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Conference proceedings are devoted to theoretical and practical aspects of scientific development in Eastern Europe. General issues of the engineering, medical, psychological, philological, economic sciences, history of art, social communications and so on are considered. The publication is designed for scientists, lecturers, postgraduate students, students, as well as for the general reader.

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ARCHITECTURE

ARCHETYPAL PROTOTYPES OF VARIOUS ARTFICIAL LIGHTING SYSTEMS

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Broadly defined, archetypes are cross-cutting, symbolic structures of cultural history that associate certain topical material of conscious and subconscious functioning of human values [8, p. 39], and, getting into immediate human environment in the form of symbols, evoke deep sensations [6, p. 17]. To some extent, symbol is a manifestation of archetype in the material world [2], from the symbolic point of view archetypes are propensities to the implementation of certain images or ideas, as well as their prototypes or opportunities to their embodiment in the cultural processes [8, p. 39].

A separate category of archetypes is formed by cosmological phenomena – the sun, stars, rainbow, etc. The most common is the archetype of the sun that can also manifest itself through a closely related symbolic image of fire [3, p. 152] or as impinging sunlight; the second most popular archetype is the sky which is present almost in very religion [4, p. 133]. In the majority of cultures, the sun is a symbol of creative energy [5, p. 401-404], and fire is perceived as demiurge that emerges from the sun (being its earthly emanation) and correlates with sunbeam and lighting. Anthropologists trace the cult of fire in many modern festivals (fireworks, Christmas tree lights) [5, p. 296-298].

An additional group is made by national archetypes [8, p. 39], that embody the historic experience of the communities, influence the inner world of separate personalities, shape primary relationships and regulate them in the society. In the Ukrainian culture some archetypes, having lofty semantic charge and being some of the basic ones during the Pre-Christian period, enjoy the same status at present [2]. They embrace the archetype of light, and images of light and fire are identified as conforming to life, sense, and wisdom [7]. In Arabian sources, the word ‘fire-worshippers’ was used in relation to the Slavs who considered home fire, as well as the sun, sacred. Such worldview, present in the Slavic unconscious as early as in the pagan

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period, was transferred to the Christian phenomena. That is why this enables us to state fire as an archetype for the Ukrainian unconscious [2].

According to the mentioned above, we can acknowledge tight interrelation of archetypes of the sun and fire, as well as human's subconscious perception of fire as of earthly emanation of the sun (especially in the Ukrainian culture). This is also confirmed by the history of artificial illumination development [1, p. 6-43], in accordance with which for more than million years human consciousness and unconscious were formed under the influence of two sources of light: the sun as a source of daylight that determined the period of active work and vigor (concentration on complicated visual tasks), and flame as a source of light in the evening and at night, which in the initial stages of human evolution became a sort of portable sun for primal communities, creating conditions for communication between the members of that primary human group, evoking the sense of security, comfort and trust between the members of that group, and facilitating transfer of that practice to new generations.

Therefore, daylight can be considered a prototype of any system of functional work lighting, and the light from fire – a prototype of those systems of illumination that are designed for relaxation and communication.

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CULTURAL STUDIES

MENTAL IDENTITY IN THE FOCUS OF LINGUISTIC-CULTURAL STUDIES

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The anthropocentric paradigm focusing on language studies based on human factors, made *Homo loquens* the corner stone of the research, while the symphony of language and culture – its key phenomenon, in which mentality of ethnic groups of its native speakers is objectified. As the anthropocentric paradigm in humanitaristics became stronger, the focus of the linguistic research is shifted according to allegoric metaphor, from the lyre of Orpheus to his individuality.

This epistemological turn is also called «anthropocentric shift» or «anthropological turn». Yet in 1975 the scientist Y. Stepanov emphasized that «no serious linguist of the last decade ... has passed the question of anthropocentrism in language» [8, p. 49]. With this shift of accents, vast creative energy of language as a factor generating cultural space is released, causing an introduction of a separate integrational branch of semasiological background, cultural linguistics that synthesized the results of research in numerous humanitarian sciences.

The eminent French linguist E. Benvenist also predicted the emergence of the so-called «new linguistics», that is, modern linguistic-cultural studies on the basis of the «triad of terms – language, culture, human personality» [2, p. 45]. He offered to look at the spiritual and material existence of the ethnic groups from the position of this triad.

