.

The general structure of LMS is presented in Fig. 1, in which 1 - basic information about LMS users; 2 - reports of educational achievements, and test planning; 3 - studying course achievements; Achievements of the current training course, module tests results for the 4th course modules; 5 - management of educational content; 6 - test results (for course modules); 7 - information about the sequence of study of course modules; 8 - choosing the subjects of the study course; 9 - content request; 10 - management of learning courses using API (based on third-party programs); 11 - managing content display for the reader; 12 - content collection; 13 - selected educational content; 14 - the results of content selection from the content repository; 15 - presentation of educational content to the student; 16 - Interaction of HTTP requests using the API.

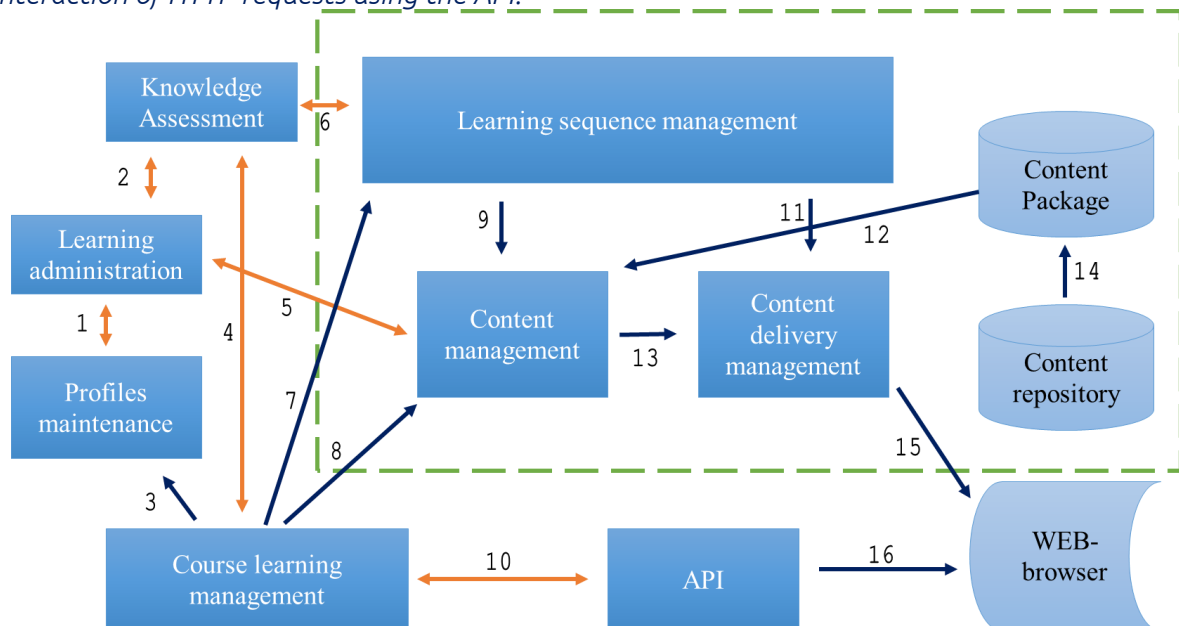


Fig. 1. Modern Learning System Architecture

**Developed LMSs in the world.** Currently, there are many types of LMSs. Rather than analyzing all existing LMSs, it is appropriate to study LMSs that are considered optimal and widely used by higher education institutions (HEIs) around the world, and a brief description of them is given below:

1. iSpring Learn is a cloud-based LMS with a simple and intuitive interface. It was developed by the

*iSpring* company and is considered the most advanced tool for creating electronic courses in the world. Through it, distance courses can be started quickly and students can be tested. It supports all types of training materials, webinars and statistics. Ability to edit courses and learn directly from your smartphone. The lack of autonomous configuration, limited user types and non-availability of a boxed version are its main disadvantages [14].

2. Teachbase is a cloud-based system for e-learning that can be used to organize distance learning and sales of created courses without leaving employees. The ease of using the catalog of ready-made courses on the platform through a few short steps has caused many users to increase their interest. The Teachbase system supports the integration of payment systems with other systems. The high price of the platform is its main disadvantage [15].

3. AntiTrenigi is a distance learning platform with a user-friendly interface and many integrations. It has a playful approach, building and developing brands, as well as protection for downloading educational materials. Inflexible tariffs are the main drawback of the system.

