



INTERNATIONAL SCIENTIFIC CONFERENCE

**INNOVATION IN SCIENCE:
GLOBAL TRENDS AND REGIONAL ASPECT**

March 12-13, 2021

Proceedings of the Conference

**Riga, Latvia
2021**

UDK 0/7(082)

In570

International Scientific Conference **Innovation in Science: Global Trends and Regional Aspect**: Conference Proceedings, March 12-13, 2021. Riga, Latvia: «Baltija Publishing». 260 pages.

ISBN: 978-9934-26-050-6

DOI: <https://doi.org/10.30525/978-9934-26-050-6>

The conference proceedings are focused on the study of innovations in science, taking into account global trends and regional aspects. General issues of the engineering, philological, pedagogical, legal, economic sciences, history of art, agriculture and so on are considered. The publication is designed for scientists, lecturers, postgraduate students, students, as well as for the general readers.

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ENGINEERING SCIENCES

CURRENT PROBLEMS OF AUTOMATED DESIGN OF BORDER SEPARATE STATIONS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-1>

According to [1], a border transfer station is a railway station located in front of the border with a neighboring state, which performs operations for the reception and transfer of cars, goods and passengers between neighboring countries with border, customs, sanitary and quarantine and other types of control, registration of transportation documents required by law.

Modern border separate points of Ukraine were formed on the basis of intermediate (Dyakovo, Topoli, Yagodyn, Kozacha Lopan), precinct (Batyovo) and sorting stations (Chop, Uzhhorod), located on the border with neighboring countries after the collapse of the USSR.

From the standpoint of computer-aided design, the scheme of any separate point is considered as a dynamic structure with a background and prospects for development. Changes in design objects occur both at the micro level (increase in the number and length of tracks, restructuring of the neck structure) and at the macro level (change in the nature of the station, its role in the operation of the railway junction).

The main advantage of using automated systems (CAD) in the design of border crossing points based on CAGD-systems [2, p. 55] is the speed of implementation of design solutions. However, differences in the technology of such points, in the design and location of areas and devices for technological lines of passenger and freight traffic when moving across the border necessitate the processing and conversion of additional data that determine the nature of their work and increase design complexity.

Thus, border checkpoints can be designed both on the territory of border stations with location on station tracks, and outside their borders with own track development. In this case, the inspection tracks should be located exclusively on the straight sections of the tracks, and the width of the border points should ensure the placement of inspection bridges and wells at certain

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distances from these tracks. Such requirements should be related to the topographic design conditions, the location of the border station relative to the country's borders, the nature of its operation and the technological processing lines of trains.

As these factors do not have a clearly defined indicator and units of measurement, finding optimal solutions for the location and layout of basic devices at border stations based on logical, analytical or heuristic data in the process of computer-aided design can be difficult.

Therefore, the automation of the design of border stations is a difficult task that requires the involvement of powerful tools of intellectual analysis and active use of the experience of the designer.

In order to carry out high-quality and timely customs and border inspection, it is necessary to take into account modern requirements for the organization of state control in the introduction of means of inspection of goods in vehicles, the formation of customs zones and border checkpoints. The lack of possibility to use in computer-aided design a clearly defined knowledge base, built on the experience of the designer, causes the search for existing alternative solutions and reduces the level of automation due to the need for human intervention in some stages of development and construction of border crossings and customs warehouses.

Thus, the automation of the design of border transfer points requires the introduction of such intelligent systems that would allow to evaluate the variable parameters of objects that are not amenable to external representation and symbolic description, but reflect the characteristics and nature of the design objects.

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BIOLOGICAL SCIENCES

PECULIARITIES OF THE *UNIO TUMIDUS* (PHILIPSSON 1788) ADAPTIVE REACTIONS TO THE TEMPERATURE REGIME OF THE ENVIRONMENT CHANGES

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-2>

Aquatic organisms adapt to the effects of climate change, in particular, an increase in the temperature of the aquatic environment, by connecting the metabolic processes of the body. Bivalve molluscs were selected to study the adaptive reactions of the organism to the temperature factor of the aquatic environment.

It is known that bivalves have a high ability to withstand adverse conditions. They can switch to anaerobic respiration in adverse conditions and block communication with the environment [6, pp. 121–130; 7, pp. 615–617; 8].

This work is devoted to the study of the adaptive responses of bivalve mollusks *Unio tumidus* (Philipsson 1788) to changes in the temperature regime of water by studying the activity of lactatedehydrogenase (LDH), which plays a decisive role in supporting the production of ATP as a final enzyme in anaerobic glycolysis.

The objects of research were bivalves *U. tumidus* collected in the Kyiv reservoir coastal shallow waters zone (Lutezh) natural conditions.

Sampling and further determination of the bivalve mollusks species were carried out according to the generally accepted methods [1; 11, p. 208].

The temperature regime in the experiment is close to the summer natural conditions of the coastal shallow water zone of the Kiev reservoir, when the water areas are intensively warming up. In the control, the temperature was $23 \pm 0,5^{\circ}\text{C}$, and in the experiment, the temperature regime was characterized by the following stages: 1) an increase in temperature by $1^{\circ}\text{C}/\text{day}$; 2) an increase in temperature to a value of $29 \pm 0,5^{\circ}\text{C}$ (6th day of observation); 3) decrease in temperature to the initial value $23 \pm 0,5^{\circ}\text{C}$ (12th day of observation); 4) temperature stabilization at the initial value of $23 \pm 0,5^{\circ}\text{C}$ (14th day of observation).

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The mollusks' gill tissue (where an intensive respiratory process takes place in the animal organism), was used for the investigation of bivalves metabolic reactions in response to the environmental conditions changes.

The activity lactatedehydrogenase, were determined in the mollusks *U. tumidus* gill tissue using generally accepted approaches described in the scientific literature [10].

Water temperature increasing in the experimental aquarium from $23 \pm 0,5^{\circ}\text{C}$ to $29 \pm 0,5^{\circ}\text{C}$ led on the 6th day of observations in the gill tissue of specimens of the mollusks *U. tumidus* to an 18% increase in LDH activity.

The lactatedehydrogenase activity increasing in the mentioned above conditions may reflect adaptive reaction development in the mollusks organisms, obviously. In this context it is necessary to note that the most poikilothermic animals are adapted namely to a certain range of habitat, and the deviation of environmental conditions parameters from optimal values, especially significant deviations, lead to manifestation of stress responses and respective protective mechanisms activation in the animal organism also [4, pp. 33–62; 5, pp. 115–122; 9, pp. 15–22].

At the same time, for many aquatic animals behavioral reactions that allow them to avoid adverse living conditions (critically increased water temperature) by moving to areas with favorable ones are typical of. If aquatic animals are unable to avoid unfavorable environmental conditions, then, first of all, the development of adaptive reactions occurs in response to a critical increase in water temperature [13; 14, pp. 68–72].

The LDH activity increases in aquatic organisms. Note that such stimulation of enzyme activity is an indicator of the transition of the body's metabolism from aerobic to anaerobic mode as a compensatory mechanism for obtaining energy resources in adverse environmental conditions [2, pp. 103–187; 3, pp. 133–168; 12, pp. 161–165].

At the stage of water temperature decreasing from $29 \pm 0,5^{\circ}\text{C}$ to the initial value $23 \pm 0,5^{\circ}\text{C}$ (12th day of observation) and further stabilization at this value, yet on the 14th day of observation the lactatedehydrogenase activity content in the gill tissue of mollusks were similar to the respective control levels.

In general, specimens of bivalve mollusks *U. tumidus* demonstrated the ability to adapt to an increase in the temperature of the aquatic environment to a high value ($29 \pm 0,5^{\circ}\text{C}$) by regulating the rational use of internal energy resources; switching metabolic processes to the anaerobic pathway can be considered a contributing factor. This preserves the organism's ability to respond to temperature changes in the environment.

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TRANSGENIC PETUNIA WITH *ZRNASE II* GENE AS A NOVEL MODEL SYSTEM FOR INVESTIGATION OF VIRUS RESISTANCE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-3>

Modern plant biology has a great demand of a broader range of available model systems except of *Arabidopsis* for various specialized purposes. Petunia is a plant with a number of characteristics making it attractive as a model system. These characteristics include a short generation time, an easy growth habit, an easy transformation protocol and an amenity for biochemical analysis because of its large leaves and flowers [1].

Petunia plants can be infected with a number of RNA containing viruses: Tobacco Mosaic Virus, Cucumber Mosaic Virus, Potato Virus Y. Infected with the viruses cultivars have decreased decorative characteristics and can form a virus reservoir for uninfected plants. Its susceptibility to a number of plant viruses and simple transformation protocols makes it a convenient model object for genetic engineering of plants tolerant to viruses. Biotechnology approaches allow the production of transgenic plants with increased resistance to viruses. The main transgenic strategies for virus resistance include: RNA interference, coat protein mediated resistance, replicase mediated resistance, RNA dependent RNA polymerase mediated resistance, RNA satellites, antisense RNAs, ribosome-inactivating proteins (RIP), ribonucleases, enhancement of HR/SAR, hammerhead ribozyme, microRNAs, plantibodies [2].

Wounding-induced ribonuclease encoding cDNAs isolated from *Zinnia elegans* are predominantly induced in response to wounding. Isolated *ZRNase II* gene from *Zinnia elegance* encodes extracellular ribonuclease, which

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hydrolyze virus genomic RNA at some stages of their penetration into the plant cell [3]. Destruction of viral RNA by RNases retards the development of the symptoms, mitigate their severity or localize the infection in tobacco [4].

The aim of our research was the production transgenic petunia plants expressing *ZRNase II* gene, detection of *RNase* activity and further determination of virus resistance of obtained plants.

Methods: *Agrobacterium*-mediated genetic transformation of leaf discs from two petunia varieties (5P and M1) have been conducted with *A. tumefaciens* AGL0 strain harboring pbi-RNS vector. T-DNA of pbi-RNS vector included *ZRNase II*, S-like RNase gene of *Zinnia elegans* controlled by p35 S CaMV derived from the cauliflower mosaic virus (CaMV) and *npt II*, neomycin phosphotransferase gene, under control of nopaline synthase promoter (pNOS). Neomycin phosphotransferase gene was used as selective marker. Genetic vector for transformation was kindly provided by Professor A.V. Kochetov (Institute of Cytology and Genetics, Siberian Branch, Russian Academy of Sciences, Novosibirsk, Russia). Plants were regenerated and selected on medium with 100 mg/l kanamycine. PCR was used to analyze the presence of target and selective genes in the kanamycine resistant plants. RNase activity was determined by colorimetric method in the presence of orcinol [5].

Results. After *Agrobacterium*-mediated transformation putative transgenic plants have been obtained and were grown on the MS media supplemented with kanamycin-sulfate. 8 petunia lines of M1 and 10 lines of P5 with pbi-RNS vector were selected. Shoots of selected petunia lines spontaneously rooted on plant growth regulator free selective medium. Putative transformants were PCR tested with specific primers to confirm the presence of heterologous *npt II* and *ZRNase II* genes. From each variety three independent most vigorously growing kanamycin-resistant lines were selected for PCR. All the selected lines possessed the amplified fragment with primers to *npt II* and *ZRNase II* genes. Non-transgenic plants of both petunia cultivars were also analyzed to ensure the absence of the transgenes there. *There was no amplification of the necessary fragment with primers to these genes in control plants*

Activity assay was performed to estimate the native RNase level in nontransgenic plants and to compare with the RNase activity in transgenic (fig.1). The RNase activity of all tested non-transformed cultivars was on the similar level. Transgenic plants have been found to have significantly ($P \leq 0,05$) higher levels of RNase activity compared to non-transgenic control.

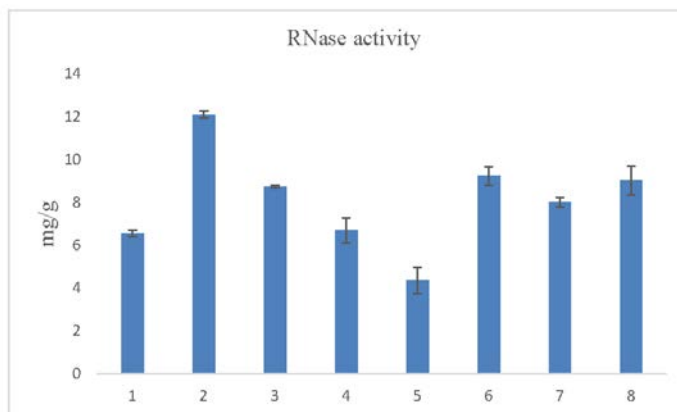


Figure 1. The RNase activity of extracts from petunia leaves, measured in mg of destroyed RNA per g of fresh weight

1, 5 – untransformed control M1 and 5P petunia plants, respectively; 2-4 – independent transformed lines of M1 petunia; 6-8 – independent transformed lines of 5P petunia

T₀ plants were transferred to soil for further tests on virus resistance.

Conclusions. In our experiments we have obtained transgenic plants with *ZRNase* gene. The PCR analysis confirmed the *ZRNase II* gene integration into the petunia genome. RNase activity in transgenic lines exceeded that in non transgenic ones. Investigations of resistance to TMV of greenhouse grown plants are in progress.

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WATERFOWL AS INDICATORS OF THE STATE OF WETLAND ECOSYSTEMS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-4>

It is known that any impact from human activities can change the habitat of living organisms (aquatic and terrestrial), disrupting their life processes. Due to the intensification of urbanization processes, all new inland water bodies are under the threat of transformation, which leads to a decrease in water quality and a decrease in biological diversity (in particular, species that are protected by the Bern and Bonn conventions, as well as those listed in Red Book of Ukraine), which exists in little-transformed territories. In this regard, an assessment of the ecological state is essential. For this, not only chemical control methods are used, but also bioindication methods. The state of the city's avifauna, in particular, wetlands (its qualitative and quantitative composition) may reflect the general ecological state of a certain territory.

Birds as an integral part of ecosystems associated with its components by topical and trophic connections, in particular, these are higher aquatic plants (density of overgrowth and species composition), aquatic and near-aquatic animals [1, p. 2398]. Taking this into account, methods for indicating freshwater ecosystems using birds have been used in the world for a long time [3, p. 9].

It gave grounds to transfer the results of avifauna studies to groups of other species of vertebrates, including amphibians, fish and mammals [4, p. 675]. Also, birds play an important role in the spread of various parasites [5, p. 57], which has a direct impact on the components of the ecosystem.

The use of birds as biomarkers of the state of the environment allows you to take samples in vivo, which is consistent with the principles of bioethics [6, p. 124]. To study the effects of chronic pollution on the aquatic environment, the most suitable objects are those at the top of the food pyramid – predatory and piscivorous species. It is known that bird feathers – accumulate toxic compounds [7, p. 356]. Analyzing the feathers of birds can determine the content of heavy metals in the body of the bird. Comparing feathers from different groups, it is possible to compare the level of pollution in different areas.

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As well, the number of birds correlates with the hydrological conditions of water bodies, since birds are indicative in the study of changes in the hydromorphology of river beds and fragmentation of its valley [8, p. 2270]. The importance of certain groups of birds, including those confined to certain biotopes (specialized species) in wetland ecosystems, make it possible to understand the role of birds as ecological indicators in general. An assessment of the ecological state of aquatic ecosystems, coastal landscapes and biotopic diversity can be carried out by quantitative assessment of coastal birds, which are sensitive to changes in the moisture content of areas adjacent to the river, a decrease in the water level, changes in the flow regime, etc [9, p. 261; 1, p. 2383]. A decrease in the number of specialized species with an increase in the number of universal species can be interpreted as a transition of an ecosystem from a stable to a degraded one. An example of such a transition is the change in the number of nesting groups of waterbirds in water bodies and wet meadows as a result of the transformation of their habitat, which is shown in Figure 1 and Figure 2.

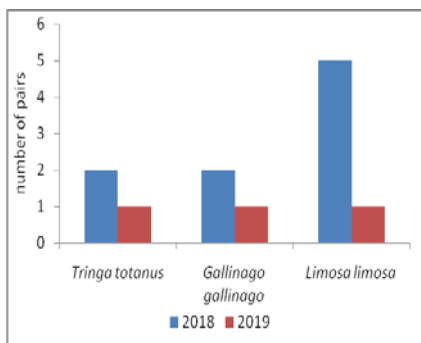


Figure 1. Changes in the number of nesting pairs of waders as a result of landscape transformation in floodplain meadows in the river valley. Desna (near Kiev, Ukraine)

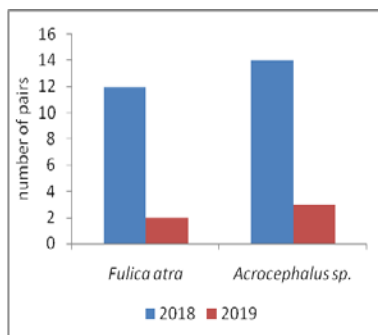


Figure 2. Changes in the number of breeding pairs as a result of the domestication of Lake Jordanske (Kiev, Ukraine)

It is these examples that clearly illustrate the change in nesting groups (even relatively tolerant species – *Fulica atra*) and make it possible to assess the ecological state of wetlands, including park water bodies and wet meadow (habitats of specialized species – *Tringa totanus*, *Limosa limosa*) along river valleys in conditions of transformation or fragmentation of biotopes.

When studying the number, distribution of piscivorous birds, the peculiarities of their biology and helminth fauna, it is possible to establish the

role of ichthyophagous birds in the spread of fish parasites, as well as to identify test objects that can be used to determine the pathways of the formation of natural sources of helminthic zoonoses in the reservoir [5, p. 57]. This question is also interesting from the point of view of comparing degraded and poorly transformed water bodies close to the natural state, in particular, floodplain lakes and oxbow lakes. So, in particular, seagulls and herons that nest on water bodies produce a large amount of organic matter, as a rule, affect its ecological and sanitary state. This has a significant effect on the accumulation of biogenic compounds and the processes of eutrophication of the reservoir [10, p. 63; 11 p. 121].

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Bioindication of the general state of the environment by monitoring the species, qualitative composition and residence status of waterfowl and semi-aquatic birds, provides express information about sudden changes in ecosystems without interfering with it. Based on this assessment, it is possible to determine in advance the improvement or deterioration of the ecological state of the environment and make appropriate environmental decisions.

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MICROBIOLOGICAL MONITORING OF POTENTIALLY PATHOGENIC MICROORGANISMS IN DIFFERENT TYPES OF WATER BODIES

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-5>

Surface water bodies are widely used by people as a resource for drinking and domestic water supply, as well as for recreational and landscape purposes. It is known that an increase in the activity of potentially pathogenic microorganisms has been observed in the last decade. This determines the relevance of the study of this group of microorganisms, including in natural hydroecosystems [1, p. 3657; 2, p. 95]. Water pollution is the cause of various diseases; therefore, attention is required to determine the sanitary and epidemiological threats and risks to minimize negative phenomena. According to The World Health Organization's, deaths from waterborne diseases exceed several million people a year [3]. The main source of pathogenic microorganisms in fresh and marine waters is the inflow of wastewater [4, p. 8; 5, p. 109]. Therefore, in our opinion, the study of the presence and number of potentially pathogenic microorganisms can be a mandatory and significant addition to the assessment of the ecological and sanitary condition of water bodies that are under anthropogenic influence.

The results of monitoring of biological sampling carried out in the summer-autumn seasons of 2019 and 2020 on lotic and lentic ecosystems within the territory of Ukraine are presented. The material was selected water from the Danube* (riverbed, arms), Yahorlyk*, Svicha and Hnyla Lypa (Dniester river basin) Rivers, two Lakes located in the urbanized area of Kyiv city – Verbne, Opechen Nyzhne. Water bodies are characterized by different hydrological regime, morphometric characteristics, nature of the shoreline, soil erosion in the catchment area, zonal development of the industrial and agricultural sector, the presence of domestic and industrial effluents, recreational and other forms of anthropogenic pressure.

DryFilter kits (Himedia, India) were used to analyze water from different types of water bodies for potentially pathogenic microorganisms. The selected material was inoculated on: Sabouraud dextrose medium, Bile esculin azide medium, Bismuth sulphite medium, Cetrimide medium, Chapman Stone medium, ECD medium and M-Endo medium. Incubated the inoculated nutrient under the conditions specified in the technical documentation for the

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kits. Interpret the results qualitatively by observing the presence or absence of growth and quantitatively by counting the number of colonies on the surface of the membrane filter and calculating cfu/100 ml.

The Danube was monitored on the arms (Ochakivsky, Bystry, Vostochny, Tsygansky, Starostambulsky) and riverbed above of the Reni city. The number of potentially pathogenic microorganisms in the studied areas ranged from 200 to 53600 cfu/100 ml. Their spatial dynamics depended on the localization of the sampling site, the type of bacteria and anthropogenic influence. For seasonal dynamics, there was an increase in the number of potentially pathogenic bacteria in summer compared to autumn. High values were recorded above of the Reni city in the summer of 2019, and low – in the arms of the Vostochny and Tsygansky in the fall of 2020. Top levels were recorded of yeast and fungi, fecal indicator bacteria and coliforms, *Salmonella spp.*, *Pseudomonas spp.* In accordance with Directive (Directive 2016/EC of 27 October 2016), implemented in Ukraine, the number of intestinal enterococci should not exceed 400 cfu/100 ml, the number of *Escherichia coli* – 1000 cfu/100 ml, *Salmonella spp.* – 0 cfu/100 ml for classification of bathing water quality on category «sufficient». Similar norms are established by the Law of Ukraine [6] and the State Sanitary Rules of the Ministry of Health of Ukraine [7, 8]. Comparing the obtained data with the requirements specified in these documents at all sampling areas recorded exceeding the relevant indicators by tens and hundreds of times. It is known that earlier scientists also noted a high number of coliforms and enterobacteria in the Ukrainian and Romanian parts of the Danube [9, p. 91].

Summer in the water of the Reservoir of the Yavorlyk River the number of potentially pathogenic microorganisms ranged from 4100 to 46300 cfu/100 ml. The location of the sampling areas, the type of bacteria and the temperature of water influenced their spatial distribution. High values were recorded for fecal coliforms, enterobacteria, salmonella and pseudomonads. Comparing the obtained data with the requirements specified in the normative documents for waters used for recreational and health purposes, the studied sampling areas recorded exceedances of hundreds of times.

Autumn in the Svicha River, research was conducted in three areas: the upper reaches of the River, above and below the dam near the Vygada village. The number of *E. coli* and coliforms, *Salmonella spp.* in water ranged from 100 to 500 cfu/100 ml; their dynamics in space depended on the sampling area and the type of microorganisms. The number of *Salmonella spp.* did not change from the three areas. Instead, the number of *E. coli* and coliforms decreased slightly in the direction of flow: possibly due to the elimination of introduced microflora within the natural park and the reorganization of the bacteriocenosis in accordance with the microzonality of physico-chemical

parameters of the river. Contamination by such potentially pathogenic bacteria can be carried out from sources that include human and animal feces, contributing to an increase in the number of microorganisms found in the wild. The monitoring of the Svicha River shows an excess of salmonella in the water, compared to those specified in the regulations, which in turn can lead to negative consequences.

The Hnyla Lypa River was monitored in autumn in two areas: above and below the dam of the Burshtyn Reservoir. The number of bacteria *Salmonella* spp., *E. coli* and coliforms in water was from 1600 to 78900 cfu/100 ml. For spatial dynamics, an increase in the number of bacteria in the flow direction was noted. The increased number of microorganisms may be due to the favorable temperature regime that has developed in the Reservoir due to heating from the thermal power plant, anthropogenic and recreational pressure. Comparing the obtained data with the requirements specified in the regulations at all sampling areas recorded the excess of the relevant indicators in the tens and hundreds of times, which can lead to the development of infection.

Study of potentially pathogenic microorganisms in stagnant Verbne Lake with an authorized beach and well-developed infrastructure for recreation was carried out in two areas: east and west. The number of bacteria in the water was from 100 to 34000 cfu/100 ml. Their spatial dynamics depended on the sampling areas, the type of microorganisms and the recreational pressure. For seasonal dynamics, the indicators were noted on average 3 times higher in summer than in autumn. The study showed that under conditions of active anthropogenic and recreational influence on the Lake, a significant content of potentially pathogenic bacteria was observed in the water, which exceeded the normative indicators established by law, and may indicate low water quality and high bacterial contamination. The greatest health risks for people who rest in this Lake are associated with swallowing contaminated water and skin infections.

Our data correspond to the data received by the organization on improvement of beaches of Kiev. Thus, in the summer of 2019 and 2020, it was forbidden for the population to use «Verbny Beach» for bathing according to the results of sanitary-microbiological and sanitary-chemical research of water that did not meet the requirements of the State Sanitary Rules of the Ministry of Health of Ukraine.

Research in the extreme Lake of the Opechen system (Opechen Nyzhne) was conducted in two areas: the upper and lower reaches of the Lake. The number of potentially pathogenic bacteria in the water ranged from 400 to 40500 cfu/100 ml. Their dynamics in space depended on the sampling area, the type of bacteria and man-made intervention in the lake system. For the

seasonal dynamics, higher indicators were observed in autumn for coliforms and salmonella than in summer. The study shows that the Lake located in an urban area in conditions of active anthropogenic and recreational pressure (unauthorized beach), contains in the water above the permissible norms of all studied of potentially pathogenic bacteria.

Therefore, studies on lotic and lentic ecosystems show that under conditions of active anthropogenic and recreational influence, a significant content of potentially pathogenic microorganisms in the water was observed, which indicates unsatisfactory water quality and a high degree of bacterial contamination, which can lead to negative consequences. According to the results of sanitary and microbiological studies of water, it can be concluded that these water bodies are unsuitable for use for health purposes and bathing, and the greatest risks to human health vacationers in these ecosystems are associated with swallowing contaminated water, indigestion and skin infections.

* – The work was performed within the framework of the target program «Climatogenic restructuring of aquatic groups and their impact on the ecological status and bioproductivity of Ukraine's transboundary rivers with the EU».

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VETERINARY SCIENCES

EVALUATION OF THE DEGREE OF FRESHNESS OF POULTRY MEAT WHEN STORED BY THE NESLER NUMBER USING THE DEVELOPED EXPRESS METHOD

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-6>

Capacities for the production and storage of chilled poultry carcasses should implement a traceability system and a HACCP system for the identification and analysis of hazardous risks, management of critical control points with evaluation of these results [1, p. 154]. The effectiveness of traceability systems and HACCP makes it possible to produce safe and high-quality food products for ordinary consumers, which is relevant globally at Ukrainian processing plants. Risk-oriented control of poultry meat production and circulation facilities requires the development of express methods for determining its safety and quality [2, p. 98; 3, p. 16]. Requirements for safety and quality of poultry meat are regulated by current regulations [4, p. 12; 5, p. 8; 6, p. 11].

Scientists have paid considerable attention to the development of new rapid and improved methods of controlling food safety and quality [7, p. 149; 8, p. 113; 9, p. 37; 10, p. 49].

Our research has developed an express method for determining the safety and quality of poultry meat to determine the degree of freshness of poultry meat by the Nessler number during production and storage [11, p. 3].

The material for the study was chilled carcasses of gutted birds in a total of 36 samples of different degrees of freshness: fresh carcasses – for storage in a refrigerator at a temperature of 0–4 °C for 5 days; doubtful freshness – for 6–7 days for storage in a refrigerator at a temperature of 0–4 °C; stale – more than 7 days for storage in a refrigerator at a temperature of 0–4 °C.

The developed express method was based on the quantitative determination of the Nessler number by determining the degree of freshness of poultry meat by using a filtered extract of poultry meat in a ratio of 1: 4 (5.0–5.1 g of poultry meat and 20 cm³ of distilled water) in the amount of

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3.0–3.1 cm³ with the addition of 1.0–1.1 cm³ of Nessler's reagent for 4–5 minutes and subsequent centrifugation for 6–7 minutes at 1000 revolutions per minute and a comparison to the color of the dichromatic scale containing the Nessler number, which will ensure the degree of freshness of poultry meat during storage and sale.

Using the developed express method, we determined the degree of freshness of poultry meat of chilled carcasses at different times and storage temperatures of poultry carcasses by color intensity in 36 samples (Table 1).

Table 1

Indicators of the Nessler number for the intensity of the color of the extract from poultry meat with Nessler's reagent of different degrees of freshness, n = 36

The degree of freshness of poultry meat and the number of samples	Indicators of the Nessler number for the intensity of the yellow color of the extract from poultry meat with Nessler's reagent, in absolute units		
	Intensity of the color of the meat-water extract	Thigh of a bird	Bird's breast
Poultry meat is fresh, n = 12	olive yellow color	1,4 – 1,6	1,4 – 1,6
Poultry meat of dubious freshness, n=12	light yellow	1,8 – 2,4	1,8 – 2,4
Poultry meat is stale, n=12	intense yellow or orange color	more 2,4	more 2,4

It was determined that the Nessler number for the intensity of the yellow color of the extract from fresh poultry meat from the thigh and breast using Nessler's reagent was – 1.4 – 1.6; poultry meat of dubious degree from the thigh and breast – 1.8 – 2.4; lean poultry meat from the thigh and breast – more than 2.4.

The data obtained were stable and 99.9 % reliable, so these Nessler numbers can be used to determine the degree of freshness of poultry meat during storage and sale by color intensity according to the Nessler number. Also more reliable data – in 99.0–99.9 % were obtained in comparison with the results of studies of the microscopic method of determining the degree of freshness of poultry meat and in 99.4–99.8% of the results of studies to determine the content of amino-ammonia nitrogen in poultry meat [12, p. 43].

In addition, it should be noted that the method is rapid, easy to perform, economical in the preparation of reagents, and its results give specific quantitative indicators of the Nessler number on the intensity of the yellow extract of poultry meat using Nessler's reagent. This method can be used in

production laboratories of poultry meat production and processing facilities, wholesale bases, supermarkets, state veterinary laboratories and veterinary examination laboratories in agri-food markets, along with conventional methods of controlling the freshness of poultry meat.

When carrying out risk-based controls, veterinary inspectors should use simple tests to establish the safety and quality of poultry meat at poultry production and handling facilities to confirm the appropriate hygiene requirements for the timing and modes of production and storage of products [13, p. 15].

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MONITORING OF MICROELEMENT COMPOSITION OF DRINKING WATER IN DIFFERENT REGIONS OF UKRAINE FOR 2019–2020

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-7>

Globalization in the world, particularly in Ukraine, creates the preconditions for the widespread use of industrial, agricultural and household waste, which directly or indirectly affects the quality and trace elements of water.

Deteriorating environmental conditions and unethical human interference with the natural system have strengthened concerns about improving healthy lifestyles. Deterioration of the water system is common in developing countries [1].

According to WHO, 80% of human diseases are associated with the use of poor quality water. In accordance with international drinking water quality standards, Council Directive 98/83 EC [2] and the national standard of Ukraine DSTU 7525: 2014 [3], a clear list of chemical and toxicological groups of drinking water quality indicators is defined. The problem of drinking water pollution in Ukraine is related to the imperfection of wastewater treatment systems from industrial, municipal and agricultural enterprises, erosion of soils, as well as anthropogenic disasters that have severe and long-term consequences, in particular at the Chernobyl NPP [4].

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We establish the following goals: to analyse chemical and toxicological indicators of drinking water taken from different regions of Ukraine; to determine the quantitative content of aluminium, arsenic, boron, cadmium, mercury, chromium, cobalt, copper, iron, plumbum, manganese, molybdenum, selenium, nickel, sodium and zinc in water samples.

The research was carried out on the basis of the State Research Institute of Laboratory Diagnostics and Veterinary and Sanitary Expertise, Laboratory of Atomic Absorption Spectrometry by the method of inductively coupled plasma atomic emission spectroscopy (ICP-AES) (optical emission spectrometer PlasmaQuant PQ 9000 Analytik Jena (Germany)) and atomic absorption spectrometry [5; 6]. Water samples were taken according to DSTU ISO 5667-3-2001 [7].

In the period from 2019 to 2020, tests of 227 water samples were conducted, of which 11 gave positive results (4.84%), in terms of ferrum content – 8 samples, in terms of manganese – 3 samples (Table 1).

Table 1

**Analysis of chemical and toxicological parameters of drinking water,
µg/L**

Indicator	Concentration range	Reference document	
		State Standard of Ukraine 7525:2014	Council Directive 98/83/EC
Plumbum	1.103-5.102	10	10
Cadmium	2.0-5.0	1	5
Arsenic	1.626-3.325	10	10
Mercury	0.127-1.047	0.5	1
Antimony	0.524-2.194	5	5
Nickel	3.587-6.380	20	20
Chromium	2.662-10.395	50	50
Aluminium	10.297-50.025	200	200
Copper	0.026-0.058	1000	2000
Iron	84.277-570.458	200	200
Manganese	8.741-130.295	50	50
Boron	0.117-0.394	500	1000
Selenium	3.529-7.842	10	10
Sodium	45.034-109.036	200	200000

The results of water tests showed that the quantitative content of plumbum, arsenic and cadmium in the samples was in the range of 1.103-5.102 µg/kg, which was within the normative values.

The variability of the quantitative content of chromium, cobalt, nickel and molybdenum depended on the region of the selected samples and did not exceed the maximum allowable levels.

Arsenic and mercury in all water samples were detected in minimum concentrations – trace amounts, or below the method detection limit of 0.5 µg/kg.

The quantitative content of iron in almost all water samples was at the limit of the maximum allowable concentration (MAC) and exceeded it in 8 samples (Kyiv oblast – in 2.1 times, Chernihiv oblast – in 3.1 times, Odesa oblast – in 2 times, Dnipropetrovsk oblast – in 1.2 times). The origin of iron in water can be of geogenic nature or from industrial effluents, household waste, as well as due to significant wear of the water supply system.

Pollution of drinking water with copper, boron and selenium was not detected among the regions of Ukraine. Aluminum, sodium, and zinc did not exceed the normative values. The content of sodium in water was characterized by significant variability, which is due to the peculiarities of the entry of its compounds with industrial and municipal effluents into the water, but the excess of the maximum allowable concentrations was not detected. The concentration ranges of aluminum, sodium and zinc in the water of the oblasts of Ukraine in all cases were below MACs according to the standards of both national and European legislation.

Manganese was detected in excess of MACs in three samples, accordingly, 85.62 µg/kg; 98.88 µg/kg and 130.29 µg/kg. The main sources of manganese contamination of drinking water in Ukraine are considered to be untreated wastewater from industrial metallurgical enterprises, municipal wastewater and low efficient outdated wastewater treatment systems.

It is established that 95.15% of drinking water samples that were tested and selected in different regions of Ukraine for the content of chemical elements met the requirements of current regulations. Exceedance of MACs for iron and manganese was in 4.84% of samples. The content for such toxic elements as As, Cr, Pb, Cd, Ni in the drinking water of the regions of Ukraine from which samples were tested was within the normative values. However, despite this fact, they pose a potential risk to consumer health even in low doses.

Therefore, the application of measures based on constant control (monitoring) of drinking water quality is important for public health.

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AGRICULTURAL SCIENCES

ESTIMATION OF STRUCTURAL-SPATIAL ORGANIZATION OF BIOME IN AGROECOSYSTEMS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-8>

Balance of vital activity of the soil microbial complex is an important condition that determines the soil preservation and ecological balance of agroecosystems [1, p. 86]. Modern agrotechnogenic load disrupts natural processes in agrophytocenoses and leads to a decrease in the fertility level and imbalance of microbiological processes in the soil [2, p. 25]. Comprehensive research of soil microbial biome is necessary to understand and disclose the mechanisms in the system «soil – microorganisms – plant» is to create sustainable and highly productive agroecosystems [3, p. 68]. At present, the assessment of the structural and spatial organization of biomes in agroecosystems by a complex combination of classical and molecular biological methods has become particularly relevant and determines the purpose of the research.

The research was carried out based on the stationary field experiment of the National University of Life and Environmental Science of Ukraine in the Forest-Steppe zone in grain-beet 10-field crop rotation. The influence of agrarian systems against the background of differentiated tillage on the microbial biome of typical chernozem was studied in the main phases of the sugar beet ontogenesis (germination, leaves closing in-row spacing, and full maturity). The intensive system of agriculture (control) provided for the application of 12 tons of manure and mineral fertilizers per 1 ha of crop rotation area at the rate of $N_{92}P_{100}K_{108}$, the ecological system – 24 t/ha of organic fertilizers and mineral fertilizers at the rate of $N_{46}P_{49}K_{55}$, the biological system provided the application of 24 t/ha of organic fertilizers.

The number of bacteria, micromycetes, and actinomycetes was determined by the inoculation of soil suspensions on agar nutrient media [4, p. 4]. The content of active microbial biomass was evaluated by the substrate-induced respiration method [5, p. 179]. The microbial metabolic coefficient was

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determined by calculation. The structure of the qualitative composition of soil microorganisms was studied by generally accepted methods for morphological and cultural properties [4, p. 13]. The diversity of soil microbial complexes was assessed by the ecological indices of Shannon and Simpson [6, p. 147]. The taxonomic structure of prokaryotes of typical chernozem was determined by the pyrosequencing method [7, p. 212].

The ratio and number of researched groups of microorganisms depend on the phenophase of plants, and applied agricultural measures have been established. In the germination phase of sugar beet, the number of soil microbiota was the lowest and was: bacteria – 6.13-9.41 million CFU/g of soil, micromycetes – 21.22-24.63 thousand, actinomycetes – 0.79-0.97 million. The intensity production of root exudates increased with the growth and development of plants, which contributed to the increase in the number of microorganisms in typical chernozem. Thus, the number of bacteria during the sugar beet ontogenesis increased by 1.3-2.7 times, while micromycetes – in the phase of leaves closing in-row spacing – decreased by 12.1-34.7 %, and in the phase of full maturity, on the contrary, increased 2.1-3.5 times. As for the actinomycetes number, such a pattern was not found. This indicates a different intensity of the conversion of organic compounds in the soil. The application of biological and ecological agrarian systems, compared to intensive, contributed to the growth of the number of studied groups of microorganisms during sugar beet ontogeny by an average of 14.6 and 18.6 %. But in the phases of leaves closing in-row spacing and full maturity, the number of micromycetes was increased at the intensive agriculture by 17.7 and 27.1 %, respectively.

It should be noted that it was a high correlation level ($r = 0.77$) between the number of bacterial and fungal microbiota during the entire ontogenesis of the culture for all agricultural measures. As for the number of actinomycetes, such a pattern did not found. The correlation level between the studied groups of microorganisms was high ($r = 0.66-0.97$) for all agricultural measures only in the germination phase.

The content of total (bacterial + fungal) active microbial biomass during the sugar beet ontogenesis ranged from 168.3–231.0 mg C/kg. The main share (78.7–88.9 %) of biomass was occupied by bacteria, while the share of micromycetes was much smaller and amounted to 11.1–21.3 %. The intensity of root secretions increased with the growth and development of plants. It led to an increase in the content of active microbial biomass in the middle and at the end of the culture ontogeny by 8.3-21.6 and 9.0-28.5 %, respectively. It has established that the content of bacterial biomass (including total) increased with a decreasing rate of mineral fertilizers in the direction: intensive → ecological (by 11.0 %) → biological (by 19.4 %) agrarian

system. It indicates an inhibitory influence of mineral nutrients on the metabolic properties of microorganisms. However, the biomass content of micromycetes in this direction, on the contrary, decreased (by 13.5 and 19.5 %, respectively).

It should be noted that the correlation level between the content of total active microbial biomass and the number of bacteria ($r = 0.80$) was high during the sugar beet ontogenesis. It indicated an increase in the amount of microbial biomass with the increasing of microorganism's number in typical chernozem.

The indicators of the microbial metabolic coefficient during the sugar beet ontogenesis were 0.30–0.37. At the same time, the stability of soil microbiocenosis during the culture ontogenesis increased with decreasing dose of mineral fertilizers in the direction: intensive → ecological (by 3.8 %) → biological (by 19.7 %) agrarian system.

Analysis of the qualitative composition of the typical chernozem microbiota based on the description of morphological and cultural properties of bacterial and micromycetes colonies shown that the studied microbial complexes differ among themselves in the number of detected morphotypes and the structure of distribution of dominant forms of microorganisms. Thus, the number of detected morphotypes of bacteria depending on the experiment variant was varied between 26–44 CFU, micromycetes – 16–36 CFU. The share of dominants among them was 2.3–11.8 %, subdominants – 2.8–33.3 %, representatives of soil microbiome that often occurs – 18.8–94.4 %. The use of agricultural measures has created the conditions for redistribution of the relationship between taxonomic groups of microorganisms due to representatives, that often occurs, as well as the degree of presence of active forms of random species that are not permanent components of the microbial complex and are activated only in the presence of easily digestible nutrients in the soil.

It was found that the dominant forms of prokaryotes on morphological and physiological characteristics belonged to bacteria of the genus *Achromobacter*, *Pseudomonas*, *Bacillus*, *Micrococcus*, and actinomycetes *Nocardia* and *Streptomyces* with a saturation of 11.2–18.4 % depending on the applied agricultural measures.

The ecological indices of Shannon (I_{Sh}) and Simpson (I_S) indicated a high diversity of bacteria ($I_{Sh} = 1.23–1.43$), their uniform distribution ($I_S = 0.05–0.07$) during the sugar beet ontogenesis at all agrarian systems. The micromycetes diversity was slightly lower ($I_{Sh} = 0.83–1.50$), and it was characterized by an uneven distribution ($I_S = 0.04–0.30$) of morphotypes. The application of biological and ecological farming has contributed to the growth

of polyfunctionality and diversity of bacteria and micromycetes comparatively intensive.

Analysis of the prokaryotes metagenome by pyrosequencing revealed 367 taxa, of which 22.3% belonged to unidentified sequences. Among the identified taxa, 25 were bacteria, and 2 were archaea. At the genus level, the dominant representatives among the identified prokaryotes were representatives of *Achromobacter* (36.6-37.5 %) and *Pseudomonas* (21.4-29.0 %), subdominants were *Candidatus Nitrososphaera* (2.6-2.7%), *Pseudonocardia*, *Thermomonas*, *Bacillus*, *Rubrobacter*, *Streptomyces*, *Mycobacterium*, *Candidatus Solibacter*, *A4*, *Hyphomicrobium* (0.1-0.4%), etc. The biological agrarian system was characterized by the greatest microbial diversity at the genus level, and intensive led to the impoverishment of the polymorphism of prokaryotes genetic resources of typical chernozem.

The species richness of microorganisms in the sugar beet rhizosphere, according to the ecological indices of Shannon ($I_{Sh} = 4.2-4.88$) and Simpson ($I_S = 0.80-0.83$), obtained by pyrosequencing, was significantly higher than the results methods of classical microbiology has been found. So, the use of molecular biological research methods makes it possible to investigate to a greater extent the structure of microbial diversity, mainly due to non-cultivated forms.

Thus, the microbiome research by classical and molecular biological methods of analysis shows that the systematic application of organic fertilizers to the soil (biological agrarian system) contributes to the formation of optimal functioning of the soil microbial complex, accompanied by increasing numbers, diversity, stability and biomass content of microorganisms in typical chernozem during the sugar beet ontogenesis. The conditions of soil microbiota functioning deteriorated with the priority application of mineral fertilizers (intensive system).

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INFLUENCE OF AGE AND SEASON ON PRODUCTIVITY OF SPERM OF HOLSTEIN BULLS – SPERM PROVIDERS IN CONDITIONS OF LLC «UKRAINIAN GENETIC COMPANY»

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-9>

Efficiency of seed bulls is characterized by the number of their offspring which mainly depends on the quality of ejaculates and insemination ability of sperm cells.

Numerous scientific researches suggest that notable variability of sperm efficiency of bulls – sperm providers is predetermined by a number of genetic as well as paratypic factors [2, p. 971; 3, p. 3219; 6, p. 3321]. The majority of scientists noticed that quantity and quality of semen is essentially influenced by the season. Boiko O. V. and others in their researches have ascertained that motility of sperm of Holstein bulls is better in winter-autumn period, the highest concentration of sperm cells in ejaculate is in winter season and the lowest – in spring, volume of ejaculate during all seasons is almost the same with slight decrease in spring by 7,36 % [1, p. 222]. Snoj and others observed high volume of ejaculates in spring-summer period, and maximum concentration of sperm cells – in summer [8, p. 849]. Kuzebnyi S. V. [5, p. 18]

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has not observed season changes of sperm efficiency of Holstein bulls and related domestic breeds.

Another important factor related to sperm parameter is age. According to Siratskyi Y. Z. and others [7, p.13] age of bulls influences volume of ejaculate depending on the breed by 24,2-30,1 %, concentration of sperm cells – by 2,6-15,2 %, their motility – by 4,3-18,3, persistence of sperm cells to freezing – by 8,5-15,8 %.

Study of influence of these factors on quantity and quality characteristics of sperm efficiency will help breeding companies to organize work with bulls – sperm providers efficiently and increase yield of high-quality sperm. In view of the aforesaid, the objective of our research is study of age and season influence on productivity of sperm of Holstein bulls – sperm providers in conditions of LLC «Ukrainian Genetic Company».

The research was carried out with 20 Holstein bulls – sperm providers of black- and red-spotted coat color. As materials for the research were used sperm accounting records kept for bulls – sperm-providers, form #1-mol. «Seed bull record» and the results of own laboratory examinations. Volume of ejaculate, concentration of sperm cells in 1 ml of sperm and motility of sperm cells were counted on sperm analyzer IVOS (system CASA). Quality of native sperm was assessed according to DSTU 3535-97. Primary data was processed using variation statistics methods on computer software «MS Office Excel 2010».

The age of the experimental bulls ranged from 3 to 12 years. In order to study the influence of bulls' age on the productivity of their sperm bulls were divided into 3 age groups: I – 3-4 years, II – 5-10 years, III – 11-12 years. According to the researches of laboratory workers from the Institute of Animal Breeding and Genetics nd. a. M. V. Zubets of NAAS, genital function of bulls – sperm providers is formed during the period starting from their sexual maturation and lasts until they become 2 years of age and is characterized by constant increase of the volume of ejaculate, concentration of sperm cells in ejaculate, their motility and persistence to freezing; physiological maturity begins at 2 and lasts until 5 years of age and is characterized by the increase of the said characteristics; stabilization of genital function takes place from 5 until 10-12 years of age; failure of genital function starts after 12 years of age [4, p. 711].

Analysis of characteristics of sperm productivity depending on age showed, that Holstein bulls of foreign selection are most sexually active at the age of 3-4 years (146 high-quality ejaculates during a year), they produced the largest quantity of native sperm (731,5 ml) with highest concentration of sperm cells in ejaculate (3,20 bln/ml) and motility (8,1 points) as a result they produced maximum quantity of sperm doses (44918 pcs.) ($P < 0,001 \dots 0,01$).

It should be noted, that during 2 years of research characteristics of these young bulls have remained the same (Bugatti, Laski, Faun) or even decreased (Argonaut, Levitz). It means, that examined Holstein bulls – sperm providers of foreign selection turned out to be earlier-maturing, their genital function becomes stable 5 years earlier. Research of Kuzebnyi S. V. [5, p.16] also proves absence of differences in characteristics of sperm productivity of sperm providing bulls of foreign selection from 3 to 8 years of age. As regards two other age groups (5-10 and 11-12 years) no possible difference in their characteristics has been found. During one year they produced 78,0-92,4 ejaculates, 389,7-480,3 ml of sperm, concentration of sperm cells in 1 ml is 2,07-2,28 bln/ml, yield of sperm doses is 15068-22955 pcs. There is no substantial difference in volume of ejaculate (4,93–5,3 ml) and persistence of sperm cells to freezing (89,1–92,4 %) ($P>0,05$) between three age groups. Thus, differences between groups are not associated with age, but with individual characteristics of bulls – sperm providers – like genotype, state of reproductive system, type of higher nervous system, adaptive ability, etc.

Another important factor that influences sperm productivity of bulls is season. The researches that we have undertaken evidence significant increase of sexual activity of sperm providers and productivity of their sperm observed in spring. During spring season maximum quantity of quality ejaculates was received from one bull (31,6 pcs., $P<0,05$) and native sperm (158,0 ml, $P>0,05$). In other seasons the said characteristics were 24,3-26,1 pcs. and 127,8-128,2 respectively.

Most sperm doses were frozen in winter-spring seasons – 7851-8069 pcs. obtained from 1 sperm provider. Volume of ejaculate during this period equaled to 4,90-5,00 ml, concentration of sperm cells in 1 ml – 2,52-2,53 bln, motility of sperm cells in ejaculate is higher in winter (+0,3 points).

In summer-autumn bulls produced in average 7 ejaculates and 30 ml of native sperm less than in spring ($P<0,05...>0,05$) as a result less quantity of sperm doses was obtained – 6149-6293 pcs. Instead, in summer maximum volume of ejaculate is produced (5,28 ml, $P<0,001...>0,05$) as well as concentration of sperm cells in 1 ml (2,78 bln, $P<0,001$), it may be due to feeding dried herbage to bulls.

Volume of ejaculate since December until April is minimal, its increase takes place in May. Maximal figure was recorded in June – 5,46 ml. Since July until November fluctuations are observed within the range 5,10 ml (August) – 5,32 ml (September) (Figure 1).

Minimal concentration of sperm cells in ejaculates (2,40 bln/ml) was recorded in January. Since February until August was observed gradual increase (from 2,49 until 3,00 bln/ml), decline has started again since September.

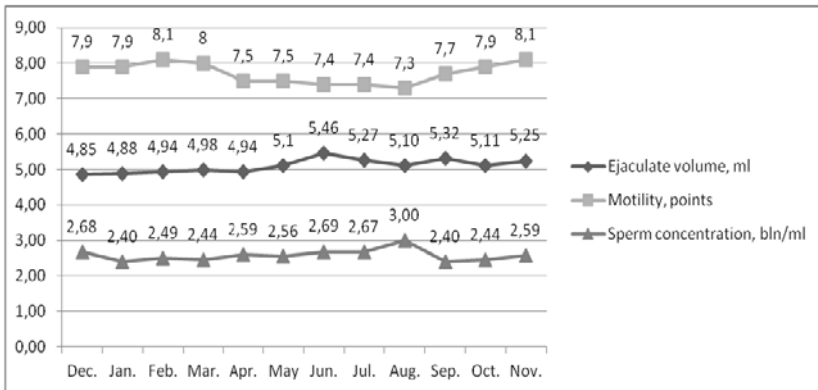


Figure 1. Dynamics of main sperm characteristics during a year

Motility of sperm cells in ejaculate since December until March ranges from 7,9-8,1 points, since April until August gradual decline to 7,3 points is observed, since September until the end of the year – again rise to 8,1 points.

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FATTY ACID COMPOSITION OF PHOSPHOLIPIDS AND SORPTION CAPACITY OF HEAD TISSUES AND PRODUCTIVE SIGNS OF BEES FED WITH FLAXSEED OIL

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-10>

Analysis of the available scientific literature indicates that the amount and composition of fatty acids in feed directly and very quickly affects the fatty acid composition and functional activity of cell membranes through phospholipids. In particular, the fatty acid composition of phospholipids of cell membranes is the main factor influencing the intensity of the transition of various compounds, including heavy metals and various forms of fatty acids, by active and passive transportation into the tissues of bees. The egg-laying of queen bees and the honey productivity of worker bees strongly depend on the activity of the latter.

Based on the above, the aim of our research was to establish a link between the content of phospholipids, their fatty acid composition and the sorption capacity of honey bee head tissues and their reproductive capacity and productivity depending on the amount of flaxseed oil in the feed additive.