As per needs of *Homo loquens* the reality is not becoming objectively actual in culture of language, rather it is anthropocentrically marked, moreover, it is marked ethno-specifically. That is, being a creator of culture of language, an individuality is the only subject of conceptualization of reality in semantics and semiotics of sign, while language and culture are starting to be researched in the existential dimension through a prism of the mental field. Cultural of language is a self-reflection of *Homo loquens*; it forms an ethno-specific axiogenic discourse field, whose semiosphere is as if adjusted to the requests and priorities of its native speakers. According to the metaphorical

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comparison of the book on the linguistic mentality by T. Radbil, «language acts as a kind of operating system for our thinking (if it is appropriate to use an analogy from the world of computer technology). In other words, language tells us (and sometimes tyrannically) impels us in the interpretation of reality; it is a guide in the human assimilation of the world» [7, p. 20].

In a primary nomination of objects and facts during imprinting, an individual receives meaningful information mainly through their language channel. A retranslator of reality, the language forms a unique «operating system» [7, p. 20] of cognitive apparatus of *Homo literatus*, herewith laying the foundation for subjective ethno-specific verbal and cogitative activity of a new linguistic individuality.

Already the fact of human involvement in the traditions of the linguistic field of a particular ethno-community gives its mentality the keys to decoding its linguistic and cultural codes. Therefore, mental representations in the picture of the world of each nation are largely subconsciously based on the material of cultural and linguistic norms inherent in the dominant ethnic group. By the ethnic group, we understand a generalized collective subject of anthropocentric conceptualization of reality in a sign, mental image, concept, archetype, eidos and other axiogenic mental contexts. A complex, multivectoral yet definitely ethno-marked dialectics of the process is an insurance of further self-replication and improvement of an ethnic group in a competitive environment of multicultural world.

The existence of a direct influence of language on the thinking and mentality of the ethnic groups V. Humboldt vividly illustrated in his metaphor of the epistemological circle: «A person lives with objects in the way their language presents them ... Each language describes around the people, to whom it belongs, the circle, from where the person can go away only to the extent that it enters to the circle of another language» [4, p. 349].

A special highlight is made on linguistic-cultural factors objectification in mental identity of ethic language groups. In accordance with cultural scope of our study, mentality is a subjective, implicit and often, non-reflected background assumption of a personality determined by linguistic-cultural canvas having more often than not a spontaneous characteristic, in particular, due to stereotype estimations as well as behavioral models, latent impulses, stereotypes and so on. The term «identity» was first involved by the psychologist E. Erikson [3]. Later it was developed in the studies of many scientists of different branches [1; 5; 6] and others.

Mental identity is formed by means of self-identification with that of another ethic group. It is defined as a totality of ethno-specific mental features which, using a method of establishing identity, single out and mark representatives of a certain ethnic group among others. Its design and

determinateness are achieved by combining conscious or subconscious collective creative efforts of many generations during centuries-long historic-cultural development under a direct influence of linguistic-cultural factors of a corresponding ethnic group. It is highlighted that ethnic identity is inherited by a human individual, while national identity is acquired with ethnic identity staying more durable to changes than national, however, it is still subject to free choice. Yet, the most durable is mental identity – an individual cannot get rid of its intrinsic mental characteristics even in case of their conscious withdrawal of national and ethnic identities. Ethno-specific mental features, behavioral patterns and authentic cultural scenarios of various ethnic groups encoded in traditional art of communicative etiquette. A necessity of preservation of local cultures of language as an insurance of forming fully-fledged and spiritually rich mental identities of nations in the end can have a positive influence onto the global community.

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HISTORY OF ART

MUSICAL PERFORMANCE IN THE ASPECT OF THE COGNITIVE PARADIGM OF MUSIC KNOWLEDGE

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In the mid-1950s the informative-communicative scientific paradigm was replaced by a cognitive paradigm, which first emerged in Western psychology and subsequently became interdisciplinary. The birthday of cognitive science, as a new field of scientific knowledge, is considered to be September 11, 1956, the day when a symposium on the problems of artificial intelligence was held at the Massachusetts Institute of Technology (MIT). At this symposium, spoke such distinguished scientists as Noam Chomsky, George A. Miller, A. Newell and G. Simon and others. Scientists have discussed the problem of research on the work of neural networks of the brain using the latest supercomputers of that time. The reports raised problems of balance of mind and language, limitation of working memory, speed of recognition of images, theory of detection of signals. In 1960 Jerome Bruner and George A. Miller organized the first center for cognitive research at Harvard University, where intensive neuro-cybernetic studies of cognitive psychology were developed. As a result we have studies of mental and cognitive processes, through which a person recognizes, perceives and feels the world around him. Gradually the interdisciplinary cognitive paradigm began to embrace both foreign and domestic humanities.

Due to the fact that consciousness and thinking are genetically linked to language, the core of research that began in cognitive psychology is cognitive linguistics, which not only forms the apparatus of cognitive methods and scientific terms, but there are areas such as cognitive semantics, cognitive linguistics, and neurolinguistics that employ methods developed by cognitive psychology.