4. eTutorium also belongs to the class of cloud systems, which includes cloud services such as the organization of distance learning with a test and survey designer, a built-in webinar platform and motivational tools. eTutorium is a very convenient tool for conducting webinars, meetings, training, and other forms of training. Its main disadvantage is that it does not support international standard packages for e-learning courses, that is, it does not have a wide integration package.

5. Mirapolis is a system designed mainly for large corporations and educational projects, which allows not only remote training of employees but also planning face-to-face events. Its main drawback is the slow implementation speed and the lack of a free trial version.

6. GetCourse is a platform for conducting seminars, training, courses, and face-to-face and online classes, all modules are fully interconnected, so you can import data into other services and it is not necessary to collect them separately for each one. High tariffs and complex interfaces prevent many users from using this system.

7. WebTutor is one of the first systems of distance education and automation of business processes, which can be changed according to changes in the interface of the educational portal and the specific characteristics of the company. A mobile app is also available for offline access. Its main disadvantages are low system speed and high cost.

8. Unicraft is an electronic system for training employees of small and medium-sized businesses, which is designed to be fast, simple, and convenient to use. The Unicraft system includes a course editor, and game approaches, and supports integration with other services. The main drawback of this system is the lack of discussion forums or blogs and the webinar window.

9. Motivity is a system with more than 20 modules for training, motivating, and adapting employees. There are separate applications for computers, tablets, and smartphones. Its main drawback is the lack of a free version and its lack of compatibility with open training and online sales.

10. Moodle is the most developed and widespread system of distance education, and now there are more than one million Moodle sites. It is a free platform with a wide range of options for editing the interface and developing new modules, and there is a large collection of plugins that help to expand the functionality of the system and change its design. Easily integrates with other platforms and can be deployed both in the cloud and on servers. The main disadvantage of this system is that it needs professional help for the organization using it.

### Conclusion

Based on the above, it can be said that the listed systems are the most suitable open-source education management systems. Because in its implementation there is only a fee for the services of developers, and they can quickly and easily improve the operation of the program, add various functions or fix possible errors. The Moodle system is the most widespread LMS in the world, it has been translated into more than 100 languages and is used in more than 200 countries. In addition, it is widely used by large universities and private companies. Ideal for long-term projects, it can be edited to suit the client's goals and objectives. Therefore, Moodle is the most suitable tool for educational organizations, training centers and corporate training. Based on the results of the analysis and comparison with other LMSs, it can be proposed as a relatively optimal tool for creating an electronically controlled course.

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**IMPLEMENTATION OF "TIMATIC AUTOCHECK" PROGRAMME IN AIR TRANSPORT**

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**Abstract**

One of the modern technologies applied in air transportation recently is the Timatic Autocheck program developed jointly by the International Aviation Telecommunication Society (State Information Technology Agency - SITA) and the International Air Transport Association (International Air Transport Association - IATA). The main essence of this program is the automatic verification of passport-visa documents of passengers. In other words, the Timatic Autocheck service is a system that provides automated identification of travel documents.

**Keyword.** Timatic Autocheck, passenger, customers' document, registration proces, airlines, program.

The Timatic Autocheck service enables the creation of an automated check of travel documents of ground handling companies for work at airports. How complicated and time-consuming the document verification process is can be explained with a simple example [1]. For instance, it travels on the route Baku (GYD)–Moscow (SVO)–Osaka (OSA)–Cairo (CAI)–Rome (FCO)–Paris (CGD)–New York (JFK). The process of document verification of this product in the Timatic system is provided in a very short time, even in a few seconds, regardless of its nationality and citizenship.

Established in 1963, this program has been gaining the trust of the world's leading airlines for more than 50 years. The basis of this program is the database of documents needed by the passenger to cross the state border. In many cases, it is also called "the most reliable non-governmental source of information on travel documents".