Experimental studies were conducted in the spring and summer season on clinically healthy honey bees of the Carpathian breed (*Apis mellifera*

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carpatica). According to the principle of analogues, 3 groups of bee families were formed (3 bee families in each). The bees of the control group received feed additive consisting of 100 g of low-fat flour from natural soybeans of the Chernivtsi-9 variety and 100 g of sugar syrup (sugar to water ratio 1:1) for 36 days. In addition to this feed, the bee families of the 1st and 2nd experimental groups received flaxseed oil in the amount of 10 and 20 g/bee colony/week, respectively. During the experiment, the egg-laying of queens and worker bees honey productivity were monitored. At the end of the experiment, the sorption capacity, the content of heavy metals, phospholipids and the fatty acid composition in the tissue samples of honey bees were determined.

It was found that due to the addition of flaxseed oil in the amount of 10 and 20 g into the feed additive which consists of low-fat soy flour and sugar syrup, it demonstrates the dose-dependent increase in the content of saturated, monounsaturated and especially polyunsaturated fatty acids both in fatty acids of total lipids and non-esterified fatty acids. Feeding honey bees with a feed additive enriched with flax oil leads to a dose-dependent increase in the concentration of phospholipids in the tissues of the head of honey bees. At the same time, the relative content of polyunsaturated fatty acids of the ω -3 family increases in the phospholipids of bee tissues of the 1st and 2nd experimental groups, but the content of monounsaturated fatty acids of the ω -9 family decreases. In this case, the ratio of the relative content of polyunsaturated fatty acids of the ω -3 family to the polyunsaturated fatty acids of the ω -6 family in the phospholipids of the head tissues of honey bees of the 1st and 2nd experimental groups grows significantly. The increase in the concentration of phospholipids and the relative content of polyunsaturated fatty acids in the ω -3 family leads to a dose-dependent increase in the sorption capacity of the head tissues of honey bees of the 1st and 2nd experimental groups. At the same time, the tissue of the honey bee head in the 1st and mainly the 2nd experimental groups undergo the increase in the content of Nickel, Plumbum and Cadmium. In addition, the content of Copper and Chromium rises in the tissues of the head of honey bees of the 2nd experimental group. Changes in the content of phospholipids, their fatty acid composition and sorption capacity of the tissues of the head of honey bees of the 1st and especially 2nd experimental groups are accompanied with changes in the reproductive capacity of queens and honey productivity of worker bees. Specifically, the egg laying of queens in the 2nd and, to a greater extent, 1st experimental groups increases by 6.4% and 15.4%, respectively, and honey productivity of worker bees increases by 10.7% and 17.5%, respectively.

GEOLOGICAL SCIENCES

MONITORING OF NATURAL METHANE EMISSIONS IN THE BLACK SEA BY REMOTE SENSING OF THE EARTH ACCORDING TO THE MODIS SATELLITE (AQUA / TERRA)

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-11>

This publication presents a continuation of a series of studies related to the study of the process of natural methane emissions in the Black Sea using the method of remote sensing of the Earth on the example of the north-western shelf in the Paleo-delta of the Dnieper. According to preliminary geological-geophysical, acoustic and geochemical data, natural gas yields with a chemical composition of up to 95-99% methane are periodically activated in this area.

The phenomenon of activation of methane seeps is widespread worldwide and attracts the attention of scientists and researchers from around the world. First, emission activity increases during periods of seismic activity in the region, which allows monitoring of the frequency and volume of gas emissions. Secondly, it is possible to study this process in detail according to space images, using a certain methodological algorithm.

This study presents a method of studying methane seeps in the marine environment according to the interpretation of MODIS space images (Aqua / Terra) with processing in specialized programs (SNAP, Q-Gis, etc.). To use the proposed method requires a preliminary geological study of the study area and determine the period of survey, including images with the most informative, associated with seismic activity of the region and the atmospheric phenomenon – cloudiness or lack thereof.

Introduction. Natural methane emissions in the aquatic environment are associated with gas hydrate deposits, which are distributed on the planet mainly in the shelf zone of the Pacific, Atlantic, Indian and Antarctic Oceans; near the coasts of North and South America, India, Japan, Norway and other countries.

In the Black Sea region, active gas manifestations were recorded almost on the entire shelf: Ukraine, Romania, Bulgaria, Turkey, Georgia and Russia. In Ukraine, methane rashes are concentrated in the transition zone shelf-

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continental slope in the north-western and north-western parts of the Black Sea [1; 2; 3].

The frequency of activation of emissions and the large number of methane rashes localized in the paleo-delta of the Dnieper (Figure 1) attract the attention of many researchers [1; 2; 3].

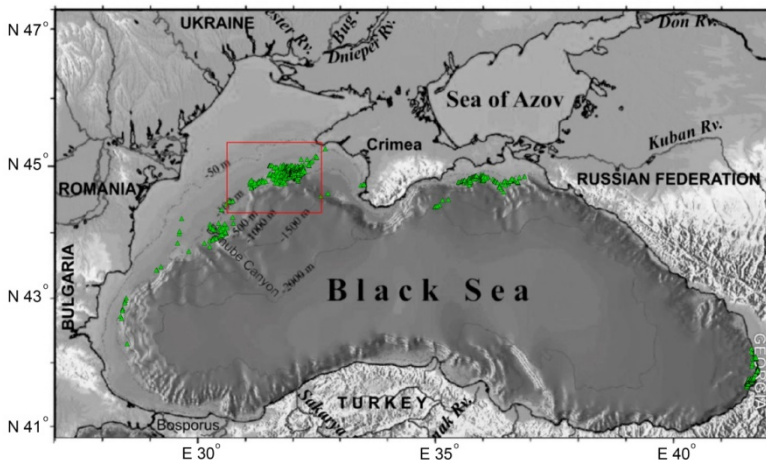


Figure 1. Test site on a fragment of the map of the Black Sea [4] with a diagram of the outflow of methane pages. Symbols: green triangles are methane leaks mapped according to research by Egorov et al., 2011; red rectangle – test site

Based on the data of geological, geochemical and geophysical studies [3; 5; 6] it is known that in this area (Figure 1, 2) is periodically activated more than 2000 thousand methane rashes, which emit a certain amount of gas rising from the bottom to the surface sea. The visualization of the number is shown on a three-dimensional graph (Figure 3), built in the Origin program in test access. The coordinates of methane rashes are taken from the catalog [5].

Methane outputs carry water masses with a reduced bottom mass temperature of $\sim 3 - 5^{\circ}\text{C}$, and near the sea surface about 25°C (in summer) [7] and rising into the lower atmosphere, intensively absorbs thermal radiation from the Earth in the infrared region of the spectrum at wavelength $7,66\ \mu\text{m}$ [1; 7; 8]. This phenomenon can be observed in different spectral (thermal and infrared) ranges in NASA satellite images (MODIS, NOAA, etc.), which allows to expand the possibilities of studying methane emissions in the marine environment. However, a set of additional data should be considered to

determine the survey period, which should coincide with the period of activation of methane rashes.

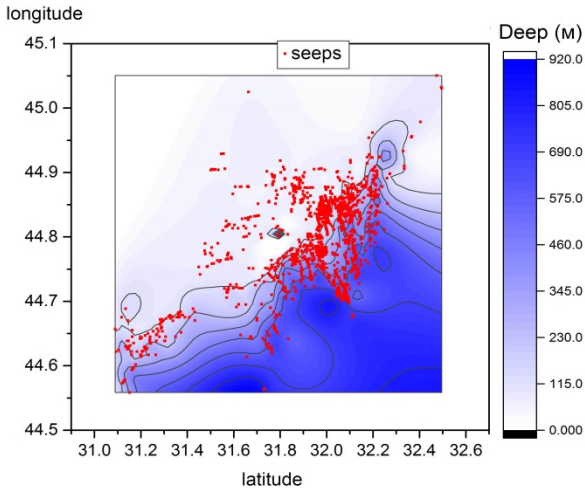


Figure 2. Three-dimensional graph of methane rash localization in the Dnieper paleo-delta

At this stage, it is impossible to accurately determine the amount of methane gas coming to the surface from the seabed using remote sensing. This is due to various factors: rapid methane dissipation, atmospheric phenomena, seasonality, changes in sea currents, and so on. It is known that the volume of gas increases [7; 9] during increased seismic and tectonic activity in the region – this should be taken into account when choosing the date of the images.

Research methodology. At the first stage of the study, we analyze the seismotectonic activity of the region, which manifested itself in the form of strong earthquakes in Turkey in 1999 with magnitudes of 7.6 and 7.2 on the Richter scale near Izmit and Düzce. The tectonics of this region is formed by the movement of Eurasian, Arabian and African plates, which interact with each other and (Figure 3) [10] activate seismotectonic processes that affect tectonic activity in the region as a whole and are manifested in methane gas emissions in the Black Sea.

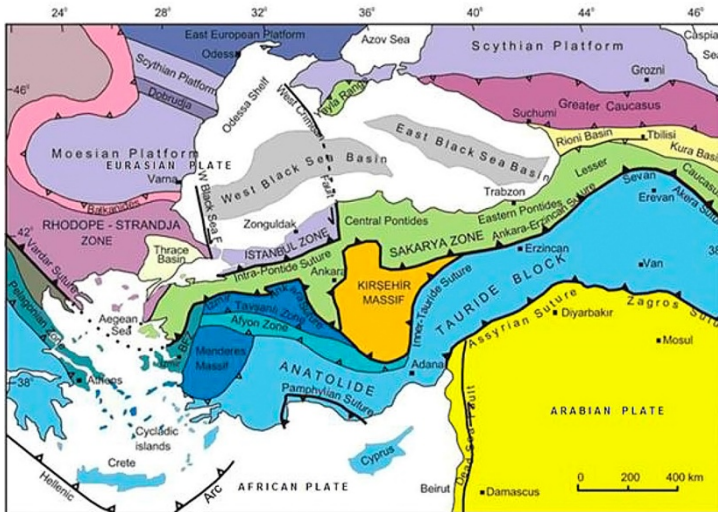


Figure 3. Tectonic map of Turkey and the surrounding area, according to [10]. Explanation: faults – dense lines, subduction zones – filled triangles, active subduction zones – thick lines with open triangles, oceanic crust – gray colors. BFZ – Bornov zone Flush

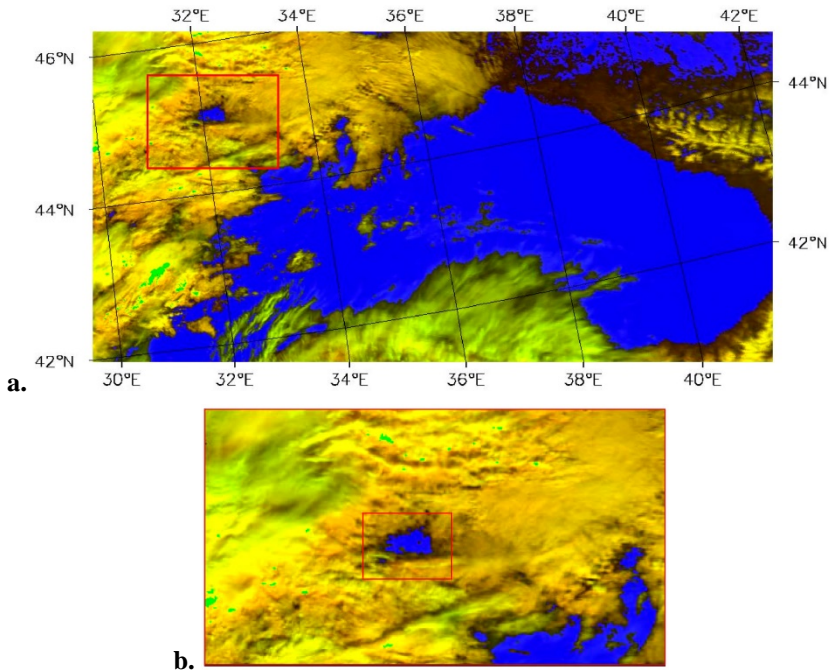
In general, the study area of the paleo-delta of the Dnieper is influenced by tectonic processes occurring in the Black Sea region: Romania (Vrancea zone), Moldova, Turkey (mobile Anatolian plate).

Next, we monitor images from the MODIS satellite (Aqua / Terra) for several months before and after the earthquakes. We select the images that interest us: with the manifestations of anomalous clouds that appear over the areas of distribution of methane rashes during this period and carry out processing in specialized programs (SNAP, Q-Gis, etc.) in different spectral ranges.

For example, in 2016 there was increased seismic activity in the Black Sea region, which manifested itself in the form of earthquakes in Turkey, Romania on September 24, 2000 with a magnitude of 5.6 and an epicenter 153 km north of Bucharest. Which allows you to select the shooting data in these periods of 2000 or 2016.

After analyzing the selected images of the MODIS satellite (product MOD021KM) over the study area on a background of continuous clouds, which has a sharp decrease in temperature compared to the environment, an anomaly was detected (Figure 2), which was recorded among the clouds. This is the volume of methane gas, which is much warmer compared to the

temperature of the clouds, sprays clouds forming a cloudless area that can be recorded on the short circuit [1; 8].

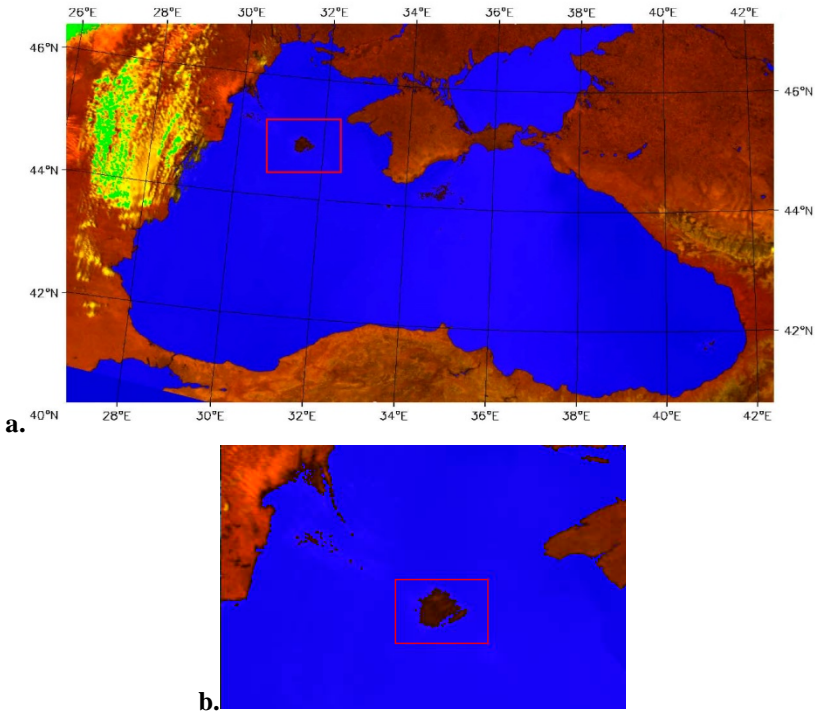


Spectral ranges	
R:	visible 0.890 – 0.920 μm ,
G:	near infrared 0.931 – 0.941 μm ,
B:	near infrared 0.862 – 0.877 μm .

Figure 3. a, b. Fragment of the scene MODIS (product MOD021KM) with an isolated area of the anomaly in the study area; date and time of the survey – 3.03.2000 and 9:20, the area without clouds is clearly observed against the background of cloud cover, this area is treated as an anomaly located above the study area and methane leakage. Explanation: red squares – a. research area, b. area with an anomaly

Of great importance is the temperature difference, methane rising from the seabed to the surface and further into the troposphere, much colder than surface water and warmer than the atmosphere, it provokes the formation of

condensate in the form of small clouds over the methane outlets. This phenomenon is recorded in cloudless weather on space images of satellites in spectral ranges with a thematic direction: atmospheric phenomena, characteristics of clouds, water vapor and others. The Aqua / Terra satellite with the MODIS spectroradiometer is most suitable for such tasks.



Spectral ranges	
R:	visible 0.890 – 0.920 μm ,
G:	near infrared 0.931 – 0.941 μm ,
B:	near infrared 0.862 – 0.877 μm .

Figure 4. a, b. A fragment of the scene MODIS (product MOD021KM) with an anomaly zone in the study area; date and time of the survey – 13.07.2000 and 8:55, the cloud cover is clearly visible and is interpreted as areas with abnormal clouds associated with methane impregnation activity. Explanation: red squares – a. study area, b. area with an anomaly

Conclusions. The methods of remote sensing of the Earth and data from the Aqua / Terra satellites of the MODIS spectroradiometer can be used to solve geological problems and search for minerals by secondary characteristics. The frequency of the flight, which is two days, depending on the latitude, which allows you to monitor the dynamics of geological processes and conduct detailed monitoring. A necessary condition for this technique is to take into account tectonic, geophysical, lithological data and information on atmospheric and hydrological phenomena.

This method can record periods of activation of methane gas emissions on the sea surface from the bottom, due to the difference in temperature of the masses, which is closely related to the activation of seismic activity of the region.

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GEOGRAPHICAL SCIENCES

RESEARCH OF THE THERMOHALINE STRUCTURE IN THE ACTIVE LAYER OF THE MARINE ENVIRONMENT BASED ON REMOTE MEASUREMENT METHODS (ON THE EXAMPLE OF THE BLACK SEA)

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-12>

At the modern level of development of technologies for research and control of the state of the Earth, remote observation methods come to the fore. On their basis monitoring of the processes occurring on the earth's surface is carried out. The simultaneous use of various remote sensing methods – satellite remote sensing of the Earth (ERS) and acoustic sounding provides continuous operational data on the state on the surface and in the water column. By using satellite information, it is possible to quickly obtain satellite observations of individual characteristics of processes over large areas of the sea surface. In the case of acoustic sounding, we obtain integral information about the water layer located in the sounding range. Thus, continuous operational data on the state on the surface and in the water column can be obtained, which makes it possible to monitor the state of the sea regions [1, p. 3].

The studies of the thermohaline structure in the marine environment are based on the original methods of calculating the vertical distribution of water temperature, sound speed and salinity of water by satellite and hydroacoustic data [2; 3; 4]. These methods were developed in the State Institute «Hydroacoustic Branch of Institute of Geophysics by S.I. Subbotin name of the National Academy of Sciences of Ukraine».

Calculations of the vertical distribution of hydrophysical characteristics in the Black Sea was carried out in the deep-water part of the sea at standard levels (0, 10, 20, 25, 30, 50 meters) in the spring – autumn 2018 period. For the efficiency of calculations, the Automated Program Complex (hereinafter referred to as the APC) was used, developed in the Hydroacoustic Branch. The APC includes 864 exponential and linear regression equations for calculation of the vertical distribution of water temperature in the Black Sea deep-water area by the months for the period May – October; linear regression

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equations for calculation of corrections for the temperature at levels of 10, 20, 25, 50 meters; linear regression equations for calculation of the speed of sound and equation for calculation of salinity in the active layer of the sea. Intervals for establishing the type of equations (exponential or linear regression) for calculating water temperature are also added to the APC. Thus, the APC automatically determines where and by what equations the vertical distribution of water temperature and, accordingly, the corrections for water temperature and salinity in a layer up to 50 meters in the Black Sea deep-water area can be calculated. The initial data for the calculations using the APC are only daily satellite data of the sea surface temperature.

To study the thermohaline structure in the active layer of the Black Sea, on the basis of APC calculations, maps of the vertical distribution of water temperature and salinity were built on zonal sections (see Figure 1). The initial satellite data were the daily data on satellite measurements of the Black Sea water surface temperature with 4 km step on latitude and longitude, measured companion NASA (Terra MODIS) for 15.05.2018; 21.06.2018; 08.07.2018; 23.08.2018; 21.09.2018; 15.10.2018 [5].

Figure 1 are built using computer program Ocean Data View (ODV) that is intended for the interactive exploration and graphical display of oceanographic and other geo-referenced profile, trajectory or time – series data [6].

On the basis of the built maps (see Figure 1), confirmation of the state of the thermohaline regime inherent in the Black Sea in the warm season was obtained. Analysis of the results of calculations of the vertical distribution of thermohaline characteristics made it possible to identify the main features in these distributions:

1) the vertical distribution of water temperature and salinity has features more characteristic of a domed distribution. This is mainly due to the influence of the circulation of the Black Sea waters;

2) according to the 8°C criterion, the upper limit of the cold intermediate layer (CIL) is observed in a layer of 30 – 50 meters during the entire period May – October 2018;

3) the distribution of salinity has characteristic features that are inherent in the Black Sea. The maximum salinity values are in the regions of the western and eastern quasi-stationary cyclonic gyres.

4) the maximum vertical gradient of the calculated values of water temperature at standard levels in the Black Sea was observed in a layer of 10 – 20 meters and did not exceed $1.17^{\circ}\text{C}\times\text{m}^{-1}$ (see Table 1).

Based on studies of the current state of the thermohaline regime of the Black Sea, the possibilities of its use for testing remote control methods of the marine environment have been established.

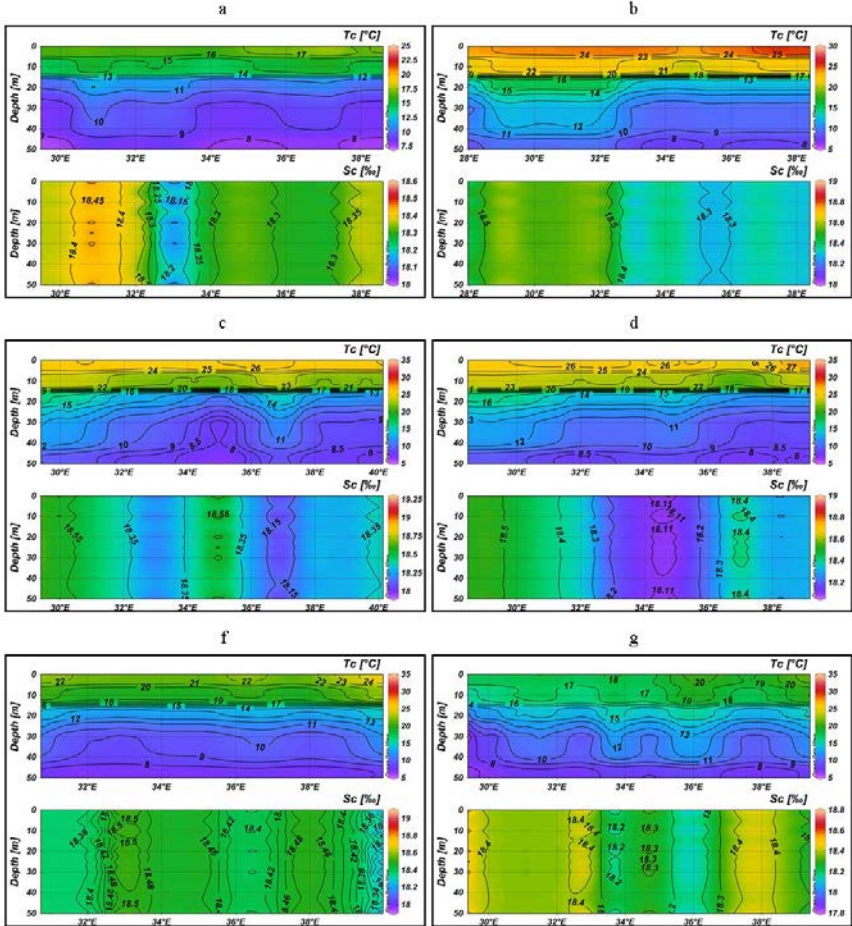


Figure 1. Distribution of the calculated water temperature (T_c) and salinity (Sc) on zonal sections in the Black Sea at latitudes: 44.00° N for 15.05.2018 (a); 43.00° N for 06.21.2018 (b); 43.23° N for 07.08.2018 (c); 42.60° N for 08.23.2018 (d); 43.31° N for 09.21.2018 (f); 43.70° N for 15.10.2018 (g)

Table 1

**Maximum of the vertical gradient of the calculated values
of water temperature at standard levels in the Black Sea**

Date	Levels, m	Gradient, °C×m ⁻¹
15.05.2018	10 – 20	0.62
21.06.2018	10 – 20	1.03
08.07.2018	10 – 20	1.15
23.08.2018	10 – 20	1.17
21.09.2018	10 – 20	1.00
15.10.2018	10 – 20	0.80

The principles of building of the APC for calculate of the vertical distribution of temperature and salinity fields in the active layer of the Black Sea by satellite and hydroacoustic data could serve as a basis for the establishment of a «System for analysis and monitoring of the fields of thermohaline characteristics in the Black Sea based on the remote measurements». With the help of which the dynamics of processes in the marine environment, the features of the spatio-temporal variability of thermohaline characteristics and effects of their change on hydrobiological, hydrochemical, hydrophysical processes and the ecosystem of the sea in general can be evaluated.

The developed methods and principles of building an the APC for calculation of vertical distribution of temperature and salinity fields of water according to satellite and hydroacoustic data can be applied also to others water area of the World Ocean, taking into account their hydrological conditions.

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MEDICAL SCIENCES

GLYCAEMIC CONTROL UNDER THE INFLUENCE OF ALPHA-LIPOIC ACID IN PEOPLE WITH TYPE 2 DIABETES MELLITUS WHO HAVE HAD MYOCARDIAL INFARCTION

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-13>

Type 2 diabetes mellitus (DM) is a widespread metabolic pathology associated with high cardiovascular morbidity and mortality. Oxidative stress plays a leading role among the pathophysiological mechanisms underlying diabetes and its macrovascular consequences [1, p. 15–24; 2, p. 575–584; 4, p. 1808–1829]. Therefore, inhibition of the peroxidation process can help to control diabetes and its complications. This determines the feasibility of using in clinical practice not only hypoglycemic drugs, but also complex therapy aimed at inhibiting prooxidant activity. It has been proven that alpha-lipoic acid (ALA) is a powerful antioxidant: it can weaken the action of reactive oxygen species, reduce oxidative stress, and it is an inducer of other antioxidants [3, p. 1021–1027; 5, p. 947–959].

Purpose: to investigate indices of carbohydrate metabolism in patients with type 2 DM who have had non-Q-myocardial infarction (non-Q-MI) under the influence of ALA.

Materials and methods: Study included 43 type 2 DM patients who have had non-Q-MI. Mean (\pm SD) age was 62.49 (\pm 7.1) years. Patients were divided into 2 groups according to their baseline HbA1c level: good (1 group, n=22; HbA1c < 7%) and poor (2 group, n=21; HbA1c \geq 7%) glycaemic control. For the basic treatment of patients during 4 months, it was added ALA 600 mg/day. Indices of carbohydrate metabolism were evaluated at the baseline and 4 months after treatment. The control group (CG) consisted of 20 healthy individuals. The significance of the differences in comparing values before and after treatment was determined using the Student's *t*-test (*p*). Value of *p*<0.05 was considered to be significant.

Results and their discussion: According to the results of our study, it is expected that the indices of carbohydrate metabolism, namely, the levels of FG (*p*<0.001), PPG (*p*<0.001), HbA1c (*p*<0.001), insulin (*p*<0.001) and the

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HOMA-IR index ($p<0.001$) were significantly higher in the examined patients compared with CG (Table 1).

Table 1

Dynamics of the indices of carbohydrate metabolism in patients during the treatment (mean \pm SD).

Variables	Time	Group 1 (n=22)	Group 2 (n=21)	Control group (n=20)
FG, mg/dl	Before	140.86 \pm 22.90 [#]	181.91 \pm 39.64 [#]	84.33 \pm 10.08
	After	128.27 \pm 18.32*	158.92 \pm 34.56*	
PPG, mg/dl	Before	171.27 \pm 30.65 [#]	215.04 \pm 36.88 [#]	96.83 \pm 9.62
	After	164.39 \pm 28.04	205.86 \pm 34.45	
HbA1c, %	Before	6.71 \pm 0.30 [#]	8.28 \pm 0.72 [#]	5.01 \pm 0.42
	After	6.45 \pm 0.41*	8.04 \pm 0.71	
Fasting insulin, μ IU/mL	Before	15.42 \pm 6.06 [#]	18.45 \pm 7.17 [#]	10.63 \pm 3.01
	After	14.63 \pm 6.07	17.83 \pm 7.53	
HOMA-IR	Before	5.53 \pm 2.88 [#]	8.31 \pm 3.99 [#]	2.20 \pm 0,66
	After	4.72 \pm 2.31	6.82 \pm 2.93	

Note: [#] – $p<0.001$ compared with CG individuals; * – $p<0.05$ compared with data before treatment.

The use of ALA for 4 months in the group 1 patients causes a decrease in FG ($p<0.05$) and HbA1c ($p<0.05$) as well as a positive tendency to decrease the HOMA-IR index ($p<0.2$).

Analysis of the investigated parameters in the group 2 after receiving ALA showed a significant decrease in the concentration of FG ($p<0.05$). There was also a tendency for HbA1c and HOMA-IR to decrease ($p<0.2$).

There were no significant dynamics of the level of PPG and insulin. However, a more detailed intragroup analysis was performed.

Thus, elevated insulin levels were recorded in 4 patients (18.2%) of group 1, normal insulin content – in 18 patients (81.8%) of this group. Under the influence of ALA there was a decrease of 9.1% ($p>0.05$) in patients with hyperinsulinemia with an increase in the corresponding percentage of patients with normal insulin content (Figure 1).

Analysis of the HOMA insulin resistance index showed that the vast majority of patients in the main group – 20 patients (90.9%) had an increased level of the index, 2 people (9.1%) were characterized by normal indicators of the index HOMA-IR. The treatment resulted in a decrease in the prevalence of insulin resistance by 22.7% ($p<0.1$) – Figure 1.

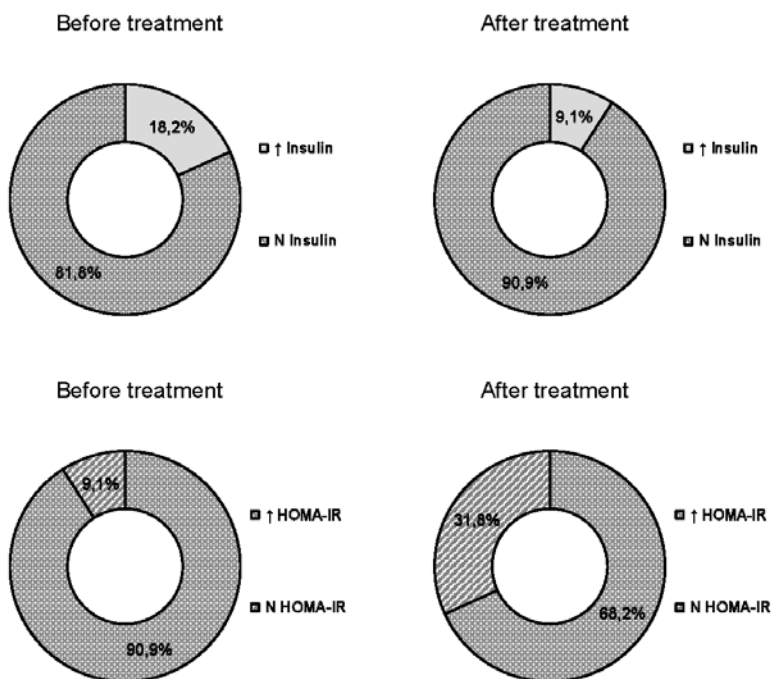


Figure 1. Dynamics of insulin levels and HOMA-IR index in patients of group 1 on the background of treatment.

Note: the difference is statistically insignificant ($p > 0.05$)

Among patients of group 2 hyperinsulinemia occurred in 7 people (33.3%), and normal insulin levels were characteristic of 14 patients (66.7%) – Figure 2.

Against the background of the use of ALA, there was a decrease in the number of patients with elevated insulin levels by 9.5% ($p > 0.05$) with an increase in the number of patients with normal insulin content by a corresponding percentage.

According to the initial data, 20 patients (95.2%) of group 2 had an increased index of insulin resistance HOMA, only 1 (4.8%) patient had normal values of this indicator. After treatment, the number of patients with insulin resistance decreased by 4.7% ($p > 0.05$).

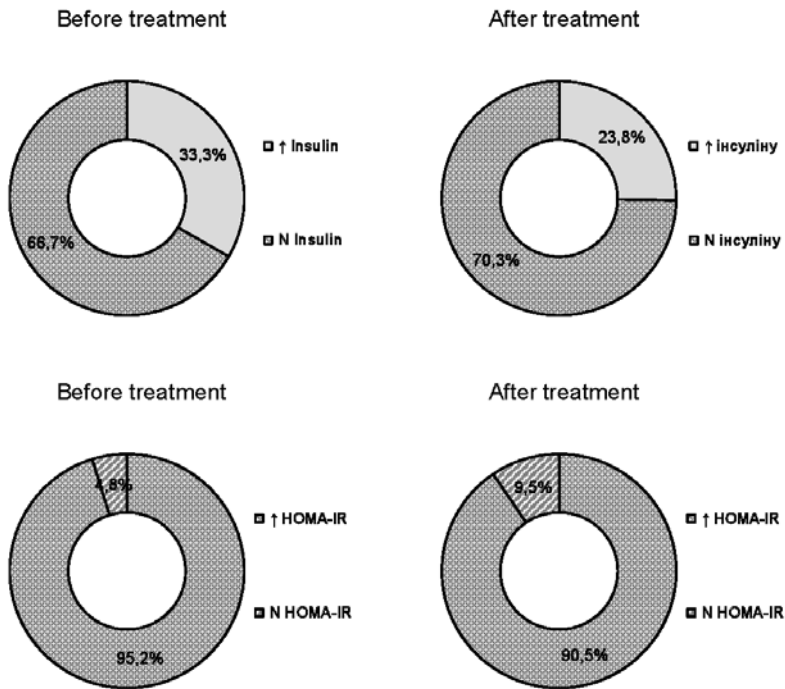


Figure 2. Dynamics of insulin levels and HOMA-IR index in patients of group 2 on the background of treatment.

Note: the difference is statistically insignificant ($p > 0.05$)

Thus, according to the results of our research, it was determined that 4-month use of ALA as an adjunct to basic treatment of patients with type 2 DM who had non-Q-MI, determines the significant decrease in FG regardless of the degree of glycemic control. However, only in case of good glycemic control there was a significant decrease in HbA1c. The level of HOMA-IR in our study had only a tendency to decrease. Also in the group with good glycemic control the prevalence of insulin resistance among patients had a positive tendency to decrease.

Conclusion. The use of ALA for 4 months in postinfarction patients with type 2 diabetes improves carbohydrate metabolism with better influence on indices in case of initial good glycemic control.

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VITAMIN D3 DEFICIENCY IN PATIENTS WITH ANKYLOSING SPONDYLITIS AND RELATIONSHIP WITH THE DISEASE ACTIVITY

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Olena Menkus²

DOI: <https://doi.org/10.30525/978-9934-26-050-6-14>

Vitamin D modulates the immune responses in certain diseases of autoimmune diseases, such as multiple sclerosis, diabetes mellitus, psoriasis, systemic lupus erythematosus, rheumatoid arthritis. Its biological effects are mediated by the vitamin D receptor (VDR), which belongs to the family of nuclear hormone receptors and is expressed in cell types, including macrophages, dendritic cells, B- and T-lymphocytes, and neutrophils [1; 2, p. 184–191]. A variety of studies have shown vitamin D3 deficiency in patients with ankylosing spondylitis (AS), but the role of this deficiency in the pathogenesis of the disease remains unclear [3; 4, p. 54].

Objective was to assess serum vitamin D3 level of in patients with AS and explore possible relationship with the disease manifestations.

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Methods. Twenty four patients with AS were evaluated, 6 female and 18 male. The patients were diagnosed with ankylosing spondylitis according to the modified New York criteria [5, p. 361]. The inclusion criteria were the absence of total spinal ankylosis, the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) ≥ 4 [6, p. 2286], total back pain score ≥ 4 based on a 0–10 numeric rating scale (NRS; 0 represents «no pain», 10 represents «worst pain possible»). Exclusion criteria: patients with rheumatoid arthritis, gout, cognitive impairment, mental illness, surgical history, chronic heart failure, serious infection within the previous four weeks, taking vitamin D supplements in previous three months, those who were pregnant. Skin type was classified by T.B. Fitzpatrick [7, p. 869]. C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) were also used to objectify disease activity. Thirty healthy subjects served as a control group.

Results. This cross-sectional study was conducted in June-October 2020. Twenty four patients with AS were evaluated, 6 female and 18 male. The average serum 25 (OH)D level ($M \pm SD$) was significantly lower in patients with AS comparing to control group (31.2 ± 8.5 nmol /L vs ($43,4 \pm 11,3$) nmol/L, $p < 0,05$). The patients were divided into 2 groups depending on D3 level. Group 1 consisted of 11 (45.8%) patients, with vitamin D3 deficiency and 13 patients (54,2 %) with vitamin D3 level > 30 nmol /L formed group 2, respectively. The patients did not differ ($M \pm SD$) in age ($38.4 + 11.2$) vs ($37.8 + 9.4$) years and the duration of the course of the disease from the moment the first symptoms appeared – ($12.3 + 4.1$) vs ($11.9 + 3.5$) years, respectively. Among all patients skin type 2 and 3 by T.B. Fitzpatrick were found only, no difference between all groups, $p > 0,05$. The characteristics of the disease activity are presented in the table.

Table

The characteristics of the disease activity in patients with AS.

Characteristics ($M \pm SD$)	Group 1 (n=11)	Group 2 (n=13)	p
BASDAI	7.1 \pm 1.8	6.2 \pm 1.5	0.097
Back pain	6.8 \pm 1.7	5.6 \pm 1.6	0.040
C-RP (mg/L)	24.4 \pm 7.3	19.8 \pm 5.7	0.048
ESR	31.7 \pm 9.8	27.7 \pm 8.1	0.142

Despite the small sample size, we see a higher disease activity in patients with vitamin D3 deficiency. Significant differences were obtained between the levels of total back pain and CRP.

Conclusion. Vitamin D3 deficiency was frequently found in AS patients. Prospective studies are needed to assess its role in the development of the

disease. You should also study the effect of correcting the level of vitamin D3 on the course of the pathological process.

Disclosure statement. The authors report no conflicts of interest.

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INNOVATIVE APPROACHES TO IMPROVING PRIMARY SCHOOL STUDENT'S HEALTH STATUS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-15>

Increasing the prevalence of Noncommunicable Diseases and Mental Health Disorders (NMH) which increase the mortality and disability of adults in most countries of the world are challenging for the scientific community to look for new ways of prevention using innovative multidisciplinary methods [1–2]. Risk factors of NMH are personal behaviour or lifestyle, environmental exposure, hereditary characteristic, anxiety disorders, depression. Preventive measures are usually aimed at modifiable risk factors such as lifestyle and mental health. The most promising ways of primary prevention of NMH is the correction of the behaviour of primary school children. This period of ontogenesis is characterized by accelerating mental development and the formation of purposeful behaviour against the background of morpho functional adjustment and growth [3]. The researches show that in Ukraine most first-grade students have average and low level of health. During schooling, the percentage of healthy children decreases by 11% (from 16.1% in 1st grades to 5.2% in the 11th grades) [4–5]. At this presentation, we will consider Innovation Health Promotion Programs in Primary Schools (HPPS), which are used to correct functional abnormalities in the body of primary school children and form a habit to a healthy lifestyle.

HPPS are the effective multiply-discipline programs are aimed at correcting both mental health and physical activity. The relationship between physical and psychological well-being has long been a paradigm for the implementation of health saving technologies in the educational process. Mental health disorders are known to worse physical health, the deterioration of which in turn leads to psychological disorders (Figure 1).

This vicious circle is reducing adaptation in children, increasing the risk of developing chronic diseases in childhood and NMH in adulthood. The circle can be broken by introducing innovative methods to improve mental health and increase physical activity in primary school. There are techniques in the arsenal of school psychologists that can significantly improve both the mental and physical health of students. In our opinion, there are two promising areas both Arts therapy and the Theory of Planned Behavior (TPB).

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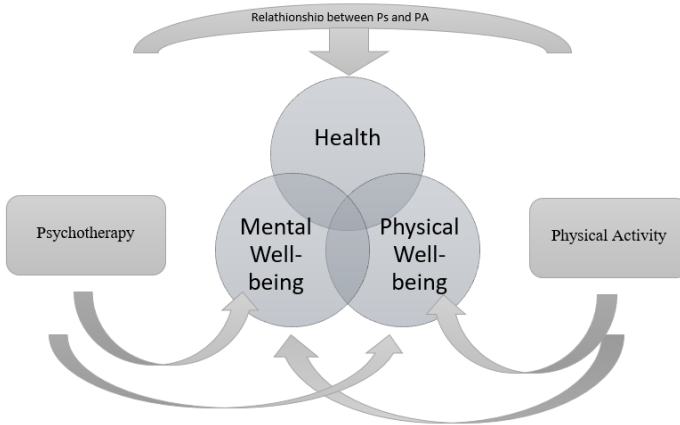


Figure 1. Model of the relationship between physical and psychological well-being

Arts therapy is the most progressive method that allows psychotherapy with art, music, drama and dance. These are well-known methods that are still widely used in hospitals for the treatment of both mental health disorders and in preparation for surgery and rehabilitation. In addition, art therapy is successfully implemented in educational institutions in order to correct behavioral factors, reduce anxiety and form a habit to a healthy lifestyle. Arts therapy helps to express verbal constructions in a non-verbal way to establish and consolidate communicative connections. Creativity helps to sublimate feelings and this makes it possible to correct destructive inclinations. As a result of the therapy, a balance is achieved between both mental and physical health. These approaches are aimed at restoring homeostasis, reducing anxiety, increasing physical activity and consolidating healthy habits in the future.

There are also interventions at the schools by using the tools of the Theory of Planned Behavior [6]. TPB is part of the Behavioral Economic and is an innovative approach used by economics and marketing earlier. These models typically integrate insights from psychology, neuroscience and microeconomic theory and whether of individual or group behaviour. Interventions in schools from 4 months to 1 year conducted using these techniques showed a significant reduction of anxiety, increased well-being and improved fitness in study participants [7–9], which indicated the prospects for their further use.

It has been shown that TPB is particularly suitable for predicting physical activity behaviour [10]. In France, the two-year program The Great Live and Move Challenge (GLMC) was developed and implemented on the basis of the TPB, aimed at increasing the physical activity of children aged 7-11 [11], which is expected to be completed in two years. The goal of the GLMC intervention is to increase the proportion of children who reach the 60-minute MVPA per day recommended by the World Health Organization by 15%. There is also a randomized cluster study using behavioural and physical activity change methods in Finland [12].

There were significant positive changes in terms of physical fitness and mental health status after the intervention HPPS and we see the obvious benefits of such measures. First, children are happy to participate in such programs, which affects their self-esteem and psychological status. Second, children experience a healthy lifestyle and remember its benefits, which may be an incentive to start exercising again in the future. Third, the advantage of school interventions is the involvement in physical activity of children from different walks of life, which leads to access to new methods of physical education for children from low-income families.

Thus, the implantation of multiply-discipline Innovation Health Promotion Programs in Primary Schools today is the most promising area, which allows increasing the adaptation of children to the learning process and to life situations.

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COMPLEX TREATMENT OF EPITHELIAL TUMORS OF THE THYMUS WITH A COMBINATION OF ENDOVASCULAR TECHNOLOGIES

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-16>

Epithelial tumors of the thymus occur in the thymus and include thymomas and carcinomas of the thymus. Thymomas are the most common primary tumor in the anterior mediastinum, but are generally rare (1.5 cases / 1,000,000). Although thymomas can spread locally, they are much less invasive than thymic carcinomas. Patients with thymic carcinomas often have metastases. The 5-year survival of patients with thymoma reaches 90%. At the same time, the 5-year survival rate for thymic carcinoma is approximately 55% (NCCN Guidelines. Version 1.2020).

Surgical treatment as an independent method can be used only when there are thymus tumors in encapsulated and minimally invasive tumors in the first degree, rarely in the second degree. In all other cases, patients are subject to combined, complex or conservative treatment. In combined and complex treatment, preference should be given to neoadjuvant methods, which allows to achieve regression of the tumor, reduces its volume, limits the invasion of surrounding tissues, as well as to transform the inoperable process into operability.

Endovascular technologies, namely regional chemotherapy, in the preoperative period, as a preparatory stage, will increase the level of ablastics and antiblastics in surgical treatment of thymus and reduce the percentage of cytostatics on the whole body, as in intravenous administration. At patients with a paraneoplastic syndrome it is necessary to increase term of regression of displays of these syndromes.

Intra-arterial administration of chemotherapeutics has certain advantages:

– cytostatics in the arteries that supply blood to the tumor are injected directly into the affected area, which allows you to significantly increase the concentration of the drug in the tumor itself;

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- reduces the toxic effects of chemotherapy on the whole body;
- longer action of drugs allows long-term contact of the cytostatic with tumor cells at all stages of the cell cycle.

Another main detail of treatment is that after the introduction of the cytostatic, it is necessary to introduce special emboli (microspheres) to block the removal of the chemotherapeutic agent.

The analysis of treatment is taking into account the stage, anamnestic data, the development of clinical manifestations, the results of laboratory and instrumental methods of examination.

According to this analysis, intra-arterial chemoembolization was selected from the complex treatment of thymic epithelial tumors, which, as described above, allows to act directly on tumor cells.

According to our evidence, taking into account clinical and anamnestic (complaints), laboratory, instrumental (CT OGK with IV contrast), certain conclusions were made in the treatment of thymic tumors.

According to our observations, a method of complex treatment of thymic tumors was developed. In this technique, we used regional chemotherapy (namely intra-arterial administration of chemotherapy – cytostatics) as the main method.

Evidence on surgical treatment of benign thymus tumors for 2018–2020 (n = 9):

- With myasthenia – 5 patients;
 - Without symptoms of illness – 4 patients.
- Thoracotomy (thymectomy, thymectomy) – 5 patients.
X-ray endovascular operation – 3 patients.
Conservative therapy – 1 patient.

In a month after treatment, 7 patients had no symptoms of illness.

One patient had complications in the form of recurrence of myasthenia gravis and cerebral edema, which required tracheotomy and resuscitation.

Evidence on surgical treatment of malignant tumors of the thymus for 2018-2020 (n = 5):

- With superior vena cava syndrome – 4 patients.
- Thoracotomy – 1 patient.
Operation + intra-arterial administration of chemotherapy – 1 patient.
Radiation therapy + intra-arterial administration of chemotherapy – 1 patient.
Conservative therapy – 2 patients.
Died in the early postoperative period – 1 patient.

Died of concomitant complications (brain edema, acute cardiovascular failure) without surgery – 1 patient.

In general, died 2 (40.0%) patients.

Object of study. Epithelial tumors of the thymus gland.

Subject of study. Indicators of survival and quality of life of patients with malignant thymoma without surgical treatment. The results of radical surgical treatment after regional chemotherapy. Indicators of ablative and antiproliferative. Indicators of results of patients with paraneoplastic syndrome.

The aim of the study. Increase the effectiveness of treatment of patients with epithelial tumors of the thymus by using intra-arterial chemoembolization as a neoadjuvant therapy to create ischemia and high concentrations of cytostatics in tumors for a long period of time to achieve devitalization of tumor tissue and reduce overall toxicity of chemotherapy.

Objectives of the study.

1. To determine the causes of unsatisfactory results of treatment of patients with epithelial tumors of the thymus using standard methods.
2. Improve the technique of intra-arterial chemoembolization in epithelial tumors of the thymus gland (technology, choice of cytostatics).
3. To study the dynamics of biochemical markers (AFP, HGT) and antibodies to acetylcholine in paraneoplastic syndrome using intra-arterial chemoembolization.
4. To study pathomorphological changes in tumor tissue using intra-arterial chemoembolization.
5. To compare the clinical efficacy (increased tumor operability) of intra-arterial chemoembolization in the complex therapy of patients with epithelial tumors of the thymus gland.

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THE PSYCHOLOGICAL IMPACT OF A PANDEMIC COVID-19 TO PEOPLE WHO CARE FOR PATIENTS WITH DEMENTIA

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-17>

During the COVID-19 pandemic, almost a third of the world's population experiences emotional stress, isolation provokes feelings of loneliness, fear and. Many people suffer from both the direct health effects of the virus and the effects of physical isolation [1].

In March 2020, when the coronavirus infection affected 113 countries, the World Health Organization declared COVID-19 a pandemic of «alarming prevalence and severity» [2].

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Over the past three decades, mainly due to an aging population, the incidence of dementia worldwide has risen sharply. Usually, people with this diagnosis are among the most vulnerable in society due to weakness, chronic immune dysregulation and concomitant pathology of other chronic diseases, including vascular disorders [3].

Caregivers of patients with dementia face a «double burden» as the pandemic increases both their vulnerability due to increased morbidity and mortality, and the disruption of their social support and access to health care due to quarantine measures and social distancing [4].

People with cognitive impairments often need help with their daily activities, medication, social and leisure activities [5]. Due to the COVID-19 pandemic, family, friends or professional carers may isolate themselves for fear of infection and refrain from visiting due to changes in their lifestyle.

The aim of our study was to examine the state of mental health and related factors among those caring for people with dementia during the COVID-19 pandemic.

46 patients with dementia were examined, 46 people who raised them were interviewed in the regional psychiatric institution. Patients with dementia include the presence of dementia of various forms (vascular, respectful of the environment, atrophic). Criteria for inclusion in the study of persons performing the function of care were: age 25 years and older, care for one patient. All respondents are residents of Poltava region. Comprehensive diagnostic assessment included completing health questionnaires during quarantine activities. Given the extreme uncertainty of the pandemic, carers complained of new problems: social distancing, difficulties in meeting the basic needs of patients.

Socio-demographic characteristics of the caregiver included gender, education, socio-professional characteristics, family ties with the patient. It was assessed whether the caregiver lived with the patient and how many hours a day the care took. The age range of caregivers ranged from 25 to 60 years – the average age was $42,3 \pm 1,5$, women were 93,5%. They lived in the city – 21 (45,6%), in rural areas – 25 (54,4%). According to marital status, caregivers were distributed as follows: first marriage – 15 (32,6%), remarriage – 12 (26,1%), civil marriage – 9 (19,6%), single (divorced, widowed) – 10 (21,7%). A significant part of the surveyed had secondary 24 (52,2%) and secondary special 10 (19,6%) education, higher and incomplete – 7 (15,2%) and 6 (13%), respectively. Working were 31 (60,9%) person, had a part-time (2 to 4 hours) – 8 (17,4%), pensioners – 4 (8,7%), unemployed – 5 (10,9%).

The Mini-Mental State Examination (MMSE, 1975) was used to assess the severity of dementia. Mild dementia had 11 people (23,9%), moderate – 22 (63,6%), severe – 13 (21,2%). Caregivers described the progression of the

disease as «able to take care of themselves, they have access to the usual household activities, such as cooking, cleaning, personal hygiene» – a mild degree. «There are difficulties with the use of household appliances, telephone, a person forgets to close the door, turn off the electricity and gas» – moderate and «needs round-the-clock supervision» – severe.

The guardians' survey included a socio-demographic questionnaire, the PSM-25 psychological stress scale (adapted by N.E. Vodopyanova, 2009) to determine the level of mental stress, and the caregiver workload scale (1980). Using the PSM-25 questionnaire, caregivers were divided into 3 groups according to the level of stress resistance. The first group I included caregivers with a low level of mental stress – 8 (17,4%), the second II with a medium level – 23 (50%) and the third III with a high level – 15 (32,6%).