In the 90s of the twentieth century a new field of cognitive science appeared in foreign and American humanities – cognitive musicology. Its main direction is functioning of human brain neural networks in the perception of music using computer models of neural networks. In the field of computer synthetization of music perception, the theoretic values of the

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neurocybernetics of W. McCallock and W. Pitts have received special methodological value. McCallock's artificial (mathematical) neuron – Pitts allowed to describe the functioning of biological neurons using an artificial neural network capable of creative activity.

The scientific potential of cognitive musicology in Ukraine and the states of the post-Soviet space is constantly increasing, but despite this interpretation the concept of cognitivism in musicology and musical cultural studies is not defined. The contemporary Ukrainian musicologist O. Kozarenko wrote very figuratively about cognitive musicology. He considers that cognitive musicology is that manifestation of «wise musicology» ... which looks through the «infinite infinity» of phenomena, events, names, music, dates, dates, music the diastematics of a musical text is a miracle of a self-growing logo of a musical work, of the significant tensions that permeate it, cement it and form integrity» [1, p. 28]. The concept cognition, in our opinion, is directly related to music and performance and should be explored through the prism of the performing cognitive processes that provide it. In a broad sense, the term cognition means the act of formation of knowledge about an object / phenomenon, the object of cognition and the concepts associated with this knowledge, which is reflected in the thoughts and professional actions of musicians. Thus, cognition can be considered as the property of an object or phenomenon that is at reflection in the mind of a person requires refinement, reconstruction and/or establishment of appropriate relationships between its elements/parts. In musical performance musical text is both an object and a phenomenon characterized by cognition, which has a complex binary music-sound structure. That is in which object is the musical text and the phenomenon – the music-performing text, which is sound and which is a real piece of music, updated during the performance. In the most general sense cognitive (from Latin cognitio – cognition, study, awareness) is the ability of the musician-performer to sense and think and further professionally process the artistic information of the musical text as «energy information substrate of the world» (G. Kolomiets). In connection with the axiom of cognitivism, which is that «culture forms a person» and the individual always is under the influence of his culture, mental representations, symbols of culture, unobservable processes of consciousness and creative abilities of a person, which control the individual, must be explored within the framework of cognitive musicology not only as a performer of music, but aimed at gaining knowledge related to the thinking of performer musicians.

The development of the methodological foundations of the cognitive approach in the musicology of the performing arts, first of all, will allow to place new emphasis in understanding of the semantic structure of the performing process in the musical art. To consider the cognitive process of

performance in its various connections with cognition, social intelligence, experience, level of mental and emotional activity of the performer. However, the creation of a methodology for cognitive analysis of systemic phenomena in the plane of performance requires the development of a corresponding conceptual-categorical apparatus, which is able to reflect both system-functional processes and internal structural features of this activity. To analyze the music-performing cognitive process, we have identified the following instrumental narrow categories: interpretation – understanding meaning, reflecting the ideal processes of the functional system of thinking of the performer, and categories of performing language and speech, reflecting the material processes of sound formation of musical text, categories of musical means of expression, which are a kind of conceptual system of music-performance activity, which is realized in the learning process and then used more or less automatically according to the acquired experience, often corresponds to an intuitive feeling that is based on musical talent and is formed in the process of performing practice. These categories we understand – interpretation, in the general scientific sense, understanding as «psychological specificity of thought» (L. Vekker) and sense-formation, as a component of consciousness existing on the border of «psyche and culture» (V. Klochko), in a broad sense they can become an instrument for revealing the specificity of cognitive and practical (realization) functions of music-performing practice, and in a narrow one – a tool for theoretical reproduction and analysis of the system-functional process of performing a musical work.

The creative process of knowing and objectifying a piece of music in the process of performing, that is, providing a «life of sound» (L. Shapovalova) is due to the creative energy of the performer. Creative energy consists of the artistic feeling that we define by the concept of «emotional intelligence» (P. Salovey, John D. Mayer), which governs the cognitive intelligence, that is, the thinking of the musician. Indeed, from the point of view of empiricism, in music performance, feelings are controlled by the intellect because the musician thinks and simultaneously senses and realizes sensually colored sound material. Thus, «the smallest of the text and music fragments that has not only objectively defined meaning (motive, phrase, sentence, theme, etc.) for the performer, but also an emotionally determined figurative meaning, we call it a meaning-forming value structure» [2, p. 226]. The feelings themselves provide the artist's artistic attention to the individual semantic meaning structures of the musical text, which is necessary for the work of the intellect, which together with the emotion provides or does not ensure the adequacy of the musical text and sound movement in the actualization of the musical work. Thus, if musical text on the one hand is a form of alienation of a cultural product of a particular historical era – a piece of music from a composer, on

the other, it must be regarded as an object of the communicative and pragmatic orientation of the creative the activity of the performer musician to create a new music product in the realities of contemporary history for him and the listeners. Thus, musical texts, as real or potential sound phenomena, become a form of existence of music-performing culture, and at the same time, a way of preserving and transmitting multifaceted musically decorated artistic information about the spiritual and musical world of society, which is embodied in epoch-making musical texts and remains forever.