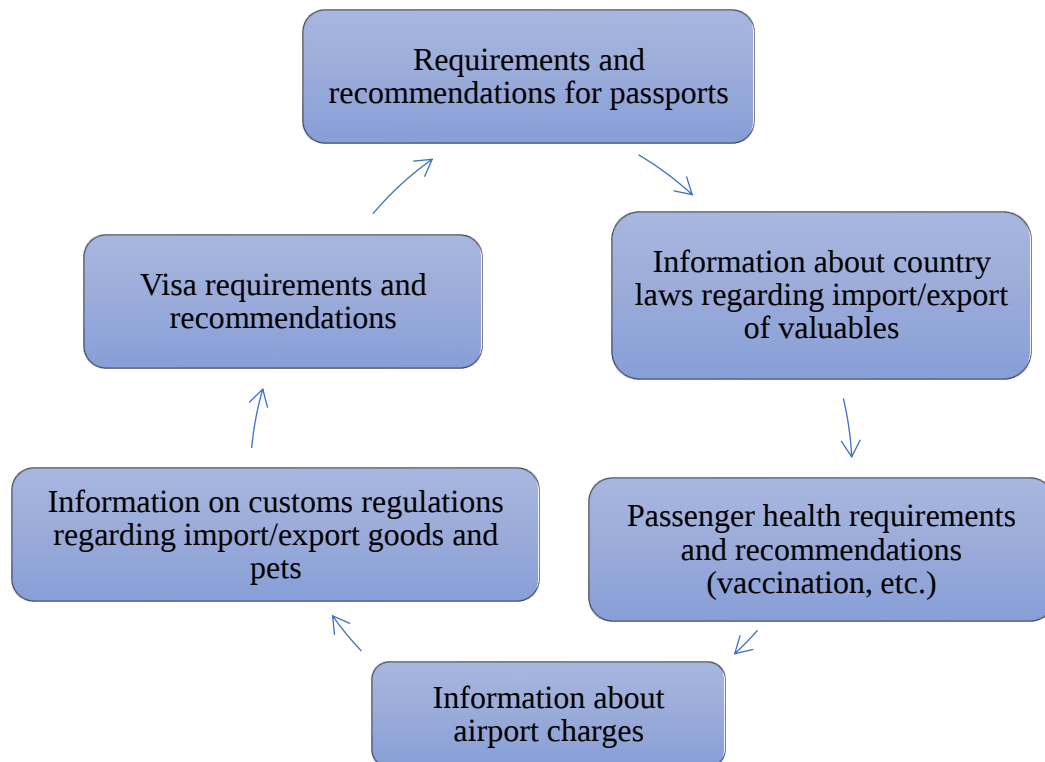
The database is currently managed by IATA and receives more than 50 revisions per day by research and editing departments. Every year, more than 80 million traveling passengers use the service of this database to determine the accuracy of their documents (Figure 1). In addition to travelers, air carriers and tourism organizations also use the service of the base in order to determine the acceptance of a passenger for a flight, to provide passengers with detailed information about documents and visas in the process of selling and allocating tickets. Checking the correctness of passengers' documents and visas is of great importance for airlines, because for errors (passenger deportation) they have to pay huge fines [2].

When a passenger checks in either at the airport or online, the document verification process takes place: the documents are scanned, or information about him (the passenger) and the route is fully entered into the system and sent to the Timatic Autocheck database. In many cases, the answer is "OK" in a short time (if there are no problems with the documents) and the registration process is completed.

If there is a problem with the documents, the answer is negative: "—Visa is required", "—Passport must be valid for 6 months", etc. In such cases, the airline makes the decision to accept the passenger for transportation or in which direction.

Airlines use many variants of Timatic to ensure that their customers' documents are correct and that they comply with the rules and regulations of border control points. In addition to travel documents, this program also checks the fulfillment of existing requirements for the passenger's health [3].

The annual subscription fee of the Timatic Autocheck service recommended by IATA to airlines is 250.00€ (EURO). For an airline joining this system, the contract remains valid until December 31 of the first year, which is called "Precondition". In exceptional cases, where subscribers do not have the resources to meet the payment, they may request technical or training advice from IATA.



**Figure 1.** Existed information in the Timatic Autocheck programme database

IATA provides such advice to airlines for a fee. So, advice is given after making the appropriate payment. One hour of this type of procedures is 100 €. Payments are made electronically 2 days before the procedures are performed [4].

Simplifying the travel document verification process enables the following to be achieved:

- reduction of requirements for operations and personnel;
- reduction of expenses spent on personnel training;
- expansion of the self-service area;
- reduction of fines and repatriation costs;
- reduction of compensation payments to passengers, due to errors in cases of refusal of transportation;
- increasing the level of service provided to customers.

It should be noted that currently more than 100 leading airlines of the world use the service of the Timatic Autocheck system.

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