The results of the study on the scale «Caregiver burden scale» showed that among all surveyed caregivers 8 (17,4%) had a little, 13 (28,3%) – mild, 16 (34,8%) – moderate and 9 (19,6%) – severe load. At the same time, caregivers of patients with moderate and severe dementia complained of greater difficulties with most types of care in general than carers of patients with mild dementia. In the first group, little levels of stress had 5 (62,5 %) patients, mild – 3 (37,5 %). Among the carers in the second group was little level was 3 (13 %), moderate – in 10 (43,5 %), the average – in 5 (21,7 %) and severe – in 5 (21,7 %). The subjects from group III had only moderate and severe levels – 11 (73,3 %) and 9 (60 %) people, respectively.

There was a clinically significant trend to reduce the frequency of increasing the level of workload on the guardian in group I compared with group II ($p = 0.006$) and group III ($p = 0.001$). In addition, according to caregivers, lack of personal support, leisure and communication with friends and family, group activities and exercise increased feelings of loneliness.

Conclusions. In the course of the presented work the level of workload on persons performing the function of caring for patients with dementia during the COVID-19 pandemic was investigated. It was found that most caregivers had a reduced level of stress resistance, which was associated with prolonged stay with the patient and the level of reduced cognitive function of patients with dementia.

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HISTORICAL SCIENCES

THE DEVELOPMENT OF CULINARY LITERATURE IN THE RUSSIAN EMPIRE IN 18th – EARLY 20th CENTURIES

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-18>

From the beginning of the 18th century until the great «culinary boom» during the reign of Tsar Alexander III, foreign cookbooks were sold on the territory of the Russian Empire, which described only royal cuisine. Their recipes contained expensive products, sophisticated techniques, and were not available for the common people. They were books written by French and German chefs in translation and in the original, which described dishes at court (Breitenbach, Grimod de la Reynière, Viar, Albert, Duval-Cordelli, Clementia J., Varg, Escoffier, Carême, Cremon, Savarin, etc.). According to these books, the development of cooking was accomplished only in the kitchens of a small wealthy segment of the population and only according to French model. For example, in St. Petersburg the nobles employed only French chefs, who cooked exclusively according to French books and recipes. The student assistants from local young servants were assigned to them at the expense of the noble, and therefore French cuisine spread rapidly among the masses. Folk cooking developed in a different way, in its own way. Thus, from the first half of the 18th century, the society was divided in culinary views into two extremes: folk cuisine and Royal European cuisine (namely, French and German).

Both the foreign authors and culinary writers who lived in the Russian Empire had some features in common – that is that their recipes did not have precise product and time measurements. They only enlisted the necessary ingredients and described processes and cooking techniques.

The first original culinary book published in the Empire was Sergei Drukovtsev's *Kukharskie Zametki (Cooking Notes)* (Moscow, 1779; 1783). He belonged to the nobility and was familiar with the variety of cuisines. The *Kukharskiye Zametki* contains evidence of the culinary arts of the peoples of the Empire. Drukovtsev's main interests included the national dishes of different peoples; his book also contains old recipes and cooking techniques. He was the Empire's first culinary ethnographer.

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The next author, who collected interesting information about the ways to reduce prices for dishes for the army and ordinary people, recipes and descriptions of dishes of French, German, Dutch, Spanish, and English cuisines, was the secretary of the «Russian Free Economic Society» Vasily Levshin. He followed the footsteps of Sergei Drukovtsev [3, p. 28] and popularized more broadly the folk cuisine and cooking technologies in his book *Nanodnaya Povarnya (The People's Cook)*, which was published in 1793. This book tells about cheap dishes for the military people and those of a low social class, and contains old Russian recipes, which are divided into two groups – lean and meat dishes.

Two years later, in 1795, Vasily Levshin published his second book named the *Slovar' Povarskoy (Cook's Dictionary)*. It contained information about dishes from different European countries (France, Holland, Germany, Spain, England), which included hot dishes, cold dishes, desserts, jams and preserves, salads, sugar waters, drinks. This cookbook was very popular and had two more editions: an abridged one in 1816 and a complete one in 1871.

In 1811, the *General Cookbook for All Classes, containing 2000 rules* was published. This book was from the «Economic Library» series, which contained 17 volumes. It introduced both foreign cuisine and national traditional dishes of the peoples of the Empire.

In 1829, Konstantin Nemov published a «potpourri» consisted of famous recipes of European cuisine in the book *Experienced Chef and Confectioner*.

In the years 1833-1860, various thematic books appeared which provided recipes for Moscow tavern cuisine, confectionery art and recipes for housewives (*An Experienced Cook*, 1833; *Full Kuhmister*, 1835; *Complete Manual Kuhmister Book*, 1837; *Encyclopedia for housewives*, 1838; *Family Open Kitchen*, 1857; *Kitchen, Confectionery and Household Book*, 1860). Their author was Kuhmister Gerasim Stepanov. These books were designed for chefs from families of above average income, so the recipes contained exotic ingredients and the dishes themselves were very expensive.

In 1841, the first culinary book of a Russian woman writer was published. It was Ekaterina Avdeeva. Her book *The Handbook of a Russian Experienced Housewife* continued the history of ancient folk dishes in the spirit of Drukovtsev. This collection of recipes was such a huge success that it was regularly reprinted within five years – from 1841 to 1846. The success of the project is explained by the fact that in the middle of the 19th century there were two extremes – exclusively French or English cuisine, or a complete neglect of them. Avdeeva respects foreign cuisine, but her main interest was folk cuisine. The book is written in a lively and imaginative language, designed for people of average income. «In the places where there are a cook and a butler, they do not need my book», said Ekaterina Alekseevna [3, p. 33].

In her book there were recipes that were close and familiar to the majority of the population of the Empire: a loaf with millet, lazy shchi (cabbage soup), a large number of recipes from various cereals. After the first book Avdeeva published the *New Handbook of a Practical Housewife* (1848), and *A Complete Cookbook of an Experienced Housewife* (1875).

In 1852, the *Grocery Store Almanac* was published in St. Petersburg and soon became a new bestseller. It was written by the nobleman Ignatius Radetsky who was a former head waiter of the court of His Imperial Highness Duke Maximilian of Lichtenberg. This book was about aristocratic court cuisine. The *Almanac* contains recipes for 30 dinners; noteworthy that it also presented price calculations and product quantities based on the expected number of guests. The author tried to bring the folk cuisine of the Empire closer to French standards, and saw its development only in line with the French gastronomy.

Elena Molokhovets was the next author, whose book became a «desktop» for many housewives and cooks for several following decades. Its publishing story is rather interesting. Molokhovets collected the recipes and wrote them down from the words of her friends. In 1861, her husband, a naval officer, secretly published the manuscript and presented the printed book on his wife's birthday. The collection was titled *A Gift to a Young Housewife* and went through dozens of reprints.

During the reign of Alexander III (last quarter of the 19th century), the Empire did not take part in wars. This led to the stabilization of finances and public funds, industrial growth, economic and cultural development. For twenty years, from 1880 to 1900, more than 100 culinary books by Russian authors were published in the Empire. It was a real breakthrough. The books by foreign authors were also in circulation, but their number was insignificant.

During those years, most authors devoted their books to aristocratic cuisine, the development of which did not stand still, but was constantly developing and, as a result, new themes and directions appeared. For example, the topic of vegetarianism and veganism became very popular, among them are *One Week of Vegetarian Meals* (1894) by A.P. Zelenkov; *Vegetarian Cuisine. 800 dishes* (1894); *The Most Complete Vegetarian Table* (1895) by P.F. Simonenko, and others. In addition to French cuisine and its recipes, culinary books of other nationalities began to appear: *Georgian dishes* (1898); *Cookbook for Jewish Women* (1889) by P.A. Weintraub; *Lithuanian Cooker* (1885) by V. Zavadskaya. The mainstream of cookery literature of that time was represented by the books for young housewives, which imitated the culinary books of Molokhovets and Avdeeva, as well as self-instruction manuals, for example *Boyarsky Kvass* (1899) by E.I. Frolov, or *Confectioner* (1899) by N.N. Maslov. This period was analyzed by the famous table chef

F.A. Zeest in his work *The Impact of French Culinary Art on the Empire's Cuisine* (1897).

At the end of the empire's existence, the country was dragged into a number of wars, and the people were overwhelmed with political ideas. Those factors denoted decline of the culinary literature editing and publishing. One of the few considerable works of the time was *Cook's Art* (1902) by P.M. Zelenko.

All in all, the role of the culinary collections of recipes can hardly be overestimated. They erased boundaries between nationalities, helped to align tastes and expanded the traditional borders of different cuisine areas. They contributed greatly to creation of new cuisine of the Russian Empire and embraced both folk and European elements.

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THE FIRST BULGARIAN STEPS IN THE DEVELOPMENT OF HERITAGE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-19>

In the period after the Liberation from Turkish rule legislation was created in Bulgaria that clearly formulated the goals, objectives and functions of museums, and formed a comprehensive structure for the protection of cultural heritage. In the Principality of Bulgaria, with the assistance of the Russian administration, under the leadership of Prince Alexander Dondukov-Korsakov and Count Peter Alabin, in 1878 a public library with a museum was created. In the southern part of the country, which is called Eastern Rumelia and which until 1908 remains an autonomous Turkish province, the Directorate of Public Education preserves the historical heritage. The Russian Archaeological

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Institute in Constantinople also provides active support in the research of Bulgarian antiquities [1].

The newly created Bulgarian state is taking a series of legislative measures to preserve historical and cultural monuments. On May 1, 1882, the first act related to museum business was published – it is the «Public Administrative Rules on the Organization and Management of Regional Libraries and Museums», and since 1888 the «Temporary Rules for Scientific and Literary Enterprises» have been in force [2]. The first section says that all undiscovered antiquities belong to the state: «all antiquities, regardless of where they are, are state property» [2]. This document first recorded that the removal of monuments occurs only with the permission of the Ministry of Education. Then, the procedure for the purchase of finds and permits for archaeological excavations, which are issued by the Ministry of Education, is determined. The second section of the Temporary Rules is devoted to the search and description of folklore and ethnographic materials: folk songs, sayings, riddles, traditions, customs, and much more. They are collected, processed and published by the Ministry of Education [2]. For this, the first budget of 60 thousand leva was allocated in the budget of the ministry [4, p. 49]. Temporary rules for a short period served the purpose of organizing a number of archaeological and ethnographic studies in the country. These are the first legislative decrees that limited hunters of antiquities and those who tried to take Bulgarian historical and cultural monuments abroad. Temporary rules also govern Book Companies, i.e. they also laid the foundations of publishing in the country.

A fundamental change in state policy in the field of antiquities occurred with the adoption on November 27, 1889 of the «Law on the Search for Antiquities and the Support of Scientific and Literary Enterprises» [2]. Its action covers a wide range of protection of monuments – coins, historical documents and materials of verbal culture [3, p. 151]. The law consists of fifty articles, divided into three sections: Section I. On the search for antiquities and the promotion of scientific and publishing activities [2, art. 1-21]; Section II. Collection and description of verbal materials [2, art. 22-31]; Section III. Publishing activities [2, art. 32-50].

Its first section is devoted to the search for antiquities – coins, monuments, statues, tombs, weapons, guns, as well as documents – manuscripts, old printed books [2, art. 1-21].

Article 1 of the Law expressly emphasizes that all «undiscovered materials and ancient objects, wherever they are, belong to the state» [2, art. 1].

The law governs the purchase of antiques by their owners or the discovery by archaeological sites with the permission of the Ministry of Education. The assessment of monuments and documents is carried out by a commission appointed by the ministry [2, art. 4]. Those who submitted their old

manuscripts, old books, costumes, coins, guns (not artillery implements, but tools and agricultural implements – implements) and the like [2, art. 6] also receive a reward. A curious detail in the assessment of these ancient books, monuments and materials is the democratic way of forming a committee for their assessment – one representative of the ministry and its owner [2, art. 6].

Even more interesting is the decision of the law, if the two parties do not agree on a price, «the assessment is carried out by the Cabinet of Ministers» [2, art. 6]. The fact that only the Cabinet of Ministers is engaged in the assessment of controversial monuments, only indicates that the Bulgarian state sets itself the task of searching and collecting under its protection all significant historical and cultural monuments and documents from Bulgarian lands.

Article 8 states that «discovered immovable antiquities, such as temples, fortresses and others, wherever they are, are under the control of local authorities and are the property of the government» [2, art. 8]. Thus, the state establishes control over the monuments and monitors their preservation.

The following several articles of the law detail the order of archaeological excavations, their control by the Ministry of Education and the procedure for the purchase of finds by the state [2, art. 9-16]. Newly discovered movable monuments must be described and transferred for payment through local authorities to the Ministry of Education [2, art. 17]. Thus, the state seeks to preserve and preserve movable and immovable monuments in the country for several generations.

The export of antiquities is carried out in accordance with article 8 of the Law on Customs and only according to the lists approved by the Ministry of Education. All antique items that are exported «secretly», i.e. illegally, must be confiscated by the state [2, art. 19]. At the same time, the Ministry of Education organizes scientific expeditions to various parts of the country with the aim of systematically collecting movable monuments and describing immovable monuments [2, art. 21].

The second section of the Law is devoted to the collection of verbal materials: songs, sayings, riddles, legends, stories and customs [2, art. 22-31]. The Ministry of Education is also entrusted with the full organization, evaluation and publication of field oral materials. Commissions of specialists select and submit newly submitted materials for printing.

The third section of the Law is devoted to «Book Companies». The state seeks to encourage the authors and publishers of the Bulgarian book by providing financial assistance, the procedure for conducting competitions for the publication of textbooks and scientific literature is indicated.

The last article 50 provides for the publication by the Ministry of a «special journal», which will publish «collected verbal materials, their descriptions and ratings, descriptions and images of various ancient objects,

the most important reviews, as well as everything valuable that has been delivered to the Ministry in the field of antiquities and literature» [2, art. 50].

The entry into force of the first «Law on the Search for Antiquities and the Support of Scientific and Literary Enterprises» in Bulgaria was a crucial step for further work in this direction. In 1890, museums in the country have not yet been built. Archaeological excavations were carried out by enthusiasts, mainly teachers. Treasure hunters uncontrollably destroyed burial grounds and other archaeological sites. Folklore material was collected, as during the Renaissance, by school and community centers. There were no scientific institutions involved in the study of Bulgarian spiritual and material culture.

Over the 20 years of the operation of this Law, the first institutions were created to preserve the cultural heritage and protect the monuments of the richest Bulgarian cultural and historical history. The young Bulgarian state, despite the economic difficulties after the Unification, allocates more and more funds for culture and, therefore, for the purchase of antiquities. At the end of the 19th century, such appropriations were allocated: in 1889 – 70 thousand leva, 1890 – 90 thousand leva, 1891 – 90 thousand leva, 1892 – 120 thousand leva, 1893 – 143 thousand leva, 1894 – 140 thousand leva [4, p. 51]. In particular, in 1894 the budget of the National Library was 20,460 leva, and the National Museum – 9120 leva [4, p. 54].

A powerful incentive for the search, collection, scientific processing and publication of folklore and ethnographic material was the «Collection of Folk Songs, Science and Literature» in 1889. The last article of the Law on the Search for Antiquities and the Support of Scientific and Literary Enterprises provided for the creation of such a periodic body in the future to publish materials collected by the ministry. Nine years were necessary to complete the preparatory process, and finally, an extremely important scientific platform arises in the Bulgarian cultural space.

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POLITICAL SCIENCES

THE DEVELOPMENT OF THE EU COMMON COUNTER-TERRORISM POLICY

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-20>

The European Security Strategy notes that international terrorism has the features of a strategic threat. The modern form of terrorism is particularly dangerous, as it creates unprecedented combinations that combine non-State actors with powerful military and technical capabilities for the purpose of mass destruction. In terms of taking advantage of the benefits of globalization, modern terrorism outpaces the inter-State associations that operate in the security sphere.

The EU's countries have proved to be an important target of various types of terrorist organizations. International terrorism is rooted in the internal political situation. And the problem lies not only in the fact that the whole series of conflicts – social, ethnic, confessional – that can become a breeding ground for terrorism, are superimposed on each other only in this region, but also that the liberal foundations of Western European statehood are poorly correlated with active anti-terrorist actions. Moreover, European integration itself, which has led to the transparency of inter-State borders, the free movement of people, goods, technology and financial flows, can help to mask terrorist activity. EU's member States have taken a number of actions to counter international terrorism, but their results have been mixed [1, p. 165].

In 2001, EU's States adopted two common positions on counter-terrorism that called for cooperation between police and judicial authorities. However, the European Union has not yet adopted a common position on the counter-terrorism. In response to the terrorist attacks in Madrid, the first EU's Declaration on Combating Terrorism was adopted. A direct consequence of the EU's hard line on Iraq and Iran has also been the rise of international terrorist groups in EU's member states (the London attacks). Consequently, the threat of international terrorism will grow in direct proportion to the intensification of the EU's security activities at the global level.

The process of working out a common counter-terrorism policy within the EU has been particularly intensive since the terrorist attacks in Madrid in March 2004 and in London in July 2005.

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In December 2005, the EU's Council of Ministers of Justice approved a new counter-terrorism strategy. Its main objective is to provide the EU's counter-terrorism policy to public in a clear and transparent manner. The strategy has four main objectives: prevention, protection, pursuit and response. The aim is to establish close cooperation between EU's members in various areas of activity with a purpose of preventing terrorism.

Since 2005, the process of incorporating biometric data into passports and then into visas has been under way. The Schengen Information System already includes data on persons to be arrested, those who should be denied entry into the EU, missing persons and those who need to be monitored. Biometric data will be included in the second-generation system, B1B II.

The European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union, officially opened in July 2005, coordinates border services, trains border guards and systematically assesses risks at EU's borders.

The European Council has adopted a new WMD programme, that provides a series of progressive steps to be taken to prevent a terrorist attack or, failing that, to minimize its destructive effects (e.g., threat assessment, protection of life-support infrastructure and cooperation between agencies responsible for disaster management). In addition, the European Lifeline Infrastructure Protection Programme and the Crisis Alert System are being established (ARGUS).

The European Union pays particular attention to the problem of countering the financing of terrorism. On 20 September 2005, the EU adopted the Third Anti-money Laundering Directive. It took into account the recommendations of the international organization on financial control (Financial Action Task Force (FAFT)).

At the same time, it should be emphasized that, despite the efforts made, there are still a number of problems that undermine the effectiveness of joint counter-terrorism activities. This is mainly due to weak cooperation between EU's member states and specialized European agencies such as Europol and Eurojust. First of all, there is a lack of systematism in the exchange of information between intelligence and law enforcement agencies and in the coordination and participation in joint investigations and operations [2, p. 865]. In order to achieve the objective set out in the EU's Counter-Terrorism Strategy – to prevent, protect, pursue and respond to international terrorism – it is vital to focus on addressing the above-mentioned problem.

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PHILOSOPHICAL SCIENCES

TRANSFORMATION OF HISTORICAL CONSCIOUSNESS: MAIN STAGES

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-21>

Man's understanding of the necessity of time is the history of the phenomenon of time, its phenomenology and modernization. Thus, awareness of the past generates history as a recollection of the past, its understanding and historical consciousness. Historical consciousness has, conditionally speaking, three levels: a) primary (mythological, mythopoetic, ordinary), b) ideological (state) and c) scientific and philosophical [7, p. 236]. Ideological historicism is the semantic core of historical consciousness. It ensures the unity of society in time as the unity of the past – present – future. Its interaction with primary historicism is found, for example, in the concept of the divine-mystical origin of power. It is connected with a higher level – scientific and philosophical historicism – for example, through the rational concept of the social contract. Scientific and philosophical historicism provides a rational justification and reflectivity of historical consciousness, sets goals and summarizes historical experience.

In the process of transformation of historical consciousness, we can distinguish several stages: 1) mythological (primary or zero) historicism; 2) traditional historicism, corresponding to the historical consciousness of traditional society, 3) classical modernism of modern times, 4) neohistorism of the XX century and 5) post-historicism of the late XX – early XXI century [7, p. 240].

Let's dwell briefly on each of the selected stages. Mythological historicism is characterized by the fact that time is born and manifests itself in the mythological consciousness implicitly, it is structurally woven into the mythological narrative-narrative, but the prototype of history, historicity is already present here [3, p. 117–118]. A story as a sequential narrative of interrelated events has a structure of time filled with events, that is, fixed actions that assume the presence of both an observer and a narrator. However, it is not so much a story as a myth. The self-identification of the myth is carried out not so much through its content, but in the very act of telling, the unity of the story and the ritual that accompanies the story and is an integral part of it. The structure and function in the myth dominate the specific plot

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and character, exposing the «timelessness» of the myth. In mythological prehistory, there is no subject of action (hero), no form, no fixation, no evaluation of action, that is, acts that turn the action into a historical event.

Traditional historicism is dominated by the people's historical consciousness, which becomes and develops as overcoming the mythopoetic picture of the world, as its negation. There is an ideological historicism, which is based on mythological and religious worldview. Time, although it begins to think uniformly and objectively, is very slow. The stage of traditional historicism for the European historical consciousness makes sense to further divide, conditionally speaking, into epic, ancient and medieval periods.

In the epic period, the decomposition of mythological consciousness creates the conditions for the emergence of history itself: writing, the state, theoretical knowledge. The event of the past must be marked, recorded, that is, designed, recorded, placed in the system of public consciousness. In the epoch, the rudiments of temporal and historical consciousness are already being viewed [5] and, in fact, its foundations are being formed. However, the historical ideology of the first state formations is still religious and mythological in nature: not only power as an institution has a divine origin, but the ruler himself as its bearer and personification is a god (demigod) or a descendant of God. At the same time, the first peculiar concepts of historicism emerged [5].

The beginnings of rational historical consciousness, appearing in the period of ancient historicism, are associated primarily with the emergence and functioning of such an institution as the polis. Natural principles and laws are affirmed as the simplest socio-historical dependencies and connections recorded in the public consciousness. During this period of flourishing and the beginning of the decomposition of the classical polis, «History» appears – also in the sense of «research», «science» – Herodotus, who opens a new genre of narration, characterized by special attention to facts, but rather chaotic [4, p. 18–26]. Already Thucydides rejects religious-mythological explanations in history, because, from his point of view, social existence in time is created by people, and human nature is unchanged. In the works of Roman historians, a global imperial worldview appears – Pax Romana. Their methodological principles remained the same as those of the Greeks: there is almost no critique of sources, and the unchanging human nature still serves as the basis for the historical explanation.

The medieval theocentric monotheistic worldview defines the transcendent dimension of history, constantly comparing it as temporal duration with divine eternity. Due to this, the historical consciousness is seriously modified: already in the works of Augustine there is an abstract-philosophical explanation and generalization of facts, the cyclical historical time of antiquity

becomes linear, global chronology and periodization are formulated [4, p. 49–56]. The resurrection of mysticism and providentialism and the accompanying degradation of science became a kind of payment for modernization.

The formation of classical historicism begins with the elimination of the sacred-mystical basis of history in the Renaissance and Enlightenment. On the one hand, Renaissance humanists and later educators returned to understanding history as the result of the work of great men. On the other hand, socio-historical criticism appears and develops, supported by the practice of critical analysis of sources. It was the critique of sources that gave historical research its scientific status. The idea of the progress of human nature and reason dominates. It is the basis of history and its rational interpretations. The most important phenomena of the New Age were the Hegelian and Marxist systems of philosophy of history, as well as the studies of French and German historians of the nineteenth century. History was presented as a single process of social development, the essence of which lies in itself. However, the prevailing in the second half of the XIX century, positivist methodology fundamentally abandoned both the search for such a basis («essence») of history, and any form of its construction [6, p. 122–128]. Therefore, the unity of history was ensured by quite traditional methods: through understanding it as a sequence of events and facts. The so-called «crisis of events» was formed [6, p. 114–130].

Overcoming this crisis occurred at a new stage in the transformation of historicism. This is the beginning of the destruction of classical historical consciousness and its transformation into non-classical. This modernization was primarily related to the School of Annals, which radically posed problems of historical synthesis and mentality in history. History is understood not as a chain of events, but as a set of problems, so, first, the historian must operate with historical structures and wholes, and the studied epoch must be considered in the context of all factors. The historian begins with a study of the environment, the conditions in which people lived, the means of communication, the state of technology, population density, life expectancy, etc., and ends with the study of art, philosophy and politics. The systemic unity of different levels and layers of history is ensured by mentality – a universal link between social and spiritual history. An important research tool is the analysis of the language of sources, changes in the meanings of words, semantic shifts [2, p. 60–62]. It is impossible to leave the limits of one's mental culture. The historian in search of this conditionality, thus, comes to objectivity in the knowledge of history.

The emergence of posthistorism is closely linked to poststructuralism and postmodernism. Posthistorism abandons «great narratives» in favor of microhistory, partially continuing the tradition of twentieth-century

neohistorism. In this case, the work of the historian is closer to the work of the writer (narrator, narrator), and the story itself – with an anecdote in its traditional sense. The historical narrative becomes poetic and metaphorical, and in the long run even mythopoetic [1]. The problem of objectivity is not posed here as such, and cannot be posed, because the historical text becomes not a narrative of facts (although individual «proposals» may retain this feature and even be characterized in terms of the classical correspondent concept of truth), but a «story», which cannot and should not relate to any object and have an objective content. The historian does not so much describe the past («as it really was») as construct the semantic space of the text.

Thus, historical consciousness within its own transformation makes a kind of circle – from the classical myth it returns to the mythopoetic understanding of the past, from attempts to present the past as a real, albeit very peculiar, object to the metaphorical construction of the past in the present.

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GLAMOROUS CONSUMPTION IN VIRTUAL REALITY

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-22>

To a person with a normal worldview, the word «virtual reality» refers to computers, which is not entirely accurate. This phenomenon entered our lives long before the advent of computers, and the term appeared at the turn of XIX–XX centuries. O. Otradnova defines virtual reality in two ways: as a form of object-social simulation that reproduces the conditions close to reality, through which it is possible to perform operations outside of objective reality, and as a fictional, ephemeral world, built according to the logic of objective reality. small changes in the social system [5, p. 49].

The first definition includes utopias or anti-utopias created by writers and sociologists, or dreams and fantasies that arise in human thoughts. The second is e-commerce, online shopping or social networking, which is directly related to computerization. However, a regular landline conversation, invented in the 19th century, also creates virtual reality, but only with sound. Theater, which appeared in antiquity, fine arts, the first examples of which were created in the ancient world, as well as photography and cinema, researchers also refer to virtual reality. From this we can conclude that computers have only supplemented and improved virtual reality, which appeared more than a century ago [6, p. 106–109].

Due to technical progress, virtual interactions are becoming more and more like real ones. Working at a computer becomes more like real events, and online communication is similar to communication in real space and time. Virtualization can be compared to the loss of the essence of things, but not in the sense of destroying the old, but in the sense of creating a new reality. This is evidenced by such characteristics of virtual reality as intangible influence, conditionality of parameters, ephemerality [7]. The concepts of the essence of a thing and an image are divided: a thing presupposes an essence that is revealed in its sensory image, in turn, we receive a sensory image with the help of the organs of hearing, sight, touch and smell. That is, the essence of a thing exists separately from its images, it is more than them in content, but at the same time, is expressed in them.

Today we can talk about the global process of virtualization of society. Sociologist D. V. Ivanov, who studied the process of virtualization, defined it as «a series of heterogeneous but similar trends in various spheres of life, such

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as economics, culture, education, industry and even interpersonal relationships between individuals» [3, p. 65–66]. Simulation, as the main characteristic of virtual reality, is most pronounced, according to the researcher, in economics. Today the market is full of goods with similar technical characteristics, which need to compete with each other. This has led to the fact that the market is now selling not goods, but images, images, simulations, which determines the modern social organization. The simulation also applies to innovations attributed to goods: the «innovative brush» of mascara and the washable toilet paper sleeve is an attribution of the virtual value of the product. The consumer chooses not the product, but its virtual image, which entails a change in the pricing mechanism. Thus, virtualization creates a new concept of price.

Today, pricing is determined not by the principles of famous economic theories, but by Thomas Aquinas: the value of the offer determines its «origin», ie the brand name. In such conditions, it makes sense to talk about the decapitalization of business – today it is not the company that owns the capital that is successful, but the one that owns the brand. Levi's Signature, which Levi Strauss & Co sells in Wal Mart supermarkets only in the United States, has been sewn since the fall of 2003 at the Russian Gloria-Jeans factory in the Rostov Region Mine. None of the company's existing factories in Hungary or Poland would be able to make jeans of acceptable quality at the record low price of \$ 25 needed to sell jeans in a supermarket and capture a cheap segment of the mass market. Today, consumers do not want to buy a quality thing, but to satisfy their emotional needs, solve internal problems, raise self-esteem. Firms successfully enjoy the emotional weakness and instability of consumers. Adidas sneakers designed by Yoji Yamamoto are successfully sold in boutiques at a price of \$ 1,000, although their cost is about \$ 100 [4, p. 4–8].

Therefore, advertising in modern society is not just information about goods, services or promotions. It, appealing to human feelings, gives an imitation of missing emotions, influencing feelings of fear, sense of self-importance, belonging to a social group, etc., ie mobilizes affective connotations by creating an advertising image.

In cultural conditions, postmodern brand creation is a way of symbolic manipulation, the purpose of which is to form a stable human reaction to certain symbols. The status of these symbols (trademark) determines the value of the thing, and a direct connection with its real properties is often not observed. Zh. Bodriyyar noted that in the postmodern state, the signs that served reality are now usurping it. The meaning of a sign is not a thing, but another sign. When reality is reduced to a whirlwind of signs, it becomes hyperreality [1]. As you can see, in addition to the advertising process, this statement perfectly expresses its essence.

Today, any benefits have already been done and the market faces the task of stimulating unlimited consumption. To produce more goods at the lowest possible cost and short service life – this is the task of production. This reinforces the endless demand for things. The consumer will have to buy a novelty not only because last season's product went out of fashion, but because consumer properties have already deteriorated. «Competitive tuning» has become a typical expression for any business. Today, the product is unthinkable without a brand. Its first function is to denote a commodity, the second is to mobilize affective connotations.

For the consumer, this phenomenon dictates the need to choose not from tangible goods, but from images that include the virtual benefits of tangible goods. Hence the high advertising susceptibility – the consumer is full and dressed, but his needs do not stop, because he must meet the images of success, health and so on.

Interactions with the product in the virtual Internet environment become available to the consumer. Without taking any action in reality, but only by dragging the mouse on the table or finger on the touch screen, a person is able to conduct financial transactions, make purchases.

Technical improvement of computers, which were once called computers, does not lead to qualitatively new methods of information processing, but improves visualization technologies. Virtual Reality Modeling Language (VRML) has been used on the Internet for several years. It is recognized by the Web Consortium as the standard (ISO / IEC 14772) for describing interactive 3D graphics and multimedia applications. This is an independent object-oriented extensible programming language, which in the most general principles resembles the well-known to web-page designers HTML language. However, it differs from the latter in its ability to represent objects and their environment in motion and three-dimensionally. VRML is an alternative, not a complement to HTML. This means that in the case of widespread VRML, the World Wide Web system will become as if two layers: pages in HTML will be adjacent to pages in VRML, referring to each other.

If HTML has brought the Internet closer to people and made the network more accessible, then VRML takes the Internet and the World Wide Web to the next level, making them accessible to billions of people who would rather watch TV instead of rearranging «windows» in computer applications [2].

The development of 3D and 2D visualization technologies has opened up new opportunities for e-commerce. We can assume that a new branch of computer science has now been formed – three-dimensional, or 3D-machine graphics. With the help of three-dimensional interactive models on a personal computer, you can create a simulation of the real world.

Ukrainians are no longer afraid to buy even furniture online. They design their interior online, then order the appropriate product at home with the click of a button. According to research, every tenth resident has already bought furniture online. Ukrainians have been shopping online since 2008, after three years of active Internet use. Since the onset of the crisis, traditional retail sales have fallen by 5,5%, while e-commerce has grown by 20%. It began to develop first in Kiev, Lviv, Odessa and the Dnieper, due to the high speed of the Internet, and today has spread throughout Ukraine.

Consumers are attracted by the lack of queues, a large selection of goods that can be ordered in both Ukrainian and foreign stores. Shopping in online stores saves time – the goods can be delivered directly home. Online shopping saves money. In the last few years, cashback services (cash back) have become popular in online stores. They are used by both banks and special sites. This allows the consumer to save from 1% to 5% on their purchases.

Thus, virtual reality has formed a new type of consumer behavior. Consumers do not buy goods, but images created by companies, the life cycle of goods is reduced, and the development of visualization technologies allows you to choose goods online with greater convenience than offline.

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SPINOZA'S MONISM, PLATO'S «MATTER» AS THE BASIS FOR THE PHENOMENON OF NEUROPLASTICITY

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-23>

Our goal is to show the relevance and organic self-realization of the concept of Spinoza's monism in relation to the phenomenon of neuroplasticity within the framework of neurophysiology (Spinoza, 1957). We are talking about monism (a single substance) of the phenomenon of neuroplasticity to continue studying the problem of «mind-body» based on the dualism of Descartes, according to Damasio (Damasio, 1995). Neuroplasticity erases the long-lasting distinction between the brain and consciousness, gives conscious attitudes towards health, education, operates with exercises performed by consciousness-thinking and trains the brain at the same time – all this erases dualism in favour of a single, identical basis – monism with an external contradictory dialectic of «mind-body» (Damasio, 1995). Also, in addition to Spinoza's monism, Plato's concept of plastic «matter-chora» constitutes the philosophical basis for the phenomenon of neuroplasticity (Plato, 2006).

In the theses, we rely on the works by Plato, Spinoza, Descartes, Damasio, and Doidge. The scientific novelty lies in the fact that for the first time we have identified the conceptual similarity of the philosophy of Plato, Spinoza and neurophysiology, in particular, the concepts of plastic matter, monism and the phenomenon of neuroplasticity. Instead of dualism and reduction, there is an expansion and interchangeability in the structure of the brain, when the properties of plasticity are expanded to areas responsible for other functions. We will conclude that instead of a mechanistically predetermined approach to the properties of the brain, we use the idea of Spinoza's monism to universalize and philosophically conceptualize the phenomenon of neuroplasticity. Spinoza, like Descartes, referred to the rationalists of the New Time and was focused on analysing the properties of thinking, cognitive abilities.

Both of them also dealt with the problems of thinking and the best methods of knowledge (Descartes, 1989). However, Spinoza's materialism, monism with a single substance as the basis of the world resembles Plato's «matter-chora», which is characterized by the properties of plasticity, homogeneity of various forms of the sensory world, their organic interaction, independent manifestation in diverse forms from a single basis-matter. Plastic «matter-chora» contains

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potentiality, its intense actualization, effectiveness, entelechy, the actualization of the form into the external world, as it happens with the step-by-step implementation of the phenomenon of plastic rearrangement of neural connections and the interchangeability of the properties of the brain during exercise. The scientific recognition of the fact that the brain is plastic and can change itself with the help of training and cognition is supported by Plato's idea of a plastic matter-chora that generates itself and all forms of the ideal and sensual world, as well as the Spinoza's mono substance; and in practical application in the field of education and medicine, it represents a tremendous breakthrough in the history of humankind. In dialogues of Plato, Socrates also argued that a person could train his consciousness in the same way as gymnasts train their muscles (Plato, 2006).

It is a well-known fact that changes in the brain can affect our psychology and what we think, but no one has proven the presence of feedback (Doidge, 2011). Norman Doidge reveals the fundamentals of psychological self-healing, proving that the process of thinking and our thoughts can transform our brains, and cultural influences literally «shape» the human brain. Thus, our reaction to the world around us is not only a social or psychological phenomenon but also a prolonged neurological process. The idea that the brain can change its own structure and functioning through the thoughts and actions of a person is the most important, literally revolutionary innovation in modern ideas about the human brain (Doidge, 2011). So Doidge proposed overcoming the narrow bridge between body and soul through their feedback.

Modern neurophysiologists, proponents of neuroplasticity, have the predecessors. Back in the 1820s, Marie Jean Pierre Flourens argued that the human brain is capable of self-reorganization. He found that even Paul Broca, unlike his followers, did not completely reject the idea of brain plasticity (Doidge, 2011). (Doidge, 2011). Doidge proved in practice that the brain is not at all a collection of specialized parts, each of which has a specific place and function, but is a dynamic organ capable of reprogramming and rebuilding itself if necessary. One of the adepts of neuroplasticity, Paul Bachy-Rita, was also inspired by the ideas of scientists such as Karl Lashley, Paul Weiss and Charles Sherrington, who argued that the brain and nervous system could regain lost functions if parts were removed or the connection between them is broken (Doidge, 2011).

Instead of the principles of the materialistic and mechanistic structure of the brain with a strict distribution of areas and the functions assigned to them in rehabilitation and education, the principles of unity and organic interchangeability of the functions and properties of the brain become relevant. For all dialecticism, there is always a single identical basis for their interaction and subsequent synthesis or elimination of dialectical contradictions. «Hard

wiring» is another metaphor that likens the brain to computer working schemes, each of which is designed to perform a certain, unchanging function (Chuikova, 2017). The proven properties of brain neuroplasticity have shown that assimilation of the brain to a modern machine, a computer, as well as its neurolinguistic programming, are doomed to failure.

The phenomenon of neuroplasticity proves the ability of the brain to reorganize itself through the formation of new neural connections throughout a person's life: from adults in a post-traumatic state or age-related deterioration of the brain to children with mental disabilities. Doidge cites many examples from the practice, talking about patients who have relearned to move and speak after suffering a stroke; elderly people who have managed to improve their memory; and children who have improved their intelligence and overcome learning difficulties. This ability to adapt assumes that the brain is plastic, i.e. is able to reorganize its sensory and perceptual system. Damaged or malfunctioning cells and circuits can actually be regenerated and reprogrammed; the location of a particular function can be transferred from one section of the cortex to another (Doidge, 2011). The discoveries made in the field of neuroplasticity can be useful for professionals in a wide variety of fields, but above all for teachers of all types, they open up new opportunities for improving learning for parents that are now available to them and their children.

Conclusions. Neuroplasticity in philosophy correlates with Spinoza's monism and Plato's concept of «matter-chora», and is also a scientific fact that solves the «mind-body» problem. The properties of neuroplasticity are positive in social life: it is useful both for people seeking recovery in medicine, and for children and teachers in the field of education. Neuroplasticity can be attributed to a transdisciplinary phenomenon: it is a phenomenon and a real fact, it combines theory and practice, medical rehabilitation and pedagogy, philosophy and neurophysiology.

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LAW SCIENCES

FEATURES OF CONCLUSION AND TERMINATION OF DEED OF GIFT

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-24>

The relevance of the study of this topic is the fact that the deed of gift is a very specific document that requires in-depth and thorough study. The deed of gift has certain features regarding the conditions of conclusion and performance, determination of the rights and obligations of the parties and the legal consequences of non-performance (improper performance) of the contract. All of the above determines the relevance of the study of the selected topic. In modern conditions, the scientific significance and relevance of the study of the features of deed of gift is due to a significant increase in the role of this agreement in the public and state life of Ukraine.

The purpose of the given study is the research of the features of deed of gift. Many scientists studied the peculiarities of deed of gift, among them are Bagach E.M., Bilousov Yu.V., Borisova V.I., Grinyak A.B., Guz A.V., Guz L.E., Gulida O.M., Gupalovska O.B., Dzera O.V., Zhivikhina I.B., and others. However, a comprehensive modern study of the problems of fulfillment of contractual obligations under deed of gift under the civil legislation of Ukraine has not been conducted so far.

When concluding a deed of gift for individuals, it is necessary to determine the scope of their legal capacity. In the interests of incapacitated persons must act their guardians. Individuals with limited legal capacity and minors, except in cases where they make small household transactions, must obtain the consent of a guardian (for persons with disabilities), parents, adoptive parents or guardians (for minors). Minors aged 14 to 18 have the right to independently dispose of their earnings, scholarships or other income (paragraph 1, part 1 of Article 32 of the Civil Code of Ukraine), including by donating them. In all other cases, the donation is made either with the consent of the parents (adoptive parents) or with the consent of the guardians. Guardians and trustees may refuse the offer to accept the gift if it does not meet the interests of the ward [2, p. 137–138].

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Legal entities enter into deed of gift within the limits of legal capacity. In this case, legal entities may accept the gift without any restrictions on their legal capacity. Deed of gift between legal entities engaged in entrepreneurial activity are not allowed if the right of deed of gift is not provided in the charter of the donor. However, this provision does not apply to the right of a legal entity to enter into a deed of gift under Part 3 of Art. 720 of the Civil Code of Ukraine [1].

The deed of gift may also be terminated. Therefore, it is important to refer to the origins of the return of the gift. As a rule, the gift could not be returned in Roman law. Exceptions to this rule were in relation to the gifted person's gross ingratitude (gross verbal insults, infliction of physical or moral harm, unfulfilled order – modus). In such cases, the «offended» person filed a lawsuit to terminate the contract and return the gift. The right to return the gift was not allowed at all, if the donee saved the life of the donor, or did him a significant service [4, p. 99].

The Civil Code of Ukraine provides the following grounds for termination of the deed of gift:

- 1) refusal of one of the parties;
- 2) termination of the gift agreement;
- 3) invalidity [1].

The donor may refuse the contract, if there is an obligation to transfer the gift in the future, if after the conclusion of the contract the property status of the donor has significantly deteriorated. The legislation does not stipulate what should be understood as a significant deterioration of property status (valuation concept).

Regarding the termination of the contract, Art. 727 of the Civil Code of Ukraine provides for termination on the initiative of the donor in the following circumstances:

- in respect of immovable property or other particularly valuable property, if the donee intentionally committed a crime against life, health, property of the donor, his parents, wife (husband) or children;
- if the donee committed the premeditated murder of the donor, the heirs of the donor have the right to demand termination of the contract of gift;
- if the donee poses a threat of irretrievable loss of the gift, which is of great intangible value to the donor;
- if due to the negligent attitude of the gifted person to a thing that is of historical, scientific, cultural value, or this thing may be destroyed or significantly damaged [1].

In case of termination of the deed of gift, the gift is returned to the donor, and in the case when this is not possible, the compensation of its value. A one-year statute of limitations applies to claims for termination of a deed of gift.

In case when the contract is declared invalid, the gift is returned to the donor, the donee may demand compensation for withholding the gift [3].

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PROHIBITION OF TORTURE AND CRUEL TREATMENT IN CRIMINAL PROCEEDINGS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-25>

A person, his/her life and health are recognised in the National Basic Law as the highest social value. Every person shall have the inalienable right to life and protection of human life shall be the duty of the State. In addition, everyone shall have the right to have his/her dignity respected. Accordingly, no one shall be subjected to torture, cruel, inhumane, or degrading treatment or punishment that violates his/her dignity [1]. The absolute prohibition of torture is a peremptory rule of international law and, according to the case law of the European Court of Human Rights (hereinafter referred to as the ECHR), it «reflects one of the fundamental values of a democratic society» [2].

However, despite the current level of human development and the tendency of humane solutions to conflicts, the eradication of torture is one of the most pressing issues today. According to the annual report of the Commissioner of the Verkhovna Rada for Human Rights on the state of observance and protection of the rights and freedoms of person and citizen in Ukraine for 2019, the results of the monitoring visits to the vast majority of

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places of deprivation of liberty attest to the existence of such facts [3]. In particular, acts of torture, cruel, inhuman or degrading treatment by police officers are: beatings; infliction of other bodily harm; prolonged isolation in unsuitable premises; failure to provide painkillers to critically ill patients with pain syndrome.

For example, in one of the police headquarters of the GDNP in Kiev, it was established that a detainee had been subjected to physical violence by police officers with the aim of extracting a confession to a crime. In one of the offices, the police officers beat the detainee, stretched in the manner of the 'swallow', put on a gas mask and threatened with a firearm. As a result of these actions, the detainee sustained injuries in the form of a closed chest injury, contusions, abrasions and bruises to the back [3].

It should be noted that most frequently the criminal procedure legislation of Ukraine provides specific requirements concerning human rights and freedoms and the honour and dignity of the person in regard to individual investigative or procedural actions. In particular, it is prohibited to force the accused and other persons involved in the case to testify through violence, threats or other unlawful actions. However, judicial practice analysis indicates that bodily harm is often inadequately documented or not documented at all, as provided for in the United Nations' *Manual on the Effective Investigation and Documentation of Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment* and legal regulations in force, and no medical assistance is provided to victims.

An additional guarantee of human rights and freedoms during the pre-trial investigation is the impossibility to use evidence, obtained by the investigator (who is charged with the prosecution) in the criminal proceedings, while trying to prove his/her case against the accused, by means of coercion or oppression against the will of the accused. Accordingly, in criminal proceedings inadmissible shall be evidence obtained through significant violation of human rights and fundamental freedoms such as, torture, cruel, inhumane, or degrading treatment (Art. 87 of the CPC of Ukraine) [4].

However, judicial practice faces certain difficulties in proving that evidence has been obtained precisely through torture, cruel, inhuman or degrading treatment. For example, according to the ECHR' case law, the court shall be guided by appropriate evidence of such conduct in finding whether or not ill-treatment has occurred. In particular, this is the findings of the experts, the reports that indicate the presence of injuries and so forth. Accordingly, the proof of torture can result from the totality of signs or irrefutable facts agreed upon. It should also be noted that the absence of a record of torture of a person in an expert report or a procedural document makes it much more difficult to be proved in court. Moreover, it questions the existence of torture at all.

It should be considered that, where an accused person claims to have been subjected to torture or cruel or inhuman treatment, the court's finding on the admissibility of evidence shall be based on a proper verification of the claim through a formal investigation.

The emphasis should be on the person's right, provided for by Art. 55 of the Constitution of Ukraine, after exhausting all domestic legal instruments, to appeal for the protection of his/her rights and freedoms to the relevant international judicial institutions or to the relevant bodies of international organisations of which Ukraine is a member or participant [1]. According to Art. 32 of *the Convention for the Protection of Human Rights and Fundamental Freedoms* (hereinafter referred to as the Convention), the jurisdiction of the ECHR shall extend to all matters concerning the interpretation and application of the Convention and the Protocols thereto which are referred to it as provided in Articles 33, 34, 46 and 47 of the Convention [5, p. 3]. Therefore, according to Art. 46 of the Convention, Ukraine undertakes to abide by the final judgment of the Court in any case to which it is a party.

Currently, according to Art. 17 of the Law of Ukraine «On the execution of decisions and application of the European Court of Human Rights' case law» no. 3477-IV of 23 February 2006, the courts apply the Convention and the case law of the ECHR as a source of law in proceedings. Moreover, Ukraine's criminal procedural legislation is applied considering the ECHR's case law. The analysis of its decisions reveals that the admissibility of evidence is generally a matter for national courts, that the role of ECHR is limited to assessing the overall fairness of the proceedings, that special criteria apply to evidence, obtained in a manner deemed to be in violation of Article 3 of the Convention. The admission of evidence, obtained through torture violating Article 3 of the Convention, in order to establish the relevant facts in a criminal proceeding leads to its injustice in general, regardless of their probative value and whether their use has been crucial to the conviction of the accused. For example, the ECHR's decision in the case «Gäfgen v Germany» [6].

Therefore, it should be noted that generally national courts are to decide on the admissibility of evidence, while the role of ECHR is limited to assessing the overall fairness of the proceedings, special criteria apply to evidence, obtained in a manner deemed to be in violation of Article 3 of the Convention. The admission of evidence obtained through torture violating Article 3 of the Convention in order to establish the relevant facts in criminal proceedings leads to injustice in general, regardless of their probative value and whether their application has been crucial to the conviction of the accused.

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CHANGES IN THE SYSTEM OF CRIMINAL OFFENCES AGAINST JUSTICE IN THE CRIMINAL CODE OF UKRAINE DUE TO THE REFORMING THE CRIMINAL CODE OF UKRAINE IN 2020

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-26>

In consequence of the last reforming of the Criminal Code of Ukraine [1] (hereinafter referred to as the CC), performed by the Law of Ukraine dated 22.11.2018 No. 2617-VIII «On making changes to some legislative acts of Ukraine on simplification of the pre-trial investigation of the certain categories of criminal offenses» [2], which came into effect on 01.07.2020, the notion of

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a criminal offense was introduced in the CC, which covered all criminally punishable acts, which were divided into crimes and misdemeanors.

The common criminal and legal nature of a crime and a criminal misdemeanor as subtypes of one legal category, a criminal offense is confirmed by a large number of articles of the Criminal Code, which are set out in combination and include both the crime and the criminal misdemeanor [3, p. 19].

In consequence of reforming 34 articles of section XVIII of CC «Criminal offenses against justice» [1] were divided as follows: 22 articles provide for criminal liability for crimes, 8 articles provide for criminal liability for criminal misdemeanors, 4 articles provide for criminal liability for combined criminal offenses, which have variants of criminal offenses in the form of crimes and in the form of criminal misdemeanors.

Since in accordance with Art. 12 of the Criminal Code [1], the type of a criminal offense is determined by the type and scope of the primary punishment and/or penalty established by the sanction of the Criminal Code article for the criminal offense provided for by such article (part, clause of the article), this principle was applied to the division of the criminal offenses belonging to section XVIII of the Criminal Code «Criminal offenses against justice» [1], by types. It should also be noted that a criminal misdemeanor is an act that has a lower degree of public danger than a crime, causing significant harm to the interests of a natural or legal person, society, state or international law, and not significant harm as a crime [4, p. 8]. Due to this fact the division of the criminal offenses belonging to section XVIII of the Criminal Code «Criminal offenses against justice» [1] by types clearly states the degree of social danger of any of such criminal offenses to the opinion of the legislator. That is why the research of the sanctions of the articles of section XVIII the Criminal Code «Criminal offenses against justice» [1], their changes or saving unchanged for 2018–2020 will show the degree of social danger of each of criminal offenses belonging to section XVIII of the Criminal Code «Criminal offenses against justice» [1].

Sanctions of Articles 372, 373, 376-1, 377, 378, 379, 380, 382, 383, 389-2, 390, 392, 393, 394, 396, 399, 400, 400-1 of the Criminal Code [1] were not changed during the period of 2018-2020 and, according to them, the criminal offenses provided for in the above articles were classified as crimes.

Sanctions of Articles 385, 386, 387, 389, 390-1, 395, 397 of the Criminal Code [1] were not changed during the period of 2018-2020 and, according to them, the criminal offenses provided for in the above articles were classified as criminal misdemeanors.

Sanctions of Articles 371, 381, 384, 400-1 of the Criminal Code [1] were not changed during the period of 2018–2020 and, according to them, the

criminal offenses provided for in part 1 of Article 371, part 1 of Article 381, part 1 of Article 384, part 1 of Article 400-1 of the Criminal Code [1], were classified as criminal misdemeanors and criminal offenses provided for by part 2 of Article 371, part 3 of Article 371, part 2 of Article 381, part 2 of Article 384, part 2 of Article 400-1 of the Criminal Code [1] were classified as crimes, that is why the criminal offenses provided for by Articles 371, 381, 400-1 of the Criminal Code [1], belong to the combined criminal offenses.

It follows from the above that during the reforming of the Criminal Code [1] in 2018–2020, legislators did not reconsider the degree of public danger of the above criminal offenses against justice.

In 2018, in accordance with the Law of Ukraine dated 22.11.2018 No. 2617-VIII «On making changes to some legislative acts of Ukraine on simplification of the pre-trial investigation of the certain categories of criminal offenses» [2], in the sanction of part 1 of Article 374 of the Criminal Code, the amount of the penalty from 300 to 500 non-taxable minimum incomes was increased by the amount of the fine from 1000 to 4000 non-taxable minimum incomes [1], which shows the desire of legislators to assess the violation of the right to protection as a criminal act of great danger. This corresponds to the status of the right to protection as one of the fundamental human rights, which is enshrined in the Constitution of Ukraine [5] and international legal instruments.