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METHODS OF ARTIFICIAL INTELLIGENCE IN THEORETICAL MUSICOLOGY: HISTORICAL AND CONTEMPORARY PROJECTIONS

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Analyzing the problem of the impact of the latest computer technologies on the processes of development of the musicology's theoretical base, it is important to note that Ukraine is the birthplace of early developments in the field of music informatics.

Since the mid-1980's at the Kyiv State Conservatory named after P.I.Tchaikovsky operated a scientific laboratory. The specifics of its work was related to the problems of providing computer courses into the musical theoretical disciplines, in particular, the polyphony course, which initially looked like a terminology database, and in the future – expanded in terms of creating an algorithms' catalog of structural sequences in fugue exposures from the WTK by J.S. Bach. They were reserched by Doctor of Arts, Professor of the Kyiv State Conservatoire Igor Pyaskovsky. The idea of

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leading acoustic horizontal (translating polyphonic sound into a single-line notepad) was developed by Ukrainian musicologist Leonid Dys and subsequently spread to the field of computer audio synthesis. This was a foreshadowing of the ideas of spectral music that were being worked on at the Institute of the Coordination of Music and Acoustics at the Georges Pompidou Center in Paris (IRCAM). Systematic analytical studies have been conducted at the Kyiv Institute of Information Registration Problems since 1994 for the creation of an information retrieval system and a database in the field of academic music under the direction of Mikhaylo Sinkov, Doctor of Engineering.

In addition, the Information and Search System «Musical Folklore of Ukraine» was created at the Problematic Research Laboratory at the P.I.Tchaikovsky National Music Academy of Ukraine. Ideas of machine analysis of musical text were actively implemented by professor I. Pyaskovsky. In particular, he developed a method of machine analysis of the musical text on the massif of Armenian and Transcarpathian folk songs, as well as melodies of Ukrainian folk songs, named «dumy» («thoughts»).

The development of heuristic computer programs on the basis of artificial intelligence methods for the analysis of logical and constructive mechanisms of musical thinking of O. Skryabin, K. Shimanovsky, A. Schoenberg and M. Verykivsky (on the example of combinatorics of harmonic and textural elements of composers' piano works) examined the author of this article.

This is foremost connected with the time-consuming analysis of the most difficult text, and, most importantly, it also provided an opportunity to identify the most complex patterns of the composers' musical thinking.

In Ukraine, have emerged trends that prepared a theoretical base due to the need to computerize the composer's creative process. So, in the field of algorithmic composition we will note the composer Leonid Grabovsky, and in the field of spectral music (deducing from the unanimous timbre the whole polyphonic score graphics) – Alla Zagaykevych – representative of the young generation of Ukrainian composers.

Computer technologies are widely used in many elements of artistic culture, such as arranging popular music (timbre and rhythmic processing), graphic design, music video creation and more.

Summarizing, there are two trends in the development of computer technologies – the first, which is manifested in the purely technical support of the process of creating an artistic product in the context of mass culture, the second is related to synthesizing the complex text structures based on artificial intelligence methods.

The synthesized material is a testament to the process of updating the musical language, that is an actual problem of the European art's development.

The formation of a wide variety of spectral sound couplings (with the closest combination of texture and timbre) is therefore characterized by significant structural complications and requires new computer technologies to structure and further enclose by the composer in a musical work [3].

Thus, the latest technologies of using artificial intelligence methods have greatly enriched the musicological theoretical base in a variety of directions, ranging from musical-acoustic aspects and ending with a deeper awareness of the musical thinking mechanisms, social and communicative functioning of musical art.

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PEDAGOGICAL SCIENCES

CHARACTERISTICS OF THE CONCEPTUAL FIELD OF STUDYING THE ISSUE ON DEVELOPING INTERNET TECHNOLOGIES OF SCIENTIFIC-PEDAGOGICAL COMMUNICATION IN UKRAINE (THE OF END THE 20TH CENTURY – THE BEGINNING OF THE 21ST CENTURY)

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In pedagogical science and education, as in any other field of human activities, new telecommunication technologies have become widespread in the last decade. Along with traditional means of scientific and pedagogical communication, such as scientific pedagogical periodicals, scientific pedagogical conferences, under the conditions of development of information and communication technologies, new means of scientific-pedagogical communication are emerging, which are developing in the electronic environment.

The end of the 20th century left to the descendants a glorious pedagogical heritage, which can be the basis for the further progress of the national pedagogical science under the conditions of increasing requirements for scientific works in the field of pedagogy and research culture of pedagogues, spreading modern means and technologies of scientific-pedagogical science.

The popularity of using the Internet technologies in education is due primarily to the didactic properties of the World Wide Web: publication of educational-methodological information in hypermedia, pedagogical communication in real time between subjects and objects of the educational process, as well as open access in time and space to information resources.

One of the important directions of development of educational informatization is the new computer technologies. Interactivity, intensification of the educational process, feedback are notable advantages of these technologies, which have led to the need for their being applied in various fields of human activity, especially those related to education and vocational training. Nowadays, the number of studies that have focused on using information and communication technologies in the educational process has grown significantly. This topic in Ukraine is investigated in the works of such

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scientists as V. Bykov, V. Bulakhova, O. Bondarenko, V. Zabolotnyi, H. Kozlakova, O. Mishchenko, O. Pinchuk, O. Shestopal, etc.

The theoretical-methodological foundations of the investigation of scientific communication have been laid out in the works on philosophy, sociology of science, science studies, documentary science and history of science of foreign and domestic scientists M. Bonits, W. Harvey, R. Hiliarevskyi, H. Dobrov, H. Diumenton, S. Ivanov, O. Konovets, O. Korinnyi, R. Kocherovets, S. Kuleshov, R. Merton, E. Myrskyi, O. Myrska, O. Mykhailov, J. Price, V. Sadovskyi, O. Chornyi, etc.

Among the large number of means of transmitting the scientific-pedagogical information, the most common and expedient ones are the scientific-pedagogical periodicals, scientific conferences, electronic means (electronic scientific journals, Internet conferences, web forums, etc.), which in different years have been investigated by: O. Adamenko, I. Dubinets, I. Zaichenko, M. Kukhta, S. Laba, L. Lytvyn, I. Melnyk, E. Panasenko, B. Stuparyk, H. Shchuka and some others (peculiarities of formation and development of particular issues of pedagogical theory and practice on pages of the pedagogical press); S. Loboda (peculiarities of functioning of modern pedagogical journalism) and others.

Scientists' attention to the problems of using new information and communication technologies as a means of scientific communication has increased in the last decade (V. Borshchev, R. Hiliarevskyi, S. Dudchenko, N. Zaichenko, S. Ivanov, L. Kalashnikova, L. Kompantseva, N. Kopytova, I. Kuchma, O. Lavryk, S. Matvieieva, O. Myrska, S. Hitchcock, N. Khmil, H. Shemaieva, T. Yaroshenko, etc.). Peculiarities of pedagogical and vocational communication in the academic Internet communities are presented in the dissertation research of I. Rozina. T. Kosenko's dissertation analyses the role of electronic pedagogical journal as a means of quality assurance of pedagogues' scientific-research activities.

However, at present there is a lack of studies that would cover the overall picture of the development of the Internet technologies of scientific-pedagogical communication in Ukraine at the end of the 20th century – at the beginning of the 21st century, the prospects for the development of scientific-pedagogical communication in science have not been determined yet. The insufficient examination of the problem and its relevance have determined the choice of the subject-matter of the research «Development of Internet Technologies of Scientific-Pedagogical Communication in Ukraine (the End of 20th Century – the Beginning of the 21st Century)».

The chronological boundaries of the study cover the end of the 20th century – the beginning of the 21st century. The lower boundary (the 90s of the 20th century) was marked by the adoption of the Law of

Ukraine «On Education» (1991), the State National Program «Education» (Ukraine of the 21st Century) (1993), which led to a change in the vector of development of scientific-pedagogical research, systematization means and technologies of scientific-pedagogical communication (conferences, symposia, seminars, electronic and paper periodicals, official sites of scientists and organizations, electronic libraries, databases on topics of coordinated and performed scientific studies, on advanced pedagogical experience, etc.). The upper boundary (2016) is conditioned by the adoption of the Law of Ukraine «On Scientific and Scientific-Technical Activities» (2016), which exacerbated the need to disseminate modern means and technologies of scientific-pedagogical communication.

The purpose of the study is to reveal the peculiarities and tendencies of genesis of the Internet-technologies of scientific-pedagogical communication of Ukraine at the end of the 20th century – the beginning of the 21st century.