In 2018, in accordance with the Law of Ukraine dated 22.11.2018 No. 2617-VIII «On making changes to some legislative acts of Ukraine on simplification of the pre-trial investigation of the certain categories of criminal offenses» [2], in the sanction of part 1 of 376 of the Criminal Code, the amount of the penalty of 50 non-taxable minimum incomes was increased by the amount of the fine from 1000 to 4000 non-taxable minimum incomes of citizens [1], which shows the desire of legislators to assess interference in any form in the activities of a judge to prevent him/her from performing his duties or criminally illegal act of a significant degree of danger. This corresponds to the constitution guarantees of judge independence during delivery of justice provided for by Article 126 of the Constitution of Ukraine [5].

In 2018, in accordance with the Law of Ukraine dated 22.11.2018 No. 2617-VIII «On making changes to some legislative acts of Ukraine on simplification of the pre-trial investigation of the certain categories of criminal offenses» [2], in the sanction of part 1 of Art. 388 of the Criminal Code, the amount of the penalty from 200 to 500 non-taxable minimum incomes was increased by the amount of the fine from 1000 to 4000 non-taxable minimum incomes, and in the sanction of part 2 of Article 388 of the Criminal Code, the amount of the penalty from 300 to 600 non-taxable minimum incomes was increased by the amount of the fine from 4000 to

6000 non-taxable minimum incomes [1], which shows the desire of legislators to assess the illegal actions with respect to seized property, pledged property or property that is described or subject to confiscation as a criminal offense of a significant degree of danger. This corresponds to the importance of the compliance with the requirements established by Article 41 of the Constitution of Ukraine [5] to the procedure of property seizure.

All 3 revised strengthening of sanctions of Articles 374, 376, 388 of the Criminal Code were performed in order to leave the criminal offenses provided by Articles 374, 376, 388 of the Criminal Code in the category of crimes after the reform of the Criminal Code [1].

From the above it follows that the constitutional principles of the right to protection, independence and inviolability of judges, strictly defined by law procedure for confiscation of property are assessed by Ukrainian legislators as those elements of the justice system whose level of criminal protection should not be reduced by reforming the Criminal Code of Ukraine [1].

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CONCEPTUAL VIEWS ON REFORMING THE INSTITUTION OF ARBITRATION

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-27>

On January 29, 2019, the Cabinet of Ministers of Ukraine supported the Draft Law of Ukraine «On Amendments to Certain Laws of Ukraine (on Improving the Procedure for Establishment and Activity of Arbitration Courts in order to Restore Confidence in Arbitration)» developed by the Ministry of Justice [1].

The main innovations of this bill in terms of amendments to the Law of Ukraine «On Arbitration Courts» are:

1) establishment of new requirements to the founders of arbitration courts, in particular:

the arbitral tribunal may be formed by the founders, whose term of office until the formation of the arbitral tribunal must be more than 5 years;

the founders must provide the arbitral tribunal with premises and material means for carrying out its activities;

the founders of both existing and newly established arbitration courts must obtain an opinion of the Arbitration Chamber of Ukraine (hereinafter – ACU) on the founder's compliance with the requirements of this Law and register changes in information about the arbitration court;

the founders are obliged to pay organizational fees for the maintenance of ACU in «equal and proportional amounts», the «purpose» and frequency of payment of which are determined by the decision of the All-Ukrainian Congress of Arbitrators;

2) change in the status and powers of the ACU:

ACU acquires the status of a legal entity, which is «maintained at the expense of organizational contributions of the founders of permanent arbitration courts, in equal and proportional amounts approved by the All-Ukrainian Congress of Arbitration Judges, as well as from other sources not prohibited by law»;

ACU provides a binding opinion for all permanent arbitration courts on the compliance of the founder of the permanent arbitration court with the requirements of this law. In case of non-compliance by the founder of the permanent arbitration court established by law, the requirements of the ACU

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apply to the state registration body with a statement of violation by the founder of the law in order to terminate the activities of such arbitration court;

3) changes in the jurisdiction of the arbitral tribunal:

instead of the existing in paragraph 14 of Part 1 of Art. 6 of the Law of Ukraine «On Arbitration Courts» (hereinafter – the Law) rules on exclusion from the jurisdiction of the arbitral tribunal of disputes in cases of consumer protection consumers «

it is envisaged to delete item 7 part 1 of Art. 3 years from the day following the day of publication of amendments to the law. 6 of the Law, according to which the arbitral tribunal has no jurisdiction in disputes over real estate, including land [2].

Unfortunately, this bill has not been discussed with the founders of the permanent arbitration courts, to which the bill assigns new responsibilities. Obligation to discuss normative legal acts with the object of their influence is provided in Articles 5, 6, 9 of the Law of Ukraine «On Principles of State Regulatory Policy in the Sphere of Economic Activity», paragraphs 12.13 of the Cabinet of Ministers Resolution on Ensuring Public Participation in Formation and Implementation of State Policy «dated November 3, 2010 № 996 [3; 4].

The current Arbitration Chamber of Ukraine also did not discuss this bill.

The goal stated in the bill – «restoring confidence in arbitration» – is not relevant. The number of working arbitration courts and the number of cases considered by them is insignificant. What is relevant is not distrust of arbitration courts, but low awareness of their capabilities, legal restrictions on the jurisdiction of arbitration courts, unstable case law of state courts in assessing the grounds for revoking arbitral awards and issuing writs of execution to enforce their decisions, which reduces their attractiveness to parties to the dispute.

The number of arbitration courts that heard at least one arbitration case in 2017–2018 is only 39, which is less than 10% of the number of local state courts, and the number of arbitration cases is less than 1% of the number of cases heard by local courts. state courts.

Regarding the 39 arbitration courts operating during the last 5 years, we do not know of any decision of the state court that would testify to the actions of the judges of these arbitration courts, which would indicate a loss of confidence in them. The population does not know anything about the remaining almost 500 registered arbitration courts that do not operate, but they are inactive and cannot create distrust in them. Excluding even all 500 non-functioning arbitration courts from the register will in no way increase the activity of 39 existing courts, or increase the level of trust in arbitration courts.

As for the 39 existing courts, the fact of their positive activity and trust in them is recognized by the parties to the dispute, who apply to these courts for dispute resolution. Obtaining a positive conclusion of the ACU is superfluous. If these courts eventually lose the credibility of the parties to the dispute, they will cease to apply to these courts for dispute resolution. Similarly, obtaining a positive opinion of the ACU by the founders of the arbitral tribunal is not a guarantee that such a court will become active or the already active court will not lose credibility in the future [5].

Obviously, obtaining a positive conclusion of the ACU on the compliance of the founders of the court with the new requirements of the law does not directly affect the level of confidence in the arbitration court, as disputes are considered not by the founders but by arbitrators! If the founder of the arbitral tribunal wants the arbitral tribunal created by him to consider disputes, he creates all the necessary conditions for this. If he does not want to, he punishes himself by the inaction of such a court.

In addition, the bill does not specify what criteria must be met by the premises to be provided to the arbitration court by the founders, what material support of the arbitration court by the founders is sufficient, what are the legal consequences of termination of «periodic» ACU funding by the founder and so on. The lack of criteria defined by law gives rise to subjectivity in the provision of a mandatory draft opinion of the ACU.

As for the proposed amendment to the wording of paragraph 14 of Part 1 of Art. 6 of the Law and exclusion from the jurisdiction of the arbitral tribunal of disputes over consumer claims instead of the existing exclusion of disputes in consumer protection cases, both new and existing version of this paragraph directly contradicts the right of a person to elect a state or arbitral tribunal. This right of a person is stated in paragraph 3.1 of the decision of the Constitutional Court of Ukraine of 10.01.2008 in case № 1-3/2008 «On the tasks of the arbitration court» with reference to Art. 55 of the Constitution of Ukraine [6].

Exclusion from the jurisdiction of the arbitral tribunal of disputes concerning the protection of consumer rights or disputes over consumer claims is contrary not only to Art. 55 of the Constitution of Ukraine, but also the Directive of the European Parliament and of the Council № 2013/11/EU of 21.05.2013 «On alternative dispute resolution with consumers», which directly provides for the possibility of litigation with the participation of consumers in a private court [7].

The exclusion of consumer protection disputes from the jurisdiction of the arbitration court in 2011 led to the suspension of several arbitration courts established by public associations for consumer protection.

In 2015, the Supreme Court of Ukraine further limited the jurisdiction of arbitration courts. Considering several cases of revocation of arbitration decisions, the Supreme Court concluded that disputes concerning consumer protection include disputes over creditors' claims against consumers for protection of creditor's rights. The result of this conclusion of the Supreme Court was a tenfold reduction in the number of disputes considered by arbitration courts.

The proposed amendments to the Law will not contribute to the support of working arbitration courts, increase the number of disputes considered by them. The activity of the reduced number of arbitration courts under this bill will remain even more unknown to the majority of the population. The purpose of the bill should be to support the working arbitration courts, to promote greater consideration of arbitration cases, and not to strengthen the requirements for the founders of the arbitration court, which will reduce the number of arbitration courts and, accordingly, reduce their activity and attractiveness for litigation.

Thus, it is possible to follow the legislator's attempt to make changes that would affect only the process of formation of the arbitration court, but not the reform of the institution of arbitration in general. First of all, the changes must be fundamental, establish a new procedure for the appointment of arbitrators, introduce the concept and process of certification of arbitrators, the procedure for bringing arbitrators to justice, a new division of cases of arbitrators. Instead, these changes are not even spelled out in these bills [8].

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GENERAL CHARACTERISTICS OF JUDICIAL INTERROGATIONS IN THE CRIMINAL PROCESS OF UKRAINE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-28>

Interrogation is a procedural action that is regulated by criminal procedural norms, the information and psychological process of communication of persons taking part in it, and is aimed at obtaining information about the facts known to the interrogated that are important for establishing the truth in the case. Interrogation is the most common way to obtain evidence. At the same time, interrogation is one of the most difficult judicial actions; its implementation requires from the investigator a high general and professional culture, deep knowledge of human psychology. The purpose of the interrogation is to obtain complete and objective evidence of the reality. These testimonies are the source of evidence, and the factual data contained in them is evidence. That is why interrogation as a judicial procedural action should be considered from different angles, including, taking into account the various types of judicial interrogation in criminal proceedings.

Dependent on the procedural position of the interrogated in court, interrogations are distinguished:

a) the accused. A feature of the interrogation of the accused in court is that it differs significantly from his interrogation during the pre-trial investigation, since the number of persons taking part in the interrogation of the accused

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increases, most of them are thoroughly familiar with the materials of the criminal proceedings and the indictment, all this takes place in public and the openness of the trial, and at the same time the accused himself gets the right to interrogate other participants in the trial, to participate in the trial.

b) the victim. The rules for interrogating the victim are regulated by Art. 53 of the Criminal Procedure Code of Ukraine, which stipulates that before interrogating the victim, the presiding judge establishes information about his identity and clarifies the relationship between the victim and the accused. In addition, he finds out whether the victim received a monument about the rights and obligations of the victim, they are clear to him, and if necessary, explains them, and also warns of criminal liability for knowingly false testimony. In this regard, it should be noted that the victim is not warned of criminal liability for refusing to testify, since in paragraph 1 of Part 1 of Art. 56 of the Code of Criminal Procedure of Ukraine, he is entitled to give explanations, testimonies or refuse to give them.

c) a witness. To organize the interrogation of a witness during the trial, you need to clearly understand how to plan and systematize specific actions during the trial for an objective and comprehensive consideration of the case in court. According to A. Konovalov, interrogations, which do not provide for a specific plan, take place passively, by gravity, without proper focus [1, p. 84]. As practice shows, in most cases the testimony that is provided when a case is considered in court is very different from the primary testimony of witnesses, and for this it is necessary for law enforcement officials to pay more attention and carefully to the initial investigative actions. When interrogating a witness, the most difficult task is to establish the reliability of his testimony, because there is a possibility that the testimony may be knowingly false if there is a personal interest, sympathy for the accused or the victim, blackmail and threats from interested parties. In this regard, one must agree with the opinion of V. Shepitko that interrogation is one of the most difficult actions, the conduct of which requires a high general and professional culture, a deep knowledge of human psychology [2, p. 158].

d) interrogation of an expert. One of the ways to check the reliability of an expert's conclusion in criminal proceedings is to interrogate an expert. Requirements regarding the interrogation of an expert at the stage of pre-trial investigation are not given in the Criminal Procedure Code of Ukraine. So, it is conducted according to the general rules of interrogation (Articles 223, 224 of the Criminal Procedure Code of Ukraine). The procedural order and the subject of the expert's interrogation in court is determined by Article 356 of the Criminal Procedure Code of Ukraine. Circumstances about which an expert can be questioned (part 3 of article 356 of the Criminal Procedure Code of Ukraine) can be conditionally divided into the following groups:

1) circumstances that determine the competence and competence of an expert – special knowledge and qualifications on the issues under study (education, work experience, scientific degree, etc.), relate to the subject of his examination; used methods and theoretical developments; the applicability and correctness of the application of principles and methods to the facts of criminal proceedings; other issues related to the reliability of the report; 2) the quality of the materials provided to the expert – the sufficiency of the information on the basis of which the conclusion was prepared [3, p. 328].

In addition, depending on the age characteristics of the interrogated person, judicial interrogation is subdivided into: a) minor; b) a minor; c) an adult; c) elderly people.

Depending on the deviant personality traits of the person being interrogated: a) interrogation of habitual (without deviant qualities of people; b) interrogation of persons who have committed a recurrence of crimes, c) interrogation of persons with mental disabilities, alcoholics, drug addicts, etc.; d) interrogation of convicts held in places of serving sentences; e) interrogation of foreigners or persons with a special regulatory and witness status.

According to the sequence of carrying out: a) primary; b) repeated.

In terms of clarification of issues: a) main; b) additional.

Depending on the type of testimony of the interrogated person: a) interrogation of the person, gives objectively reflecting the validity of the testimony; b) interrogation of a person, gives false testimony; c) interrogation of a person, gives deliberately false testimony.

On the subject of proof: a) interrogation of the person, confirms the prosecution's version; b) interrogation of the person, refutes (denies) the prosecution's version.

According to the situation during interrogation: a) interrogation in a conflict-free situation; b) interrogation in a conflict situation.

In addition, solely as for judicial proceedings, there are grounds for distinguishing the following subspecies of judicial interrogation: direct (main), cross, chess (simultaneous) and combined interrogation.

Despite the fact that the issue of direct and cross-examination is regulated only by the position of ch. 6-8 st. 352 and Art. 353 of the Code of Criminal Procedure, according to these norms, there is a real revolution in the interrogation of witnesses and victims, which must now be carried out according to completely new standards.

We, through a systemic interpretation of the norms of the Criminal Procedure Code and using an analogy, note that the victim and the accused, in principle, can also be questioned under the rules of cross-examination. However, one should not forget that the victim, like the accused, has the right to refuse to testify. According to the logic of the law, he can exercise this right

at any time of production. Therefore, there is nothing to prevent these individuals from refusing to be cross-examined.

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STATE ADMINISTRATION

NATIONAL MODEL OF ECONOMIC DEVELOPMENT: ASPECTS OF STATE REGULATION

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-29>

Today, Ukraine is developing the parameters of the socio-economic and geopolitical model of development in the third millennium. The main national interest of our country can be realized through a well-structured model of economic development, which is the basis for the functioning of the national economic system. An effective model of economic development that would fully reflect its national interests and become a macroeconomic theoretical basis for an effective state economic policy has not yet been formed and, accordingly, not implemented. Therefore, the Ukrainian economic model is not complete today. In fact, it is according to some researchers [1, p. 4–8; 2, p. 27–46; 3, p. 74–85; 4, p. 157] eclectically combined elements of different models: state socialism (inherited from the Soviet era); state-monopoly capitalism (with its clan-oligarchic nature of development); and people's capitalism (developing in the country in a deformed, segmental form).

Models of economic development of individual countries are formed within a certain economic system, which is a set of all economic processes occurring in society on the basis of certain institutional, property and financial relations and organizational forms. In the last one and a half to two centuries, as already mentioned, there were different types of economic systems in the world: a market economy based on free competition (classical capitalism), a mixed economy (modern capitalism) and two non-market systems – traditional (natural) and administrative. command. In each system, national models of economic organization are built, which correspond to the existing economic, resource and cultural potential of the country, its traditions, spirituality and mentality.

Models of economic development of the national economic system within the system of modern capitalism have been the subject of analysis by domestic scientists. Thus, S. Mocherny identifies the following basic models: 1) market economy with its modifications and historical forms; 2) a mixed economy, which is the most perfect model of modern capitalism; 3) post-

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industrial society; 4) the national economy; 5) capitalist economy; 6) the national economy. The author considers the most optimal model for Ukraine to be the model of the national economy, which provides for the use of all types of property (dominated by labor collective property), comprehensive social protection and national democratic economic planning.

Ukrainian economist A. Filipenko, analyzing the evolution of models of economic development in relation to countries liberated from colonial dependence, the so-called young independent states or developing countries, notes that modern science identifies the following basic models of economic development: the model of linear stages; model of structural transformations; neoclassical free market model; theory of external dependence; theory of dual development; the concept of endogenous growth; innovative theory of economic development; model of sustainable development. The author considers the most acceptable for Ukraine «integrated model (characterized by common features of development strategies inherent in highly developed countries; developing countries and third world countries) economic development, which allows to fully realize national interests in the world economy.» Domestic political scientist M. Mykhalchenko identifies four possible models (scenarios) for the future development of the national economic system, each of which has an economic basis. These are the following scenario models: 1) «retroindustrial», which is based on a directive-planned, uncompetitive economy; 2) «monoethnic», which is based on the idea of creating a «closed population», a racially pure ethnic group and a «closed national economy»; 3) «liberal», which is based on the liberal values of a market economy; 4) «convergence», which involves a combination of the best achievements of the market economy mechanism with non-market forms of profit redistribution, the creation of a socially oriented economy by market methods, and which the author considers most viable for the Ukrainian environment.

Analysis of models of economic development of economic systems that exist within the modern market system, and those that domestic researchers consider acceptable for our country, leads to a number of generalizations and conclusions. In our opinion, almost all researchers: try to study Western models of economic development and in one way or another adapt some of them to Ukrainian realities; they substantiate the need for Ukraine to have a mixed model of economic development focused on the interests of the state, financial and monopolistic groups, and small and medium-sized businesses; insist on the implementation in Ukraine of such an economic model, which would provide a combination of state regulation with a market competitive economy; determining what should be the share of the state in the economy. At the same time, they rely mainly on the experience of Russia, as evidenced

by the number of references to Russian sources used for analysis, and note the need for an optimal model of economic development for Ukraine, but do not carry out thorough and comprehensive development of such a model adapted to modern economic problems. country systems.

In recent years, the number of publications on the systemic crisis of capitalism and the need to move to a new model of management has increased sharply. The report of the World Economic Forum identifies three categories of economic risks, with the recognition and prevention of which the current economic system can not cope:

- 1) macroeconomic risks associated with the unrestrained growth of financial markets;
- 2) corruption, organized crime and illegal trade;
- 3) depletion of natural resources.

The systemic crisis, social in nature, is manifested in the growth of chronic unemployment, social inequality and dependency, environmental threats, the crisis of spiritual values, mutual trust and culture. The current stage of global development is characterized by a deepening global structural crisis. Many researchers focus on the social consequences of the global crisis and its financial aspects.

The inconsistency of formal and informal institutions, their inconsistency, extractive nature lead to changes in the economic system, which inevitably causes a decline in confidence and its crisis, threatens the economic security of the state. The growth of contradictions and the slowdown in economic development due to the socio-economic crisis reduce the possibility of transforming formal and informal institutions, thus creating a trap of inconsistency in the quality of economic development. In order to prevent existing threats, in the author's opinion, the strategic line and the corresponding program of development of the national economic system should be coordinated with the system of government and society, formulated goals and scientific substantiation of methodology, methods and mechanisms for achieving these goals.

Thus, the problems of modernization of the modern economy, the «architecture» of the economic system (according to A. Hrytsenko), issues of inclusive development are extremely relevant to determine the vector of development of the national economic system. In the broadest definition, the concept of inclusive development means the development of national economies in world economic relations, which makes it possible to include and reveal the internal potential of all elements, all actors of the socio-economic system and ensure its balance [6, p. 134]. We believe that systemic inclusiveness is needed by the national economic system. This will provide opportunities to identify natural, social and cultural benefits of the system,

ensure balanced sustainable development and improve the welfare and quality of life of citizens in society by radically restructuring the economy and developing its internal potential in reflective interaction of the economic system with the environment.

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REGULATORY AND LEGAL SUPPORT ANALYSES FOR THE USE OF ELECTRONIC DOCUMENT MANAGEMENT AS A COMPONENT OF THE ELECTRONIC PARLIAMENT IN UKRAINE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-30>

The progressive development society is marked by the ever-increasing role of digital and information technologies with an increasing level of society digitization, wider use of the Internet, the creation of a global information space, the development e-government, digital markets, electronic, social and economic systems. Today, the process of electronic document management is slowing down for a number of reasons. One of them is insufficient funding for the purchase of software. However, the lack of experience in the use of electronic document management systems and the use of electronic digital signatures outweigh the financial problems. Meanwhile, high demands are placed by users on the security and authenticity of electronic messages (documents). The concept of electronic digital signature is another attempt to improve the quality and speed in the field of e-parliament and reporting. This is the use of «traditional» technology (signature) in the «virtual» sphere.

Information technologies open up new opportunities for country. The information society provides real access to the mechanisms of influence. Along with the formation of the information society, there are more and more questions about the functioning of the state, the interaction with other government and supranational government structures. The need to change the content of the public administration system is explained by the fact that the new information technologies allow to change the relations [1]. The consolidation and the development of an open society and the acceleration of democratic processes are just some of the tasks that can be done using electronic document and records management system. Currently, e-document is organized through the collection, processing and dissemination of information, interaction between the state and society through the use of information and communication technologies (ICT), automated public services [2]. The civil servants and the citizens are offered «free access» to relevant information, which are key components of a comprehensive management transformation into e-parliament format. E-document provides

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operational efficiency and cost reduction, dramatic changes in the relationship between departments, improving democracy and strengthening public responsibilities towards the civil servants and the citizens.

The electronic document management system development based on automated processes leads to a significant increase in the efficiency of public administration and the creation of cost-effective social communication for each member of this system. The creation of e-document involves the creation of a distributed level management system that provides a full range of services.

According to the laws of Ukraine, the National System of Electronic Digital Signature includes an electronic digital signature (EDS) is added to the source document so that this combination (document + EDS) is a secure version of the electronic document. [1–5]. The ultimate goal of e-document is to provide good governance and e-parliament, which represents the government with the most effective positions. The challenge is to form the basis through which the use of information and communication technologies (ICTs) serves as a key factor for the successful transition to a clear, transparent and efficient management. In order to improve functioning electronic digital signature in Ukraine in recent years was adopted several normative acts. So, in 2013, the Ministry of Justice of Ukraine and State Service for Special Communications and Information Protection of Ukraine resolved the requirements for implemented formats, structure and protocols of electronic digital signature [3].

The national electronic digital signature system is still lagging behind world level of development. The European business model is electronic digital signature implements three types of Qualified Public Key Infrastructure (QPKI). In Ukraine is realized only one simplest kind of signature. Another disadvantage of the national digital signature system is the uncertainty of the internal cross-certification mechanisms for key certification centers. The simplest non-inoperable version of an electronic digital signature with a single set of signatures which does not allow counter-signature is implemented in Ukraine. As a result, customers are obliged to use the keys of disparate systems of electronic digital signatures that are departmental, which holds back the development of electronic interaction processes. In Ukraine the use of 6 + 1 basic electronic trust services is necessarily to build in accordance with the requirements and standards of the European Union. These basic services include electronic document, electronic digital signature, electronic seal, electronic registered mail, electronic time stamp, electronic certificate of a website, electronic identification (ID) of citizens [1; 3]. In Ukraine there is no single functioning electronic interaction system of information resources of public administration. Public authorities do not actually coordinate their

actions and rules when creating systems is neither organizational nor normative. In recent years, attempts have been made to regulate this process in Ukraine, but they were rather non-systemic and fragmented. Thus, Law [3] approved the Concept for the creation and functioning of the information system of electronic interaction of state electronic information resources, the main purpose of which was the formation of approaches to the creation, implementation and functioning of the electronic interaction system of state electronic information resources that provides the transfer of necessary data for requests in automatic mode, updating primary data in case of their change, searching and generalization of necessary information during government departments' interaction. In this context, it is important to pay attention administrative and legal regulation of electronic document circulation in Ukraine in accordance with the latest European Union standards. Unfortunately, the national digital signature system in Ukraine is deprived of external interoperability due to the European Union's signature algorithm, which does not provide with internationally recognized cryptographic algorithms. The National electronic digital signature system is also not ready for cross-border recognition of certificates of keys issued outside Ukraine, that it is not capable of external cross-certification with any state worldwide.

The adoption of the laws of Ukraine [1–3] determined the legal status of electronic digital signature and the established relations that arise as a result of its (EDS) application. The Cabinet of Ministers approved the provisions and procedures that are binding on the parties in relations arising from the use of EDS [4; 5]. This significantly accelerates the development of information technology and the quality of services provided in Ukraine. It can be stated that the legal basis for the use of electronic digital signatures in Ukraine does exist, despite some inconsistencies in the regulatory framework and the lack of incentive laws and regulations.

Taking into account Ukraine's strategic plan for accession to the European Union, the main task is to bring Ukrainian legislation in the field of EDS, electronic document management in line with EU legislation. In the context of European integration, such a choice will allow Ukraine to remove barriers to the implementation of the regime of mutual recognition of electronic signatures that exist in the EU and Ukraine. Most likely, new laws should be drafted on the basis of existing ones, while other laws and, above all, the Civil and Criminal Codes should be revised.

However, the protection of electronic documents, as well as the development of cryptographic means of protection has not yet been resolved in a number of issues:

- creation of an objective assessment of the optimal security of electronic documents and cryptographic stability of digital signatures;

- improvement of methods of effective hardware and software for implementation of cryptographic algorithms;
- development of highly efficient systems for studying modern cryptanalysis;
- information systems in state archives and the formation of installations and requirements to ensure their security.

Despite the current legal framework, laws and regulations contain only general provisions. Today, an electronic document with EDS is perceived as a technical means of information protection, rather than as a real alternative to a paper document. The electronic document provides a broad range of inducements, but these inducements have rarely been studied in concert.

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YOUTH OF UKRAINE: CHALLENGES OF A NEW MILLENIUM

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-31>

Modern young generation plays important role in functioning of Ukraine. Number of regulatory documents, designed to ensure the social, material, spiritual, cultural and political condition of young people regulate youth policy of the state [9].

Young people in Ukraine are persons in age from 15 to 34 years. For today, there are about 12.7 million of them in the country. However, during the last decades total population of Ukraine is decreasing, and so do the number of young people. For example, during the period from year 2000 to 2014, number of young people fell by 1.5 million. In general, share of young townspeople in Ukraine is 70%. In the countryside it is close to 27%. The largest reduction of young population in Ukraine took place in the eastern industrial regions of our country – Donetsk, Dnipropetrovsk, Luhansk regions during the last 14 years. In Kyiv, on the contrary, number of young people has increased [4; 10].

«The youngest» is the population in Volyn, Zakarpatskyi, Ivano-Frankivsk, Rivne, Chernivtsi regions. Kyiv, as well as Kharkiv and Odessa regions are most attractive in terms of life prospects and opportunities of job placement for young people [10]. At the same time best financing of the needs of youth is, excepting the capital, in Sumy region [3].

Major priorities in a life of young Ukrainians are: birth and education of children – 48%; search of a job and achieving some results in it – 44%; earning / getting enough money 36%; search for their love and / or marriage – 21%; health (healthy lifestyle, overcoming some illness, etc.) – 19%; freedom and independence in their decisions and actions 18%; education (including self-education) – 15% and interesting leisure – 15% [6].

It is natural that priorities change while person becomes older. Young people in age of 14-19 describe their main priorities as education and work; at the age of 20-24 – as work; for people 24–34 years old main priorities are related to birth and education of their children. With age, desire in searching love or marriage reduces (often because young people achieve this goal while getting older) and the priority of goals, related to children, earning money and health increases.

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Evaluating their financial needs, only 1% of young people in Ukraine believe that they have already reached desired financial situation. Also, problem of providing youth with apartments is quite acute – in the age group of 30-34, only half of respondents have their own home, 33% live with their parents or relatives, rest of them rent an apartment / room or live in a hostel [6, p. 5].

Only 67% of Ukrainian youth are satisfied (mostly or almost) with such an important thing as education, while 14% are completely dissatisfied (others have chosen a neutral position or failed to answer). Unemployment among Ukrainian youth reaches 9%.

Priority kinds of leisure for Ukrainian youth are: for 62% – it is traveling abroad; for 50% – traveling across Ukraine; for 35% – concerts or shows; for 30% – sport (p. 5-6). Also, most of young people are satisfied with the services of medical institutions, while private medical institutions satisfy them more than services of state / communal institutions. One of the dissatisfaction factors is bribery [6, p. 7].

More than 5% of people living in Ukraine are vegetarians, which mean almost 2 million people. Most of those who refuse to eat meat, fish and seafood are young people. According to research, the most common age of Ukrainian vegetarians is from 18 to 20 years. Most of vegans – or those who refuse to eat all the products of animal origin, in particular non-vegetable milk and cheese, have the same age [1].

In the environment of youth there is an effective and targeted public self-organization in informal associations and movements [11; 12; 13]. Best confirmation of this trend were the protests at the end of 2013 – early 2014. Youth and students were one of the most active and successive forces of the Revolution of Dignity. Thanks to their uncompromising struggle we were able to defend the irreversibility of democratic transformations in Ukraine and its choice of integration to Europe [10].

Negative phenomenon among Ukrainian youth is suicide, mostly among the age from 15 to 19. Unfortunately, alcohol, drugs and smoking are also widespread among the youth in Ukraine. According to the data of expert R. Safiullina, in 2010, 45% of boys and 35% of girls in Ukraine smoke cigarettes [2]. However, number of smokers among young people in Ukraine decreased by 27% in 2017 [5].

68% of boys and 64% of girls drink alcohol. Besides, about 80% of drug addicts are young people from 14 to 35 years old. For example, over the past 10 years (from 2000 to 2010), part of drug addicted among minors has increased by 6-8 times [2].

To prevent negative manifestations among the youth in Ukraine, over 15 national and interagency programs aimed at integration of a healthy lifestyle are realized [2; 14]. «Concept of the State Target Social Program»

Youth of Ukraine «for 2016–2020» is playing an important role among them. These program is based on a scientific analysis of the state and problems of development of Ukrainian youth, results of the previous stage of realization of the state policy in the youth field in Ukraine, and also takes into account program requirements and perspectives defined by the Strategy of the Development of State Youth Policy during the period up to 2020, which is governing by the European principles of youth development policy [7].

Main problems that need to be solved in these concept are:

- unsystematic nature of formation of a civic position and national-patriotic consciousness among young people;
- lack of motivation and skills needed for independent acquisition of knowledge among the youth ;
- low level of employment among young people in the labor market for the chosen profession and lack of practical skills and abilities of young specialists;
- complexity and long terms of youth transition from education to stable and satisfactory work;
- low temps of entrepreneurship development among youth;
- insufficient use of innovative potential of youth;
- low quality of secondary education of youth;
- high morbidity and mortality rates among young people, poor motivation for living healthy and safe lifestyle, lack of knowledge and skills in the field of life safety;
- lack of knowledge, skills and abilities outside of the educational system in order to increase the competitiveness of youth in the labor market;
- low level of professional orientation;
- lack of steady tendency in reducing of the level of crime in the youth environment and violence, no systematic work in the field of their prevention;
- low level of providing young families with apartments;
- low level of organization and culture of youth leisure;
- weak integration of Ukrainian youth into European and world youth community [7; 8].

So, for today situation in the youth environment is complicated. That`s why, in Ukraine, there is a need in providing more pragmatic and well-founded policy in the youth field, which means training young people as socially active citizens able to live in a self-organized community and society.

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ECONOMIC SCIENCES

PROSPECTS FOR THE DEVELOPMENT OF THE DIGITAL ECONOMY IN THE UKRAINIAN DIGITALIZED SPACE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-32>

The modern world has already taken the first step towards the fundamentally new reality. This process creates fundamentally new challenges facing the modern industrial society. We are talking about the change in the global socio-technological structure, the result of which is a complete reformatting of our usual systems, the formation of new social and economic strategies. At the same time, the technological paradigms, governance models and social norms change, and the large-scale demographic shifts take place in the economies of each state.

Nowadays, humanity will not be surprised by digital technologies such as a personal computer or the Internet. Technologies have already changed the conditions and organization of work, the education system, the level and types of entertainment and leisure. The emergence of digital technologies has created new market opportunities, as well as has made the significant breakthrough in the field of informational technologies, and as a result, the impact on socio-political and economic life, and also has formed a new direction – the digital economy.

According to the etiology, the digital economy can be described as an economy based on digital computer technologies.

As for the development of digital technologies in Ukraine, it can be argued that the country has great potential. According to the State Statistics Service of Ukraine, 91.1% of enterprises are computerized. If we consider certain areas, it will be clearly understood, that the largest value of this indicator has: the insurance (99.6%), broadcasting and television (96.5%). The lowest level of computerization has the sphere of hotel and restaurant business – it is only 82.1%. The Internet made it possible to receive the banking and financial services (87.7% of enterprises); forms (81.6%); information (80.5%); return the completed forms (66.6%); perform administrative procedures (declaration,

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registration, request for permission (40.5%)). But the disappointed indicator is the share of households with the Internet access. In Ukraine it is only 57%, while in the EU this figure reaches 78% [1].

Among the advantages provided by the introduction and development of the digital economy in Ukraine are the following:

- the economic and social effects of digital technologies have a positive impact on business and society;
- improving the quality of life, primarily by enhancing the effectiveness and satisfaction of specific needs of people;
- increasing the productivity of whole social work by raising the level of individual industries and enterprises;
- the emergence of new models and forms of business that allow to increase profitability and competitiveness;
- increasing transparency of economic operations and ensuring the possibility of their monitoring;
- the accessibility and promotion of products and services, both public and commercial, up to the global scale.

The advantages at the level of individual companies and productions are the following:

- getting rid of intermediaries. Digitalization allows manufacturers to arrange for sale of their products or services on their own websites and find the potential customers. Consumers also have opportunity to choose the goods and services independently;
- the acceleration all business processes by reducing time of communication;
- better understanding of consumers and improving the quality of products and services;
- the creation of new products and services.

The technological advantages created by the introduction of digitalization include:

- storage of large amounts of data, its automatic processing and analysis [2];
- synchronization of information flows, the possibility of point distribution of data throughout the business and, as a result, the ability to track a large number of chains between the suppliers and consumers;
- transition from paper documents to electronic versions (medical certificates of disability (sick leaves), employment records, etc.).

The benefits at the level of the consumer and the employee include:

- the reduction of the cost of payments and the emergence of new sources of income.

The advantages of the introduction of digital technologies are clearly illustrated in modern banking, as the banking system is one of the first that

responds and adapts to the innovations, which are offered by the digital economy. Among the advantages are the following:

- increasing the number of services for legal entities and individuals;
- the business transparency;
- the formation of control over clients' funds.

These benefits contribute to the formation of a positive banking climate and sustainable development of the banking system in the country. These benefits allow to create healthy competition among banks, attract more customers and provide them with the necessary package of services.

Taking into account the global trends in the technological development, Ukraine should promptly undertake the adaptive activities and implement the innovative solutions for economic growth. Despite all the positive aspects of the introduction and improvement of the digital economy, this area is prospective for Ukraine. However, it should be noted that the introduction of everything new requires further in-depth study and analysis.

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KNOWLEDGE TRANSFER: CURRENT STATE AND PROBLEMS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-33>

As part of the study «Improving the efficiency of the knowledge triangle in the region», conducted by the Transcarpathian Regional Center for Socio-Economic and Humanitarian Studies of the National Academy of Sciences of Ukraine, a survey of research institutions and universities in the Transcarpathian region of Ukraine. The main purpose of their survey is to identify the state and problems in the field of knowledge transfer in the region. At the same time, the following trends were identified.

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75% of the surveyed scientific and research institutions of the Transcarpathian region perform research at the request of the state (in the format of state research). The main benefits of knowledge transfer for organizations that disseminate knowledge, respondents see in receiving funds from the implementation, improving the material and technical base, expanding sources of funding for the research fund, financial investments. That is, these benefits are mainly related to additional financial income.

When assessing the risks of knowledge transfer (for a knowledge-sharing organization), half of the surveyed research institutions indicated misuse of technology and loss of reputation. For those companies that receive knowledge, such risks are absent (according to 75% of respondents). On the positive side, 75% of surveyed research institutions have stated their intention to continue the practice of knowledge transfer in the future, but under the conditions of the state approach to solving the problems of cooperation. Also, all surveyed institutions recognized the importance of knowledge transfer. Highlighting the key success factors, the respondents pointed out the importance of the communicative factor (interaction of universities and business structures), scientific support and the current level of material and technical base.

75% of respondents say that neither government nor regional funding has become a driving force for knowledge transfer. At the same time, half of the surveyed research institutions note the extreme difficulty of obtaining funding. 25% of respondents emphasize the importance of public funding. Similarly, 75% of surveyed research institutions reported a practical lack of benefit from any policy measures / initiatives at EU, national or regional level. 25% said that there are cooperation agreements with four countries, but they do not provide funding and do not contribute to its expansion.

The findings show that all respondents have problems with the financial support of their research activities. There are almost no regional investments for co-financing. State funding received by respondents (95-100% of funds) is insufficient. It has not become a driving factor in the transfer of knowledge. Thus, the sources of funding for research in the region are dominated by state budget funds, which mainly go to finance current needs. This, in turn, slows down the scale of such activities and does not ensure their proper deployment.

Also, all scientific and research institutions try to take an active part in the transfer of knowledge, holding seminars, conferences, round tables, etc. This promotes joint activities between research institutions / universities, increases professional competence, there are opportunities for practical use of research results. But 75% of respondents said that the main obstacle is the lack of adequate financial security. 25% of respondents consider the lack of links between innovation developers and production to be a significant obstacle.

Most respondents believe that the impact of research institutions / universities on the economic and social well-being of a city or region is expressed in improving the quality of human capital, objective assessment of economic potential and analysis of the potential of the region. 25% of respondents noted that this impact is due to the implementation of their recommendations in the work of small businesses and other institutions of the city / region.

The revealed results indicate that at the regional level the role of research institutions and higher education institutions in the development of innovations and knowledge transfer is very small. The main reason for this is underfunding, which leads to the inability to keep up with the times and thus the lack of interest of manufacturing companies to seek help in innovation. Research carried out in the Transcarpathian region of Ukraine and further developed is mainly carried out through personal connections of scientific and technical staff with partners from abroad.

BEHAVIORAL ASPECTS IN MISINVOICING RESEARCH AND COMBATTING

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-34>

The effectiveness of customs control is a key element of the national economic security and financial interests protection. Modern system of international economic cooperation needs a well-balanced combination of the two main components of the control process: the first one to ensure fraud combating and preventing customs rules violations, and the second one which provides for simplifying and speeding up customs clearance for bona fide traders and legal business. The problem of fraud in international trade as well as tax evasion has been studied by many experts (M. Murray (1991), G. Schulze (1991); B. Javorchik (2008); M. Ferrantino et al. (2008); J. Alm (2012); A. Malezieux (2017); G. Stanescu et al. (2018)), but it still remains relevant and demands further research. To some extent, the results of previous investigations have identified the main purely economic reasons for unfair behavior of economic agents (tax payers) taking the financial decisions in violation of the law terms. These reasons include too strict government

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regulation, high tax rates, bureaucracy and unreasonable requirements for taxpayers, at the first place. Both individuals and companies certainly take a variety of actions to reduce their tax liabilities obligations. Individuals can evade income taxes by underreporting incomes; by overstating expenses or credits; by failing to file appropriate tax returns; or even by engaging in barter [1; 7; 8; 16; 18].

Previous studies focusing on economic agents' behavior and the methods they use to avoid taxation were limited by the framework of the paradigm of classical economic theory by the standpoint of «rationality» of economic agents and their awareness of the results of their decisions. In neoclassical theory the concept of rationality is further associated with profit maximizing. The following assumption is associated with neoclassical concept of rational behavior: when making decisions people are perfectly informed about all choice alternatives, are aware of its limitations and due to these limitations are looking for the best possible choice of means to achieve the goals [15]. Further researches have shown a lot of evidence that in reality it's not the case. Standard economic models cannot properly justify people's behavior in cases when it is inverse to the principle of utility maximization. It is important to analyze decision-making process from different point of view, as economic operators' choice in many cases carries quite noticeable financial risks, not only expected financial benefits. The analysis of tax evading behavior only from the perspective of rationality is incomplete and could neither sufficiently explain the peculiarities of tax evasion, nor propose certain ways to prevent it [13]. Excluding intentional fraud, the said reasons didn't clarify all the variety of undoubtedly non-profitable decisions [2; 3; 10].

In addition to domestic tax evasion research, the problem of fraudulent goods declaring in international trade has been studied in depth in recent years [6; 7; 11; 14]. It's typical not only for developing countries but also for developed countries with stable economies. Tariff evasion and misinvoicing are considered to be a significant damage to national economies and have a consistent and substantial negative impact on the world economy as a whole. Combating these obstacles is a priority in the fight against money laundering by both international organizations and national customs services.

Currently used methods of control and prevention of misinvoicing are evidently not so effective, so the search for more effective mechanisms is actively conducted by experts from different countries [6; 11; 17].

Comprehensive understanding of interactions between economic operators and customs when declaring the goods to the customs clearance can be illustrated as a following decision-making model (see Figure 1):

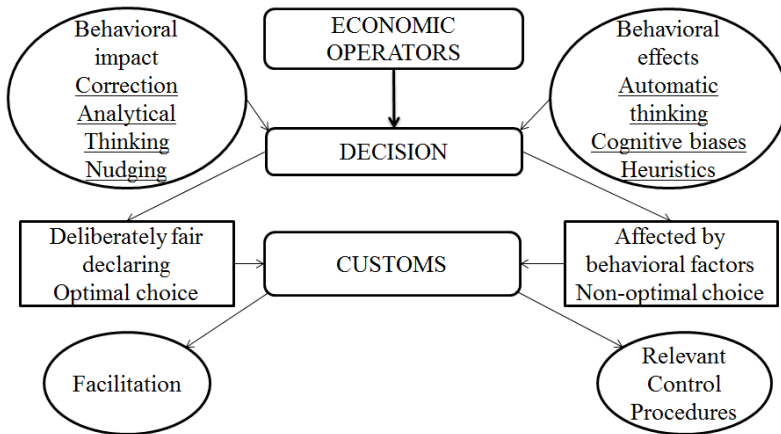


Figure 1. Decision-making model

This model schematically shows the interaction between customs as a controlling body and the economic operator (the importer) as a decision-maker. The subject of control is the result of this decision (in this case, declaring of certain customs value). The actions of the importer, as financial decisions, have corresponding consequences, both for him and for the state. Depending on the results of the control, the consequences can be positive or negative for the economic operator.

As it was stated above, in classical and neo-classical economic theories, the main argument for decision-making was the desire to achieve optimal results from a financial point of view, to minimize unnecessary costs by increasing profits. In other words, rational choice was understood as an optimal one. In fact, in many cases the decisions of declarants are not really optimal for them (neither financially, nor in the legal framework) and do not lead to profits increase and minimization of expenses, although they may have seemed to be profitable at first glance. The following ones can be distinguished: *optimal* (rational or deliberately taken which is fair and reveal themselves as the most profitable), *non-optimal* (inconsiderate or affected by different behavioral and psychological factors), *purposely fraudulent* (illegal and after all reveal themselves as economically unprofitable).

A common example of non-optimal decisions is an under-invoicing of the imported goods. Under-invoicing entails the appropriate response of customs authorities which carry out the necessary verification measures, apply respective forms of control, which can cause delays in customs clearance, complicate both the customs clearance procedure and leads to negative

consequences for trader's profile at customs. The stable, reliable and fair relationship between importers and customs is much more profitable providing more transparency and facilitation. But actually the situation is different. Underinvoicing is still often registered in Ukraine as well as in other countries. The situation should be optimized to increase number of fair and deliberately declaring.

Recent findings in behavioral finance allow us to examine this problem from a different point of view and try to identify the points influencing the behavior and choice of economic operators, in particular, in customs clearance process. Despite the fact behavioral economics as a science is a relatively new concept in economic theory, it's methods are widely used by modern researchers to analyze human behavior in the economic and legal system.

A lot interesting attempts of behavior analysis have been undertaken in recent years revealing quite astonishing findings, such as development of the theory of a Dual System of Thinking and the Concept of Nudging. Daniel Kahneman, a Nobel Laureate in Economic Sciences in 2002, is considered by most researchers to be the founder of the behavioral economics. Together with Amos Tversky he proposed a theory of making a choice under uncertainty and risk, a Prospect Theory. Classifying human thinking in two distinct types (System 1 – fast, automatic and effortless and System 2 – slow, analytic and effortful), Kahneman also discovered how human judgments can be predictable and dependable on previous experience and mental shortcuts facilitating decision-making called heuristics [9]. A large amount of experimental evidence in cognitive psychology and neuroscience has shown that people are subjected to many cognitive biases, at least, in automatic decision making, usual activity patterns in a predictable way [5].

After Richard Thaler (Nobel Prize in Economic Sciences in 2017) and Cass Sunstein have formulated the concept of Libertarian Paternalism, the approaches of policymakers in different fields of people's activity have changed significantly. Nudging became a new mechanism supporting well-being and helping people to make optimal choice. The commonly used term «Nudge» was defined by its authors as «any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives». Elements of nudging are implemented into government operations in some countries being early adopters in the field: Australia, Canada, Denmark, France, Germany, Netherlands, Peru, Singapore, the U.S., and the UK. In the last few years an increasing number of public bodies became interested in leveraging behavioral insights for improving policies and services. Behavioural Insights have progressively been recognised as a valuable input to policy-making by major international organisations, such

as the European Commission, the Organisation for Economic Co-operation and Development and the World Bank [4].

By changing the «choice architecture» within which individuals make their automatic decisions, policy makers can «nudge» individuals away from their fast and in ways that encourage them to make better informed decisions without mandating that individuals behave in proscribed ways [12]. Further investigations are necessary to identify factors have the most significant impact on decision-making process by customs clearance and elaborate a relevant mechanism of nudging in this field.

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BANCASSURANCE IN THE INSURANCE DISTRIBUTION

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-35>

Bancassurance is one of the distribution channels for insurance products. At the same time, organization of the sales system of insurance products via an extensive system of banking units has become especially popular in the field of life insurance.

Europe is the largest market for bancassurance on a regional scale. The growth of premiums collected through such a distribution channel as bancassurance in Europe over the past decade has outpaced the growth of other distribution channels. Among the largest European life insurance

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markets, most products were sold through bancassurance in Italy (76.3%), Spain (67.5%) and France (64%). Malta (84.3%), Turkey (81.5%) and Portugal (79.3%) were the other European markets with the most dominant bancassurance [1]. Despite this, the potential for the development of bancassurance is still quite large, especially for non-life insurance (Figure 1).

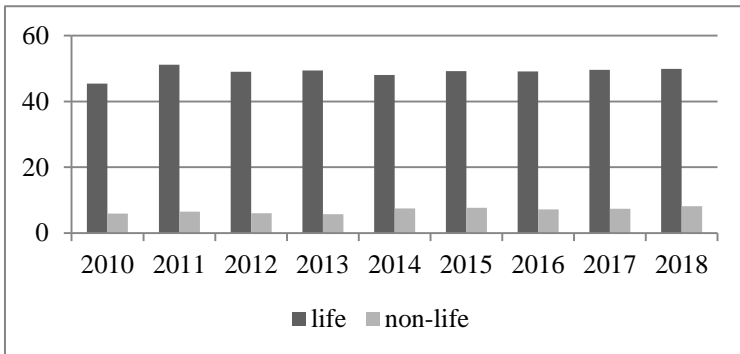


Figure 1. The share of bancassurance in the distribution of insurance products in European countries in 2010–2018, %

Source: developed by the author according to [1]

It is worth noting that bancassurance channel turns the bank into a financial supermarket, where customers can get a wide range of credit investment and insurance services in one place in minimal time.

In general, the positive aspects of the implementation of bancassurance are embodied in three aspects:

- financial (reduction of conditionally fixed and conditionally variable costs);
- operating (simplification of technological processes, access to technologies and developments of the partner);
- marketing (development of new products, increasing market share, geographical diversification) [2, p. 261].

However, despite the significant role of such a channel in the distribution of a wide range of insurance products in many countries, banks and insurance companies need to make significant efforts to retain existing customers and maintain established relationships in today's environment (rapid change in consumer needs, the impact of the COVID-19 pandemic). languages. In view of the above, digitalization should be highlighted among the main drivers of bancassurance development. The development of digital bancassurance will improve the quality of customer service and provide competitive advantages

to insurers and banks along with other new distribution channels (e.g., online platforms, etc.). According to some reports, it is believed that France will be the leader in digital bancassurance. The French market will cover 9 billion euros by 2023, and more than 24 billion euros – by 2028 [3].

In addition to the abovementioned, the drivers of bancassurance include the aging of the population (significant opportunities for the sale of pension products via bancassurance) [4] and the availability of tax benefits (in many countries, life insurance products and pension insurance have tax benefits, which makes these products attractive to customers), etc.

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IMPROVING INFORMATION AND ANALYTICAL SUPPORT OF THE COST MANAGEMENT SYSTEM OF MACHINE-BUILDING ENTERPRISES

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-36>

The cost management system should consist of two subsystems – control and managed, which in turn have their own structure. The allocation of functional elements in the control subsystem will allow to exercise managerial influence not only on the object, but also on the subject of management in order to improve the quality of its own activities.

Since the functioning of the subject of cost management is an activity of collecting, processing and transmitting information, a separate element is

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allocated information support, as the most important link. High-quality information support is the basis for the effective operation of other elements. The main methodological approaches to the formation of production cost management system at machine-building enterprises are as follows.

1. Formation of rational information support of cost management on the basis of development of adequate structural component (optimal channels of information transfer on expenses, places of its processing, ways of realization of administrative influence) and qualitative component (collection of data on expenses of necessary degree of detailing and periodicity). contain this information, etc.).

2. Improving methods of inventory management and organization of supply of raw materials.

3. Development of methods for the distribution of indirect costs for certain types of products using a stepwise methodology that will more accurately determine the cost of certain types of products, their profitability.

4. Optimization of production costs based on improving the structure of the product range.

5. Formulation of recommendations for changes in the regulatory framework relating to production costs.

6. Formation of an effective system of motivation.

The efficiency of the production cost management system is inextricably linked with the quality information support of the management process. The existing system of collecting information on costs in machine-building enterprises is built in such a way that the main flow of information moves from production, where the main costs are formed (more precisely from the working changes of the main production) to senior management.

The reverse flow of information, ie managerial influence is carried out not in the same way, but in another way – from the CEO through the chief engineer to the production manager and to the foremen of change. Moreover, the management influence is not documented, and the standards to be achieved, as a rule, are not set. In addition, the chief engineer, production manager, change foremen – that is, line managers who implement management decisions, do not have economic information about costs, familiar only with the technical and technological side of the cost formation process, while costs – category, first of all, valuable.

Economic services, accountants, economists, through which information is grouped and brought to the attention of management, are usually familiar only with the economic side of the process of cost formation. In these circumstances, the CEO is the sole owner of a variety of information about costs, however, he usually implements not tactical but strategic goals and

objectives. It should be noted that the enterprises do not take measures to analyze costs, their causes, ways to optimize.