The objectives of the study are:

1. To highlight the socio-economic, scientific-pedagogical preconditions and the bases of formation and use of the Internet technologies of scientific-pedagogical communication.
2. To characterize the evolution of scientists' views on the problem and to carry out the structural-procedural analysis of the terminology «scientific-pedagogical communication», «Internet technologies of scientific-pedagogical communication», «means of scientific-pedagogical communication».
3. To summarize the main types and forms of scientific-pedagogical communication in Ukraine during the period studied.
4. To identify and substantiate the stages of development of the Internet technologies of scientific-pedagogical communication in Ukraine at the end of the 20th century – the beginning of 21st century.
5. To outline the perspective directions of further development and use of scientific-pedagogical communication means and technologies in the context of reforming modern education and science.

The object of the study is the development of the technologies and means of scientific-pedagogical communication in Ukraine at the end of the 0th century – the beginning of the 21st century.

The subject of the study is theory and experience of using the Internet-technologies of scientific-pedagogical communication in Ukraine at the end of the 20th century – the beginning of the 21st century.

The methodological basis of the study consists of: the *interdisciplinary approach* which has allowed to summarize the opinions of philosophers, scientists, pedagogues concerning the analysis of the means of scientific communication as a component of science in general and pedagogy in particular; the *systematic approach* that has allowed to consider the means of

scientific communication as a subsystem of the system of scientific communication and as a subsystem of the system of pedagogical science; the *chronological approach* that has required consideration of the means of scientific communication in the chronological sequence of their development; the *factual approach* according to which the study has been based on the identification, systematization and interpretation of facts. The research has been carried out on the general scientific principles of historicism, continuity, systematicity, integrity, objectivity.

The expected scientific novelty of the obtained results is that: *for the first time*, the peculiarities of the development of the means of scientific communication as a component of pedagogic science, and the general tendencies of the development of the means of scientific communication in the pedagogic science in Ukraine in the second half of the 20th century – the beginning of the 21st century are determined and uncovered; the stages of the development of the means of scientific communication in the pedagogical science in Ukraine in the second half of the 20th century – the beginning of the 21st century are identified; the scientific ideas about the essence of the concepts of «scientific communication in pedagogical science», «means of scientific communication in pedagogical science», the role and functions of the means of scientific communication in pedagogical science and their prospects have got *the further development*; the classification of the scientific pedagogical journals, scientific pedagogical conferences *has been improved*.

The practical essence of the obtained results is in the fact that during investigation the following materials have been collected and systematized: the Ukrainian scientific pedagogical periodicals and issues, the scientific events of the pedagogical direction of the second half of the 20th century – the beginning of the 21st century, the data of the Ukrainian web resources on the scientific-pedagogical subjects which can be the bases for different bibliographical reference-books as well as be useful for students, undergraduates, postgraduates, lecturers, scientists while searching necessary information on this or that pedagogical problem are summarized.

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PRESS COVERAGE OF THE PROBLEMS OF PHYSICAL ACTIVITY OF CHILDREN AND JUNIORS IN BUKOVINA ON THE XX CENTURY («BUKOVINER STATEMEN»)

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Topic of the press coverage of the problems of physical activity of children and juniors in Bukovina on the XX century has covered not only a wide specter of theoretic articles and practice recommendations and developments: games, complexes, etc., but also an advertising of sport equipment, photos from public events such as festivals, occasions and learning or refresher courses for teachers, coaches in communities and everybody, who wants to join. One of the most important and biggest part of it is a group of articles, reports, letters and descriptions which analyze national traditions of rising children and their education in family and also the experience and views of Ukrainians on the sanitary standards of their own homes, traditions and rules of nutrition, features of folk rituals and the role of hygienic procedures, moving and musical games, dances and moving activity. In addition, the authors of a significant number of articles raised topical issues of education of a healthy, educated, happy Ukrainian woman.

In turn, the health-preserving themes in press of those time synthesized knowledge about creating conditions that allowed to form and not to lose, and also to preserve the good physical and mental health of children. One of the

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prime examples is the historical experience of the Bukovina region regarding the promotion of non-alcoholic lifestyle, non-standard ways of combating the alcoholization of the population using the physical education as one of them [1].

Each social group, each nation, each people has its own traditions, customs and rites which formation takes place over the centuries. Ukrainian festive and traditional heritage is one of the most durable elements of the formation of a single nation. This is context in which the bukovinians of the studied period considered such problems as the usage of folk traditions in the education of the younger generation and also family relations, ethno-medicine, etc. This knowledge was collected and published in his own article by Vasyl Kovarushiuk. He has analyzed the medical traditions of bukoviner healers. The text mainly dealt with the use of the forces of nature, in particular the healing properties of water. For example, the appeal to the water was accompanied with the morning exercises of children up to 3 years [3, p. 3-4].