Low quality of information is caused by uncertainty of powers and responsibilities of employees and departments of the company in the field of costs, lack of delimitation and consolidation of these powers and responsibilities in internal regulations, which leads to inability to obtain accurate, reliable, timely information on costs from relevant employees and services. and, as a result, to inadequate management decisions.

To eliminate structural violations in providing information to the cost management system, it is advisable to form a level management vertical at machine-building enterprises, in which cost information is transformed, aggregated, analyzed in terms of size and compliance.

At machine-building enterprises it is necessary to create an administrative center for cost management of the enterprise, which carries out strategic cost management, and the allocation of a staff unit – an economist for control and cost management, which will perform tactical functions. The organizational structure of cost management is presented in Figure 1.

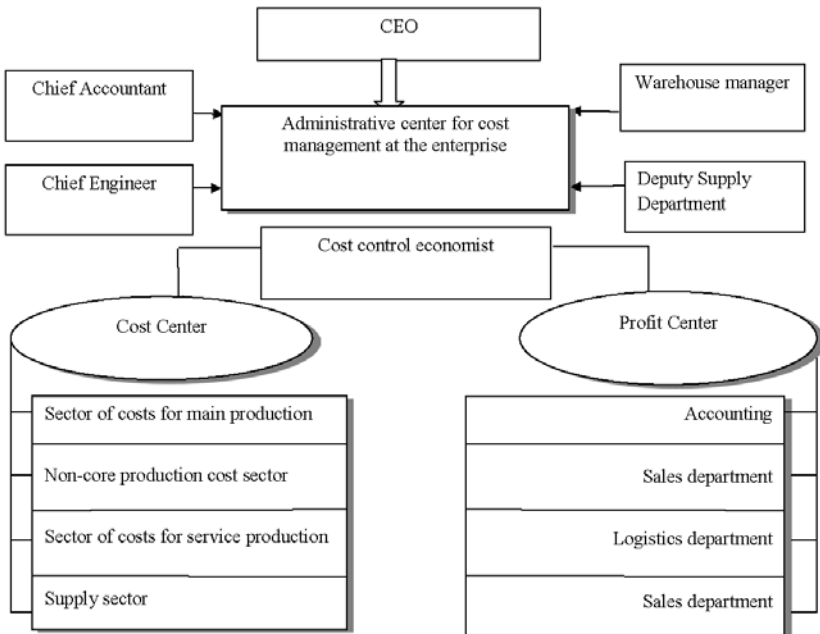


Figure 1. Organizational structure of cost management

Based on the choice of long-term and short-term goals (which in itself can already in some way improve the activities of the enterprise), planning, development of enterprise strategy in the field of cost management. Within the framework of this function the solution of problems of formation of the production program, definition of the general need for resources and their distribution on the basis of the proved and progressive norms and standards of expenses of material and labor resources, planning of expenses, the forecast of profit and its distribution should be carried out. All this should be part of a comprehensive plan for the development of the enterprise, the preparation of which is the responsibility of the administrative center.

Execution of the coordinating function should include establishing cooperation between structural units of the enterprise in the field of cost formation, determining the necessary information about costs, ways of its possible receipt, level of detail, forms of documents containing this information, persons responsible for their preparation, terms and procedure, methods of processing, bringing the planned tasks to the relevant departments and employees. Thus, the need for coordination is determined by the need for flexibility and mobility of the management process and the cost management system as a whole.

A very important function is to control and regulate the process of cost formation. Analytical support and timeliness of management decisions depend on the effectiveness of control. The presence of effective control implies, firstly, the presence of well-established feedback, which again involves a clear implementation of coordination functions and rational, timely, reliable exchange of information on costs, and secondly, accurate definition of powers and responsibilities of structural units in the field of costs.

Decision-making means the ability to generate options for the implementation of individual elements and plans as a whole, as well as tactical tasks, evaluation of these options, choosing the best of them according to the criteria of speed, ratio of results and costs and more [1].

All decisions of the administrative center of cost management are communicated to the units through a cost control economist. Its main function is to implement the objectives of the administrative center of cost management, analysis, control and regulation of costs at the tactical level. The considered measures in combination with balanced performance of the listed functions will allow to eliminate structural disturbances in providing with the information of system of management of expenses. In the most general form, this vertical will look like this: administrative center of cost management – cost control economist – production manager – change foremen – specific jobs. At different stages of cost management and in the implementation of management functions to the management process will be connected to other

departments and employees: technologists, suppliers, logistics, accounting and more. Creating such a management vertical will optimize the flow of information about costs, provide feedback, increase the efficiency of the system and the management process. All these measures require careful development of regulatory and methodological documentation, the formation of economic interest of staff in optimizing costs, identifying and eliminating the causes of their occurrence, and so on.

However, for the organization of rational information support of the cost management system, in addition to eliminating structural violations, it is necessary to eliminate qualitative violations, ie increase the usefulness of the most generated information about costs, its reliability, timeliness, completeness, analytical, level of detail and more.

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ECONOMIC SYSTEM DEVELOPMENT PARADIGM

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-37>

One of the central problems of economics is the limited and incomplete (partial) knowledge accumulated in recent decades, the lack of a clear methodological basis on which to build a system of logically related and consistent economic knowledge [1]. Such knowledge provides an opportunity to explain the complex processes that occur in the national economic systems of individual countries and in the global economic space and become a reliable basis for studying the evolution of the system, practical actions to organize the economic life of societies. The problems of evolution of modern society require economic theory as a science of new methodology, development of specific concepts and models that will be the basis for the transition of economic systems to a new level of effective development in the face of ever-increasing social needs. Empirical studies show that the factors and conditions of the genesis of the system have changed, and previous methods and models no longer provide effective solutions to current problems

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of economic policy. As a result, there is a need to develop new methodological approaches to the study of modified economic processes and research prospects become pluralistic and broader.

An important prerequisite for solving these problems in this study is the use of modern scientific approaches, the use of the principles of the civilizational paradigm of social science, which allow to justify a new vision of the scientific object, subject and methods of cognition of economic processes. Without the creation of a modern methodological matrix of scientific research of economic systems, which organically combines modern scientific approaches, scientific object, subject, research methods should not hope to successfully overcome the limitations of economic knowledge, solve other pressing problems facing economics, including and recommendations not only for theory but also for business practice.

The scientific problem of the research is the consistent systematic disclosure of the formation and evolution of the economic system in world economic thought through the prism of the main currents and leading scientific schools of the period studied in the dissertation; in substantiating the practical significance of the theoretical and methodological heritage of economics for the analysis of the modern market system, performed from the standpoint of the civilizational paradigm of social development. Economic development is cumulative, so the study of the «track of previous development» is crucial in understanding the content and problems of the current state of the economic system. Accordingly, a thorough analysis of the modern national economy and the choice of the vector of its further development is impossible without taking into account the achievements of the leading schools of world economic thought in the systematic study of the evolution of economic systems. Central to solving this problem is to reveal the causes and nature of the changes that have taken place in the scientific study of the economic system of society. The starting point should be considered to clarify some significant changes in the methodology of modern economics and the transition from the classical principles of scientific analysis of nature and society, which were substantiated by scientists [2, p. 250–296; 3, p. 5; 4, p. 7], to the principles of system-synergetic research, characteristic of most modern scientists.

The desire to build a general scientific picture of the world requires a synthesis of knowledge aimed at forming a holistic vision of historical changes that have taken place in science in the context of the formation of human culture. Researchers of the history of science have in their arsenal such research guidelines as presentism (explanation of the past in the language of the present) and antiquarianism (restoration of a holistic picture of the past without any reference to the present) [5, p. 6]. Scientists have proposed

models for the development of science – cumulative (P. Duham), scientific revolutions (T. Kuhn), competing research programs (I. Lakatos), «falsification» (K. Popper), the multiplicity of scientific discoveries (R. Merton), «Methodological pluralism» (B. Condwell, W. Bowland, P. Feyerabend), «rhetoric of economics» (D. McCloskey), cyclical development (S. Gide, S. Rist), discussions about the advantages and disadvantages of each model stimulated the study of history science, its current state and problems of methodology.

In the modern world, three models of historical reconstruction of science coexist: first, as a cumulative, progressive, progressive process; second, as development through scientific revolutions; third, as a set of individual, individual situations (casestudy). Under the influence of the scientific revolution, the understanding of science changes (experimentation, the result of which is true knowledge of the world), it fits into the world of nature. The cumulative idea of development of knowledge by accumulation and specification is formed. At the present stage of development of world thought, a monadic understanding of history is gradually being established, the characteristic feature of which is the interpretation of the world-historical process as a unity formed by a multitude of great socio-historical subjects. This understanding of history takes into account and realizes the possibilities of a civilizational approach to the study of the historical process.

The paradigm determines the issues, methodology, categorical apparatus and the final result of the study. It evolves by detailing problems, and has two properties: it is perceived by the scientific community as a basis for further work and contains modifiable questions, thus opening space for researchers. That is, the paradigm is a term that means a scientific achievement recognized by all, which for some time gives the scientific community a model of problem statement and solution. Hence the need to develop new theories and approaches that would absorb all the advanced methodological achievements of scientific knowledge and would adequately reflect the essence of modern processes. «Disciplinary matrix» (paradigm), according to T. Kuhn, includes four types of the most important components: symbolic generalizations, conceptual models (general statements), values (which manifest themselves in the choice of research, in assessing the results and condition science in general) and samples of solutions to specific problems and tasks. When problems accumulate that cannot be solved within the old paradigm, there is a crisis and a scientific revolution – a process of paradigm shift. T. Kuhn's paradigm is approximately the same as the solid core of I. Lakatos.

At one stage of the development of «normal science» inevitably there is a mismatch of observations and forecasts of the paradigm, there are anomalies. When such anomalies accumulate quite a lot, the normal development of science

stops and a state of crisis (scientific revolution) occurs, which leads to the breaking of the old and the creation of a new scientific theory – the paradigm.

Productive for the analysis of the content and structure of the historical development of the methodological apparatus of economic theory is the involvement and creative application of such an acquisition of modern philosophy of science as the classification of the following historical types of scientific rationality, first introduced into scientific use by V. Stepin. The latter defined the system of norms and standards of scientific research as a certain historical type of scientific rationality that dominates at a certain historical stage of maturity of science. The defining types of scientific rationality, the researcher included the following: classical, non-classical and post-non-classical, which mark the following stages of scientific maturity: classical science or modern science (late XVII century – 70's of the XIX century), non-classical science (70s of the XIX century – 70s of the XX century), post-classical science (70s of the XX century to the present). Each of these historical forms of development of economic science has dominant methodological features.

Each stage (classical, non-classical and post-classical science) of science development is characterized by a special state of scientific activity aimed at the constant growth of objective-true knowledge and has its own paradigm, its own picture of the world, its own fundamental ideas. In order to highlight the advantages of the civilizational approach in the study of the genesis of economic systems, it is advisable to compare the main provisions of those paradigms that can be used in studying and analyzing the development of economic systems from their emergence to our time.

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STATE POLICY OF SOCIAL SECURITY IN THE CONDITIONS OF DECENTRALIZATION OF POWER

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-38>

Today, in the conditions of unstable economic, political and social situation in Ukraine, it is extremely necessary to carry out a reform in the field of social protection of the population of Ukraine, which provides for measures to organize and provide social services to internally displaced persons. are in difficult life circumstances and need outside help. In modern conditions there is a tendency to convergence of national social protection systems, which is manifested in the unification of their features and characteristics in terms of ensuring a balance between social goals and the market, development of social partnership and social inclusion, unification of social standards and development of social standards. services. However, the characteristics characteristic of each model of social protection of the population, generated by the interaction of factors (economic, political, socio-cultural, etc.), inherent in different economic systems. The modern paradigm of human development forms the latest conditions and principles of economic growth in terms of social inclusion of society. Theoretical principles of social protection, its principles, target motivation and objective necessity in the early stages of development of the capitalist economy were laid down in the works of the classics of economics. Conceptual approaches and a comprehensive analysis of the problems of socialization of the world economy and its mechanisms, diversification of social services and its tools, issues of social cohesion, implementation of policies to regulate social support of vulnerable groups, including on the basis of social security are most fully reflected in such works. scientists such as I. Kolupaeva [1], O. Soskin [2], V. Bodrov [3], J. Zhalilo [4], A. Hrytsenko [5], N. Grazhevskya [6] and others. The state of the social protection system of Ukraine indicates the need for more detailed analysis and specific proposals to improve the existing system in the near future in terms of overcoming the social disintegration of social insecurity of certain categories of citizens and ensuring equal access to social services in an inclusive national economic system.

In the context of globalization of the world space, the state policy of each country in the field of social protection expands its format to the system of social services, transforming into an integral attribute of national economic

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systems, reflecting the level of their socialization. The processes of globalization of economic and political relations, causing rapid changes in geographical borders, national economic, social and cultural systems, and extrapolation of the Western model of socio-economic development to other traditional models inevitably lead to a change in approaches to social protection. One of them is to approach at least the standards, provide social guarantees for all working and disabled and extend them to these people, regardless of the country in which they are located. The realities of the current socio-economic development of Ukraine, generated by its gradual involvement in the processes of globalization, pose new challenges to the Ukrainian state in the field of social protection. The growing complexity of socio-economic processes and related challenges to the social protection of the population of Ukraine require the expansion of state functions in this area. Economic, technological, demographic, environmental and other factors are increasingly influencing the development of the Ukrainian economy and society as a whole, necessitate the development of an adequate long-term strategy and the implementation of sound social protection programs. According to the authors, it should include an effective system of state regulation of employment, which is an arena for the manifestation of human skills and abilities and where the preconditions are created for solving many problems in all spheres of life of our society. In determining the main ways to modernize the institution of employment should be based on the fact that the development of the economic system is based on the action of objective economic laws that determine the logic of economic processes and phenomena. According to this, social work as a source of social wealth and a condition of life of society should be used rationally, in the most appropriate form. The latter relies on employment, which appears as a function of social production and a form of correspondence between labor supply and demand. It follows that the use of human resources is one of the always pressing problems of state regulation of socio-economic development of society, is a strategic goal of functioning.

The strategy of integration of internally displaced persons and implementation of long-term decisions on internal displacement until 2020 is aimed at solving the problem of internal displacement of Ukrainian citizens and its consequences, including host territorial communities, creating effective public administration tools, meeting urgent and permanent needs of internally displaced persons. Previous government strategies have focused on meeting the priority needs of internally displaced persons, with the aim of identifying long-term solutions to the problems of internally displaced persons. As a result, those who are currently internally displaced will no longer need specific assistance and protection measures in connection with

their displacement and will be able to exercise their rights without restriction on an equal footing with other citizens.

The inconsistency of formal and informal institutions, their inconsistency, extractive nature lead to changes in the economic system, which inevitably causes a decline in confidence and its crisis. The growth of contradictions and the slowdown in economic development due to the socio-economic crisis reduce the possibility of transforming formal and informal institutions, thus creating a trap of inconsistency in the quality of economic development. Crises as a natural process of development of the economic system have a complex nature, which manifests itself as shocks of the socio-economic sphere of society.

In order to prevent existing threats, according to the author, the strategic line and the corresponding program of development of the national economic system should be coordinated with the system of government and society, formulated goals and scientific substantiation of methodology, methods and mechanisms for achieving these goals.

The strategic platform for building a stable, productive and financially viable domestic system of social protection is economic growth based on the concept of sustainable development with an organic combination of economic, social and environmental components. Conditions and factors for ensuring the implementation of this concept in Ukraine are reforming the institution of property, focusing the economy on the establishment of the sixth technological structure, stimulating scientific and technical activities in the public and corporate sectors, completing the national innovation system, creating a favorable investment climate in the country, increasing all components of socialization of the economy. A key component of the effective functioning of the social protection system for internally displaced persons is the modernization of the employment institution. Separating the concept of government action for overcoming the crisis in the country, taking into account regional problems of social protection will overcome the social disintegration of social insecurity of internally displaced persons in eastern Ukraine and ensure equal access to social services in an inclusive national economic system.

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SOCIAL COMMUNICATIONS

COMMUNICATION IN THE MASS MEDIA AS A PART OF SCIENTISTS' PROFESSIONAL COMMUNICATION

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-39>

The media is an effective platform for communicating to the general public about scientific developments, achievements and scientists' contribution to the modernization of society. In accordance with the researchers, communicating science can be done directly, by who investigates or by mediation of journalists, who do reach the public to the knowledge generated in academic areas [18, p. 60]. The involvement of science and scientists in the media promotes social science achievements, increasing prestige of scientific activity, strengthening authority of scientists in society and development of scientific and educational spheres as without the stated above social benefits science cannot be considered to be an integral part of social and state priorities.

In this regard, S. Martinez-Conde and S. L. Macknik argue that like the proverbial tree falling in a forest with no one around to hear it, science discoveries cannot have an impact unless people learn about them. The act of communication is part and parcel of doing research. And in an era increasingly defined by open access, there is a growing demand for researchers to communicate their findings not just within their field – via institutional seminars, conference presentations, and peer-reviewed publications – but to general audiences as well [15, p. 8127]. In this context, Y. Barel-Ben David and colleagues state that the news media wields distributional power that could be harnessed by scientists as a platform to present their ideas to broad audiences [2]. Objectively submitted by the media scientific discussions and controversies allow to fully and clearly convey the dynamics of the development of science and society, their interconnection [9, p. 23].

Although Ukrainian scholars examine different aspects of the science-media relationship and explore the activity of scientists as public communicators [e.g., 4; 11; 12; 19], at the same time the problem of science communication, as noted by T. Yaroshenko and T. Borysova, is extremely relevant for Ukrainian researchers [13, p. 44]. Similarly, M. Butyrina points

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out that there is a certain lack of effective communication between scientists and the society. Her research shows the negative dynamics of the presence of popular scientific content in media space structure [6].

It should be acknowledged that Ukrainian scientists are not very active and accessible in covering Ukrainian science and communicating what they were working on. However, recently there has been some positive in intensifying the dialogue between Ukrainian scientists and the media. Moreover, in the Ukrainian media landscape there is such a phenomenon as scientists-led media. Active Ukrainian scientists-enthusiasts have started and are implementing their own media projects, also produce popular science media on their own. Today, unlike the long-standing tradition of avoiding contact with public, Ukrainian scientists especially of the younger generation have understood the importance of communication with a general audience. Popular science media produced by scientists play a role of a communication platform that helps to disseminate scientific knowledge to the public, increase its critical thinking and comprehension of science-based content, promote scientific and media literacy. These scientists-led media operate online, and it is obvious that both academics and the public are interested in the internet-based media [10, p. 636]. The fact of the matter is, the Internet today has a special role in the communication of science.

Communication of scientists via the Internet helps promote information expansion of science, the creation of new resources and ways of communication. Online communication is undoubtedly an effective means of disseminating information on science, and it is clear that its position will strengthen over time. N. Demchuk predicts that the number of consumers of online scientific content will grow at the expense of young people [7, p. 328].

The latest development of information and communication technologies requires that scientists should communicate science online. The internet provides modern scholars with unprecedented space for communication with the public. For example, A. Dudo maintains that: «New media technologies grant scientists more power than ever before to be proactive about their public communication» [8, p. 761]. Moreover, O. Kopanieva emphasizes that, thanks to the internet, science communication in Ukraine is improving [14, p. 37]. However, L. Bronnikova warns that today the system, which did not allow clogging science with uncertain and dubious information, is actually being destroyed. The Internet allows anyone to make public information in the complete absence of expert filters [5, p. 41]. Nevertheless, electronic channels and digital tools expand the communication of modern scientists [16, p. 30].

Although it is accepted that the part of a scientist's duty is to talk to public, yet most practicing scientists are not able to communicate to non-scientists and lack the training and opportunity to do so [3; 17]. Similarly, there are no

educational science communication activities in Ukraine yet. Moreover, communication still is not considered as obligatory in the country's scientific system. Therefore, in order to enhance the quality of discourse between scientists and the lay public, science communication training should be implemented in Ukraine. For realization of this goal, standards and scholarly practices developed by foreign authors can be used. For this reason, A. Baram-Tsabari and B. V. Lewenstein identify core competencies for effective science communication in terms of skills, knowledge, and attitudes [1].

To sum up, the functioning of the science in Ukraine largely depends not only on the ability of scientists to work at a high professional level but also their active position in communicating domestic science. As such, science communication in the mass media performs an important role.

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PSYCHOLOGICAL SCIENCES

EUPHEMIZED CONCEPT OF WAR IN ENGLISH MASS-MEDIA DISCOURSE: EVENTS IN THE EAST OF UKRAINE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-40>

Introduction. The modern stage of the development of English mass-media is characterized by substantial changes in the sphere of euphemizing of many linguistic phenomena of journalistic mass-media discourse. It is necessary to observe the requirements of political correctness – pluralistic linguistic and linguacultural tendencies in the editions of modern English press, in its analytical texts and articles dealing with the military subject. The noted process is marked by the intensity during the last decades and is explained by the ability of euphemisms to be the powerful means of forming new public linguacultural standards especially in presentation of operative information «in live» that causes the substantial changes in British and American mass-media. The evident proof of these changes of media discourse in English speaking media audience has become a new linguistic canon to use veiled units for nomination of problematic phenomena, euphemized terms of argotic type and a general «tender manner of paraphrasing» as for linguistic representation of controversial events which often strengthen the so-called «doublespeak» [2, p. 65].

Not for nothing martial journalists in their media reports rather in advance will «see» to «neutralization» and «clearing» of guerrillas, than will assume their murder [3, p. 263]. As the concept and war offences do not come forward as landmarks of tolerance, safety and social prosperity of any society, at the same time they have considerable psycholinguistic, due to using euphemisms, manipulative potential especially in connection with military events including the East of Ukraine.

That is why it is necessary to be absorbed in the media essence of the concept WAR as a bright element of speaking differently with the English mass-media audience. Coming from the above mentioned, the aim of our research is to reveal psycholinguistic features of the euphemized concept

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WAR in the media discourse of English mass-media means in relation to the events in the East of Ukraine. To get valid results the following research methods were used: semantic and cognitive analysis, monitoring and content-analysis, discourse analysis, semantic differential.

Publications in «The Guardian», «The Economist», «Time», «Atlantic Council», «Foreign Affairs», «The New York Times», web sites, platforms of the channels «BBC», «CNN», «Radio free Europe» are sources of our investigation.

Results and discussions. Comprehension of the concept WAR in English – language mass-media mainly lines up at terms «*intervention*», «*incursion*», «*infiltration*», «*instruction*», «*invasion*» etc. For example: British Prime Minister David Cameron has called the current situation in Ukraine a «*large scale incursion*». A spokesman for German Chancellor Angela Merkel used the term «*military intervention*». U.S. President Barack Obama, speaking in August 28th, produced the seemingly oxymoronic phrase «*ongoing incursion*» [4].

English military concepts «*intervention*» and «*incursion*» are not new for the description of the events of the concept WAR in English-language mass-media. At the same time equally with «*intervention*» there appeared new nominative units, in particular: «*large scale*», «*bloody*», «*the armed insurrection*» and B. Obama's oxymoron «*ongoing incursion*» in mass-media discourse during 2014–2019 years.

In relation to B. Obama's utterance, there is a combination of incommensurable nominative «*ongoing incursion*» as a single action and continuity as a sign of constantly renewed military action in time. On the whole, linguistic models, where the sphere and source is a concept WAR, personifies the conceptual vector of aggression which is usually limited in time. However, «war» as image-taboo and its invariants in surroundings of the adjectives «*large-scale*», «*ongoing*», «*armed*» and «*bloody*» in English-language military lexicon of mass-media are transformed into suggestive nominative.

Such meaning is fixed in the following fragment of the text: ...*officials have tied themselves in linguistic knots to define what exactly is going in Ukraine. Some agencies later changed their translation from «invaded» to «entered». But the genie was already out of the bottle.* This is more about linguistic trouble in relation to the nickname of the phenomenon of those events which are taking place in the east of Ukraine than the fact of war itself in Donbass.

Thus, euphemisms of the concept WAR as a psycholinguistic phenomenon, on the one hand, preserve the negative associative field, however, such terms as «*encroachment*», «*interference*», «*infusion*», «*visit*», «*conflict*», on the other hand, substitute the name of the phenomenon of war.

These nominatives become evaluative-positive, at least, neutral in comparison with those units – components of the image of war which substitute such notions as «blood», «large-scale», «military operation», «losses», «death».

Actually, it is a psycholinguistic effect of emotionally positive «softening» of terms-euphemisms. A term euphemism was explained as a talk with words having a good augury already in Old Greece. Taking it into account, mass-media transfer emotionally positive estimations of military events with obviously negative denotations under the influence of the euphemizing process.

Let's analyze the following example: «*The conflict has claimed more than 13,000 lives, driven almost two million people from their homes, and caused immense material damage*». The numbers of the perished fighters and refugees are striking as for the denial of this fact and war lexeme (13 thousand and 2 million accordingly). Not by chance there appeared the codes of ATO, JFO as a visualization of numbers of perished and losses. We can notice a wide discord of terms in the English discourse of the concept WAR: the separatist war in Donbass, civil war ((BBC, The Guardian); insurgency / rebellion (Radio free Europe, Foreign Affairs Magazine); civil conflict / armed conflict in Ukraine (Foreign Affairs Magazine); Russian special operations forces / hybrid war [5].

A lot of terms concerning the WAR concept sustain the effect of disguise and consequently the neutral connotations. Equally with this there are attempts to discredit the concept due to black humor: «*chivalrous attempts*»; «*makes a mockery*»; «*easy definition... to understand*» (BBC).

The euphemized concept «*geopolitical crisis*» is an analogue of the Minsk process. Obviously, the context of this quotation in relation to a truce, negotiations is saturated by the demilitarized image of the war which influences the English-speaking people's consciousness and is accompanied by fully positive metaphorical models: «*innovative approach*», «*architecture of international safety*», «*future trajectory of world business*».

Such discourse converts the WAR concept into diplomatic conceptual metaphor. Besides, on this background this term in its concept acquires the meaning «*suffered peaceful population*». A great majority of them are depersonalized nominatives and impersonal lexemes: «*collateral damage*», «*civilian impacting*», «*non-military casualties*», «*concomitant losses*» used in English mass-media. By essence these expressions are substandard lexicon or military slang.

Conclusions. The results of our research prove that English media discourse of the military events in the East of Ukraine is euphemized, disguising, emollient psycholinguistic system with political correctness of the description the WAR concept in mass-media. English mass-media discourse

tabulates the lexeme «war» and substitutes it by politically correct euphemized invariants.

It transfers emotionally positive estimations of the events with negative denotations based on disguising effects of the «black» English humor, substitutes anthropocentric semantics by depersonalized and impersonal nominatives, converts typical military lexicon into substandard – slang, influences linguistic consciousness of English mass-media audience.

The following psycholinguistic techniques distinguish English-language military lexicon in mass-media discourse of WAR concept as a system:

- 1) Euphemism as a substitute of uncomfortable and unprofitable for mass-media audience's comprehension of the word war;
- 2) Allegory as a displacement of accents of the nominative war on relatively positive lexeme «conflict»;
- 3) Euphemisms-abbreviations ATO, JFO as codes are techniques of transferring from aggressive to disguising semantics;
- 4) Contrast – the vocabulary with positive connotation exceeds the resembling but negative lexemes;
- 5) Data of semantic differential fixed the emollient effect of a euphemizing process.

Thus, it has been determined that psycholinguistic mechanisms of application of euphemized discourse in English-language mass-media are connected with actualization of neutral demilitarized image of war in linguistic consciousness of English media audience.

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EMPIRICAL STUDY OF THE SPIRITUAL POTENTIAL OF THE PERSONALITY OF A PSYCHOLOGIST

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-41>

The urgency of the problem In modern society, the issue of human education, self-improvement, spiritual and personal growth is particularly acute. The study of the concept of «Spiritual potential» of the individual is to systematize information about Spirituality from various sources, to describe its phenomenological manifestations; study of the holistic phenomenon of man in connection with the formation – «space-existence and development of the human soul», consideration of the usual categories in the tone of new methodological guidelines; recognition of the diversity, contradictions, complexity of man and his inner life; The research is based on the methodology of the philosophical and theological aspect, the historical and psychological aspect, and the conducted empirical research among students of psychology. is that at the moment in Ukraine we see that valued professional psychologists in various fields who are able to perform a variety of professional duties at a high level.

The aim of the study. It consists in determining the factors of spiritual potential and personal qualities of future psychologists while studying at the university.

Research methods: hermeneutics method, introspection method, conversation, content analysis, longitude, synthesis, generalization.

Methods of research: «Balanced Emotional Empathy Scale» (BEES) by Albert Mehrabian (Albert Mehrabian) and modified by N. Epstein; Kenneth Thomas Questionnaire «Identifying Ways to Conflict Management»; «Methods of assessing the level of camaraderie» V.F. Rakhivsky; author's questionnaire «Striving for Light» is devoted to the spiritual and personal growth of a psychologist.

Interest in the study of the mechanisms of formation and development of personal qualities can be traced in a number of psychological studies by such authors as: I.G. Belyavsky, T.D. Zenkevich-Evstigneeva, I.N. Andreeva, O.F. Bondarenko, I.V. Vachkova, S.P. Derevyanko, E.P. Ilyinim, M. Aminov, O. Bodalova, O. Vlasova, V. Karandasheva, O. Sannikova, N. Chepeleva and others. K. Abulkhanova-Slavska, S. Maksymenko, V. Maskolenko,

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S. Rubenstein, O.S. Danilova considered and emphasize the need to increase the subjectivity of life. According to the scientist Savchin M.V.: «The spiritual potential of a person is a set of his spiritual, mental (mental) and physical strengths and properties that determine his relationship with God, people and the world and his life. A person with high spiritual potential who has a dogmatic consciousness... The main meaning of his life is to improve himself and the world...» [4].

Our interest in the problem of spiritual potential of modern youth is caused primarily by its complexity. No psychological problem has received as wide and comprehensive attention as Spirituality, and no problem has as many «white spots» as the problem of Spirituality [2].

That is why we conducted a study on the basis of ONU named after I.I. Mechnikov, as for many years he has been a high level of training of specialists who are successfully implemented in practice and research. It was attended by 65 recipients aged 15 to 25, students of the socio-economic college of ONU and students of the FPSR.

As a result of the study, we can say that only a small number of recipients 2% learn to support fashion trends and to maintain the prestige of the social niche, and this can only please us.

According to our goal, we chose and applied the method «Scale of emotional response» A. Megrabyan found the following results in our recipients: 37.5% – a very high level of empathy; 46.8% – high level of empathy; 12.5% – normal level of empathy; 3.1% – low level of empathy. The high level of emotional response that prevails in our recipients, in our opinion, exposes one of the facets of the spiritual potential of man – empathy, which should be present in future psychologists who will work in the future within the concept of «man-to-man». Based on the results, we concluded that the recipients as future professionals have a risk of professional «burnout».

Conducting a survey of Kenneth Thomas «Determining ways to resolve conflicts, we obtained the following results, the average score for each type: rivalry – 15.6%; cooperation – 84.3%; compromise – 68.75%; avoidance – 50%; adaptation – 31.25%. Which confirms our hypothesis that a psychologist should be sensitive, empathetic, non-conflicting, able to cooperate with the environment.

Applied the following method of V.F. Rakhiv «Methods of assessing the level of sociability» we obtained the following results which show that the recipients are very communicative. And their sociability is not so painful, which is also important for our study. According to the result of the author's questionnaire, the following results were obtained. The predominant answer to our open-ended questions was: get education 87.5%, understand the world –

62.5%, help others 53.1%, help yourself – 40.6%, society «37.5%, to make the world better – 34.3%, to help relatives – 25%,» business ideas» – 3.1%.

The results on the second question are as follows: equilibrium – 96.8%; intellectual abilities – 87.5%; empathy (sensitive, sensual, compassionate) – 68.7%; cheerfulness (positive mood) – 46.8%; Spiritual (conscious) – 21.9%; good-natured – 15.6%; volitional qualities (discipline, patience, endurance) – 12.4%; loves his job – 9.37%; experienced – 9.37%; creative – 9.37%; as well as one answer: charming, flexible, confident, open, with a good sense of humor, self-respecting.

The obtained results were analyzed by the method of content analysis, which gives us the right to draw the following conclusions that the priority of spiritual potential is found in each, but in the «embryonic» state.

In our opinion, the spiritual state of the psychologist's personality was characterized by such qualities as: balance; general intelligence; impassivity; ability to maintain contacts, ie stress resistance in the process of communication; the ability to control their behavior, is to maintain emotional self-control in the process of communication; attraction (attractiveness); congruence; emotional contagion; empathy; cheerfulness. These qualities fundamentally affect a person's mental health, optimize his life, lead to mental and personal development. For their functioning the soul (psyche, personality) needs energy, the source of which is the Spiritual sphere as an inexhaustible source.

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FEATURES OF THE DEVELOPMENT OF ECOLOGICAL SELF-AWARENESS IN ADOLESCENCE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-42>

Development of ecological consciousness in adolescence is due to the systemic functioning of subjective personality traits. The concept of «environmental consciousness» requires operationalization, since it is identified or used in parallel with the concept of ecological consciousness. These phenomena are considered as a single indivisible whole, there are no description of their phenomenology, specifics, no given specific definitions of «environmental consciousness».

Ecological consciousness changes and evolves according to normative development of self-consciousness, ecological self-consciousness is an integral reflection of the World by the personality, its place in it, and semantic unity with it. Ecological self-consciousness is awareness of both at the same time and part of the ecosystem, and a unique personality and structure based on this relationship with the environment and with oneself.

The allotment of the structural components of the system of ecological self-consciousness determination to a large extent is based on the analysis of the components of self-consciousness of the individual, corrected for the uniqueness and exclusivity of this psychic phenomenon [2, p. 120].

Ecological self-consciousness is a hierarchical dynamic phenomenon, which has three levels: elemental, personal and spiritual. Structural-dynamic model of determination of ecological consciousness represents its hierarchical system: elemental level (awareness of itself as the part of the World, interaction on this basis with the environment); personal level (awareness of its place in the world, real cooperation with the other) and the spiritual level (integral display of the World by personality, semantic unity with it). The system interconnection of these three levels ensures the vital activity of the individual in the ecosystem [1, p. 334].

At each of the levels, ecological self-consciousness functions as a four component formation (affective, cognitive, connative, value-reflexive components). The content fullness of the components of environmental consciousness has the following characteristics: affective (emotional) reflects the emotional color of the attitude towards themselves and awareness of its place in the world; cognitive – contains the image of physical self, a representation of

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abilities, of its place in the world and of its personal qualities. The third component represents the active life position of the individual, its activities in accordance with the natural environment and the social environment in which it is located. Value-reflexive component of environmental self-consciousness realizes the semantic orientation of the personality in the World and the ability to appreciate their own experiences, attitudes, and behavior [3, p. 75].

Distinguish between age, sexual, demographic and professional (teaching) features of ecological consciousness and its factors in youth.

Exists such age features of compensation for ecological consciousness: a) in the early and mature adolescence there is an insufficient development of the value-reflexive component; b) in boys and girls there are significant positive age dynamics of indicators of the cognitive component; c) affective and connative components have an average level of development during adolescence.

Sexual features of ecological consciousness development: a) growth of the indicators of cognitive and connative components in boys during the early and mature adolescent; b) positive changes in the development of affective and connative components in girls are observed; c) consistently low indicators of value-reflexive component during adolescence in the studied in boys and girls.

The demographic features of the ecological consciousness development are revealed: young people living in the city have lower indicators of affective, cognitive and value-reflective components development of ecological self-consciousness in comparison with their peers living in rural areas. Indicators of the connative component are higher in urban youth than in rural areas [4, p.194].

Professional orientation on the level of ecological consciousness development is established: in youth, the future profession of which belongs to the type «Human – human» (psychological specialties), the most developed was an affective component, and in youth, the future profession which in content corresponds to the types of professions «Human – Sign system» (economic specialties) and «Human – nature» (eco-directed specialties) – a connative component.

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PEDAGOGICAL SCIENCES

MEDIATION IN THE CONTEXT OF MULTILINGUAL EDUCATION IN UKRAINE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-43>

The importance of mastering several foreign languages is becoming increasingly important throughout the world and in Ukraine in particular. Knowledge of several languages provides a great opportunity to obtain useful information, valuable experience, high-quality education, opens new perspectives, it is the key to success in the modern world. Multilingualism is becoming a requirement today, that is why the countries of the world are introducing gradually multilingual education, striving to meet the demand for knowledge of foreign languages. The first recommendations for learning two foreign languages are found in the recommendations of the European Commission «White Paper» – «Teaching and learning. On the way to a cognitive society» in 1995 [5]. Later, in 2003, the «Common European Framework of Reference for Languages: Study, teaching, assessment» (CEFR) introduced the concept of «plurilingualism – knowledge of a number of languages or the coexistence of different languages in a given society» and substantiated its importance [1].

Currently, the issue of introducing plurilingualism in education in Ukraine is especially relevant, as from September 1, 2022, in accordance with the Laws of Ukraine «On education» and «On complete general secondary education» the new State Standard of basic secondary education is introduced, according to which students will have the opportunity to learn two foreign languages. Also, general secondary education institutions may offer students «teaching one or more subjects (integrated courses) alongside the official language English or another official language of the European Union» [4; 7]. The State Standard also states that the methods and techniques of bilingual and multilingual education may be used in the educational process.

Taking into account the changes in the Ukrainian education system, special attention should be paid to the additional volume «Common European Recommendations on Language Education: Study, teaching, assessment» (2020), which does not change the 2001 edition but offers new descriptors as a means to improve teaching quality. and second/foreign language learning, as

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well as multilingualism and intercultural education. The main purpose of the volume was to update the descriptors: to highlight innovations that were not included in the presented set of descriptors in 2001.

The CEFR expands the perspective of language education in countries through the development of plurilingual and pluricultural competences. Already in the CEFR 2001, the authors clearly distinguish between the concepts of «multilingualism – the coexistence of different languages at the social or individual level» and «plurilingualism – the dynamic linguistic repertoire of an individual user/learner, which is constantly evolving» [1].

The CEFR Companion volumes 2018 and 2020 emphasize that plurilingualism is a variable competence, which provides an opportunity for an individual to use flexibly the interdependent, different, plurilingual repertoire, the components of competence are also added and changed [3; 4]. Here is the analysis of changes in the components of plurilingual competence of the CEFR 2001 and 2020.

Table 1

Components of plurilingual competence

CEFR 2001 Components	CEFR 2020 Additional components and differences
switch from one language or dialect to another, exploiting the ability of each to express themselves in one language and to understand the other	express oneself in one language (or dialect, <i>or variety</i>) and understand a person speaking another (added and changed)
call upon the knowledge of a number of languages to make sense of a text, written or even spoken, in a previously 'unknown' language	call upon the knowledge of a number of languages (<i>or dialects, or varieties</i>) to make sense of a text (added and changed)
recognise words from a common international store in a new guise	the same
help those with none to communicate by mediating between individuals with no common language	<i>mediate</i> between individuals with no common language (<i>or dialect, or variety</i>), even <i>if possessing only a slight knowledge oneself</i> (added)
achieve some degree of communication by bringing the whole of their linguistic equipment into play, experimenting with alternative forms of expression in different languages or dialects	bring the whole of one's linguistic equipment into play, experimenting with alternative forms of expression (changed)
exploit paralinguistics (mime, gesture, facial expression, etc.) [1, p. 4]	the same [3, p. 30]

Among the outlined changes in the CEFR Companion volumes 2018 and 2020, the concept of mediation acquires special significance, thanks to which, both in receptive and productive modes, in writing or in oral speech, communication becomes possible even between interlocutors who are not ready for direct communication with each other. We share the opinion of a researcher V. Hamanyuk, who notes that «mediation is much broader in scope because it is not limited to the translation and transmission of the main content without taking into account the opinion of the user who performs mediation but includes those types of communicative activities that were not considered before» [6, p. 270]. The researcher provides the analysis of changes and additions to the Companion volume 2018 and gives the example of descriptors of mediation and online communication. The researcher focuses on mediation, its meaning and presents the detailed scale of mediation activities in three groups, which depends on how it is expressed: mediating a text, mediating concepts, mediating communication, and identifies mediation strategies: strategies to explain a new concept and strategy to simplify a text [6, p. 270].

The CEFR Companion volume 2020 identifies and describes in detail the descriptors for each type of mediation depending on the levels of language proficiency. To the existing levels A1, A2, B1, B2, C1, C2 (2001), new ones are added – Pre-A1 and above C2 (only mentioned, no descriptors yet). However, the CEFR emphasizes that the division at levels is relative, so, depending on the context and the communicative situation, it is possible to distinguish sub-levels, for example A2 +, B1 +, B2 + and so on. The CEFR also takes into account the specifics of mastering the first foreign language (Language A) and the second (Language B) according to levels and descriptors. Important changes in 2020 are the detailing of mediation actions and strategies, as in the edition 2001 (p. 3.4.) only a scale of self-assessment of speech proficiency levels and descriptors of oral speech were provided. Mediation scales first appear in the CEFR Companion volume 2018 and are supplemented in the CEFR Companion volume 2020. In particular, illustrative scales of descriptors are given in part 3.4., the detailed description of which is presented by V. Hamanyuk [6]. It should be noted that the difference between the CEFR 2020 is the appearance of the word «sign» in the descriptors, for example: relaying specific information in speech or sign, explaining data in speech or sign, translating a written text in speech or sign. By the word «sign», we understand the ability of a user/ student to convey, explain, process, translate using an electronic presentation, illustration, video, gesture, object, any material, sensory object. However, the authors of the CEFR 2020 note that mediation as a specific activity, in addition to plurilingual competence, presupposes that a mediator has formed at a certain level of social and intercultural competences and adds that the proposed descriptors are not limited and allow the inclusion of other descriptors of mediation in future [3].

The CEFR 2001 outlines the starting points for plurilingual and pluricultural competences but the changing world has been evolving too fast in recent times, dictating new requirements for the education system and modifying the purpose of education. Currently, knowledge of two or more foreign languages is not seen as uniqueness of personality but as a compulsion of the present. Expanding the perspective of language education in Ukraine, the scales of descriptors of plurilingual and pluricultural competences are especially important, which are absent in the CEFR 2001 but are described in detail and expanded in the CEFR 2018, 2020. We consider it necessary to focus on chapter 4, which highlights the components of plurilingual and pluricultural competences: building on pluricultural repertoire, plurilingual comprehension and building on plurilingual repertoire. The descriptors of these components reveal aspects of multilingual and intercultural education, help not only to study but also to appreciate linguistic and cultural diversity. Here is the example of progression at the scale of building on plurilingual repertoire because there are descriptors of building on pluricultural repertoire and plurilingual comprehension in this very scale: «at the A levels, the focus is on exploiting all possible resources in order to handle a simple everyday transaction. From the B levels, language begins to be manipulated creatively, with the user/learner alternating flexibly between languages at B2 in order to make others feel more comfortable, provide clarifications, communicate specialised information and in general increase the efficiency of communication. At the C levels this focus continues, with the addition of an ability to gloss and explain sophisticated abstract concepts in different languages. Overall there is also a progression from embedding single words/signs from other languages to explaining particularly apt expressions, and exploiting metaphors for effect» [3].

Thus, the CEFR 2020 outlines the importance of mediation, identifies new descriptors, and adds descriptors for the development of plurilingual and pluricultural repertoires. The CEFR introduces mediation as the fourth category of communicative language activities in addition to perception, interaction and production, where the main focus is on language, namely the development of plurilingualism, the promotion of multilingualism and pluricultural competence. Thanks to the fruitful work of scientists in 2020, an updated scale of descriptors was presented in English, French and German, which includes 1832 positions with a detailed description of descriptors, means of communication, competencies, language proficiency levels, etc., for each position.

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MEDIA LITERACY IN THE STRUCTURE OF PROFESSIONAL COMPETENCE OF FUTURE TEACHERS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-44>

Today in Ukraine the issue of media literacy is becoming increasingly important, and the need of the population for critical thinking is becoming more pronounced. Media literacy of the young generation is a leading factor in its socialization, learning, becomes a mean of distance and a source of non-formal education. In 2016 the introduction of a new version of the Concept of Media Education in Ukraine, approved by the Presidium of the National Academy of Pedagogical Sciences, is also important for understanding media educational processes in Ukraine.

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German authors Gerhard Tulodzetsky, Bardo Herzig and Silke Grafe [2] in their work «Media education in school and in the classroom» focus on teacher self-development, especially in the field of media literacy. A high level of media literacy and critical thinking, pedagogical skills – these are the competencies that, in their opinion, should have a modern teacher.

Recommendations for the organization of online media literacy training were developed by domestic media experts Tetyana Ivanova and Svitlana Izbash [1]. They emphasize the need for continuous development of media literacy skills for both adults and children. Emphasis is placed not only on the tools for developing media literacy skills, but also on the need to improve them and the ability to explain how to consume information.

Analyzing the latest research and publications connected to the problem, we can say that the introduction of media literacy in educational methodology for civic and historical subjects in the training of primary school teachers, that all led to the choice of research topic.

The purpose of the article is to analyze and clarify the theoretical and didactic features of teaching media literacy in the field of civic and historical education in primary school.

According to recent years researches modern students come to school with significant media experience. Most of them have fairly stable media preferences: favorite movies and TV shows, computer games, magazines, cartoons, online resources, and more.

We have to see the possibility of using media literacy exercises in civic and historical education.

Quite often students turn to the Internet as a source of information, so the exercise «Searching for information on the Internet by keywords» will help them in developing skills working with Internet resources and teach information processing.

The teacher must be able to explain to students the peculiarities of the search engine and the rules of operation. It is worth noting that the search on the Internet does not answer the questions, but only directs users to sources that contain keywords. Thus, their exact choice is important. In order to find the information you need, you need to think about what exactly they want to find and what they will use the found messages for. It is worth emphasizing that you need to consider:

- What amount of information is needed?
- How reliable (true) will the information be?

Students are divided into three groups. Each group receives a card and has to suggest keywords in order to find the answer to the question and suggest their own words that fit in the empty box. Example:

*Card 1***When was the name of «Ukraine» first mentioned?**

Ukraine	History	Name	Forthefirsttime	KievanRus	Independence	
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*Card 2***When did the blue and yellow flag become the state symbol of Ukraine?**

Flag	Ukraine	Yellow	Independence	Officialsymbol	Forthefirsttime	
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*Card 3***When did the trident become the official emblem of Ukraine?**

Trident	Ukraine	Independence	Emblem	Officialcoatofarms	
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The proposed exercise will be effective for use in the integrated course «I explore the world» in primary school.

Today, online resources are widely used to teach media literacy, due to the transition of most educational institutions to online education.

At this form of work the virtual board Padlet will help us. On the board, the teacher can both place teaching materials and create didactic materials.

The Padlet service gives each student the opportunity to post their work, teachers and students to comment on the results of activities. Effective use of the board is the organization of teamwork online.

The Didletic Padlet can be used to configure the class for work and class rules; «Brainstorming»; formation of skills to ask «thin» and «thick» questions; creating a poster and working with it; creation of information retrieval tasks (mentioned above); a story about a prominent historical figure, posting photos, links to resources, video; to place creative works of students; to conduct reflections, etc.

In fact, the same features by the smart application Google Jamboard are provided. It has no restrictions on the size of the free space and the number of participants who can work at the same time, so it will be quite effective for creative activities of the students.

An animated product is another resource that teachers with younger students should work on. Animated films help the process of understanding and memorizing information, affect the emotional state of children. When choosing a cartoon as a mean of learning, it is necessary to pay attention to the following criteria: the problem that is being raised; age of the audience; purpose of creation; style of presenting information; language and images; what ideas after watching it students have.

Exercise «Analyze a cartoon» will promote the formation of critical thinking skills in the analysis of media texts.

Before watching, it is important for the teacher to answer the following questions: which shots, episodes of the film can be identified as key; what impressions are evoked by the images of personalities presented in the cartoon, etc.

To consolidate the material, it is suggested to view individual fragments of the cartoon, using a still frame, asking questions to students. Example:

- 1) What information did we get about ... after watching the cartoon?
- 2) What else does the cartoon tell us?
- 3) How do you think, is all the information in the cartoon true?
- 4) How would you check it?

Working with cartoons teaches to perceive and use information; assess the situation; make decisions; make judgments; protect and promote their own interests and values.

Storytelling is another method of forming media literacy of future primary school teachers. Exercises «Photos of my family», «Favorite photo from the family album» will help us with this. The task is to tell a short story about the event in the photo; who is on the picture; what do you remember about that moment? what thoughts or dreams arise when you are viewing photos, etc.

It is important to emphasize that the photo from the family album can be taken only with the permission of the elders, especially if the photo shows some other people, it is advisable to ask them (if possible) if they would not mind using this photo.

Summarizing the exercise, the teacher finds out what mood and impressions of the stories and photos told evoked; emphasizes the importance of following the rules of photo use.

Skills that students gain from exercises: acquire basic skills of «reading information» from photography; understand the importance of photography in preserving knowledge about pedigree; understand how we use the Internet safely to post photos in it; analyze the images on the photos and tell the story according to their plot.

In addition, such classes contribute to the education of the culture of photography, a critical attitude to the plot of the photo as a media content that will be considered by other people or future generations.

Thus, it is necessary to purposefully teach media literacy in classes on teaching methods of civic and historical education, which will contribute to the further development of a person thinking critically, be media competent, one who has a well-established media culture and a stable media mentality.

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THE NATIONAL ASPECT OF MUSICAL EDUCATION DEVELOPMENT IN UKRAINE AT THE TURN OF THE 21st CENTURY

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-45>

Historical events, social, political, and economical changes influence the national cultures. The important part of the culture is arts, among all the musical art. The purpose of this article is to describe the national tendency of musical education development since 1990s till nowadays.

Music contains the national memory of the past, expresses the present social worries, and to the some point predicts the future. A genotype of the nation is preserved through folk music and native composers' works. The difference between various cultures, their uniqueness is mirrored in music. Furthermore, the perception of the world by individual or even whole society is also formed by music.

The various kinds of musical activity are kept in rituals, traditions, and customs that are translated to younger generations by the means of communication and language. Like letters form words, the musical sounds form motives, phrases and sentences, absorbing which a person attains the feeling of belonging to certain culture by learning, embracing and emotionally empathising with music. It stands to reason that each nation has its own musical language, that is, modal melodic and rhythmic relations. The famous saying 'a song is a soul of the nation' the most aptly expresses a spiritual side of Ukrainian culture and the importance of music in our national identification. Many of the Ukrainian artists and public figures pointed out the value of Ukrainian song as a main part of the school process of education. For example, K. Stetsenko said that «the songs of our people are ours history and ours pride. And on them we should resurrect the national spirit of our people, the national self-knowledge» [2, p. 5]. Such statement expressed in 19th century gains even bigger importance nowadays.

The musical education is an important part of the culture, an invaluable achievement of society. The musical education as was defined by V. Shulgina is «a process and result of adoption of the system of musical knowledge and skills, a way to form an aesthetic worldview, and humanistic features of the personality, and means of evolvement of musical capacities and creative potential of the individual» [3, p. 108].

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The musical education provides the continuation of musical theoretical and practical knowledge moreover it nurtures the personal integrity on national musical traditions, and values. The aim of music first of all is a formation and education of an individual and consequently the society on the attribution of classical Ukrainian compositions, folk songs and modern works.

In the 1991 Ukraine was proclaimed as an independent country. This event instigated the understanding of the necessity of future development of national culture by usage of the tradition of folk pedagogics, and patriotic education. The aim of national school is cultivation of loyalty and love to native culture. The reviving force of national ideas of education is formed by unity of state educational institutions around the idea of achieving the higher patriotic aim. So, the national base of musical education facilitates the solidarity of the society, and functions as device for accumulating, keeping and translating the cultural values to the next generations.

The beginning of the 21st century is characterised by some degree of devaluation of artistic and cultural values, especially among the youth. The oblivion to high musical standards is spreading nowadays, as well as overestimation of the entertaining role of musical art. The classical, folk and sacred music is losing its popularity and might end up completely behind the public attention. These circumstances encourage us to re-evaluate the importance of historical, cultural and national achievements, and crucial role of musical teachers in enriching the inner part of students' personality. Unfortunately, in contrary to folk and academic music, the industry of entertainment is thriving with its lightness and doubtful aesthetic values [1, p. 191].

The accumulation and translation of the national cultural achievements, which is executed by educational institution, including musical education, contributes to the development of the independent nation and opens up new musical and educational horizons.

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ORGANIZATION OF DISTANCE LEARNING AT UKRAINIAN UNIVERSITIES FROM THE POINT OF STUDENTS VIEW

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-46>

Even before recent year, a lot of educational institutions of various forms of distance accreditation, which attracted certain consumers of educational services, were known. Namely – conducting classes in the form of online conferences, automated control, correspondence using online programs for sending materials and information.

However, in the conditions of a sudden quarantine, most traditional higher education institutions in Ukraine and other countries also took this path unplanned and forced [1, p. 42].

A survey was conducted among medical students with the usage of google form designed by authors. The questionnaire asked about organization of the distance learning system in emergency situations.

As a result of the conducted survey, the following data were derived. Here was found that many medical institutions use several platforms to conduct classes in a remote format.

The most popular are Zoom – 86.5%, Moodle – 73.5% and Google Meet – 68.8%. Next are Classroom – 32.9%, Teams – 2.4%, Skype – 1.2%, and regular messengers – 1.2% (Figure 1).

But according to students opinions, Google Meet with a score of 50% appeared as the most convenient to learn.

Much less was chosen Moodle – 11.2%, Classroom – 9.4%, Zoom – 2.4%, Teams – 2.4%, Skype – 0.6%, Discord – 2.4%, Classroom – 9.4%, Zoom – 2.4%, Teams – 2.4%, Skype – 0.6%, Discord – 2.4%. (Figure 2).

The choice of the most acceptable format of education for medical students was distributed as follows: Distance learning – 35.3%, Full-time education – 29.4%, Mixed form of education – 34.7%.

For independent mastering of the topic during distance learning students use mainly electronic versions of textbooks – 90%, as well as paper textbooks – 58.8%, articles on the Internet – 63.5%, lectures of the department – 69.4%, public scientific publications – 39, 4%.

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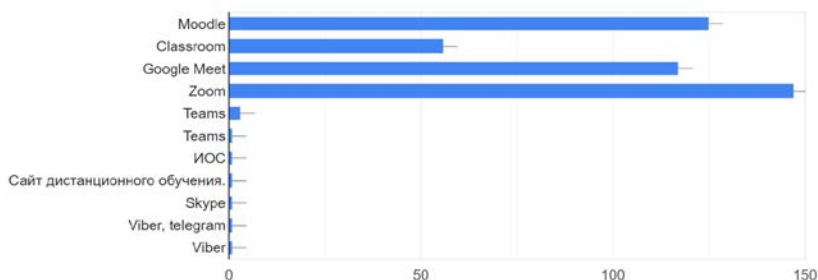


Figure 1. Survey results of used learning platforms

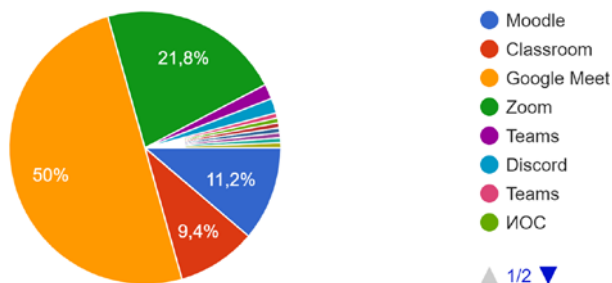


Figure 2. Survey results of preferred learning platforms

It should be noted that the priority of electronic versions of textbooks is not a feature only of the distance form, because they are also used by students during the full-time format of study.

In our opinion, the effectiveness of information perception in the form of distance depends on the psychological characteristics of the student to perceive quickly and efficiently material, technical capabilities of sound, image, and network quality, as well as methods of clear and understandable teaching of material in accordance with the discipline program.

This conclusion is confirmed by the results of the choice of factors that hindered distance learning, namely: Poor sound or image transmission – 25.9%, Poor internet connection – 41.8%, Absence of face-to-face contact with the teacher – 37.6%, The problem of perception of information in electronic form – 33.5%, Nothing interfered – 26.5%

The lack of face-to-face contact with the teacher also turned out to be a psychological problem for students during the assimilation of new

information, and makes up a large percentage of the general factors influencing learning.

At the same time, the productivity of medical students was affected by distance learning as follows: In 20% of percent productivity did not change, 14.1% could not answer the question in 65.9% productivity has changed.

Of these, in 62.2% productivity changed for the better, and in 37.8% it deteriorated. The decrease in productivity is inferior to the improvement of 62.2%, but still has a large percentage of 37.8%.

The most important problem of distance learning is the lack of practice, especially for senior students. The vast majority, 77.6% of students, feel lacked practical skills while studying. And only 22.4% do not feel it.

In general, satisfaction with distance learning is shown by the following results: The quality of education satisfies 61.8% of students, does not satisfy 29.4%, does not satisfy even in full-time education 8.8%.

Obviously, the relations of participants in distance learning are quite different from the classic interactive model of a modern university teacher – student. And as can be seen from the survey, the process of adaptation of students and teachers to distance learning inevitably involved difficulties.

Despite the fact that the productivity of many respondents increased during distance learning, most students did not want to continue distance learning after the end of quarantine. 47.1% of medical students answered this question Yes, but the majority of 52.9% denied.

However, there is no doubt that the face-to-face form of the educational process can combine new learning methods with traditional ones.

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VOLUNTEER ACTIVITIES IN THE WORK SYSTEM ON FORMING PROFESSIONAL AWARENESS OF CORRECTIONAL EDUCATOR

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-47>

Reforming special education in Ukraine is aimed at identifying new priorities and prospects for developing the special school, improving the process of education and upbringing of children with special educational needs, developing new technologies for pedagogical correction of their violations. New trends are being traced in forming the personality of the correctional educator, who should become the conductor of modern ideas of the New Ukrainian school. To meet modern professional requirements, correctional educators must constantly engage in self-education and self-improvement of their professional skills and abilities, develop professional awareness, which directly determines the effectiveness of professional activities. They acquire initial skills and professional awareness in the institution of higher education when studying theoretical material and participating in their pedagogical practice.

Today in the system of higher education special attention is paid to applying theoretical knowledge in practice, which allows students to acquire professional competencies, professional awareness and immerse themselves in the problems of children with special educational needs. It should be noted that the professional activity of a correctional educator goes beyond the traditional types of teachers' work, since, in addition to teaching and educating pupils, it covers consulting, diagnostic, socio-pedagogical, rehabilitating, psychotherapeutic and correctional activities, as well as implementing measures to prevent and overcome deviations in the child's development and behavior in the educational-upbringing process (S. P. Myronova, O. D. Honieieva). An important component of the educator's professional awareness is the social and emotional component, which contributes to the active civic position, the possibility of constant professional growth, the ability to solve problems that arise before special education [4, p. 13].

For professional growth to be successful, it is important that the correctional educator strives for it, sees it as the main goal. If a specialist has a

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meaningful idea, goal, plans, then he/she will be able to find ways of professional development, people who will help in this, overcome difficulties, change for the better, progress in his/her professional activities [4, p. 23].

One of the means that can help to solve the problem of forming the professional awareness of a correctional educator, in the authors' opinion, is a volunteer activity. Volunteering encompasses a wide range of activities, such as traditional forms of mutual help and self-help, formal provision of services, and other forms of voluntary civic participation, in particular the provision of assistance to persons with disabilities.

Participation of students in volunteer activity promotes the positive change of communicative awareness and communicative skills, development of empathy, the creative potential of the person, the formation of the social activity directed on change and transformation of the environment [2].

The students of the Faculty of Special Education get acquainted with the form and content of volunteering, learn to work in a team of volunteers using pedagogical technologies in the social sphere, in particular in the educational environment, master group and individual communication techniques, practical skills of correctional and pedagogical technologies in volunteering. They have an additional opportunity to work with children with special educational needs, to help teachers of special educational institutions in promoting the successful socialization of pupils, at the same time they themselves gain practical experience. Students' participation in volunteering creates preconditions for their professional self-determination, provides their self-realization outside the curriculum, expands the boundaries of professional creativity and the formation of professional competencies. The experience gained in volunteering, forms in young people the personality of a caring person who is directly involved in social life, is not afraid of responsibility, is able to work in a team, has a leadership position. All these personal qualities are necessary components of the professional development of a correctional educator.

Volunteering allows students to get acquainted with a wide range of different groups of the population, with different spheres of life, they form a willingness to socio-pedagogical and correctional work with any category of children and adults, to partner with parents of children with special needs, specialists-teachers, employers. The experience that students gain in the process of volunteering contributes to the social and professional development of the future correctional educator.

To create the optimal conditions for forming professional awareness of the students of the Faculty of Special Education of Donbas State Pedagogical University, the educational program includes the subject «Volunteering» and

the volunteer practice, which allows solving a number of educational-upbringing problems, the main of which are:

- creating the conditions for the activities of student public associations;
- developing all the models of youth self-government and self-organization in student and scientific-academic teams;
- increasing the effectiveness of upbringing work among students;
- creating optimal conditions for joint scientific-research activities of students and lecturers;
- improving orienting professional knowledge, skills, and abilities of students in a practical way on the basis of the university;
- interacting with the media, supporting a positive image of the volunteer in society.

The basis for organizing and conducting work on solving the outlined tasks is creating the Volunteer Resource Center for Inclusion and Psychological and Pedagogical Support for Children with Psychophysical Disabilities at the Faculty of Special Education, whose activities involve lecturers and students. The main directions of the center's work are family counseling on issues of psychological and pedagogical support for children with psychophysical disabilities, providing psychological support for parents and children, conducting correctional classes and workshops for children and parents. On the basis of the Volunteer Center, students have the opportunity to take their pedagogical practice, implement scientific and social volunteer projects. The activity of the Volunteer Center organically coincides with the educational-upbringing process of the faculty, which determines the maximum coverage of students and lecturing staff, which allows forming the professional competencies of the correctional educator. The lecturers have the opportunity to demonstrate by their own example the civic position concerning the state policy on special and inclusive education, ways to solve the problems of institutions of special education, attitudes towards people with disabilities.

At the initiative of the student self-government, the volunteers expand the range of their work, namely, they provide social patronage and provide assistance to special institutions of preschool and school education; pedagogical support for children and adolescents with special educational needs; environmental protection; intellectual development (organizing and conducting intellectual competitions, events among pupils and students); creative development (organizing creative events, competitions, holiday concerts, theatrical performances); promotion of a healthy lifestyle.

Observing the students-volunteers' activities has given the chance to state that besides the general tendency of growth of the indicators of professional awareness, such specific features have been also seen: growth of the level of

success and independence in studying; changes in attitudes to the professional training; awareness of the professional Self-concept; transformation of positions on the profession of the correctional educator, analysis of its new aspects; growing interest in the problems of special pedagogy and psychology; improving relationships with groupmates.

Thus, organizing student volunteering allows correlating theoretical knowledge with practical skills in solving socio-pedagogical problems and real work for the benefit of society in general and special education in particular.

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IMPLEMENTATION OF THE INVESTMENT PROGRAM FOR DEVELOPMENT OF A HIGHER EDUCATIONAL INSTITUTION AS AN INDIVIDUAL PATH FOR ATTRACTING OF NECESSARY INVESTMENTS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-48>

The urgency of the topic is determined by the educational system, which is one of the leading social institutions, so socio-economic development of its subjects is beyond the importance. Socio-economic development of higher educational institutions will not only integrate Ukrainian higher education into the European educational space, but will also strengthen its own position. Current support and progressive development of the higher educational system require large financial injections, which in most cases depend on the projected expenditures of the state budget. Increasingly, higher educational institutions are becoming participants in international and domestic projects, grants or start-ups, providing a positive image, new relationships, addressing pressing issues and problems of logistics, infrastructure development or economic activity. Therefore, the development and implementation of an investment program for development of higher education becomes not a necessity, but a requirement of the time. **The aim of the study.** Analysis of the place and role of investment programs for development of higher educational institutions. The object of research is the investments in the educational policy of Ukraine. The subject of the study is the implementation of investment programs for development of higher educational institutions in Ukraine.

Presently, Ukraine has adopted a model of financing higher education on the basis of resources, which significantly affects the quality and level of education in general. It forces higher educational institutions to change the requirements for applicants, reduce the quality of education and increase the number of students under contract to ensure the viability of universities and meet its basic needs [2]. The resource principle, in our opinion, is an echo of the Soviet system of educational policy management, where the forms and principles of education, needs and funding, procurement and other issues were dealt exclusively by the state and the Party.

Unfortunately, in Ukraine there is no single content or approach to investment policy in higher education for a long time, which negatively

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affects its development and allows to form a thesis about unstable investment development of certain industries as well as weak cross-sectoral links. Therefore, an important part of the activities in higher education should be the development of individual investment development programs. The development of this program will allow a higher educational institution to consolidate its mission, anticipate the purpose and mechanisms of investment, to consolidate investment goals and objectives.

In general, the higher education sector is based on market mechanisms, due to a number of reasons. A large number of higher educational institutions in Ukraine, the quality and market of educational services, the introduction of new scientific products, material and technical base, international relations are the main reasons affecting demand and allowing to compete with educational institutions [6, p. 50].

The investment program for development of a higher educational institution is a program document that is an integral part of the long-term development plan of a higher educational institution and is based on financial and economic miscalculations and social effects. The content of the investment program for development of educational space should implement a long-term plan for development of higher educational institutions by attracting investment and resources. We believe the investment program for development of higher education should be not just a normative document, but a roadmap that is constantly reviewed, updated and in no way detached from the realities of university life.

Considering the investment program for development of higher education as a normative document, on the one hand, we can say about strengthening of bureaucratic processes in higher education, and on the other hand, particularly in investment planning a bureaucratic process is able to help a higher educational establishment to properly build and implement individual strategies (trajectory) of investment attraction.

Modernization of the educational system of Ukraine takes into account the latest societal challenges and priorities of the legislative and executive branches of government, in particular, to improve the efficiency of education, overcoming territorial differences in the quality of its provision, establishing autonomy and equitable funding [1, p. 16]. It should be noted that the investment program for development of higher educational institutions is primarily focused on the processes of modernization and integration in education. Therefore, first of all the program should be focused on the social effect, and only then – on the financial aspect.

A number of Ukrainian universities, focusing on European experience, are ahead of time and begin to develop and implement certain elements of investment development programs. In our opinion, the investment program for

development of a higher educational institution consists of a number of materials – marketing strategy, investment passport, brand book or recommendations for brand use, cluster economic analysis, guide partner-investor and outlined social project plan. For example, applying international experience and trying to implement an interesting idea through attracting private investment, Kryvyi Rih State Pedagogical University implemented a project and created a youth centre [4, p. 32]. The project was implemented within the framework of social partnership in 2017, and the project had no analogues in Ukraine. As a result of the project, the material and technical base and infrastructure were updated, relations with a non-governmental international organization and a large domestic company were established, a separate promising area of the university's activity was provided – youth and social work and non-formal education, one of the strategic goals «Strategic plan for city development until 2025» [5], etc. No less important result of cooperation and implementation of this project can be considered the lack of effective mechanisms for implementing social partnership in the educational system and the need to identify priority projects of the university that require investment.

In our opinion, a special place for investment can be attributed to the personal activities of the manager of a higher educational institution. The investment activity of the manager shows his ability to comprehensively direct the activities of the institution of higher education. Investment development programs implement management, educational, scientific, international, financial and economic activities of higher educational institutions. Investments allow the manager not only to upgrade the infrastructure or purchase new materials, but also to save the available resources of the higher educational institution and their expenditures to address other issues.

The following results were obtained during the study. Currently, the problem of investment activities of higher education is the lack of an optimal mechanism for attracting, implementing and controlling investments. A positive aspect of such activities can be considered the approbation of European practices in domestic universities and the development of investment programs for development of higher educational institutions, as a set of measures aimed at developing cross-sectoral links of higher educational institutions and implementing its main activities.

Investment programs for development of higher educational institutions are a kind of roadmaps that reproduce the actual state of affairs in higher education, its subjects and processes, determine the individual trajectory of each higher educational institution to attract the necessary investment. Attracted investments and resources are needed to implement the university's

mission and long-term development plan, introduce innovations into the educational process, improve the quality of educational services and competitiveness of higher educational institutions among potential entrants, successful integration into the European educational space.

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THE USE OF ICT IN THE MORAL EDUCATION OF PRESCHOOLERS: PROBLEMS AND FINDINGS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-49>

The urgency of the issue of moral education of preschool children is due to a number of factors, which gives grounds for outlining its importance and finding effective tools in the implementation of priority tasks. It is during the preschool childhood, as noted in the new version of the Basic Component (State Standard of Preschool Education), that the moral growth of personality takes place (educational areas: «Personality of the child» and «Child in society») [1]. Accordingly, educators of preschool education institutions should stimulate the formation of moral concepts and moral judgments, moral feelings and emotions, moral actions and moral behavior in preschool children, which in their entirety constitute the moral self-consciousness of the preschooler. In general, moral education contributes to the formation of a harmonious personality, which is aware of and accepts in the internal plan of action moral norms and is guided by moral values that determine the basis of interpersonal relationships.

The issues of finding effective means to fulfill the tasks of moral education of preschool children, which are set out in the partial program «Treasury of Morality» deserve attention [3]. Without denying the traditional ones, we will focus on the use of innovative, in particular, information and communication technologies (ICT). According to studies by many foreign scientists (L. Chen et al., 2018; Masoumi, 2015; Nikolopoulou & Gialamas, 2015; Wang & Hoot, 2006), the use of ICT helps to expand children's perception of information, which, in turn, stimulates the development of the preschooler's personality, its capabilities and needs [2; 4; 5; 6].

The integration of ICT in the educational process of preschool education institutions contributes to the expansion of its content. Thus, information of moral orientation becomes more accessible for perception by preschool children. Bright pictures-images, musical or verbal accompaniment on the monitor screen allows to activate children, to pass from explanatory-illustrative way of information content to activity, in which the child from his own experience begins to tell about moral situations that happened to him. Thus, the moral education of preschoolers with the use of ICT should be, on

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the one hand, interesting for children and, on the other hand, productive in the implementation of the tasks set by the educator.

Among a number of significant amounts of ICT, the most accessible for use in the educational process of preschool institutions are YouTube and audio stories. In particular, YouTube is perhaps the most convenient and easiest means of ICT to be used with preschool children. YouTube provides a wide selection of videos to watch according to the moral content provided to children. Preschool educators can post amateur videos on YouTube on their own, which reveal the plot of a situation of moral content (for example, fairy-tale or literary characters) that may take place in the real life of their pupils. Audio tales – tales in on-line format on moral and ethical topics with musical accompaniment on special web-resources.

The purpose of the research was to select and test available for the perception of preschoolers ICT for the implementation of the tasks of moral education in the educational process of preschool education. The main means of using ICT are materials of the YouTube channel and audio-tales in on-line format on the topics of moral content, their discussion and analysis with older preschool children. Methods of conducting the formative stage of the experiment, planned for 2020–2021 provided for the conclusion of a system of ICT use in accordance with the objectives of the program of moral education [3]. We offer a brief description of it (see Table 1).

The use of ICT provides the formation of children's moral attitudes and moral values under the influence of informing them: raising awareness of moral norms, providing primary ideas about good and evil, standards of proper (or inappropriate) behavior. During such work, preschoolers compare themselves with the characters on the screens, analyze their behavior, moral self-esteem of their own actions. Thus, the practical implementation of ICT in the process of moral education of preschool children involves the development of a special system of appropriate resources in order to ensure the moral growth of each individual, based on the characteristics of the child's moral development, moral needs, requests, etc. ICTs make it possible to implement effectively the tasks of moral education of preschoolers.

Table 1

**The system of using ICT in the moral education of preschool children
(on the example of the senior group)**

Program section «Treasury of morality» [3] (thematic direction)	Main program tasks	Name and URL of the resource
1	2	3
To know about morality – to avoid troubles	– to teach children to behave in accordance with the norms of morality on an independent basis; – to form conformity in the attitude to the observance or violation of generally accepted norms and principles of morality	Instructive videos of history. Useful tips. «True or false» https://www.youtube.com/watch?v=USSkn3XIIic&list=PLmMdc5EtRgSgAttgtRF_hbsRiAoVF4Hub&index=33 Evening stories. Honesty https://www.youtube.com/watch?v=S1RtztOCa14 Audio tales: «Rabbit chill» http://deti.e-papa.com.ua/dytyachi-pisni/6/9306.html «Chanterelle and crane» http://deti.e-papa.com.ua/dytyachi-pisni/6/9248.html
Respect adults and grow polite	– continue to cultivate a respectful attitude towards the environment (relatives, friends); – support the desire of children to show sensitivity and attention to family and adults; – cultivate gratitude for the care of elders	Useful hints. «One day of adult life» https://www.youtube.com/watch?v=lqOGRtpq3ow Useful tips. «How to understand another» https://www.youtube.com/watch?v=iovMqYW4iIU Evening stories. Respect https://www.youtube.com/watch?v=ZcYX2bw1Dmk Audio fairy tale «Mrs. Blizzard» http://deti.e-papa.com.ua/dytyachi-pisni/6/9284.html
To live together with children and understand them	– to form a friendly attitude to peers, respect for their rights and interests on the basis of morality; – develop in children the desire to act in the interests of a partner or group of peers; – support children's ability to exercise moral self-control	Instructional video stories. Useful tips. «Friends» https://www.youtube.com/watch?v=au6zMAyHHmc «How to understand another» https://www.youtube.com/watch?v=iovMqYW4iIU «What is a real friend?» https://www.youtube.com/watch?v=TAbmgJYI8pE «Brothers and sisters. How to make friends»

(Continuation of Table 1)

1	2	3
		<p>https://www.youtube.com/watch?v=qHwxHc7HXJo «If they are not friends with you» https://www.youtube.com/watch?v=hR8wxkEcCnk «Giraffe and Rhino» http://deti.e-papa.com.ua/dytyachi-pisni/6/9371.html</p>
Trust and co-experience	<ul style="list-style-type: none"> – to form the ability to show understanding, sympathy and friendliness in relationships with others; – learn to provide emotional support to peers in case of certain difficulties; – support empathy in children 	<p>Instructive videos of history. Useful tips. «Brand new» https://www.youtube.com/watch?v=2zM_KDVgUP8 Ropes. A story about friendship https://www.youtube.com/watch?v=S_Q0ByWT8lg Video story «Nightingale with one wing» https://www.youtube.com/watch?v=nmgKPeKPufk Social video «Rich boy and shoes» https://www.youtube.com/watch?v=9btXLvkHqVo</p>
Acquire good manners and become polite	<ul style="list-style-type: none"> – encourage the use of polite words in speech during conversations, appeals, requests, etc.; – to reveal the importance of the native language in the process of forming the foundations of morality; – to stimulate in children signs of a friendly form of expressions of offers, councils, requests, etc. 	<p>Instructive video stories. Useful tips. «How to become responsible» https://www.youtube.com/watch?v=LDBE9GsqHB8 «To fight or not to fight» https://www.youtube.com/watch?v=J4kAWeNtKZ0 «If you did a bad deed» https://www.youtube.com/watch?v=213jhdgAF1s «Tears and cries» https://www.youtube.com/watch?v=Hhn5S7FVaqg&list=PLmMdc5EtRgSgAttgRF_hbsRiAoVF4Hub&index=22 «About whims and brawls» https://www.youtube.com/watch?v=LKYi7pU0IPM Audio fairy tale «Hare and Hedgehog» http://deti.e-papa.com.ua/dytyachi-pisni/6/69.html</p>

(Continuation of Table 1)

1	2	3
<p>Do good deeds and always rejoice in them</p>	<ul style="list-style-type: none"> – stimulate the ability to make the right moral choices, which is a prerequisite for moral actions; – explain the consequences (joys or sorrows) of the implementation or violation of all available rules and familiar rules; – to develop a personal attitude to the observance and violation of moral norms 	<p>Useful tips. «The cycle of good in nature» https://www.youtube.com/watch?v=yXEbKdpyaUk Useful tips. «If they are not friends with you» https://www.youtube.com/watch?v=hR8wxkEcCnk Useful tips. «If you did a bad deed» https://www.youtube.com/watch?v=213jhdgAF1s Audio fairy tale «A tale of joy. Gifted joy» https://www.youtube.com/watch?v=-aqN4PuKzdo</p>
<p>To be in harmony is to forget about insults</p>	<ul style="list-style-type: none"> – develop children’s desire to express their (morally acceptable) position and attitude to what is happening around; – teach children to objectively perceive a positive and negative assessment of their worthy (or vice versa) 	<p>Instructive video stories. Useful tips. «School of good mood» https://www.youtube.com/watch?v=kUY-QzskELk «Make peace, make peace!» https://www.youtube.com/watch?v=MASnZdHRc6s Audio fairy tale «Little Mitsik» http://deti.e-papa.com.ua/dytyachipisni/6/9374.html «The Parable of the Good» https://www.youtube.com/watch?v=SHqeG2w10mA</p>
<p>Evaluate yourself and make it better</p>	<ul style="list-style-type: none"> – to form the ability to evaluate one’s own moral qualities, actions (ability to negatively evaluate one’s own violations of moral norms); – to develop independence and criticality of children’s assessment and self-assessment, the ability to 	<p>Instructive video stories. Useful tips. «The one who lives inside you» https://www.youtube.com/watch?v=jw5MjbGPTLE «If you did a bad deed» https://www.youtube.com/watch?list=PLmMdc5EtRgSgAttgtRF_hbsRiAoVF4Hub&v=213jhdgAF1s «About insults» https://www.youtube.com/watch?v=rQNYItqSfmo&list=PLmMdc5EtRgSgAttgtRF_hbsRiAoVF4Hub&index=51 «Great green envy»</p>

(End of Table 1)

1	2	3
	adequately assess the possibilities of their own influence on other people; – to form children’s moral self-awareness	https://www.youtube.com/watch?v=9u66Qjs9lvM «Anger. Punish or pardon» https://www.youtube.com/watch?v=S9gYGvC4Dt4 «About Greed and Generosity» https://www.youtube.com/watch?v=qT7YwoRRtgE «Shy or cautious» https://www.youtube.com/watch?v=9Cj1pZxSTpM

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WORLD TRENDS OF PROFESSIONAL TRAINING OF FUTURE TEACHERS IN HIGHER EDUCATION INSTITUTIONS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-50>

In the world educational space, teacher training that meets modern European standards of professional competence is the historical mission of pedagogical universities, the implementation of which involves the implementation of appropriate organizational, substantive and methodological transformations, as stated in the Pedagogical Constitution of Europe. An important source of strategy for such reform is the study of foreign experience, which will help identify trends in the training of future teachers in higher education institutions in different countries in order to implement positive ideas of this experience in the higher education system of Ukraine.

Professional training of future teachers in foreign countries is the subject of scientific research of many Ukrainian and foreign scientists, in particular – N. Avsheniuk, N. Yevtushenko, Y. Klymenko, N. Nosovets, A. Tolochyk, O. Khyzhniak, M. Azzi, D. Bosse, R. H. P. Cheung, I. Yankovych and others.

In the context of the study, the experience of training future teachers in the Netherlands is noteworthy, as Ukrainian and foreign experts note the high quality of education in the Netherland HEIs. In Netherland it is monitored the quality of education to control the country's HEIs compliance with relevant international standards. In 2002, the Netherlands adopted the Law on Higher Education, according to which all curricula offered by the Higher Education Institution must meet specially developed criteria. Only those programs that have passed the test are allowed to be used in the educational process. In the Netherlands, there are three types of HEIs: universities, polytechnics education institutions and institutes of international education. Universities specialize in teaching the humanities and conducting research. Polytechnic HEIs in the Netherlands are called hogescholen and train wide range professionals to work in various sectors of the economy. Institutes of International Education (IE) were created to teach foreign students [2].

In the Netherlands, education is divided into two periods. The first period lasts 3 years. At the end of the first period, students take an exam for a Bachelor degree. The second period allows for the next 1-2 years of study to obtain a Master degree. Many programs require a score of at least 550 on the TOEFL exam. Those who decide to study in the Netherlands are given the

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opportunity to choose one of the educational programs: national, conducted in the country language, and international – in English. In particular, there are the following educational programs: Bachelor Programs – English-language programs in some disciplines at universities (3 years) and professional institutes (4 years) with a Bachelor degree achievement; Master Programs – English language programs (1-2 years) for graduates in universities, professional and international institutes with a Master degree; Advanced Master Programs – English language programs at universities (1 year) for masters with little experience in the specialty with a second master's degree; Doctorate (Ph) Programs – scientific work on a doctoral dissertation for specialists with an international master's degree (4 years); MBA (Master of Business Administration) – a prestigious program for professionals [3].

An important feature of vocational training in universities and higher vocational education institutions of the Netherlands is the involvement of students in research. In contrast to higher vocational higher education institutions, universities in the Netherlands carry out basic research, which is provided by public funding; there is a training of researchers; introduced special requirements for entrants, which are that, entering the university, the entrant must complete high school pre-university training or have a document of completion during the year in a higher professional education institution. The peculiarity of the academic program of training in universities is that the student, along with knowledge of a particular professional field, receives a classical academic education. These trends give grounds to conclude that the uniqueness of universities in the higher education system of the country.

The leading trends in the training of specialists in the development of modern university education in the Netherlands are: compliance of professional training in universities in the Netherlands with the requirements of the European Higher Education Area; unity of educational and research activity in professional training in the conditions of universities; ensuring professional and academic mobility in universities and state financial support of university professional training. These trends take into account the processes of formation of university education, its development and meet the requirements of the European educational space [1, p. 115–120].

In the context of our study, the experience of training future teachers in Greece is important. Note that the Greek higher education system is decentralized and contains two sectors: university and vocational. The Greek Constitution gives universities full autonomy and academic freedom. Greece participates in international comparisons of the quality of language, science and mathematical literacy PISA [4, p. 142].

In Greece, there are high social standards for students: free dormitories, free meals, free medical care, including for international students. Most Greek

free economic zones are state-owned. The competition for the Greek HEIs is very high. Enrollment is based on the results of final exams, which are taken after completing secondary education in the relevant institutions. A feature of Greek higher education is induction – the introduction of a teacher to a position under the regional In-Service Training Centers (PEK). It consists of three stages with a total duration of 100 hours, including didactic methods, education management and organization, teaching practices, assessment methods (60 hours), practical training (30 hours), and assessment and planning (10 hours). In Greece, teacher induction programs are mandatory, and teacher mentors receive an auxiliary salary.

Regarding teacher training in the Slovak Republic, it should first be noted that Slovakia has undergone a difficult path of reforms, the results of which allow us to speak about the functioning of the country's higher education system at the European level. In the context of Europeanization, the activities of higher education bodies in Slovakia can be traced in at least two directions: the first is the creation of legal bases through the adoption of regulations, the second – practical actions for their implementation and other initiatives in the educational process. In Slovakia, the law establishes a system of two main study cycles: undergraduate and postgraduate. Curricula and academic degrees of three levels are introduced in HEI: 1) Bachelor (Bc.); 2) Master (master – Mgr., Mgr.art.), Engineering (engineer – Ing., Ing.arch.), Doctor (doctor – MUDr., MVDr.); 3) doctoral (doctor – PhD, ArtD, ThLic.).

Positive changes in the education system of Slovakia are the deepening of the internationalization of higher education and science, which contributes to the expansion of multilateral cooperation of Slovak higher education institutions, increasing their competitiveness and openness, improving the quality of education and research. In Slovakia, in the context of modernizing the higher education system, teacher training curricula are adapted to the requirements of society and the labor market, which in turn affects the number of applicants for the profession; the number of graduates of higher education institutions in pedagogical specialties is increasing [6, p. 272–273]. It is worth noting the activities in the country of international, European and national rating agencies – Academic Ranking of World Universities, European University Association, European Network for Quality Assurance Agencies in Higher Education, Akademicka rankingova a ratingova agentura.

Thus, the analysis of foreign experience of professional training of future teachers allowed to identify global trends in student training at the present stage of development of higher education: multilevel model of pedagogical education; high quality of pedagogical training that meets the best world standards; the education system is decentralized; considerable attention is paid to the study of foreign languages; a systematic approach to the organization of

professional development of teachers of general secondary education based on the restructuring and optimization of methods, forms and models of teaching through the integration of elements of practical activities into professional development curricula and the formation of continuing pedagogical education as an organically integrated, optimal and dynamic system; strengthening the independence and responsibility of students for their studies, the possibility of individualization of the curriculum, the growth of academic mobility; multiculturalism and polylingualism; multidisciplinary (acquisition of specialization in two subjects simultaneously); systematic and systematic use of innovative technologies; high level of personal-social-state orientation of the system of monitoring the quality of higher education; free access to statistics and mandatory publication of monitoring results by independent media; a small number of subjects taught (not more than 16 disciplines in one academic year); relocation of the center of professional and pedagogical training to school; growth of pedagogical practice and expansion of places of its passing; increasing the requirements for entrants both in the case of admission to pedagogical specialties and during their employment; increasing the role and importance of various professional organizations (schools of professional growth, associations, unions, centers of pedagogical skills) in the process of professional development and certification of teachers. Taking into account these features of foreign experience in the domestic system of training future teachers will contribute to the effective modernization of the higher education system of Ukraine.

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ENGLISH FOR SPECIFIC PURPOSES VS GENERAL ENGLISH

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-51>

According to the English for Specific Purposes (ESP) Curriculum the aim of learning is developing not a separate set of language tools but an integrated system of skills in order to be used in situational and professional communication [1, p. 5].

In order to achieve the main aim, an appropriate level of ESP competence is developed, consisting of foreign language knowledge, language, communicative skills as well as general technical skills.

As a result, learning as a model of real communication diminishes the language tool set in order to satisfy the certain students' needs. Authentic teaching materials are also supposed to be used to provide the professionally focused communication under the conditions of intercultural communication [2, p. 7].

Mentioned above language knowledge, skills to use a set of lexical, grammatical tools builds up the premise for further self-work with ESP corresponding to educational challenges and harmonic unity of learning and future professional activities.

Thus commutative situations that are typical for professional domain encourage students to use ESP in class and make the learning process as close as possible to natural professional communication.

Relatively, ESP competence is considered to be a complex personal issue, developed during the language learning and consisting of linguistic,

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communicative, social cultural knowledge, professional skills and certain set of values that based on personal experience and revealed when a learner is ready to perform successfully in the professional arena.

Traditionally ESP academic curriculum is developed for intermediate and advanced levels. Still, the number of ESP learners is increasing drastically these days which can be explained by:

- 1) a growing ESP interest among learners all over the world;
- 2) the popularity of English as the main tool of international communication under globalization processes (more and more learners are using English to gain professional knowledge and develop appropriate professional skills);
- 3) improving the general level of knowing foreign languages and as a result a growing number of younger generations who are eager to learn ESP [3].

On the other hand, specific conditions of professional activities, the system of vocational bonds, technological, social and psychological aspects should be taken into consideration:

- 1) ESP learning is thought to be a tool to achieve a professional aim that overcomes the border of formal linguistics;
- 2) previous unsuccessful foreign language learning can have a negative impact on the motivation of ESP learning;
- 3) ESP can be learnt after working hours or along with professionally focused disciplines that can cause physiological and physical tiredness and make a student be indifferent to the events in the learning theatre;
- 4) ESP can be learnt on demand of the authorities but not according to the learner's wish;
- 5) there might be learners of different language levels to study ESP in the same group that make a teacher search for more efficient strategies and use differentiated approach;
- 6) bosses and coordinates study ESP in one group;
- 7) different professional field students study ESP in one group;
- 8) discrepancy in ESP students' levels and the curriculum demands [4, p. 10].

To recapitulate said above, one can arrive at the conclusion that ESP learning should be focused on satisfying the professional students' needs; be organized on the premises of general principals of professional teaching as well as special methodological principals (presupposing content, methods and directions of pedagogical influence on the learner to help the latter achieve the appraise ESP level); take into account technological, social and psychological issuers of ESP learning; use additional motivation tools to diminish the influence of negative previous foreign language experience.

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THE DEVELOPMENT OF DIGITAL COMPETENCE OF PRIMARY SCHOOL STUDENTS' ACCORDING TO PRINCIPLES OF NUS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-52>

Modern students, the digital generation, don't want any more to wait passively for knowledge that is passed on slowly, logically and successively by the teacher. The new generation of children wants interactivity and multitasking, quick information, they love visual pictures, short videos. Children tend to learn together with each other, share their experience, implement joint projects. They value things that can be immediately tried in practice and are much less receptive to a dry theory detached from modern life. Therefore, the task of a primary school teacher is to organize the educational process in such a way that students should not be afraid, but want to ask questions, develop their creativity and imagination, independence, maintain cognitive activity. We must create conditions for the harmonious entry of a child into the educational environment, maintaining his/her health and emotional well-being.

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Primary school subjects have a special role, as studying them, the foundations of worldview, the learner's personality, the ability to live in an unstable world are formed, modern forms of communication are learned, the ability to perceive information and to make deliberate decisions is developed.

According to the «New Ukrainian School» Concept and the State Standard of Primary Education, the educational process in the school should be focused on the formation and development of vital competencies. Among 10 key competencies, which «children should acquire while studying various subjects at all stages of education», is **the information and digital competence**, which includes:

- both confident, and at the same time critical application of information and communication technologies (ICT) for creation, search, processing, exchange of information at work, in public life and private communication;
- information and media literacy, basics of programming, algorithmic thinking, work with databases, Internet security and cybersecurity skills;
- understanding the ethics of work with information (copyright, intellectual property, etc.) [1; 2].

This competence is the most modern and dynamic, it demands, first of all, from the teacher, who works with a child, to improve oneself constantly, to search for innovations that can be later implemented during the interaction with children. The teacher should realize that **what, was a novelty yesterday, is relevant today, and it will be long-standing tomorrow.**

The use of Computer Technology and the Internet during interaction with primary school learners provides an opportunity to improve the ways of organization of the educational process, make it more innovative, interesting, accessible and stimulate students' interest in learning. Thanks to the use of multimedia teaching aids, lessons become dynamic, bright, diverse in genres, and their effectiveness increases. After all, children's range of interests expands, the material being studied is perceived differently. They learn to think creatively, to express their thoughts more fully and accurately, to show their individual abilities, to overcome certain difficulties in learning, to formulate questions independently, to solve problems and organize a creative process, with a focus on solving of current life problems. And these are the most important steps in the formation of life competencies of the personality.

These tasks can be implemented at primary school lessons when teaching students to analyze, process and effectively use information (including media and digital), as well as to create their own media products (projects, presentations, word clouds, own puzzles and crossword puzzles, QR codes).

That is why my work consists of different methods, types and forms of activities, which are based on the use of various electronic educational resources.

Online games are not only a good way to relax during your free time. Educational online games provided a unique opportunity, they help a child both to play and learn something new for yourself. Their implementation helps to find something cognitive in school subjects, interesting and unconventional ways of problems solving. A child will feel more confident in the classroom, be able to read a word, write a letter, count objects, if among many new icons he or she meets familiar ones. This fact partially offsets the influence of such features as his/her temperament on the pace of work and emotional stability. Therefore, during interaction with my students, interesting programs with interactive exercises, fun animated characters, bright plots and background sound, offered by the Ukrainian multimedia publishing house «SmartKids» are used [3] as well as the game platform Kahoot developed by Norwegian scientists.

Kahoot is a relatively new platform for creating online quizzes, tests and surveys that can be used effectively for didactic purposes. Students have the opportunity to do tests created by a teacher in the form of games on their tablets, laptops, smartphones, that is on any device that has access to the Internet. Tasks created in Kahoot allow you to attach photos and videos. The pace of quizzes and tests doing is regulated by a teacher when a time limit for each question is introduced, the individual capabilities of children are taken into account.

Nowadays, to participate in the testing, my students have learned to visit the platform and enter the PIN code, which I provide from my computer. It is convenient for them, using their personal devices, to choose the correct answer, the options of which are represented by geometric shapes. When the game begins, students' work is evaluated by two parameters at once: the choice of the correct answer and the speed of the task doing in comparison with classmates [4].

The requirement of current time is the ability to use a QR-code in everyday life (a square picture in which certain information is encoded). Their special appearance makes it easier to read encoded data with modern mobile phones equipped with cameras. It is enough just to train the smartphone camera on the code and you can get access immediately to its contents.

The ways of using QR-codes are endless: on advertising materials, bookmarks, leaflets, posters. QR-codes can be used on information stands, as a video or multimedia comment (in the form of links), for the announcement of the advertisement or other material, they also can be used for developing of excursion routes, where photos with QR-codes are used to link web pages indicating the location of the objects.

There are some cases when I can use QR-codes:

– If the lesson is accompanied with a presentation, you can provide students with handouts including QR-codes for access to interesting applications (hyperlinks to multimedia sources and resources: video applications, audio applications, sites, animations, e-learning publications, libraries).

– They can be implemented in diagnostic tests to consolidate the learned material. On each task sheet, you can use a printed QR code with the correct answers or as a prompt with a problem-solving algorithm. Students will try to get their own answer before looking at the correct one.

– A hidden hint. The teacher can encode their own hints and then print out the received QR-code together with the task. Everyone who needs a consultation on the topic will receive it in any convenient place, just by reading the code.

– In an educational game such as a quest with tasks in the form of QR-codes; QR Treasure Hunt Generator automatically creates a QR-quiz out of the proposed questions. Then the printed QR codes can be left in the office or, for example, throughout the school yard. Students, thus, can improve not only knowledge but also their physical training.

– In educational puzzles;

– According to the same principle, you can organize a tour around the school. In the office (corridors, library, other rooms) you need to leave a printed QR-code with a link to video, audio or a whole photo album [5].

Every day I get convinced that digital technologies have great importance in all spheres of life and activity of every person, including the youngest student. Influencing the education of the younger generation, often becoming a leading factor in their socialization, spontaneous social learning, digital technologies are turning into a powerful tool of distant learning and additional source of non-formal education. I understand that in order to become a powerful source of information for my students, I have to work ahead, improving my mastery of various technologies.

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PHILOLOGICAL SCIENCES

TRANSLATION PECULIARITIES OF FAIRY TALE GENRE IN COMPOSITIONAL AND CULTURAL ASPECT

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-53>

Besides a fairy tale has certain genre peculiarities it also has its own translation strategies. Citing the fact that tales belong to a peripheral fiction rather than to a serious literature, translators sometimes neglect the two main «commandments» of high-quality translation output which are known as adequacy and equivalence. But analyzing the Ukrainian publishing market, we found out that children's literature takes 22 % of translated fiction editions that can be considered as rather a significant percentage. This figure makes it relevant to conduct researches on translation peculiarities of this genre for solving the different problematic issues such as reflection of cultural phenomena in the target text, conveying the author's intention and fulfilling the reader's expectation. Thus J.R. Kipling is included in the list of top 10 most translated authors, we suggest to take a closer look at his collection *Just So Stories* as a bright sample of English children's literature with global recognition and to choose one of the tale to be a subject of our further investigation.

Into Ukrainian Kipling's *Just so stories* was translated by both mastodons as well as newcomers of Ukrainian translation industry. Among them are V. Tkachkevych (1907), O. Kryvyniuk (1918), Yu. Siryj (1925), M. Yohanssen (1935), Yu. Shkrumelyak (1938), Ye. Bondarenko (2002), V. Cherednechenko (2007), N. Domova, V. Chernyshenko and I. Savyuk (2009). Perhaps, one of the well-known translation on the market is still *Yak y Chomu (How and Why)* (1957) by L. Solon'ko. One more Kipling's manifestation, however, of XXI century is translation by V. Panchenko (2005), his collection of selected stories *Kazky (Fairy tales)* was issued by one of the leading Ukrainian publishing house «Mahaon.» In our further investigation we will make reference to this very edition. From the scientific point, J. R. Kipling's creative output was examined by some Ukrainian scholars such as I. Oliynyk who wrote the dissertation (*Ukrainian Translations of Rudyard Kipling's Collection Just So Stories: Reception,*

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Interpretation, Evaluation (2009)) and N. Mospan who has the sequence of researcher's papers on this topic including the monography (*Semiolinguistic Aspect of Ukrainian Translations of R. Kipling's Fairy Tales* (2011)).

The aim of the article is to observe translation strategies of fairy tale *The Elephant Child* with particular emphasis on culturally-oriented approach to manifestation of alien culture concepts.

Before we start analyzing the chosen pieces of children's literature themselves. Let us enumerate the main genre peculiarities of fairy tales that are indispensable for translation theory. The distinctive feature of such fiction is that tales are focused on dual audience included children and adults. So, the major task of a translator are both to understand children's cognitive abilities and general knowledge but also to take into account adult's values and worldviews [1, p. 22]. The next basic requirement is a maintenance of the compositional architecture: authentic beginning and ending, three-time repetitions of the action e.t.c. Moreover, a translator should focus on compliance of conventional components such as dichotomy (good and evil), direct appeal to the audience, didactic element and others. The culture code of the target audience plays also an important role for choosing of the translation strategy. Obviously, there are some cases in the original text that will be understandable only for native speakers of the land which this tale is written for. From the point of cultural interpretation, translator can opt for either the domestication, adapting the text to preferences of potential readers, or the maintenance of foreign atmosphere, reproducing cultural components as they are depicted in the native context. On the lexical level translator may choose the descriptive way to convey the meaning of the phenomenon or to pick up an appropriate Ukrainian equivalent. And one more peculiar feature is an attempt of translator to preserve individual author style of writing that it will be recognizable even in the target text. Taking into account all information above, we suggest to observe an application of translation transformations in the original Kipling's text «The Elephant Child» and its translation made by V. Panchenko. We will analyze the Ukrainian reproduction of English source text according to its compositional axis, conventional and didactic elements, but our main focus will be on an interpretation of cultural concepts as nuclear units that reflect worldview of certain culture representatives.

Talking about the beginning, the translator adapts it to a traditional Ukrainian pattern: «*In the High and Far-Off Times...But there was one Elephant—a new Elephant—an Elephant's Child...*» [2, p. 47]. «*За Давніх-Прадавніх часів... Але жив тоді один Слон – зовсім молоденький Слон, просто-таки Слоненя...*» [3, p. 57]. These markers demonstrate the domestication strategy for the sake of a better perception by Ukrainian readers. Concerning the final part that provides closing explanation for the principal

question throughout the story, the translator tries to preserve author's intention rather than to implement additional authentic models in the ending. It is reproduced in the following way: «...since that day, O Best Beloved, all the Elephants you will ever see, besides all those that you won't, have trunks...» [2, p. 59]. «...Слони, яких ви колись побачите, й навіть ті, яких ви ніколи не побачите, мають точнісінько такі самі хоботи...» [3, p. 70].

Furthermore, the original text of tale has several occurrences of triple repetition as a compositional element of the structure. All of these cases are transmitted in the target text accordingly that can be shown through such examples:

1) The repeated phrases of the characters: «Come hither, Little One» [2, p. 51]. «Ходи-но сюди, маленьке моє» [3, p. 62].

2) The duration of some actions: «The Elephant's Child sat there for three days waiting for his nose to shrink» [2, p. 54]. «Трі дні Слоненя сиділо й чекало, поки його ніс поменшає» [3, p. 65].

3) Three benefits of trunk: «Vantage number one!» [2, p. 54]. «Перша користь!» [3, p. 66]. «Vantage number two!» [2, p. 54]. «Друга користь!» [3, p. 66]. «Vantage number three!» [2, p. 55]. «Третя користь!» [3, p. 67].

In addition, the tale has some cases of onomatopoeia that are worth to be examined. So, the translator managed to create the effect of sniffing with a help of usage the appropriate Ukrainian consonants that makes it sound naturally: «Led go! You are hurtig be!» [2, p. 52]. «Буздідь беде! Беді боляче!» [3, p. 63]. One more interesting translator's decision can be illustrated with adding the Ukrainian colour to the next phrase: «O Bananas!» [2, p. 58]. «Хай тобі банан!» [3, p. 69].

As for didactic moment, in both, the original and the translation, it isn't expressed directly but through the image of the main character, The Elephant Child, who is a kind of the role model for the youngest reader. It can be described by the following extract: «The rest of the time he picked up the melon rinds that he had dropped on his way to the Limpopo – for he was a Tidy Pachyderm» [2, p. 58]. «А по дорозі воно увесь час підбирало шкуринки з динь, що їх розкидало раниш, коли прямувало до Лімпопо, – адже то було Дуже Охайне Слоненя» [3, p. 68].

Another side of translation process can be examined from the point of the culture-oriented approach. Regarding the problematic issues connected with interpretation of foreign cultural phenomena, the translator uses different modes. For example, in some cases we can see the tendency to omission of those clauses where there are such realias that Ukrainian readers are not familiar with. That can be observed in the next excerpt: «That very next morning, when there was nothing left of the Equinoxes, **because the Precession had preceded according to precedent...**» [2, p. 48]. «Отож

наступного ранку, коли Рівнодення вже зовсім скінчилося...» [3, p. 58]. One more interesting example that reflects English cultural concept but it is not conveyed in Ukrainian translation: «...will jerk you into yonder limpid stream **before you can say Jack Robinson!**» [2, p. 52]. «...затягне тебе просто в річку!» [3, p. 63]. For the sake of clarity, this figure of speech needs an additional explanation. When referring to Jack Robinson, it is used to represent quickness, thus Ukrainian target text has a loss of meaning. More cultural moments in the translation are further demonstrated through adaptation of African vegetation to Ukrainian flora: «...sitting in the middle of a **wait-a-bit thorn-bush**...» [2, p. 48]. «...що сиділа неподалік на **терновому кущі**...» [3, p. 58]. The same thing is with interpretation of musical units: «...he sang to himself down his trunk, and the noise was louder than several **brass bands**» [2, p. 58]. «...сурмило в хобот, що виходило гучніше за **мідяні сурми**» [3, p. 67]. The translator used the term «*surma*» that is an old Ukrainian wooden brass instrument. So, such moments express *différance* of cultures and help to learn about *lieu de mémoire* of certain nation.

But apart of all mentioned above, we consider it also important to note that in J. R. Kipling's stories, there is a frequent usage of the phrase «just so» that echoes with the name of the whole collection and bares additional connotation of the childish curiosity. As for V. Panchenko, he called his book *Kazky* (*Fairy tales*) where is included only selected stories. So, despite the phrase «just so» is translated accordingly «такий», a cross-cutting concept that intertwines all the stories is lost in the target text.

In the article, we had observed the basic translation strategies for fairy tale genre. The conducted investigation that was based on the comparison of the original text and its translation within one of J. R. Kiplin's stories, namely «The Elephant Child», helped us to demonstrate stages and problematic issues of the translation process including compliance of compositional elements and reflection of foreign culture phenomena. Our work suggests that more full research is ought to be done in order to gain other cases that can be examined not only in translation theory but also in cultural studies.