The following text has identified an impressive list of diseases allegedly treated by quackery, and here witch doctors are called «deceivers», and, most importantly, the author suggests that these poetic jokes, elements of tempering are to be used only for preventive and training tasks [3, p. 4].

The role of games in the education of the younger generation was considered through the prism of folk traditions and customs of celebrating religious holidays. Exactly in the context of writing the review of games in the churchyard, the article «On Easter» describes outdoor games that have been spread among children and youth of the region. Moreover, the information written on the newspaper was presented specifically for girls. The author of the article describes the traditional Easter events in the churchyard: adult told different stories and sang songs, young people has played with Easter eggs: rolls them and «clinks». Girls has usually played moving and round dance games. Good example of such a game was the «verbal tablet».

During the singing, the girls walked in a circle or moved with quick steps to the right and left. In front of them or in the middle of the circle was a guy, when the song ended, the girls were running around the site, and the guy was trying to catch up with one of them and hug. Then, everyone paired up and hugged. And who had no pair, was failed and «for the execution to all» gave everybody the Easter egg [4, p. 3].

Also there were popular in region such games as «Zelman», «Sparrows», «Jelly» and «Quail». Games like this carried a triple burden: they kept the traditions and customs of the people of Bukovina, satisfied the need for movement, and also became elements of sex education, because it gave the opportunity to communicate to the children in the game activity, because the rules of the game clearly prescribed the algorithm of actions and prohibited

movements: «do not forget the guy that plays with girls: be strong and indulgent» [4, p. 3].

Another one characteristic feature of the Bukoviner press was the tradition to explain on their own pages the issues of hygiene and hardening. The author of the note «Tan» analyzed the benefits and harms of tanning. In his opinion, sunbathing is useful only for children, and such procedures should be well-organized: parents have to create a special place where it would be possible to sit down or lie down under indirect sun rays [2, p. 5].

The article «Pepper» is devoted to the use of spices in nutrition for health or preventive purposes, the rules of planting pepper in the Bukovina region and care for it, the general rules of healthy eating, etc. A separate significant part of the article told about the problem of the use of pepper in the diet of children and teenagers. The author of the article considered two opposite opinions of European doctors. So, the general conclusion defines a healthy diet as a process of ensuring the normal development and life of a person, contributing to health promotion and disease prevention. And, in this context, the use of pepper for cooling and colds is considered as an innovation in prevention [5, p. 3].

G. Savchuk's arguments about a happy family was very interesting for the research. The author examines the relationship between a man and a woman from the moment of acquaintance, through weddings and the birth of children.

Among the rules, which the author calls mandatory, we define three main groups: religious instructions, the basics of social coexistence and personal rules of family life. It is interesting that, according to the author, a sober lifestyle should be promoted both at home among the family and demonstrated to neighbors, friends and society. For education of healthy young generation, the author suggests to use outdoor games and «sport» as a form of carrying out free time, celebration of the state and religious holidays, and also formation of «strong extremities and character» [6, p. 3-4].

So, among the various articles presented in Bukovina press publications, were separated a number of materials, the main theme of which were healthy food, its rules and the level of awareness of the population; general hygiene and hardening as a means of recovery; the fight against drunkenness, the forms and methods of its implementation; providing the basis for the cultivation of their own folk traditions: the promulgation of the rules and features of the organization of games (moving, with speech and music, for children and youth, etc.), the preservation of regional customs and rituals, etc.; a healthy family in the context of the relationship between parents and children, respect for elders, peaceful coexistence in the community and the something like this.

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DESCRIPTION OF THE CONCEPT FIELD OF RESEARCH OF SCIENTIFIC ACTIVITY OF DEPARTMENTS OF PRESCHOOL PEDAGOGICS IN HIGHER EDUCATIONAL ESTABLISHMENTS OF UKRAINE (1991–2010)

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The foundation of Ukraine as a democratic state and entry to the European educational space has led to an active progressive search and development of new approaches of future specialists in various fields, in particular from preschool education.

In the transition period, which is accompanied by a simultaneous change of sociopolitical and economical structures, disruption process of reflection of scientific and technical stuff, decrease in the social status of their activities, outflow of young people from the fields of science and technology, education and culture, increases the social role of higher education and science institutions.