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NARRATIVE AS A TOOL OF SHAPING NEGATIVE IMAGE OF UKRAINE IN CONDITIONS OF HYBRID WARFARE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-54>

For years, Ukrainian society has been the object of hostile information and psychological operations, propaganda, fakes, manipulations, and suggestions that distort perceptions of reality, disorder consciousness, influence behavior and decision-making, impose a specific agenda, and so on. These operations' strategic goal is the deconstruction and liquidation of Ukraine as a state by blurring the Ukrainian identity, fragmenting the nation and society, destabilizing the political system, delegitimizing public authorities, destroying public institutions, and so on. Discrediting Ukraine and undermining its image is one of the continental war tasks because the image is a strategic intangible capital of the state, which determines its geopolitical position, affects international partnership, the effectiveness of diplomacy, and foreign policy. Besides, the country's image is an essential factor in national security because it motivates internal political, economic, and social stability, legitimizes public authorities' activities, affects the rule of law, etc.

An image is a holistic stable representation of a specific object of reality, which arises as a result of perception and concomitant filtering of information from the external environment about this object through the prism of existing stereotypes and which exists and reproduces in the mass or individual consciousness [1].

In the conditions of information and psychological confrontation, strategic narratives became one of the most powerful tools (technologies) of influencing the image of Ukraine. A narrative is a form of human comprehension of the world around, registration of experience and ordering of meanings, a way of giving meaning to the sphere of social actions [2, p. 153]. The concept of «strategic narrative» is defined as a convincing storyline based on society's ideas and values, explains the events, and concludes them [3, p. 149]. States, corporations, public, political and social structures formulate their interests and values with strategic narratives. Dominant media use narratives for framing (integrating information into the context of a narrative for «correct» perception), priming (using targeted incentives to provoke a response in a specific audience), and setting an «agenda» (forming ideas about the importance of some and other events, facts, personalities, etc.)

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in order to impose on society a set of norms and patterns of behavior [4, p. 30–31]. Constructed narratives begin to determine the behavior, a person begins to see in reality what the focus of the narrative is on and omits what the narrative does not describe [5].

Narrative methods of modeling the image of Ukraine are studied based on texts of Russian-language media socio-political discourse (online publications «LIFE» and «Politikus.ru»). We found a repertoire of narratives broadcast in order to influence the image of Ukraine. Among them are the following thematic groups of narratives: the Ukrainian state, the Ukrainian army, and the Ukrainian government.

After the Revolution of Dignity, Russian propaganda has focused on Ukraine, and one of its most important strategies was to form a negative image of Ukraine as a «failed state.» Consequently, a vast repertoire of strategic narratives was used to destabilize the country's situation, demoralize and disarrange Ukrainians' consciousness, discredit the government, deprive Ukraine of international support and legitimize the annexation of Crimea and the military invasion of eastern Ukraine. Let us look at some of them.

- 1) *Ukraine is an artificially formed state construct in which social groups have different (incompatible) values, identity, and language.*
- 2) *Ukraine is a country under the West's external control, portrayed as an entirely dependent puppet state, with foreign curators' political decisions (USA, EU).*
- 3) *Western partners have stopped supporting Ukraine.* This narrative complements the previous one and forms the image of a weak, dependent country deprived of international support.
- 4) *The Ukrainian state is in an acute crisis.* This narrative forms the image of a hopeless humanitarian and social crisis in Ukraine.
- 5) *The Ukrainian economy is on the verge of collapse.* The narrative creates an image of an inevitable future economic collapse that Ukraine will not stop on its own.
- 6) *Ukraine is dependent on the International Monetary Fund.* The IMF has consistently kept Ukraine's economy relatively stable, but this makes Ukraine politically dependent.
- 7) *The Ukrainian economy cannot exist without trade and economic ties with the Russian Federation.* This narrative conveys the idea that the Ukrainian economy cannot exist outside Russia's trade and economic orbit, and it is this attempt at separation has led to the crisis. At the same time, there is a strong message about the possibility of restoring stability if we choose the pro-Russian vector.
- 8) *Foreign companies withdraw capital from Ukraine.* The narrative deepens the theme of economic catastrophe, depicting an outflow of investment and capital that will only exacerbate the crisis.
- 9) *Right-wing radicalism is flourishing in Ukraine, which the authorities and law enforcement agencies cannot control.*
- 10) *Ukraine is ruled by a dictatorship, an anti-democratic European country where the government restricts citizens' rights and freedoms.*
- 11) *Ongoing*

civil war in Ukraine. This narrative is key to Russian propaganda and diplomacy, which officially separates Russia from the military conflict and plans to avoid responsibility, evade sanctions, and freeze the conflict and gain effective mechanisms for geopolitical influence on Ukraine.

The narratives of this group interpret the past (explain the status of failed-state by historical conditioning), the present (the crisis in the country is called the consequences of the Revolution of Dignity), and the future (predict the collapse of the Ukrainian state, disintegration into separate territories that will be part of neighboring states). Some narratives broadcast the possibility of a successful alternative future for Ukraine – in political and economic integration with Russia.

During the hybrid war, a strategically crucial Russian propaganda task was to create a negative image of the Ukrainian army to dehumanize and demonize it in the local population's eyes and discredit it with the international community. The negative image of the army weakens its potential and power, demoralizes soldiers. Consider the strategic narratives in which these ideas were implemented. 1) *Criminal actions of the Armed Forces of Ukraine in the East*. Such narratives modeled the image of Ukrainian punitive occupiers who brought death to the peaceful lands of Donbas. 2) *Atrocities of Ukrainian volunteer troops*. This narrative forms the image of an uncontrolled, radical, criminal quasi-military, engaged in looting and mocking the civilian population. 3) *The Armed Forces sabotage the work of the OSCE*. Such a message makes it possible to portray Ukraine as an aggressor who kills its population, concealing facts from international observers. 4) *The OSCE contributes to the destruction of Donbas' population by the Armed Forces of Ukraine*. This narrative is a variant of the previous one. 5) *Drugs are used in the Ukrainian army*. That is how Russian propaganda «explains» the courage, steadfastness, and invincibility of Ukrainian soldiers. 6) *Foreigners are fighting in eastern Ukraine*. Such a narrative demonizes the Ukrainian army, which includes supposedly foreign troops to destroy the local population. 7) *The Ukrainian army is weak and on the verge of collapse*. This narrative forms the image of an inefficient, insolvent, outdated army whose military equipment and weapons are sold out. 8) *The Ukrainian army is corrupt*. This narrative adds to the previous image of the army an attribute of corruption, negligence. Narratives that discredit the Ukrainian army, for the most part, have no factual basis, are fakes – constructs of propaganda, the manipulative potential of which is being implemented through mass reproduction and multiple repetition.

The priority of information and psychological operations is, in particular, the creation of a negative image of public authorities, which depends on the international reputation, the effectiveness of diplomacy, domestic political

stability, the legitimacy of power, etc. Consider the most typical strategic narratives. 1) *The Ukrainian government is corrupt*. Such a narrative discredits the Ukrainian government before the international community, complicates the foreign policy context, and increases socio-political tension and distrust of Ukrainians. 2) *The Ukrainian government is unprofessional and inefficient*. Such a government's activity only brings the moment of the state's collapse closer; it is impossible to negotiate and cooperate with it; it does not effectively use aid and maintain socio-political integrity; such a government will not bring the country out of the crisis. 3) *Ukrainian authorities rob Ukrainians*. The narrative complements the previous ones: the government cannot save the country, so it tries to plunder as much as possible while the state still exists. The image of power is attributed to unprecedented cynicism features because it robs its impoverished people. 4) *The Ukrainian government is Russophobic*. The state has an anti-democratic discriminatory policy. They replace their inefficiency with Russophobic slogans. 5) *The Civil War is beneficial to the Ukrainian government*. The narrative conveys the message that maintaining the state of war is an opportunity for the authorities to extend their term of office and plunder the state under this guise. Thus, strategic narratives form the image of an undemocratic, corrupt, ineffective government that plunders the country and artificially prolongs the war.

To sum up, the analysis of Russian-language socio-political media discourse showed that in the conditions of information and psychological confrontation, the modeling of Ukraine's image is done by deconstructing a positive image (state, army and government) and constructing a negative one. Such image transformations are realized through the systematic and consistent application of strategic narratives, which have a powerful explanatory, interpretive, and transformational potential. The image can be modeled using a holistic monolithic master narrative and sub-narratives that will function within the narrative, deepening and detailing it. Deformation of the existing image can be realized using a set of controversial sub-narratives to destroy the whole narrative and compete with it.

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ADJECTIVE BASES FOR DERIVATIVE VERBS WITH INSEPARABLE PREFIXES IN THE GERMAN LANGUAGE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-55>

Words that able to be combined with other words of a certain part of speech in the appropriate grammatical form and to act as a certain member of the sentence, is an external valence [1, p. 18]. The scientist M.D. Stepanova transfers the concept of valence to word formation and introduces the term and concept of internal valence, by which she understands the patterns of lexical content of word-forming models or patterns of combining elements of forming and derivative words at the level of direct components of their lexical basis [4, p. 15].

The concept of internal valence has been used to study word formation mainly on the material of German vocabulary and, as noted by linguists R.V. Yefimov and V.I. Karavashkin, «acquired the character of a theory that defines word-forming phenomena from the standpoint of linguistic potential» [2, p. 1]. The internal valence of language units in word formation is characterized by the fact that: internal valence is manifested in a combination of word-forming components at the level of the word basis to form a derivative basis of a new word; identification of internal valence is possible only through a relative analysis of the derivative basis in terms of its word-forming structure and motivation; internal valence is determined by the potential combination of word-forming components with each other; the concept of internal valence of a word as a potential possibility of combining components of an internal syntagm cannot be applied only to the affixal way of word formation and word composition [4, p. 17].

Internal valence studies two aspects of interaction of the affix and the forming basis: formal and semantic. Formal valence covers the phonetic,

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morphological, genetic patterns of interaction of the affix with the forming basis. Phonetic regularity is an accentual characteristic of the affix and the forming basis. Morphological regularity determines the compatibility of forming bases of different lexical and grammatical classes of words with each other or with a certain word-forming affix: in our case – regularity of compatibility of verb prefixes with forming bases of different parts of speech – verb, noun, adjective, and are determined by the word-forming structure of these verbs. The genetic regularity of combination of affixes and forming bases depends on the origin of direct components of a derivative word.

Semantic cohesion, according to L.G. Levitene, is a necessary condition under which the «hidden» lexical and semantic capabilities of a language unit, which are embedded in its centre to compatibility, can be realized [3, p. 45].

Thus, phonetic, morphological, genetic, semantic regularities of compatibility of components of a derivative word are internal conditions of functioning of a certain word-forming model.

Investigating the structure of a complex word, M.D. Stepanova has developed word-forming models – generalized schematic images of the language structure, according to which occurs the formation of new words in the German language [5, p. 527]. Among these models there is a prefixmodel, which has its own structural and semantic characteristics. The structural feature of a prefix model is the presence of constant components – prefix and lexical basis, which constitute the stability of this model [2, p. 26]. The semantic characteristics of the model are determined by the semantics of the semantic structure of the prefix.

Analyzing adjective derivatives with the prefix *be-*, it has been found that the prefix forms an internal valence with adjectives of different semantic groups, namely: external and internal signs and human condition: *kräftig – bekräftigen, lustig – belustigen, selig – beseligen*; external signs and condition of an inanimate object: *eng – beengen, fest – befestigen, trübe – betrüben*; evaluation value: *gut – begütigen, schön – beschönigen*; color value: *grün – begrünen, grau – begrauen, dunkel – bedunkeln*. In the verbs *befeuchten, beengen, benässen, betrocknen, betrüben* there is a seme of intensification of the feature of action and coverage of the action by the semantic structure of prefix. Adjectives *feucht, frei, naß, reich*, which form factitive verbs, are fixed only by the prefix *be-* – *befeuchten, befreien, benässen, bereichern*. Seme of ornativity is observed in the verbs *begrünen, begünstigen*. The prefix *be-* is also combined with noun-derived adjectives: *Kraft – kräftig – bekräftigen, Last – lästig – belästigen, Macht – mächtig – bemächtigen*.

Thus, the prefix *be-* shows the semantic valence to qualitative adjectives, the meaning of which allows to realize in the prefixal verb a seme of intensification of the sign of action, completeness of coverage of action,

ornativity. Adjectives with zero inflexion and the suffix *-ig* are selected as the basis for these semantic features.

To form the internal valence of the prefix *ent-* three semantic groups are selected, which are connected by a common semantic structure of the prefix. A numerous group of adjective derivatives are verbs with a privative meaning: the derivative verb has the opposite meaning to the forming basis: *bitter – entbittern*, *dunkel – entdunkeln*, *kräftig – entkräftigen*, *menschlich – entmenschlichen*, *mutig – entmutigen*, *anonym – entanonymisieren*. The next group includes factitive verbs that mean the transition to a certain state: *entbleichen*, *entgrimmen*, *entgrünen*. Factitive verbs with the prefix *ent-* form a third group with the meaning «acquire a certain feature» or «transition to a certain state», which denotes the adjective basis: *frei – entfreien*, *kühn – entkühnen*, *rot – entröten*.

Based on the analyzed, we see that the privative seme of the prefix *ent-* allows to form with it the factitive adjective-derived verbs, the basis for which are adjectives with zero inflexion and the suffix *-isier*.

Comparing the semantic connections of the semantic structure of the prefix *er-* with the semantic structures of adjectives, it has been found that forming bases for the semantics of derivative verbs denote: external and internal features and human condition: *grimm – ergrimmen*, *munter – ermuntern*; *wach – erwachen*, this group forms inchoative verbs; adjectives with the meaning of «color and shade» form the factitive derivatives *bleich – erbleichen*, *rot – erröten*; the prefix *er-* shows semantic valence on the basis of adjectives formed from abstract nouns and the suffix *-ig*: *Lust – lustig – erlustigen*; *Macht – mächtig – ermächtigen*; *Mut – mutig – ermutigen*. These factitive verbs express the ornativity.

Thus, the prefix *er-* shows its valence to adjectives that have semantic groups of external and internal features and human condition, «color» with zero inflexion and the suffix *-ern* and noun-derived adjectives with the suffix *-ig*.

The prefix *ver-* reveals valence connections with adjective bases, which denote: external and internal signs and human condition: *alt – veralten*, *blöd – verblöden*, *jung – verjüngen*; external features of the subject: *breit – verbreiten*, *dick – verdicken*, *kurz – verkürzern*. The prefix *ver-* is combined with adjectives that denote «colour, a certain shade»: *blass – verblässen*, *dunkel – verdunkeln*, *grau – vergrauen*, *grün – vergrünen* and denote gradual action. Adjectives of the semantic group of «evaluation» *falsch*, *besser*, *schlecht*, *schlimm* add to the derivative verbs the seme of intensification of action sign – *verfälschen*, *verbessern*, *verschlechtern*, *verschlimmern*. The prefix *ver-* also shows semantic valence to abstract *Angst – ängstig – verängstigen*; *Geist – geistig – vergeistigen*; *Gunst – günstig – vergünstigen* and specific noun-derived adjectives *Bürger – bürgerlich – verbürgerlichen*,

Körper – körperlich – verkörperlichen, Mensch – menschlich – vermenschlichen.

For adjective-derived verbs with the prefix *ver-* the forming bases are adjectives with some of external and internal features and human condition, external features of the object, colour, a certain shade, evaluation with zero inflexion, as well as noun-derived adjectives with suffixes *-ig, -lich*.

The semantic valence of the prefix *zer-* is limited by its semantic structure: the meaning of distribution, deformation is attached to it, so the adjectives *klein, mürbe, weich* form verbs with the following semantics: *zerkleinern, zermürben, zerweichen*.

Therefore, the basis for derivative with the prefix *zer-* are adjectives with zero morpheme, suffix *-e* and a higher degree form from *klein*.

As we can see, the basis for adjective-derived verbs are qualitative adjectives and their grammatical forms. All studied prefixes form adjective derivatives with zero inflexion: *be-breit-en, ent-fett-en, er-weich-en, ver-wirr-en, zer-weich-en*. Adjective-derived verbs with inseparable prefixes are also formed in combination with the suffixes *-ig – beschönigen, entkräftigen, verfestigen*; *-ern – belauern, erweitern, verschlimmern, zerkleinern*; *-lich – entmenschlichen, vermenschlichen*; *-ieren – entanonymisieren, entprivatisieren*.

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ANALYSIS OF RECENT LEXICAL ENTRIES INTO THE SPANISH LANGUAGE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-56>

There is a growing need to master a foreign language as a mean of intercultural communication at the present stage of the world community development. Familiarization with various language aspects is necessary for a comprehensive understanding of the culture and life of another people. In particular, it is important to study features of such a language aspect as the vocabulary. A comprehensive study of the lexical stock of the language should contribute not only to facilitating the implementation of cross-cultural communication, but solve a number of issues that may arise in case of misunderstandings [2, p. 344]. Attracting various lexical material allows us to raise the issue of word formation in a different way, to solve an issue of the status for neologisms in a new way [1, p. 54].

The following amount of entries was studied and analyzed using the Spanish vocabulary entries approved by Real Academia Español:

1. year 2014 – 69 words.
2. year 2017 – 62 words.
3. year 2018 – 132 words.
4. year 2019 – 128 words.

In 2014, one of the most productive sources of the new words entries in the Spanish vocabulary have become borrowing and word formation (derivation and composition), a small amount of entries appeared due to the new words formation using Latin and Greek roots, eponyms, abbreviations and semantic changes.

In 2014, most borrowings came from English (20 words); the following words appeared in Spanish: *backstage*, *bíper*, *burka*, *cameo*, *ciclogénesis*, *coach*, *dron*, *euríbor*, *gigabyte*, *hacker*, *intranet*, *precuela*, *tuit* etc.

Only three words came from French: *chaise longue*, *chop*, *citadino*.

From Italian, Portuguese and Arabic came one word per each.

Regarding word formation, the most common was the suffix method (19 words), thus the following words appeared: *aglomeramiento*, *antipersonal*, *apunamiento*, *bicicleteada*, *bicicletería*, *cajonear*, *cortoplacismo*, *medicalización*, *positividad*, *tuitear*, *tuiteo*, *tuitero* and others.

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5 words were formed by the word composition method, namely: *amigovio*, *cagaprisas*, *cortoplacista*, *europarlamentario*, *mileurista*.

Only two words were formed using the prefix method: *antipersona*, *audioguía*.

There are only 10 words formed using Latin and Greek roots, eponyms, abbreviations, and semantic changes, among them: *anisakis*, *brik*, *giga2*, *maría2*, *chupi*.

In 2017, the most productive source of new words entering the Spanish vocabulary was the word formation (derivation and composition) (30 words); significantly less borrowings were received from other languages (13 words). Compared to 2014, slightly more words were received due to the translation of borrowings into Spanish («*calcos*») and the new words formation using Latin and Greek roots («*raíces*»). A small amount of entries came from eponymy and abbreviations.

In 2017, most borrowings also came from English (5 words); the following words appeared in Spanish, namely: *clickar*, *container*, *cracker*, *fair play*, *holter*.

Four words came from Arabic: *halal*, *hummus*, *sharía*, *umma*.

Sanskrit, French, and Yiddish gave 4 words, respectively: *asana*, *chakra*; *ataché*; *kosher*.

Regarding word formation, the most common was the suffix method (24 words), thus the following words appeared: *antagonizar*, *buenismo*, *buenista*, *calefactable*, *chusmear*, *compostador*, *compostar*, *contaje*, *cubicaje*, *deportivamente*, *dispersantem*, *especista*, *niguatoso* and others.

The following words were formed using the prefix method: *audiolibro*, *bicatenario*, *contraincendios*, *minicasino*, *monocatenario*.

There are only five words, which came from translating borrowings into Spanish, among them: *bioenergía*, *specismo*, *posverdad*, etc.

A small amount of entries came from the new words formation using Latin and Greek roots, eponyms, and abbreviations (*amusia*, *aporofobia*, *discinesia*, *imafronte*; *murano*, *pinqui*, *táper*; *bocas*, *latino*).

In 2018, many words in the Spanish vocabulary appeared due to word formation (97 words). Borrowing – 14 words. 13 words were formed using the Latin and Greek words. A small amount of entries came from eponymy and abbreviations.

In 2018 most borrowings also came from English (7 words); the following words appeared in Spanish: *feedback*, *fullereno*, *meme*, *redox*, *selfi*, *solvato*, *turbofán*.

Three words came from the Italian language: *lapilli*, *osatura*, *radicheta*.

Four words were received from Portuguese, French and Gujarati, respectively: *candomblé*, *quimbundo*; *glicemia*; *guyaratí*.

Regarding the word formation, the suffix method turned out to be the most common (69 words), thus the following words appeared: *abrumante, académico, baipasear, behaviorista, clientelar, complotista, dirigencial, ecocida, escrache, espumeante, fecundante, fuelóleo, gerenciamiento, iconicidad, iconólogo, matematización, milimetrar, monitorear, monzónico, nebulización, neurotizante, paidofilico, permeabilizar, psicogeriatra, quechuista, sojero* and others.

Eighteen words were formed using the prefix method, including as follows: *autofinanciar, bimilenario, ciberartista, inentendible, microcentro, motoniveladora, multitarea, remezclar, subtrama, turboventilador* and others.

The following ten words were formed using the word composition method: *endónimo, exónimo, guardiacárcel, ochomesino, policéntrico, por ciento, veintialgo, veintimuchos, veintipico, veintipocos*.

Thirteen words were created using Latin and Greek roots, among them: *dictióptero, ginkgo, locus, nónuplo, polaquiuria, polínico, sedestación, taquilalia*.

A small amount of entries was generated due to the translation of borrowings into Spanish, eponyms and abbreviations: *retroalimentación; larimar, tóper, viagra; electro*.

In 2019, the largest number of words in the Spanish vocabulary appeared due to word creation (68 words). Borrowing – 28 words. A small number of entries are those formed using Latin and Greek words and eponyms.

In 2019, most of the borrowings also came from English (19 words); the following words appeared in Spanish: *amish, beatlemanía, bebop, brunch, cabús, cróquet, fático, penthouse, registraci3n, router* and others.

The following five words came from French: *arabesque, berceuse, brioche, brochure, identitario*.

Four words came from Portuguese, Italian, and Quechua, respectively: *bubango, chero; belvedere; locote*.

Regarding the word formation, the suffix method turned out to be the most common (53 words), thus the following words appeared: *afectadamente, afectante, agendar, aliterativo, amodorrante, anacoretismo, antologar, bicicletada, bilateralismo, brequear, candidatar, capillita, carajal, coautoría, desaprobatorio, desfasaje, enrutador, juetazo, mediterraneidad, moqueguano, panhispanista, recordista, textear* and others.

Only nine words were formed using the prefix method, including as follows: *aerocomercial, agroambiental, agronegocio, analérgico, panhispanismo* and others.

Five words are formed through the word composition: *besapié, cubrebot3n, cubrerradiador, cumplemés, dobletroque*.

A small number of entries are formed using Latin and Greek words and eponyms, among them as follows: *amical*, *aniridia*, *annus horribilis*, *cinología*; *arcadia*, *brent*, *guarania*, *muesli*.

So, according to the study, affixation remained the most productive way to create new words through all five years. In turn, almost twice as many words were formed using the suffix method as using the prefix method. Word composition is also an effective way of the word formation, but during the specified time period, there were few words formed by this method. There were almost no words formed by a nonsuffix way.

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THE DYSTOPIAN FORMULA IN MARGARET ATWOOD'S NOVEL THE HANDMAID'S TALE: INTERLACEMENT OF TRADITIONS AND NOVATION

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-57>

With the birth of humanism in Renaissance society mankind has obtained many significant discoveries, one of which is *utopia* (firstly described by Thomas More in the *A little, true book, not less beneficial than enjoyable, about how things should be in a state and about the new island Utopia*, 1516). The idealized image of existence in the last century is replaced by *anti-utopia* (or *dystopia*) – the story about the «future without a future», a dead mechanized society, where man is assigned the role of a simple social unit. Presently, it is one of the most relevant and widespread genres of world literature, which is constantly replenished with new original samples (Suzanne Collins, Stephen King, John Christopher, Margaret Atwood, Veronica Roth, Lauren DeStefano, etc.). No wonder, that nowadays there are already a lot of researches where scholars view current issues of dystopian literature. Priority

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in them is given to such considerable items as the definition, origin, genre specificity, etc.

In modern literary studies, however, there are many issues, focusing on various genre characteristics of anti-utopia, namely, versatile changes of the dystopian model in modern works, new approaches to the correlation between utopia and anti-utopia. For example, I. Samorukov formulates the following definition of this concept: «*Anti-utopia, dystopia, negative utopia* are images (usually in fiction) of dangerous, destructive and unpredictable consequences associated with creating a society that corresponds to a certain social ideal» [3]. Besides defining, the scholar here pays special attention to the fact that the genre of anti-utopia represents not only a negatively coloured *description* of a potentially possible future, but it *disputes* with utopia – an image of a society claiming *perfection*, but with the so-called *value-negative* paradigm.

It is necessary to remark that scholars' interest to anti-utopia has in much increased since the second half of the XX th century. Here one can't help mentioning the problem of «formality», which was firstly viewed by John G. Cawelti in his book *Adventure, Mystery, and Romance: Formula Stories as Art and Popular Culture* (1976). The author distinguishes two types of formulae: cultural stereotypes and plot formulae. The formula can be called any culturally determined stereotype: «stupid Americans», «brunette bitches», eccentric detectives with remarkable analytical skills. But J. Gawelti points out that these are traditional constructs that are conditioned by a particular culture of a particular time, which beyond of this specific context may have a different meaning: «Such common plot schemes are story lines (fables) that are popular if not everywhere, but at least in many cultures for a long time. In fact, they can be seen as an example of what some researchers call archetypes, or patterns» [1].

Formula literature is consequently characterized by sticking to the certain models (patterns), which gives the writer the opportunity to quickly and efficiently create popular texts and simultaneously brings the reader a sense of comfort and predictability. Novelty is approved only if it reinforces the expected emotions and does not change them radically. Due to Gawelti's assumption, each of the formula genres is built according to certain laws, uses standard plot moves, operates with well-known symbols and archetypes, as well as cultural stereotypes of the society in which a particular piece of fiction is created. To J. Gawelti's mind, therefore, anti-utopia may be identified as *formula genre*.

Having analyzed several XX century iconic novels of the of this genre (*We* by E. Zamyatin, *Brave New World* by A. Huxley, *1984* and *Animal Farm* by G. Orwell and others), S. Yarovaya managed to draw up a scheme of a «classical» anti-utopia [4]. Thus, taking into account the scholars' conclusions

about anti-utopia as the genre that is arranged due to some *formulae* and may obtain some *scheme of fictional organization*, one can assume that these features can be found in modern anti-utopian prose.

In particular, a deep analytical reading of M. Atwood's novels enabled to make certain conclusions about formality signs in her *The Handmaid's Tale* (1985). By the way, this modern Canadian writer is widely popular among both world readers and scholars, and its popularity is caused by different reasons. For example, E. Zharkova is inclined to assert that the term «middle literature» is helpful to understand the specificity of this work, as «the intellectualization of mass literature and simplification of elite literature are inextricably linked» [6]. She is convinced that the enormous popularity of this novel among recipients is explained by this fact, not for the last turn.

For scholars, indeed, *The Handmaid's Tale* is a fiction where they can research the traditional anti-utopian features, as well as M. Atwood's new approaches towards writing. It is a novel where the woman-author not only made use of classical rules, but also resorted to the transformation of the genre pattern of dystopia. So, the goal of this article is to represent the traditional and the new in her structuring a fictional anti-utopian world.

The following features of the anti-utopian pattern are thought to be traditional as they were inherited by M. Atwood from her great predecessors' novels.

1. The state of Gilead is depicted as quite *prosperous*, with well-established economic and industrial spheres. The level of development determines its significance and impact in a global context.

2. The problem of the influence of a political regime or technical revolution on the individual and society is *relevant* (for example, depersonalization, i.e. quasi-nomination, restrictions in language and movement, choice of clothing, etc.).

3. The main conflict in M. Atwood's anti-utopian novel is the tragic relationship between *the individual* and *the system* – the author focuses on the main character, suffering from being numerously accused by the totalitarian regime.

4. The typical features of this genre are also a prominent *protagonist* and a clearly constructed *plot* based on the disagreement of this character with the rules of the current regime.

5. Like in all classical anti-utopias, in *Handmaid's Tale* the states described choose a *totalitarian* way of impact on citizens. Gilead is an example of a theocratic state with an established dictatorial regime.

6. The government in this novel is headed by a narrow *group of military elites* who helped establish the regime (the so-called Commanders).

7. The fundamental details of this genre can be called the *obligatory* presence of the *love line*, the existence of rituals in the characters' lives, a particular *spatial* and *temporal* organization of the anti-utopian world.

8. The action of the novel takes place in a *narrow space* – the state of Gilead, which is protected from the outer world by a wall, where the corpses of executed «criminals» are regularly hung, most of whom are convicted of political reasons.

9. The plot of Atwood's novel is formally divided into halves by the internal rebellion of the protagonist, and the external development of the action (war, revolution, catastrophe, which were the impetus for the establishment of a pseudo-utopian state). In the *The Handmaid's Tale* the main events take place due to the coup.

In addition to them, however, M. Atwood initiated to involve **women** images into a dystopian fictional world. The key characters of her novel are women, around them the development of the plot unfolds (Offred, Serena Joy, Ofglen, Aunt Lydia). That is why, apparently, Atwood's novel is a new word in the development of the genre of modern dystopia, which Yu. Zhadanov calls «feministic dystopia.» This scholar adds that the woman-author vividly demonstrates what social consequences a constant indulgence in men's whims and dreams about the «true» purpose of women (home, family, children) can lead to [5]. One should also keep in mind that Atwood does not simply describe events on behalf of women, she actively uses women's consciousness to reflect special aspects of the suppression of the individual «self». For example, women's rights in this world: women are fired from their jobs, being said that «you can't work here anymore, this is the law» [2]; their financial accounts are blocked, the funds from which are transferred to the closest male relative. Another bright example is freedom of choice for women, which is realized by depicting various restrictions. Also, through the eyes of Offred, the author demonstrates the women's attitude towards marriage and family responsibilities, using the example of the relationship between the Commanders and their wives, as well as representing the heroine's reminiscences about her past life with her husband.

So, we are eligible to conclude that *The Handmaid's Tale* by Margaret Atwood can be regarded as a typical and, at the same time, original example of a dystopian piece of prose, which is characterised by traditions and novation interlacement in arranging a fictional world.

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FUNCTIONAL AND PRAGMALINGUISTIC ASPECTS OF ENGLISH ADVERTISING TEXT OF TEA PRODUCTS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-58>

The advertising message is a mean of presenting the information from the advertiser to the customer and it also has specific forms: textual, visual, audio, and symbolic. In order to make someone to read or listen to the advertisement there must be something special and interesting for the consumer. Moreover, in developing the advertisements there must be revealed the creative individuality of its creators.

The object of the study is a modern English advertising text of tea products.

The relevance of this research is determined by the need to process a functional paradigm for the study of verbal and non-verbal elements of modern English advertising texts.

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The research aim is the thorough analysis of the application and implementation the communicative strategies in the advertising message via the use of both linguistic and non-linguistic tactics.

As for the reference corpus, it consists of 300 units of English advertising texts of tea products. The units have been obtained by the continuous selection from web-sites, social networks and English printed publications. The research material is saved in video, graphic and text formats.

To achieve the research aim we applied various forms of analysis, such as: functional, pragmalinguistic, morphological, lexical, syntactic, stylistic, quantitative, and translational. Considering the scope of the article, we focused on the functional and pragmalinguistic approaches to the advertising messages that are included in the research corpus.

The functional analysis has been used to reveal the functional potential of the non-verbal components of communication. There are possible intersections between verbal and non-verbal communication, providing a dual encoding of information in the network of human consciousness through verbal units and non-verbal means.

Non-verbal components such as cinemas may be described through the following elements:

1. pictorial elements (illustrations, photos, and images): photo of the product; photo of the celebrity; photo of the product and the model; auxiliary background elements. The background images of *Lipton Ice Tea* include many elements, such as: falling tea leaves with lemon or lime, tea bottles on ice cubes, greenery, sunset by the ocean on a hot day, etc. Thus, Lipton Ice Tea is associated with nature, especially sunshine, coolness and naturalness. The *Fuzetea* logo has the illustration of a tea leaf, half of which includes the image of a fruit additive (e.g. lemon, peach, wild berries, etc.) that completes the perfect taste of a soft drink. The consumer associates the logo with nature, freshness and coolness. The graphic components of *Ahmad Tea* feature only the image of the traditional tea leaves and a teapot that is an integral part of the tea-drinking process.

2. fonts (regular, italic, bold, underline, combination of several types);
3. the method of order and placement of characters on the plane:
 - a. horizontal,
 - b. vertical,
 - c. increased spacing between the letters,
 - d. «inverted» words by 180°,
 - e. framing the text line of the figure or its element.

Encoding and decoding the content of the advertising message takes place by means of graphic symbols conveyed through specially selected fonts and their placement on the plane. Font is a graphic form of signs of a particular

writing system in which letters are combined into words and words express thoughts [2, p. 277–278]. When it comes to advertising texts, exactly fonts help a word to become a visual-graphic symbol.

The choice of font and its placement depends on the purpose and idea of the advertisement. Perfectly-chosen font does not interfere with the perception of the advertising idea; on the contrary, it creates the mood and attitude of the recipient towards the advertised product. At the same time, the font as a visual sign system has cultural and philosophical implications [2, p. 277–278].

Dilmah Tea usually uses in advertising texts the handwriting font to emphasize the exclusivity of their product. They evoke a sense of confidence and provide great credibility. Capital letters are also used by *Dilmah Tea* to highlight the excerpts. The advertisers pay particular attention to characters order and placement on the plane. The lettering in *Dilmah* advertising messages is clear and visible from a distance (table 1). Thus, they ensure that the main advertising information will be seen and heard by the recipient:

Table 1

Combination of several fonts and placement of characters

DILMAH CEYLON TEA <i>A Cup of Kindness</i> <i>Made with Love</i>	ANTIOXIDANTS IN TEA <i>Can Protect Your Heart</i>
TEA INSPIRED RECIPE <i>Sip into Love with our</i> ROSE WITH FRENCH VANILLA TEA SHAKE	ENJOY THE SUPER BOWL WITH A SUPER BREW TEA

1. background colour. Advertising companies understand how the harmony of colour affects the consumer behaviour, thereby providing for people's reactions to their chosen colours. As the main colour scheme of *Fuzetea* is green and yellow it allows the consumer to compare iced tea with nature, freshness and coolness. The colour palette of *Lipton Yellow Label Tea* incorporates yellow as the main colour and red, white and green as additional colours. It provides the association of energy, vividness and sunny atmosphere that the consumer can get after a sip of tea. The corporate colours of *Ahmad Tea* are white and dark green that emphasize the closeness of the product to nature. They also evoke associations of purity, reliability and high quality of the tea.

Emotions, feelings, experiences are included in the communicative act in the form of various non-verbal means which are able to convey emotions, the attitude of subjects to each other and to the content of the conversation. In

other words, the non-verbal means are entrusted with the function of manifestation of the psychological content of communication and the expression of emotional response [1, p. 210].

Pragmalinguistic analysis of advertising texts allows us to identify the main communicative strategies that can be regarded as a set of speech actions aimed at achieving the communicative goal. Communicative tactics is a hierarchically lower level of speech behaviour planning and acts as a mean to implement the strategy [2, p. 31]. The following strategies and tactics were recorded in the analyzed advertising texts of tea products:

– suggestion, which is represented by the tactics of using the imperative mood, duplication of letters, using a large number of simple sentences and repetition. The consumer persuasion is realized through a complex interaction of lexical, grammatical, stylistic and phonetic means. In the Brooke Bond advertisement is noticed the alliteration of letter [b]: **Brooke Bond Choicest Blend**. *You won't find a better tea* or **Brooke Bond Scottish Blend**. *More flavor that our old bag*. In advertising campaigns of tea products are often used the imperative mood. Brooke Bond: **Spend** wisely – **save** wisely. Lipton tea: **Drink** more – **burn** more. Lipton Ice Tea: **Taste** new Lipton Black Ice Tea *Blueberry Taste*. Thus, verbs of imperative mood are widely used for direct addressing to the customer.

– tactics of intimating communicative space (the use of pronouns you/your, emotionally valued words, abbreviated constructions and statements) and the discovery of solidarity with the addressee. Personal pronouns of different case forms are directly addressed to a particular individual and convey the meaning of a one-to-one, trusting and friendly relationship between the producer and the addressee. Lipton Tea: **You** can't buy happiness but you can **You** can buy tea and that's kind of the same thing. Lipton Tea: Love **your** heart. Lipton Ice Tea: Make **your** every moment at home a refreshing one. A refreshing experience no matter where **you** are.

– presentational strategy, embodied in the tactics of using personal and possessive pronouns we/our and negative presentation of competitors. Barry's Tea: **We** make the tea. *You* make the moment. Dilmah Tea: **We** hope you have a warm and comforting one today. *Tea, a hug in a cup*. Dilmah Tea: Try **our** tea infused gingerbread recipes! Tetley Tea: **Our** tea, **our** way. The negative presentation is used in Tetley Tea headline: *Come to Britain, you're not in America*.

– attention-grabbing strategy, implemented in the tactics of using the name of the advertised product, wordplay, the use of a striking headline/slogan, poetic form and non-verbal means. The pragmatic purpose of the advertisement is to use a catchphrase that emphasizes the main advantages of the advertised product and will be easy to remember. *Lipton Chinese tea*.

Lipton tea can do that! Another good example is the usage of blending in advertised messages: *Lipton Ice Tea, Join the LIPTON ICE TEAVOLUTION*.

Advertising text is not only a statement of information or the promotion of certain products on the market but also it is a set of symbols transmitted from the advertiser to the consumer. It contributes the adequate understanding and memorization of the advertising information. Moreover, advertising messages have a communicative and pragmatic character; they intentionally act on the audience by imposing the advertised object. Thus, advertising emphasizes the concept of positioning brands.

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STRATEGIES AND TACTICS OF COMMUNICATIVE SABOTAGE AND LINGUAL MEANS OF THEIR REPRESENTATION IN POLITICAL DISCOURSE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-59>

Analysis of scientific and theoretical sources on the research topic suggests that many scientific papers are devoted to the issues of strategic speech influence, but the problem of strategies and tactics of communicative sabotage is insufficiently studied, in particular in domestic sociolinguistics.

The purpose of the study is to describe the strategies of communicative sabotage and to organize various ways and means of its representation in the

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Ukrainian-speaking space. The development of the raised problems will be facilitated by the following *tasks*: 1) to characterize sabotage as a phenomenon of communication; 2) to analyze the reasons for the use of communicative sabotage; 3) to identify the components of communicative sabotage; 4) to identify verbal means of expressing communicative sabotage on the example of a political interview.

In the course of the research a *set of methods of scientific research* was used, in particular: *interpretive and analytical method*, on the basis of which Ukrainian and foreign sources were studied with the use of synthesis, analysis, systematization, etc.; *the method of theoretical generalization*, which contributed to the formulation of conclusions; *sociological method* involved in the study of the problems of communication strategies and tactics; *contextual and interpretive method* used to describe the means of communicative sabotage expression.

The term «sabotage» does not belong to the linguistic ones, it is used in the context of socio-political struggle in the sense of covert counteraction, violent protest, forms of economic struggle, failure or refusal to perform tasks, and so on. In the «Great Explanatory Dictionary of the Modern Ukrainian Language» sabotage is explained as 1) deliberate disruption of work, which is manifested in the direct rejection of it or careless, dishonest performance; 2) covert opposition to the implementation of something [3, p. 1094]. The term «sabotage» occurs in a variety of historical, socio-political contexts, materials on military issues, and at the same time can be used in relation to radical actions, such as violent protest, destruction, subversive activities, and disobedience.

In the examined scientific literature it is *communicative sabotage* which is considered in the context of speech activity as a method of speech influence in the form of a dialogue, which expresses the latent resistance of the speaker and aims to ignore the content of the statement to avoid communication, to have distortion or concealment of information [2, p. 11]. Scholars compare communicative sabotage with a number of speech and communicative phenomena, in particular, speech aggression, conflict, language resistance, language violence, communication pressure, manipulation, language demagoguery, which led to the conclusion that sabotage, on the one hand, combines these forms of behavior, on the other hand, is not identical to any of them [2, p. 11–12].

During communication, saboteurs use threats, orders, negative criticism, offensive nicknames, concealment of important information, interrogation, praise with subtext, manifestation of motives, untimely advice, refusal to discuss the issue, rivalry, change of topic, etc. [5, p. 36–38].

Researchers point to the main reasons for the process of sabotage, namely: a) *external* – violation of communicative norms and rules of conduct in a particular communication situation; b) *internal* – a protective reaction (sometimes aggressive) caused by interference in the personal space of the speaker; non-cooperative behavior during communication due to psycho-emotional state; focusing on a more significant aspect of the conversation [2, p. 13; 6, p. 9].

Recently, more and more scientists turn to the question of communication strategies and tactics that can be used to influence the interlocutor. Summarizing the various interpretations, we emphasize that the choice of methods and means of these processes, their planning and implementation depend on the specific communicative situation and interpersonal relationships of its participants. Communicative sabotage strategies and tactics help to offer covert resistance during communication.

Sabotage as a communicative strategy within non-cooperative communication is manifested in the use of appropriate speech tactics that generally implement the strategy of provoking a conflict situation. A review of the scientific literature (in particular, the works by V. Andreeva, O. Volkova, etc.) allows us to name the following: reports that contain false information; statements with excessive display of emotion, dissatisfaction, indignation; provocative questions; various manifestations of trolling (offensive, bullying) as a form of communicative behavior in case of unwillingness to continue communication; evasion of the direct answer, change of a subject of conversation, redirection; disregard; silence; outright negative reaction of the saboteur, etc. Such techniques and tactics allow speakers to avoid communication, hide information, manipulate, and influence the interlocutor.

Let's follow the functioning of typical language means of expressing the strategy of sabotage on the example of interviews with Ukrainian authorities, politicians, public figures, etc., published on the websites of domestic newspapers «Den'», «Dzerkalo Tyzhnya», Internet portals «RBC-Ukraine», «NV Business», «Radio Svoboda», «GORDON», etc. Political interview as a speech genre involves a cooperative communication strategy, cooperative behavior, represented by detailed forms of answers to the interlocutor's questions and the use of tolerant ways to avoid communication, to protect own positive image.

Thus, the following verbal means of expressing communicative sabotage were found in the examined text material:

- Answer the question in the form of a question.
- Change of the topic of conversation, expressed by lexical means.
- Negative constructions.

→ Emotionally colored or evaluative vocabulary with a negative connotation.

→ Refusal to communicate like «NO COMMENTS».

→ Accusation, verbal aggression.

→ Irony, self-irony, sarcasm.

There were few provocative constructions (using such a type of compounds *And What?*) or motivational sentences (such as *Distance! Don't ask stupid questions!*) in the analyzed political interviews, because in political discourse there are mostly correct means to avoid answering or refusing to communicate than more categorical, inherent, for example, to colloquial speech. We agree with the statement of V. Andreeva that verbal means of expression directly depend on the type of discourse in which the method of communicative sabotage was used [1].

The analysis of the text material shows that the participants of communication choose mainly tolerant communicative techniques and linguistic means of representation, which are acceptable in the specified communication situation and do not lead to its complete disorder. Among the communication strategies used in the surveyed political interviews, the avoidance strategy prevails, in particular, the tactics of avoiding a direct answer, changing the topic of conversation, etc., and the strategy of negative reaction, namely: tactics of denial, indignation, and refusal.

It can be concluded that in relation to communicative processes, tactics are considered as a set of techniques and tools aimed at achieving the goal within the chosen strategy, the latter involves the planning of a communicative act. Communicative sabotage is presented as a way of verbal influence on the interlocutor and contains a hidden resistance aimed at ignoring certain statements. The choice and implementation of communication strategy and tactics depend on the specific communication situation, the purpose of communication, social status and attitudes of its participants, as well as the type of discourse.

We see the prospect of research in the need for thorough and comprehensive study by domestic linguists of the problems of communicative sabotage as a phenomenon of dialogic speech, interpersonal interaction, cooperative and non-cooperative communication strategy in different types of discourse. We consider it appropriate to further consider the ways and means of representing strategies of communicative sabotage in different types of discourse and specific communication situations.

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THE DISTINCTION OF THE CONCEPTS «EMOTIONALITY», «EXPRESSIVENESS», AND «EMOTIVENESS» IN MODERN LINGUISTICS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-60>

In the modern society, a significant part of scientific research is devoted to the place of emotions in human life. Goleman D. recognizes the close interaction between emotions and the mind, between the processes of thinking and the work of senses [15]. The researches of many psychologists, whose theories of emotions are cognitive, are useful for specialists in various branches, since they contain a scientific basis for the interaction of emotional and cognitive human activities (Ellsworth P. & Smith C. [13], Frijda N.H. [14], Robinson M.D., Watkins E.R., & Harmon-Jones E. [19] and others).

Emotions are mental states, acts that are manifested in the human mind in the form of experiences, sensual excitement [4, p. 228–229]. According to the dictionary definitions, the concept «emotion» is interpreted as: a strong feeling deriving from one's circumstances, mood, or relationships with others

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[20], a strong feeling such as love, fear, or anger; the part of a person's character that consists of feelings [21], a strong feeling such as love or anger, or strong feelings in general [17].

Despite the intent attention of scientists to the issue of defining emotions and numerous attempts to promote the theory of emotions, there is a difference of opinions in the exploration of emotions. This aspect indicates the relevance of the problem of researching emotions.

Emotions are usually defined as the opposition of rational thoughts and cognition. At the same time, emotions are explanations of people's thoughts based on emotions, what people think and why they think in such way but not in other one [12, p. 170].

In this perspective the question «What is primary: emotions or cognitive processes?» is turned out to be logical.

According to Izard C.E., the interaction of emotion and cognitive processes is characterized by dynamism. This is due to the fact that both emotions can activate cognitive processes and cognitive processes can initiate emotions [16].

Recently, thorough research in psychology has served as a shift in the study of emotions in the linguistics. Scientists are showing a keen interest in the exploration of emotions in the aspect of their correlation with the cognitive processes of the personality. In particular, the researches of the category of emotiveness are intensified [18].

The views of scientists who distinguish the concepts «expressiveness», «emotionality» and «emotiveness» are quite convincing.

Krylova O.A. considers «expressiveness» as strengthening the expression of speech, increasing its power of influence. The researcher points out that the emotionality of speech is the expression of the speaker's feelings and the impact on the listener's feelings [5, p. 85]. Moreover, the term «expressiveness» is determined as «expression» [1, p. 561]. Galperin I.R. suggest an idea of the category of expressiveness as a kind of intensification of the statement [2, p. 22].

Thus, expressiveness is a linguistic category that covers a system of linguistic and stylistic means of the text. It allows to reveal the content of the text more completely, while intensifying the expression of speech.

The concept «emotionality» is considered as a natural, unprepared manifestation of emotions in the process of communication [3]. Maslova V.A. states «emotionality» as a «psychological characteristic of the personality, the state, qualities and the level of the emotional sphere» [7, p. 185].

Thus, emotionality is an explicit expression of emotions aimed at the demonstration of the speaker's true feelings.

Cherkashyn S.V. emphasizes the synonymy and parallelism of emotionality and emotiveness. However, the researcher does not deny a difference between these concepts and defines emotionality as psychological category whereas emotiveness as linguistic one [9].

Regarding the distinction between the concepts of «emotionality» and «emotiveness», Cowie R. and Cornelius R. distinguish two types of description of emotions in the aspect of speech researches: «cause-type» and «effect-type». Thus, «cause-type» description refers to «internal states and external factors that cause the particular characteristics of a person's speech.» Whereas «effect-type» one describes «what effect particular speech characteristics will have on a typical listener» [11, p. 7–8].

Although the scientists do not determine the distinguished types as «emotionality» and «emotiveness», but, in our opinion, this accurate delineation of the concepts provides a basis for their definition. It becomes clear that what has caused emotions and has reflected in the specific features of speech, it is defined as «emotionality». Whereas «emotiveness» characterizes the influence that certain features of speech have caused on the reader / listener.

Emotiveness is a conscious, planned demonstration of emotions, a special strategy of the speaker's behaviour, which is aimed at the addressee [6, p. 63]. Filimonova O.E. determines the category of emotiveness as a multi-statutory cognitive category that reflects the emotional state of a person. It also has features of representation in different texts [8, p. 6]. Shakhovskiy V.I. expresses the opinion that emotiveness is a special semantic category, the originality of which largely depends on the individuality of its «creator», his life experience and emotional mood [10, p. 69].

Analysis of the scientific papers on the problems of researching expressiveness, emotionality and emotiveness allows us to state the fact that emotiveness is a cognitive-pragmatic category. It is represented through emotions, feelings, worry and excitement in language. Emotiveness actualizes the representation of the addressee's emotions.

Thus, it becomes clear that the linguistics researches of the concepts which are connected with emotions can be efficient supposing an interdisciplinary approach that allows to integrate a wide range of different scientific branches.

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COMMUNICATIVE AND DISCURSIVE ASPECTS OF ARTWORKS REALISATION IN ENGLISH LITERARY TEXTS

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-61>

An artistic phenomenon as cultural element in the system of humanities knowledge is functioning in close connection with language and has a potential of aesthetic, emotional, and informative influence, constituting moral and world outlook cues, as well as ideals and goals of the humanity. Adherence of language and different kinds of art is determined in frames of language realisation as communication means and standard of dynamic processes of the humanity development, in which an important role is played by art [5, p. 31].

Being an important part of human life, artistic phenomenon is widely used in literary texts as they represent the reality. In this paper artworks are considered as part of communicative process and are fully-featured elements of communicative act.

Nominative and stylistic parameters of artistic realia actualisation in English are exteriorised due to the use of artistic realia nominations in lexico-semantic field of art. Artworks nominations are verified in lexicographic and literary sources by means of lexico-semantic groups, which are subordinate to the archiseme «art» and are represented by such lexemes as *music*, *painting*, *sculpture*, *architecture*, *theatre*, etc. There are direct and indirect nominations of artistic phenomena. Direct nominations are fixed in lexicographic sources. Indirect nominations are objectivised in the form of reference according to the title, genre, author/representator, means and ways of representation [3, p. 47; 4, p. 112; 7 p. 53].

Communicative and discursive peculiarities of artworks description in English literary texts are considered as message in the process of communication, as well as status, role, time and space characteristics of the artistic discourse. Special attention should be given to the consideration of the information channels in the artistic communicative situation and background knowledge realisation in the process of artworks decoding in English literary texts [1, p. 48].

Artwork is considered as message in artistic communicative situation on the basis of the analysis of its role (element of context, object or subject of the

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communicative situation), functions (communicative, cognitive, informative, representative, ideological, educational, regulative, creative, emotive, suggestive, phatic, distracting, and blocking), forms (according to volume, carrier/material, referent, narrator, way and time of representation in the text, width of translated information, identification and emotive colouring parameters), and introduction stages (preintroduative, introduative, and postintroduative) in English literary texts [2, p. 11].

Status and role characteristics of the participants in the artistic discourse are classified according to quantitative and qualitative parameters, in which the addresser's role is performed by artist or representator of artwork, and recipient plays the role of addressee. The peculiarities of interaction between representator and recipient of the artwork are determined by the potential of art phenomenon to influence the participants.

Time and space parameterisation of the artistic discourse is based on the existing chronotope classifications. Time parameters of artistic discourse include the structure (linear and cyclical time), chronologisation (callendar, eventual, and perceptive time), reference (descriptions of the past, present, or future), deviations (retrospection and propection), and role (object for description or background for events). Space parameters of artistic discourse include the type (geographical, physical, psychological, natural, and antropogenic space), structure (empty/filled or open/enclosed space), reference (individual, interpersonal, and public space), scale (topoi and locuses), role (object for description or background for events). There are specific criteria of space description in the artistic communicative situation: distance (*far/close*), lighting (*light/dark*), intensity (*quiet/loud, bright/dim*) [2, p. 9; 5, p. 93].

The main aspects of background knowledge realisation in the process of artworks decoding in English literary texts are analysed from the point of view of their actualisation according to the artwork, general stylistics of the artist's creative work and his characteristic (appearance, biographical data) in order to express individualised characteristics of the appearance, inner state of the participants and for description of general atmosphere of the communicative situation [2, p. 9; 6, p. 336].

The results of the research outline the perspectives of further complex analysis of art phenomenon as nonverbal communication means and determine the peculiarities of artistic realia functioning in different types of discourse.

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REPRODUCTION OF LINGUOCOGNITIVE PARAMETERS OF AUTHOR'S TROPES IN THE ENGLISH NOVEL OF THE XX-XXI CENTURIES

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-62>

Artistic translation is without a doubt one of the most difficult types of translation. When translating, the translator must take into account the frequency of use of tropes in the literary text, i.e., the author's individual style. It is also necessary to take into account not only the specifics of the tropeized unit, but also its macrocontext, i.e., the language environment.

Modern English-language novels in the original and translation were selected for analysis, namely: «The Goldfinch» by Donna Tartt (2013), «The Book Thief» by Markus Zusak (2006) and «Behind the Scenes at the Museum» by Kate Atkinson (1996). This choice was conditioned by several

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factors 1) these novels belong to modern English prose and are bestsellers; 2) the authors of the novels represent different language variants of the English-speaking community: K. Atkinson is British, D. Tartt is American, M. Zuzak is Australian, but, despite this fact, we can identify points of contact in their works, including common mechanisms of metaphor formation, perfectly demonstrating the fact that cognitive processes and mechanisms of understanding reality are a universal category; 3) all three novels are a kind of post-traumatic narrative, a teenager life story; each of the main characters lives in different times, but each of them has to go through trials and bitter events, losing loved ones, and, therefore, has to comprehend and interpret the reality in which they found themselves, which determines the metaphorical richness of the texts; 4) all three novels have been translated into Ukrainian: K. Atkinson's novel was translated by J. Strikha (2018), M. Zuzak's novel by N. Goin (2016) and D. Tartt's novel by V. Shovkun (2016).

Thus, a complex system of tropes with linguocognitive parameters is the basis of the English-language novel of the XX–XXI century imagery, so the main task of the translator is to transfer this system from one language to another, while preserving the original. One way to preserve the original singularity and originality is to try doing with as few changes as possible, without sacrificing anything, by applying the source language construction to the language of translation.

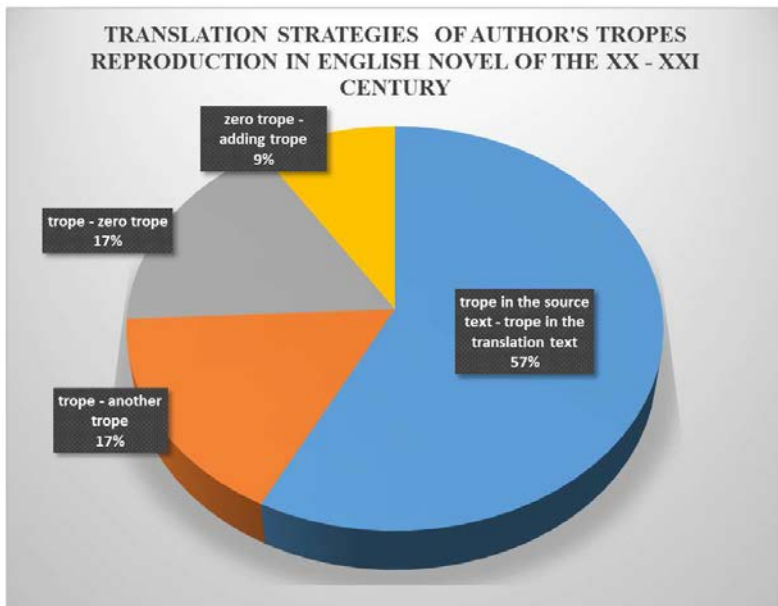
In our work, we start from the statement that the trope is based on a structure of two concepts and an associative characteristic that is transferred from one subject to another. The nature of the comparison (mechanism) is determined in the process of «decoding» the trope [1, p. 47]. A trope is a generic, generalized name, but in each case we are dealing with different types of tropes – comparison, epithet, metaphor, irony, metonymy, and so on.

The main reason for the complexity of translating the author's tropes is the fact that they express the spirit of the work, and the main task of the translator is to reproduce not the form, but rather the function of stylistic device in the text. After all, the purpose of the translator is not a mechanical reproduction of all the stylistic features of the original, but the creation of an equivalent effect on the reader, which is also called 'identity of perception' [2, p. 1].

In our paper, we have examined in detail the strategies for translating metaphor, metonymy, comparison, and epithet. We started from the O. Selivanova's concept, who, considering the translation of the metaphor, speaks of metaphorical transformations [3, p. 160]. We believe that this concept can be transferred to the translation of tropeized units of artistic text as it reflects the problem of imagery transmission. In the case of each tropeized unit, we distinguish the following strategies: 1) trope (metaphor, metonymy, comparison, epithet) – trope (metaphor, metonymy, comparison,

epithet); 2) trope – another trope, often a comparison, or a metaphorized or metonymized epithet; 3) trope – a zero trope; 4) zero trope in the source text – adding a trope. It should be noted that the first strategy mentioned includes strategies for complete translation of the source trope with preservation of imagery, translation of the trope with replacement of structural elements of its source domain, translation with domain replacement (source sphere, target sphere or both), translation with extension of meaning, etc.). The omission of the path occurs in cases with conventional cognitive models, or in cases with complex metaphorical-metonymic-epithet formations, when the translator deliberately replaces the tropeized unit with the non-tropeized one, if he does not see the possibility of transmitting them all. Conversely, the translation of a non-tropeized unit into a tropeized one is a kind of compensation for such omissions.

The frequency of application of the translation strategies considered is shown in the following diagram:



This approach allows to take into account when translating both linguistic and conceptual features of metaphor formation at the textual level. As you can see, the translation of about 8% of the trails is not compensated, in some cases in this case a phraseological substitute or descriptive translation is used.

The selection and application of the above mentioned strategies for the translation of tropeized units suggests that, in any case, we are translating not the trope, but the image embedded in it.

It should also be noted that when analyzing translated tropeized units it is advisable to combine a cognitive approach to their interpretation with the principles of transformational theory of translation, which will analyze each case for its adequate reproduction and make a holistic picture. This approach allows us to take into account two principles – morphological and semantic (possibility of translation) and pragmatic (the purpose of translation, taking into account the correlation between cognitive and linguistic structures in combination with the focus on the textual level, recognition, interpretation, evaluation and understanding of the process and result of metaphorization.

The results of comparative analysis allow us to conclude that it is necessary to take into account the characteristics of the author's individual style for adequate translation of a literary text, studying and analyzing the functioning of the author's tropes to reproduce them at the maximum level of correspondence of the original. Not all translation strategies and transformations used are appropriate and justified. However, in general, translations of modern English-language novels can be defined as those that preserve the imagery of the author's tropes and adhere to the level of emotional impact on the reader, close to the original. In our work, we investigated the translation of tropeized units with linguocognitive parameters, limited to metaphor, metonymy, comparison and epithet. However, they do not exhaust the classification of tropes, just as they do not exhaust the individual style of each author. Therefore, we see the prospect of research in the further development of the topic, the study of other authors' novels and current trends in translation.

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CULTURAL STUDIES

THE CONCEPT OF MOTHERLAND IN OLFACTORY CULTURE

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-63>

Olfactory perception of the world around us, as an indispensable way of knowing and evaluating, has been going on for many centuries of human existence. Many odors permeate human life on different levels: physical, psychological, social. Olfactory sensations, influencing the human consciousness can evoke autobiographical memories, forgotten moments of life, make a person think about their own existence, «feel the time», «recognize the place».

It is well known that smell is a property of something that is perceived by the sense of smell, and therefore has a natural essence. However, its decipherment is culturally conditioned. Once in the cerebral cortex, the smell is understood in the human mind, based on cultural attitudes, and then causes a variety of reactions at the level of behavior. So, capturing the surrounding reality through a diverse palette of scents, a person gives them meaning.

In modern culturology, odors are traditionally divided into natural (environmental reality) and artificial («cultured»), each of which is a system of codes, symbols. Based on the data of odors, the world is divided into «own»/»foreign», integrated images of social objects are created (smell as a symbol of home, city, region, country, etc.), outlines a spatially defined position of man in life, where the main in his attitude to the smell of the Motherland/Homeland remains in the world.

Analyzing the concept of «Motherland» in the olfactory field we must pay attention to the ambiguity of the term itself. Most often, the concept of Motherland refers to the country of ancestors (parents) of man; the historical place of origin and residence of the ethnic community, the place of birth of specific people with whom they identify their social existence. Appealing to the philosophical dictionary, this definition is considered as «a historically established sphere of existence of the human community; the place of birth of a person (or the origin of the people) as a bearer of certain cultural, spiritual and moral potentials» [1, p. 47–48]. A large explanatory dictionary of the modern Ukrainian language explains the concept of Motherland as «a country

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in relation to people who were born in it and were their citizens» [2, p. 125]. It follows that the human need for existential support of one's own existence requires a specific, relatively small space in which «*one's people*», «*according to one's own*» laws and with «*one's own system of values*» live and within which a person can separate from the rest of the world.

As it is well known, in the scientific literature there are the concepts of «big» and «small» Motherland/Homeland or native land. The first determines the existential rootedness of man in the context of notions of state or national unity; the second captures the experience of perception of the immediate local integrity, which is associated with the life path of the individual. The concept of «great Motherland» or «Motherland» appeals to a general ideological understanding, while «small Homeland» reproduces the specific objective reality of human development. A person's ability to personally determine the place of his own entry into the world is manifested in the concept of «second Homeland», «spiritual Homeland». The author in scientific research uses this term in its generalized interpretation.

Using the definition of «concept» in scientific research, it should be understood as «psychomental education that reflects the idea of the world through images, associations, concepts and attitudes to them. This is a dynamic unit, characteristic of both the individual and the team of a particular cultural group» [3]. Given the above, the cultural concept of «Motherland» has its own associative field with conceptual, figurative, perceptual, value components. For example, in the Ukrainian ethnocultural environment, the concept of «Motherland» is correlated with the concept of Country, associated with Ukraine (meaning «country of birth», «native land», «father's land»), figuratively correlated with «home» («small Homeland»), «nanny», «mother», symbolically identified with viburnum, cornflowers, chestnuts, sky, steppe, field. In the current ideological time-space in the aspect of the «great Motherland» is associated with independence, power, steadfastness, freedom, will, patriotism, where the perceptual component – pride, devotion, shame, joy, tears and more. Thus the above concept contains figurative-semantic and value-reflexive layers due to the relevant realities of today.

Representing the concept of «Motherland» through the olfactory portrait of the country, it should be noted that the figurative and semantic meaning of «native land» is quite different in the cultural picture of the world. Thus, the question of what the «Homeland»/»Motherland» smells like is quite rhetorical, and involves a wave of memories, feelings of nostalgia, sadness, excitement, sadness, grief, emotional awe, joy, love and so on. The mental nature of the sense of smell encourages various associations of «nanny» in different parts of the world.

Most often, «mother earth» in the aspect of «Homeland» is correlated with a certain natural environment (land with its forests, meadows, rivers and lakes, adjacent areas). The olfactory landscape of Ukrainians is determined by the aromas of flowering estates: sweet cherries, cherries, apple trees, pears, plums, lilacs, cherry trees. Favorite hearts are the scents of mint, nettle, lovage, chamomile, thyme, oregano. These fragrant herbs always washed the hair, and to attract the attention of the guy, the girls bathed in lovage. It is understood and perceived as «own», «native» – the smell of steppe, wormwood, field grasses, sunflower, black soil. Instead, the British evoke nostalgic memories of the «native land» smells of cut grass, lavender, violets, daffodils, fog, drizzle, wet asphalt. For most Germans, the «Fatherland» or native land is associated with various scents of greenery (shrubs, trees), oak groves are especially sad, because the oak is a symbol of courage, heroism and immortality of the nation. In the minds of the Spaniards «native land» is associated with flowering mandarin plantations, cypress, verbena, tea rose, salty wind. The aromas of the «Homeland» of Greece are the scents of pine needles, laurel groves, olive groves, the sea, white and golden beaches. Awaken memory, cause a wave of olfactory experiences in Brazilians scents of rainforest, jasmine, salt water, freshness, wet sand. For Chileans, the «land of ancestors» is captured by the variety of landscapes from endless deserts to lakes, evergreen forests, the symbol of which are countless volcanoes with the stinking smell of rotten eggs, burns and ashes.

Another semantic meaning of the concept of «Motherland» is given to Asian peoples: the Japanese associate it with the ocean, algae, green tea, sakura blossoms (cherries), Japanese cypress Hinoki (from which temples are built, famous baths ofuro); Chinese with traditional incense of Buddhist temples; Koreans with pleasant plant scents of spring, morning freshness.

The concept of «Motherland» covers the social environment – a set of people who are assessed as «their» through cultivated customs, rituals, traditions, rituals, holidays, perception of sounds, consumption of food and drink. For the Germans – «home» is a fun feast in a brewery, bar, pub with a taste of fragrant fried sausages with stewed cabbage, mashed potatoes and a fragrant glass of beer. For the residents of Foggy Albion, «home» is the smell of toasted bread (toast), cold coffee, rum, scented candles, air freshener, washing powder, as well as the smell of street food – Fish and Chips, bacon, eggs and curry. Brazilians seize «their places» by the aroma of fragrant coffee Bourbon Santos, banana plantations, clubs of smoke from Colombian cigars, rum cocktails, the ability to turn any gathering place into a loud party. Instead, Scandinavians cannot imagine a home without hot chocolate, tart coffee, aromas of fresh pastries, the smell of cinnamon in the air, a soothing candle flame, a quiet family dinner, outside the noisy company of friends and a lively

feast. The cozy-house is filled with various sounds: the crackling of firewood in the fireplace, the creaking of the floorboards, the rustling of leaves outside the window, the «conversation» of the second hand of the clock.

Thus, the odorous sphere of human existence is quite diverse, the palette of scents associated with the human mentality (Ukraine, Motherland, Fatherland, Homeland, native land etc.) is quite ambiguous, evokes various associations, images, ideas, memories, fantasies and more. Therefore, each ancestral country contains its own range of scents, photographs of memories that a person can find in different parts of the world, so it is not the smell itself that matters, but what is behind it.

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THE POLISH-UKRAINIAN THEATRICAL DISCOURSE OF THE 19th – EARLY 20th CENTURIES: THE PROBLEM OF STUDYING INTERETHNIC INTERACTION IN GALICIA

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-64>

The theater is a special kind of public art space in which ideas and themes important for society are legitimized; ethnic and national identities are formed and consolidated; imaginary communities are created (B. Anderson); collective myths and historical narratives are preserved and passed from one generation to the next; cultural memory is formed; stereotypical images of «Other» and «Otherness» and their perception models are developed; forms and scenarios of interethnic dialogue are determined; finally, future scenarios

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of separate national communities development and their intercultural relations are built and discussed [1, p. 7]. These phenomena form the subject of national art and theater studies. However, it is also important to study interethnic theatrical relationships and the transition from a field limited only to national discourse to foreign national theatrical cultures. In the context of the above-mentioned, the theatrical culture in the context of polyethnic interaction in the western Ukrainian lands of the second half of the 19th – the first third of the 20th centuries deserves special attention being the most fruitful period of theatrical environment development.

The importance of studying the theatrical component in interethnic and intercultural dialogue is very relevant. Regional traditions, established by polyethnicity, determined the creation of multinational theater centers, whose activities were enriched by international creative communications. The social nature of theatrical art, its accessibility to the widest public of the region has become an important communicative factor of aesthetic, social, and cultural functioning. The activities of drama societies intensified the work of amateur and professional centers significantly, and theatrical figures became active participants in the formation of the cultural and artistic space of the Western Ukraine region. As a complex and multilevel system, the theater organically produced various arts – word, music, dance, pantomime, directing, scenography, and took the role of spiritual core and one of the factors for national self-fulfillment and the creative potential rise of the polyethnic population in Galicia.

Theater became one of the influential tools for the formation of modern nations during the nineteenth century, including Polish and Ukrainian. During this period, the Ukrainian theater in the western Ukrainian lands was much inferior to the Polish due to political reasons. Its functioning was limited in terms of the financial, organizational, thematic, and territorial situation. In the Polish theatrical environment, the representation of certain features as for a generalized image of Ukraine was gradually formed, in particular, there were used the methods of borrowing, quoting, and stylization. According to the Ukrainian theater critic M. Garbuziuk, the forms of the Ukrainian image representation in the Polish theatrical discourse were determined by the dynamics of aesthetic and stylistic trends in the development of the Polish stage in the process of mastering European artistic practices [1, p. 432]. These forms included: playwrights' appeal to the Ukrainian language as a means of determining the national identity of the characters; quoting Ukrainian folklore (song, dance, proverbs); author's stylizations of Ukrainian folk songs; introduction of songs by Ukrainian authors; use of Ukrainian folk instruments; reproduction of men's and women's Ukrainian costumes; selection of appropriate, often authentic props; creation of scenery with the image of spiritual Ukrainian shrines, typical Ukrainian landscapes, etc.; writing

dramatic works based on Ukrainian folk songs; creation of plays in Ukrainian by means of Latin alphabet; introduction of T. Shevchenko's poems into plays; use of plot motives and characters from dramas by I. Kotlyarevskyi, G. Kvitka-Osnovyanyenko.

Representation of Ukrainian characters has become the most important feature of interethnic representation in stage performances and plays by Polish authors. Following the genesis of historically established Ukrainian-Polish theatrical relations, it should be noted that the first attempts to introduce Ukrainian images into Polish performances date back to the 17th century in nativity drama, school, and magnate theater, i.e. in all varieties of the early modern theater [3]. Interlude, which was an organic component of Polish school, religious, and nativity drama, became the genre variety where Ukrainian images were most often represented. Thus, the «Ukrainian world» was depicted in a fragmentary and conditional way, which fully corresponded to the Polish idea of hierarchy in the political, cultural, and religious life of the time. On the other hand, according to national historians of the theater, there was a phenomenon of presentation or transmission of Western European artistic heritage in its diversity through Polish culture.

Beginning from the first third of the 19th century in Polish drama, there were gradually developed certain stereotypes of Ukrainians, which manifested itself in their linguistic, visual, behavioral, status modeling and led to the formation of a collective kitsch image of Ukrainians on the stage: Cossack-idler, Cossack-bagpiper, Ukrainian-maid, Ukrainian-enchanted. Instead, in the 19th-century Polish historical dramas and tragedies related to the Cossack era, images of historical figures are introduced by B. Khmelnytskyi, P. Konashevych-Sahaidachnyi, P. Doroshenko, I. Vyhovskyi, I. Mazepa in the context of the Polish national narrative and ideological dogma of that time. In this way, the Otherness is formed, and on its background, the Polish national identity is more clearly defined. In the era of Romanticism, images of Ukrainian Cossacks, hetmans, the elders, and Haidamaky were formed through the typical roles of heroes, robbers, strong-willed leaders, Don Juans, etc. At the beginning of the era of romantic realism, the images of Ukrainians, including the «light» genres of comedy, vaudeville, and melodrama, became more recognizable, believable, and realistic.

The traditional forms of representation of Ukrainian images on the Polish theatrical stage included not only performances on Ukrainian themes, but also interludes «Russian scenes», which gained popularity starting from the first half of the nineteenth century and had certain genres: comedy, magic opera, comedy, «peasant woman». The Cossacks were represented in historical dramas, melodramas, tragedies, folk paintings, and comedies. Peasant discourse was introduced in dramas, folk plays with singing, and dancing

divertissements. In these forms, there were gradually established such types of dramatic narratives as historical, idyllic, traumatic, rustic, urban drama.

The place and time of the events presented on the stage also had their mythological and semantic incarnations. For example, the Carpathians, Svitoyurska Hora, Lysa Hora, hetman's rooms, Cossack military camps, the Dnipro cliffs, rural landscapes are symbolic illustrative images of typical «Ukrainian places». An important general trend was the gradual expansion of the Ukrainian segment in the context of action, space, and time from the margin and fragmentation prevailing in the first half of the nineteenth century to the totally Ukrainian trend in the second half of the nineteenth century (e.g., «Return of the Cossacks» play by K. Heinch, «The Carpathian Peaks» by Yu. Kozhenyovsky, «Pribluda» by V. Lozynsky, «Ukrainians», etc.).

There are also traces of the reverse interactions between Polish and Ukrainian dramatic cultures. This was reflected in the borrowing of Polish works by leading playwrights of the time to be performed on the Ukrainian stage, e.g., «The Carpathian Peaks» by Y. Kraszewski. There is also a close relationship between theatrical art and literature. The widespread success of itinerant Polish and Ukrainian theatrical troupes led to the intensification of literary work among Polish and Ukrainian poets and prose writers, which manifested itself in the establishment of themes, figurative motifs, and typical plots, which were further developed in the field of literature. These plays include «Carpathian Highlanders» by Yu. Kozhenyovsky, which contributed to the active development of «Hutsul» themes in the literary works of Polish authors. Addressing the theme of Khmelnytychyna, typical for the theatrical scene of the second half of the nineteenth century, preceded the appearance of the «Fire and Sword» novel by G. Senkevich and «Houses outside the village» by Y. Krashevskiy. The influence of theater on fine arts, in particular, the artistic creativity of J. Mateiko and A. Lianhe is also traced.

There should be defined two interrelated phenomena of the subject period: the enthusiastic discovery of Ukraine, featuring the romantic era of the nineteenth century, (the image of the ethnic «Other») and at the same time its image development, which would be acceptable and work for the development of Polish national culture. The outspread of stage performances involving Ukrainian themes throughout Western Ukraine was associated with the socio-cultural phenomenon of the Polish-Ukrainian border and was formed in conditions of Polish bilingual and trilingual mobile theater troupes functioning (K. Kaminski, A. Zmievskiy, P. Rekanovskiy, A. Lenkavskiy, etc.) [2, p. 595]. Later, the outlined types of representation of the generalized image of Ukraine will find their expression on the national stage, limiting it to stereotypes imposed by other cultural influences and, thus, replacing the Ukrainian self-image.

Thus, the phenomenon the two cultures met on the territory of the geographical and cultural border has found its distinct expression in theatrical art. Representation of Ukrainian themes by Polish playwrights can be seen on the one hand in terms of giving a voice to the «voiceless» in the context of national colonization, and on the other hand, as a way to appropriate the right to speak on its behalf for its national interests.

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INNOVATION AS ELEMENT OF SOCIAL AND CULTURAL DEVELOPMENT

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-65>

At present, social development in the country depends on many factors, including economic, political, scientific and others. Therefore the term *innovation* is observed in different areas of life: culture, art, science, economics etc., and this tendency is typical not only for Ukraine.

Today, innovation is defined as an important factor influencing not only the success of a separate organization but the country's socio-economic development on the whole. The notion *innovation* means positive changes in various spheres of life, it makes it possible to implement new knowledge in everyday practices [2].

Encyclopædia Britannica, a British and American universal encyclopedia, gives the following definition of *innovation*: «The creation of a new way of

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doing something, whether the enterprise is concrete (e.g., the development of a new product) or abstract (e.g., the development of a new philosophy or theoretical approach to a problem).

Innovation plays a key role in the development of sustainable methods of both production and living because in both cases it may be necessary to create alternatives to conventional ways of doing things that were developed before environmental consideration was central to most people's framework for making decisions [6]».

The question of innovation is interesting to many researchers, ranging from economists to artists. Innovation has become not only the source of economic growth and index of social development but also a way of interaction between science and the social sphere, culture and art.

The Law of Ukraine on Innovation Activity defines *innovation* as follows: newly created (applied) and/or improved competitive technologies, products or services as well as organizational and technical solutions of manufacturing, administrative, commercial or other nature that considerably improve the structure and quality of production and/ or social sphere [5].

One should not forget about the cultural sector the development of which under the modern circumstances depends on the use of innovations. Let's consider some of its special features. The innovation culture is the area of general cultural process characterized by the level of perception by an individual, group of individuals and society of different novelties ranging from tolerance to readiness and ability to transform them into innovation [4].

The innovation culture is a form of culture common to mankind, a new historical reality created by the conscious aspiration of the society for material and spiritual renewal. It serves as a precondition and basis for progress and harmonization of the society's activities [4].

The term *innovation* is closely related to the notions *novelty*, *invention* and *discovery*. Such notions imply suggesting new ideas, and the distinctive feature of innovations is their embodiment in practice [3].

Such views are confirmed in the research of Bettina von Stamm, PhD of London Business School, author of *Managing Innovation, Design and Creativity*. She notes that «*art* and *innovation* are often interchangeable. However, there are fundamental differences – creativeness is an important element of innovation. It is reflected in a widely used notion of innovation that equals creativeness plus introduction (innovation = creativeness + successful introduction). Creativeness alone is not enough for idea inception [2]».

The modern processes taking place in the society allow combining creative ideas with new technologies. Thus, during the lockdown period in 2020, museums had to cancel the announced events and refuse from traditional visits and switch to remote operation. Viewers could virtually visit world museums

including famous institutions of the USA, France, Great Britain, Italy, Austria, Spain, Germany, New Zealand, Japan, Korea and others.

Virtual galleries, exhibition halls became the alternative option for artists, since such methods of showing your works widen the borders and the circle of viewers.

A great part of artists transform into virtual reality users. Thanks to the Internet, they communicate with the whole world, find partners for exhibitions in virtual exposition halls. They are their own curators, organizers and managers [1, p. 57].

The presentation and visiting of theatrical performances has also changed, which is confirmed by HD Theater project broadcasting the plays of internationally renowned theaters on TV screens. Royal Shakespeare Theatre demonstrated *The Tempest*, the play by William Shakespeare, in this format. Thus, the British theater has made its audience a thousand times larger: approximately 136,000 people enjoyed *The Tempest* in Stratford, London; 27,000 students watched the broadcast in their classrooms; and over 95,000 people watched it in the cinema in 17 countries. The coverage in social media reached 6.3 million views, video – 9.8 million views [2].

So cultural projects today are increasingly connected with new technologies. Innovations have become an important factor for both economics and art development.

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HISTORY OF ART

REFLECTION OF NATIONAL TRADITIONS OF CRIMEAN TATARS ON THE EXAMPLE OF DANCE ANALYSIS «AG'IR AVA VE HAITARMA»

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-66>

The Crimean Tatar folk dance, carefully preserving national traditions, is constantly in a state of development. It simultaneously combines balance, honor, as well as wild energy and sophistication. In Crimean Tatar dance, a man symbolize pride and courage, a standard of dignity and strength. All these qualities are clearly manifested in dance through posture, open position of the hands (the pose of eagle – is associated with the wings of birds), jumping and braven tricks. Also in dance, a man tries to conquer a woman with his strength and courage.

In dance, a great role is given to women, which coincides with the choreographic ritual practice, according to historical and ethnographic sources, in which the main role belonged to the woman – the guardian of the home, well-being and family peace in the distant past and present [2, p. 147]. In contrast to the man she is soft, graceful, very proud. With her restrained but very flirtatious movements he tries to attract the attention of her partner.

Another characteristic feature of Crimean Tatar dance is that the partner does not touch his partner, but only accompanies her throughout the dance. Here is hidden the deep meaning of relationships between people, respect for women, her dignity. This is one of the manifestations of the everyday life of the Crimean Tatars, which, of course, was reflected in the national dances.

It should also be noted that the nature of the performance of women's and men's parties is a feature of their traditional attire, which belongs to the historical heritage of the people.

Women's clothing is wide and long, below the knees, cotton or linen shirts (keten-kolmek), long dresses (anthers) with wide sleeves, colored trousers (shalwar or duman, don), which reach to the foot and are tied around the ankle lace. The outer garment of the Crimean Tatar is a kaftan (kaftan or zibin),

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tightly covering the whole waist, usually bright, often pink or crimson, with gold or silver alum on the collar and chest. The kaftan has a slit along the entire length of the front, narrow sleeves and is fastened at the wrist with a few buttons, sewn constantly on cotton wool, in order to give the condition fullness. On the chest, starting from the neck to the waist, and sometimes below, is sewn bib (kokyuslik), which is densely strung on top of small, and then more and more large gold coins (altyn). Then there is a wide pleat belt around the waist (ypshi kushak), sewn with silver or gold with large silver plates, which are decorated with embossed patterns (kopan).

The head is worn with a velvet, usually burgundy-colored hat (fez), embroidered with gold or silver, sometimes decorated with small coins and covered with a round patterned plate of golden color (fez kalpaci). A thin long white scarf (bash marama) made of home-woven haze with embroidery on the edges covering the back half of the head and neck is thrown over the fez. The neck wear beads (boyundzhak), made of colored stones, glass, rock crystal and coins.

Crimean Tatar shoes represent several different styles with different purposes. For dancing are used mainly solemn gold-embroidered beautiful shoes (ayakkap).

Men's clothing consists of a shirt with an oblique collar (kolmek), which was tucked into wide cloth trousers (sokma shtan or shalvar) fastened with a long and wide woolen belt (belt), usually red or green. A short tank top (ilyk) made of velvet, sometimes embroidered with gold, is worn over the shirt. Crimean Tatars cover their heads with a low black striped hat (kalpak), at the bottom of which is sometimes embroidered crescent. And also they can wear a skullcap (tak) or a fez (fez) of red color. Traditional shoes – boots (chizmena) [3].

Analyzing the national Crimean Tatar costume, we can conclude that the main part of the movements in women's dance belongs to the upper part of the body, arms, and hands. Wavy hand movements from right to left, as well as rotating movements of the hands, slightly bent elbows, but not hanging down, delicate and fragile positions of the fingers, barely noticeable, but «with a twist», movement of the shoulders up and down, often lowered gaze, which symbolize modesty and dignity of women. The main movement of the legs in the women's part is a variable step, small steps create the effect of smoothness. Combining this with a woman's long dress, it seems as if she is «floating» on stage. This is also one of the features of the Crimean Tatar folk dance.

As for the men's suit, it is much more comfortable and adapted to large movements than women's. This is clearly manifested in the men's part through jumps, tricks, raising legs and knees. Men's dance is a manifestation of wild energy, courage, will. As mentioned above, men have open positions of the hands, which characterizes him as a man of mountains, seas and steppes

(another characteristic of the life of the Crimean Tatars, the presence in the Crimea of mountains, steppes, seas). The hands and fingers in a man's dance can scroll and gather into fists. The movement of the shoulders is more amplitude and bright than in the women's part – up and down, back and forth.

Foot movements in the men's part are very diverse. In particular, jumping, alternating steps, leg raises, lunges, and kneeling.

The moment of improvisation inherent in all types of folk dance is not an arbitrary change of traditional movements, but is associated with their new combination, expressiveness of performance [1]. Also the improvisational part is non-verbal «communication» during the dance of men or women. For example, if there is a male solo in the dance, women, all together, can «communicate» and «discuss» the man's dance, as if admiring him or discussing to whom this particular dance is addressed. Men, on the other hand, can also communicate nonverbally. Similarly, if someone has a solo, others can support it.

All known Crimean Tatar dances are divided into: 1) male and female; 2) solo, mixed; 3) group dance [2, p. 147].

According to the thematic content, Crimean Tatar folk dances are diverse and divided into round dances (two types by temperament – 1) Slow; 2) Fast), pair, solo (mostly female dances) [2, p. 147].

Among the especially popular dances of the Crimean Tatars is «Ag'ir ava ve Haitarma», which is basically a group and consists of two parts. However, some sources indicate that the dance can be performed only by women or women separately from men. This is one of the most ancient dances, which runs a red ribbon through the entire Crimean Tatar history and conveys the state of mind of the people. Dance symbolizes natural cycles and eternal movement [4; 5].

«Ag'ir ava» is translated as a difficult or complex melody, or rather, emotionally difficult, because it tells about the tragic moments of history. But the emotional state of performing this slow part of the dance should not be full of gloomy tragedy, and vice versa. A smile should be, but special – philosophical. The nature of the movements should be like the melody itself – slow, smooth, majestic. And after a slow part, begins a cheerful, humorous, temperamental and graceful «Haitarma», which speaks about home returning, so the mood should be optimistic.

In this dance, as mentioned above, there can be a solo part of the women, where the girls perform movements as if declaring themselves, and there can also be a men's solo party, where the men show their strengths. In both women's and men's solo parts, the opposite sex supports dancing with claps or synchronous movements. A solo and duet part is also possible. This, of

course, is due to the instructions of the choreographer. But in «Haitarma», mostly, there are solo parts of girls, and a solo parts of men.

The Crimean Tatar people are proud of their dances – the highest treasure of their spiritual culture. Their majesty, grace and rhythm give them a special beauty.

Crimean Tatar dance contains beauty and versatility of the history and traditions of the folk, carefully conveying through the generations not only the pearl of art, but also richness and customs of ancestors in particular folk dance «Ag'ir ava ve Haitarma», as a symbol of infinity movement of the life.

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FOLK AUTHENTICITY AND TRADITION IN ACADEMIC PRACTICE PERFORMING ACCORDIONIST-ACCOMPANIST

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-67>

The modern practice of the choreographic ensemble makes a number of requirements for understanding the areas of concertmaster activity. They are determined by the age requirement of the ensemble, the performance repertoire, the general direction of its activities, the stages of preparatory work, the level of stage performance.

Particular attention in this context is occupied by the degree of approach to folk authenticity in the repertoire of the accompanist of the ensemble. Interpretation folk origins is important in the direction of specialized ensembles (for example, folk-academic or folk-pop) and in choreographic formations, where such works are a component of a diverse genre list of performed compositions.

Among the concertmaster's performing arsenal, the lion's share of the works of the studied group are represented by various arrangements of folk songs and folk dance melodies. As rightly stated by the researcher of folklore in academic accordion literature A. Shamigov: «...works based on folklore material occupy a special place among them, because folk-amateur forms of making music, as well as the original examples of professional composition for this instrument grew out of the leading genre – folklore processing» [2, p. 74].

The basic varieties of the above-mentioned amateur repertoire were simple harmonizations of folklore samples of household and every day, dancing lyrical songs and romances. Of course, its formation and development are due to the performance on simple varieties of harmonicas, common in the environment of urban music in the second half of the nineteenth century. Compositions of this type are mostly in the form of potpourri, bundles, which are dominated by the variability of the development of musical material and different types of variations.

This genre group is inherent in the accordion repertoire throughout the history of concert practice for this instrument. Evolution consists in the growth of composer's skill and the development of technical means of expression, due to the academization of music education of performers, constructive improvement of the instrument, and, accordingly, the changing demands for composition. Due to this, original compositions stylized in the folk-musical style in the above genres were added to the folk arrangements.

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From the point of view of concertmaster's practice, this group of works is a very grateful working material both at the level of rehearsal work and given the potential for selection for a concert performance. Clear and expressive genre guidelines, emotional coloring, the ability to choose from a large list provide the accompanist with significant potential to find the most appropriate samples. The structural clarity of the arrangements, due to the couplet as the basic unit of division of the form, best corresponds to the completeness of the choreographic constructions, and the change of textural types makes it possible to achieve a harmonious correlation of musical material and stage movement. In addition, given the bright folk character of the choreographic composition, the very nature of the genre determines the stylistic unity.

The combination in dance of elements of classical choreography, characteristic, folk dance puts before the accompanist the requirement of search of the corresponding musical and art decisions. Under the condition of folk-academic orientation, miniatures, cycles of miniatures, suites and ethno-stylized original concert compositions of other genres may be more appropriate. The accompanist will be required to have a much more powerful palette of technical means, which will embody the general idea of the whole, often in neoclassical or neo-romantic style.

In the works of this plan, drama and emotional and semantic content of the composition come to the fore, where the folklore principle will have not a basic, but a complementary, symbolic function. Thus, in the musical component important features of national and ethnic characteristics are the features of certain dance genres, their recognizable rhythmic formulas, textured organization of musical fabric, system specificity, inherent in Bukovina, Hutsul, Lemko, Boyko, Podolsk, Slobozhansky or other ethnic groups of Ukraine. In case of selection of author's material, formation or composition of own musical canvases for choreographic compositions, the accompanist needs not only deep knowledge of principles of instrumental forms of making music, ways of development of principles of musical material, it is important to be guided in forms of group singing.

Another type of conditionality becomes folklore beginning in the works, where there is reference to Moldovan, Bulgarian, Croatian, Spanish, Brazilian, Gypsy, Caucasian, Romanian, Hungarian and other dance traditions. After all, one of the important requirements for the selection of musical material by the accompanist is awareness of clearly recognizable national features of music and dance genres, their semantic features, the specifics of rhythmic, accentuation, tempo drama, ladotonal features.

It is also a difficult but desirable task to achieve timbre matching, which is based on understanding the need to create a conditional, but accurate and

identifiable sound image of the country through the dance genre (such as French, Spanish and Brazilian tango).

Another aspect of working with folklore material should be addressed in the case of synthesis with specific distant stylistic guidelines. Veronika Tormakhova, a researcher of the processes of interpenetration of pop and folk beginnings in the art of music, emphasizes: «The musical culture of Ukraine is diverse. It includes professional composer creativity, oral folklore, folklore and diverse stylistic directions and genres of pop music mass, which includes jazz, rock and pop music. Due to the tendency of unification of cultures of different peoples (globalization), which is observed at the turn of the XX–XXI centuries, there is an interpenetration of different phenomena of musical art within one national culture. An example of this is the interaction and even the synthesis of such seemingly fundamentally different phenomena as jazz, rock, pop music and folklore» [1, p. 7]. If in the academic performing instrumental tradition one can first of all observe the richness of stylistic experiments (secession, impressionism, modernism, neofolklore, etc.) and compositional techniques, then in the applied function of the choreographic sphere they demonstrate bold introductions of national folklore features into non-national genres (polka, waltz, cha-cha-cha, tango, foxtrot, slow-fox, bossa nova, ragtime, reggae, blues, French musette) and derivative concert-pop or ethno-jazz works. The point of intersection here is the prevalence of these genres in amateur and concert accordion practice of the era – the interwar and postwar period, and therefore a natural timbre relationship, and in view of the requirements of the era – the need of reinterpretation, the latest re-sounding through paradoxical synthesis features of different national traditions and dance cultures. The relevance of these trends can be evidenced by the publication of a number of thematic series «Dance Rhythms», «Leisure», etc. for accordion with numerous translations of popular pop music and dances of the peoples of the world. They can serve as a useful practical material for work and an impetus to find their own artistic solutions for the accompanist, depending on the style, structure and scale of the choreographic composition.

Thus, in the repertoire list of accordionist-accompanist of the choreographic group there are works of different degrees of affinity with the original sources of folklore material and its functional and aesthetic purpose: processing of national or narrow-ethnic plan while preserving the complex of primary features, stylization in folklore based on the contrast-paradox and timbre unity of genres of distant national cultures.

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THE DYNAMICAL ASPECT OF THE VISUAL COMMUNICATION: THE SYSTEM COMPREHENSION

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-68>

Visual communications create the harmonious environment and make it possible for people to adapt to its continuous changes. At the same time constant visual communications (e.g. advertising, navigation aids, additional information media, etc.) should also continuously change to suit the modern reality. That's why designers should constantly search for new methods of the designing to achieve more effective interaction with the consumer.

We consider visual communications simultaneously as the process of the imaging and transmission the information by using the means of the visual language and visual imaginative perception that certainly have powerful emotional coloring. In that case, dynamics provide the formation of the multipurpose area for communication and show the importance of the design characteristic. Dynamic images cause the increasing of the number of the visual contexts. The experimental nature of the visual communications makes the designing of dynamic images more complex. It is important to predict the results of the perception. That's why the theoretical comprehension of the dynamical aspects in the visual communications based on the system approach is the most promising way of the development.

A lot of the researches of visual communications attention are connected with the correlation of the concepts of the graphic design and the design of

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visual communications [2, p. 4], the analysis of communications in the context of the design and the problems of the strategy and methodology of the communication design [1]. It is necessary to understand the differences between various kinds of communication and learn more various ways of the consumers' reaction [4]. So, we investigate visual communications on the theoretical and practical levels.

The movement, which is an important part of the project activity, appears through the creation of the real or the imitative dynamic in design [3, p. 59–60]. The purpose of the project is the increase of the dynamism of the visual communications at the expense of integration with a human, and with natural and artificial environment. It causes the importance of the detection of different kinds of the dynamical changes while using the systemic approach.

While we use the wide variety of the artistic innovations, scientific, technical and digital technologies, we develop and complicate the visual communication and make it more dynamical. Visual communication is not only static object, but a process as well. So, the design system is able to continuously change. It leads to the increase of the quality of the perception and the memorization of the visual message. In order to further form the theoretic base and practice of the visual communication designing system we need to analyze the types of the dynamical processes.

The process represents the repeated or not repeated sequence of actions that expresses the idea. The course of the processes is provided by the internal means of the design system that arises during the motion of the human. The project method of creating the new object or phenomenon is the dynamic formation in this case. We emphasize different kinds of processes depending on the character and the features of the structural elements of the design system.

Mechanical processes represent repetitive in time periodical actions of the constructive elements of the carrier of the visual image. Such processes are typical for the external advertising or transport advertising (the opening/closing of the doors, the movement of the janitors, wheels, etc.). They can be posted on the small architectural forms, in elevators as the internal advertising, on escalators and other movable objects. Sound, light and other kinds of information are ancillary in this case. However, this information plays an important role in the designing of the figurative solution. The visualization of the repetitive mechanical processes is perceived as the system of the dynamical composite elements of different levels. They are agreed conceptually and combined with the communicative connections.

The complication of the visual communication language occurs due to the inclusion of electronic and digital technologies into design system (e.g. the eye tracking, motion tracking, temperature tracking, the measuring of the

weight, etc.). The informational-technical processes visualize the life stories as the single complex of the transformation of the objects or events. Due to the consistent transformation hidden qualities and the information appear. They are not on the surface, but they cause the appearance of the new functions. That's why multifunctionality is the specific feature of the dynamical visual communications. It makes them a useful instrument in the life of the society.

The dynamical visual number is formed with the using of the digital technologies and the augmented reality technologies. It is adapted in real time to the weather conditions, the people's behavior and different movements. This visual row is synchronized with the environment and the person's actions. The active implementation of the modern informational and communicative technologies into the social reality contributes the maximum involvement of the communications users and makes the visual communications intuitive and clear for others.

The biochemical processes make the internal dynamical changes of the visual images. Their visualization represents the totality of the objects conditions, which are caused by the chemical changes on the molecular level and are irreversible in time. The means of the dynamic visualization is the color.

One of the promising ways of the visual communication designing is the ability to visualize the temperature regimes, the expiration date of the products, and regime of the storage at the expense of the development of the appropriate indicators (e.g. «Bad Meat Detector», To-Genkyo-Tokyo, 2009). The colorful dynamic informs about the changes that are hidden in the processes.

Using the biochemical changes has the system character and provides the involvement into the designing of the dynamical visual communications of a board of the professionals (e.g. the alive bacterium billboard «Contagion», Toronto, Canada, 2011). Using of the behavior and features of the living creatures (bacterium, insects, and animals) for the modeling of the visual communications can become one of the main directions in solving the ecological problems.

The appearance of the real people on the advertisements describes the specific of the using of the antroposocial processes, which cause the intensive communication (billboards with real people). The high level of the dynamics characterizes the design systems, where the process visualization happens with the environment (pet shop JAKPETZ JAKARTA, Indonesia, 2009; customers are fleas on the dog here). Dynamical visual image becomes the area for the multilevel communication. It represents different fragments of the information for the observer and the member of the design system.

We consider communications based on the antroposocial processes as the way of the life and they often are used with the purpose of the interactive study (e.g. research of human growth «World Dimension», Slovak). Therefore we observe the formation of the specific visual communicative space, which gradually transform. Dynamical visual communications become the integrated fragment of the social and cultural reality.

The involvement of the natural processes into the visual communications composition provides the formation of the systemic dynamic communication. Periodic changes of the conditions of the natural environment (natural phenomena and climate parameters) create the ability for the constantly updated communication with the viewer and effective usage of the natural resource potential. The mechanism of the adaptation to the action of the factors of the environment becomes the main in the creating of the image solution.

The totality of the influences of the artificial environment (dust, dirt, artificial light, warmth, etc.) emphasizes the close interactions between processes and phenomena and makes it possible to rethink the role of the informational message and is considered as the way of increase of the eco-consciousness (e.g. the cleaning company advertising «Clean Plus», Thailand, 2013). The dynamic designing acquires the ecological direction, provides the complex comprehension of the reality and creates the visual integrity, which has integral properties.

Real dynamical processes are dominant in the designing of visual communications. On the other hand, illusory images play an important role. The mental perception of the reality provides the modifications of the science paradigm of the visualization based on the imitation of the processes. The moving of the viewer in the space along the design system, which is divided into the fragments, ensures the illusion of the movement, changes of its states of forms. One more kind of the illusory dynamical formation is mirror symmetry (the addition of the half of the real object at the expense of the reflection of the rays from the mirror surface).

Dynamical system of the visual communication is the system, which changes the states under the action of external and internal processes. It reaches the effective communication this way. The base of the modeling and predicting of the condition and behavior of the design system in time and space is the using different kinds of the dynamic in the visual communications. If we learn how to design its interactions, then the necessity in the infinitely reorganization of the system in the conditions of the constantly changeable environment will disappear.

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ARCHITECTURE

ENERGY-EFFICIENT INDOOR LIGHT ENVIRONMENT: A DEFINITION

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DOI: <https://doi.org/10.30525/978-9934-26-050-6-69>

Indoor lighting design is an organic component of light design in general. The profession of a light designer as an independent project practice was shaped owing to the creation of the International Association of Lighting Designers (IALD) in 1969 [1]). Lighting design is defined as a new phenomenon in the art of creating an appropriately comfortable and artistically expressive living environment. Modern lighting design is based on people's aesthetic perception, ergonomic aspect and energy efficiency of lighting. Therefore, the creation of a comfortable lighting environment in compliance with modern requirements for energy efficiency is prioritized in the light design. Given this, it is necessary to define such a concept as an «energy-efficient indoor light environment.» This definition can be formulated based on a detailed analysis of the known definitions of «energy efficiency» and «light environment».

Thus, according to State Building Code of Ukraine (DBN B.2.5-28-2018), «light environment is a set of ultraviolet, visible, infrared radiations of natural and artificial light sources; an important component of organisms and plants living environment, determined by the light fluxes of light sources, changing as a result of interaction with the subject environment; it is visually perceived by the distribution of light in space [12, p. 6]». From the point of view of occupational health, «the light environment is a background physical stimulus of low intensity, which has both general biological and specific action [9]». In the hygienic context, the concept of «light environment» is closely related to the concept of «visual comfort», which expresses «harmonious satisfaction in the subjective need for light, which contributes to the formation of a high level of body functionality, providing distinct visibility of objects at the slightest fatigue, creating a subjective sense of well-being [9]».

If we resort to the interpretation of the light environment in terms of such industries as architecture and design, it is defined as:

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– «spatial formation with a certain subject content, whose purpose is to maintain the basic processes of human life: work, life, recreation [4]»;

– «a set of ultraviolet, visible and infrared radiations generated by natural and artificial light sources, as well as space (light space) filled with this light and illuminated objects (light forms) [8; 2, p. 158]».

In the context of environmental design, the concept of «light environment» is closely related to the concept of «light climate», which expresses «a set of conditions that ensure normal visual performance: sufficient intensity of general lighting and optimal illumination of work surfaces; uniform distribution of light intensity and permissible brightness distribution in the field of view; normal conditions for shadowing; rational spectral characteristics of light flux [2, p. 158; 11]».

From the point of view of physics, «narrowly, light is electromagnetic waves that are perceived by the human eye. The wavelength of light is within the range from about 0.4 to 0.76 μm . In a broader sense, the light also includes infrared and ultraviolet parts of the electromagnetic spectrum [3, p. 278]». As part of the indoor light design study, the light should be narrowly defined as electromagnetic waves of the visual range.

Taking into account the above-mentioned variants of «light environment» definitions in various industries, we formulate it in terms of the light design. Thus, *an indoor light environment* is understood as a spatial formation filled with visible radiations generated by natural and/or artificial light sources and consisting of direct, transmitted, scattered and reflected rays, whose combination provides a proper light microclimate, normal visual performance and ophthalmic comfort of a person.

It is also necessary to consider the definition of the «energy efficiency» concept. Around the globe, the official documents, which relate to strategies and ways to improve energy efficiency in various sectors of human life, interpret this concept as follows:

– energy efficiency is the ratio of output productivity, services, goods or energy to input energy [5];

– energy efficiency is a measure of the amount of useful work that can be obtained in the system from a given amount of input energy, and improving energy efficiency means achieving a certain goal using less energy [10, p. 36, 315–316];

– energy efficiency is determined in terms of engineering and economic principles of managing direct and indirect energy costs without deteriorating performance, its task is to maximize the output of each unit of energy consumed or achieve the same output with less energy [6, p. 119].

Energy efficiency is often defined from the standpoint of using modern technologies to reduce the amount of energy consumed while providing a

given level of service, although energy-efficient technologies in many cases have additional «non-energy» benefits that improve service levels. In some cases, the value of these non-energy benefits exceeds the value of energy savings obtained during the life of the product. It is also possible that energy-efficient technologies can reduce the level of service quality, however, the number of such cases is scarce [10, p. 107–109].

The energy efficiency of artificial lighting can be expressed as a dimensionless quantity, as the ratio of energy consumed by the light source to the light energy emitted by it [10, p. 36]. The efficiency of indoor lighting is estimated by the consumption of electricity for lighting 1 m² of the area. The universal criterion for assessing the efficiency of energy saving in lighting is the ratio between the cost of modernization of lighting equipment and the cost of saved electricity. Besides, one of the criteria for energy efficiency of lighting is the power consumed to illuminate 1 m² of the surface, attributed to 100 lx at 100% efficiency of the luminaire and a stock factor of 1.5 [7, p. 281].

At the same time, the term «energy-efficient architecture» means «a complex of rational architectural and construction solutions, engineering equipment and technological systems in buildings and structures that provide conditions which are favorable for human life and the organization of functional and technological processes, due to the use of rational space-planning solutions and special equipment for receiving, converting and transmitting energy from renewable sources [2, p. 93–94]».

Thus, based on the analyzed components, it is possible to offer a full definition of the concept: an *energy-efficient indoor light environment* is a light environment created as a result of project activities, with the use of both natural and artificial light. Its specificity is secured by the fact that it includes a set of rational lighting solutions and technological systems that provide a reduction in direct and indirect costs for indoor lighting without compromising its quality, creating human-friendly conditions and implementing functional and technological processes.

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Izdevniecība “Baltija Publishing”
Valdeķu iela 62 – 156, Rīga, LV-1058
E-mail: office@baltijapublishing.lv

Iespīests tipogrāfijā SIA “Izdevniecība “Baltija Publishing”
Parakstīts iespīešanai: 2021. gada 31. Martā
Tirāža 100 eks.