The main task (the basis of scientific and pedagogical activity) in the institution of higher education of the department as a unit of education and upbringing of young people is: acquisition of higher education and qualification in the chosen field of professional activity; meeting the needs of society for qualified specialists with higher education and scientific and pedagogical staff of higher qualification, organizing and conducting basic

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research and applied research on the problems of preschool education, retraining and advanced training of teachers and specialists.

Today the need of modernization the content and directions of scientific activity of the departments of preschool pedagogy is growing, as stated in the legislative documents «On scientific and scientific-technical activity», the National Strategy for the Development of Education in Ukraine until 2021, etc. Exploring the achievements of the past, preserving and enhancing the work of previous generations of scientists, should prevent mistakes and determine the prospects for research in the present.

The issues of professional training and personality formation of specialists of preschool profile were considered in the works of O. Abdulina, E. Ablaev, A. Bogush, R. Bure, N. Gavrish, N. Gramy, K. Durai-Novakova, O. Kononenko, N. Lysenko, T. Ponymanskaya, G. Pidkurgannaya, S. Sayapina, T. Tanko and others. O. Boginich, Z. Borisova, Y. Kosenko, I. Larina, K. Lysyak, T. Slobodyanyuk, I. Ulyukaeva, O. Funtikova, K. Shcherbakova have made significant contributions to the development of preschool education training. The theoretical and methodological principles of the activity of the department as a structural subdivision of a higher educational establishment are disclosed in the publications of K. Astakhova, S. Druzhilov, M. Kathhanova, I. Prokopenko and others. The forms of organization of the research work of the department are presented in the works of A. Aleksyuk, M. Yevtukh, O. Mykytyuk, B. Stuparyk, M. Chepil, etc., the content of the teaching staff is characterized in the works of V. Vykrushch, L. Prokopenko, I. Regale.

Scientific interest is the period 1991-2010, which is characterized by intensive development of modern pedagogical science, the search for new models of higher educational institutions, transformation of the unification of the higher educational institutions network, the establishment of departments in the structure of higher educational institutions, the formation of content and areas of their scientific and pedagogical activities. The expediency of the request is exacerbated by the need to overcome a number of contradictions that are objectively present in the higher education system in view of the violation of this problem.

The purpose of the research is to summarize and systematize the theoretical foundations, experience and prospects of the development of activity of the departments of preschool pedagogy in the structure of institutions of higher pedagogical education of Ukraine (1991-2010).

According to the purpose the following tasks are defined:

1. To find out the prerequisites for the formation and development of scientific and pedagogical activity of the departments of preschool education in the structure of higher educational institutions.

2. To substantiate the historical periods of scientific activity of the departments of preschool pedagogy.

3. To reveal the basic laws, contradictions and leading tendencies and directions of scientific activity of the departments of preschool pedagogy in the structure of higher educational institutions.

4. To summarize the results of scientific research and determine strategic directions of development of modern scientific and pedagogical activity of the departments of preschool pedagogy in Ukraine.

Object of the research – activity of departments of preschool pedagogy in the structure of institutions of higher pedagogical education of Ukraine (1991-2010).

The subject of the research is the theory and practice of scientific activity of the departments of preschool pedagogy in the institutions of higher education of Ukraine in the specified period.

Research methods. At various stages of scientific search, a set of methods will be used: search-heuristic (detection, accumulation, systematization, classification of source materials); historical and pedagogical (because it will allow to analyze the development of the departments of preschool pedagogy in the Defense of Ukraine, to justify the periods of development and to study the substantive changes in the scientific activity of the department); prognostic (which makes it possible to outline perspective directions for the development of scientific activity of the departments of preschool pedagogy in the Higher Education of Ukraine); historiographic (definition of the dynamics, tendencies, regularities of the process of accumulation of pedagogical and diverse literature on the development of higher pedagogical education); sample analysis and comparative-analytical (comparison and critical-constructive analysis of the process.

Expected scientific novelty and theoretical significance:

– the issues of scientific activity of the departments of preschool pedagogy in the structure of the higher educational institutions in 1991-2010 with full account of modern conditions are fully covered, researched and generalized;

– the basic laws, contradictions and leading tendencies and directions of scientific activity of the departments of preschool pedagogy in the structure of higher educational institutions are revealed;

– strategic directions of development of modern scientific activity of the departments of preschool pedagogy in Ukraine are defined; the various scientific literature on the development of higher pedagogical education in modern and domestic studies has been analyzed; issues related to the educational and research activities of the departments of preschool pedagogy, creation of conditions for personal growth of leaders, ensuring strategic

character of effective management of the department of preschool pedagogy of Ukraine of this period.

The practical significance of the work is that the materials of the dissertation can contribute to the objective interpretation of the scientific activity of the Department of Preschool Pedagogy in the Defense Institute of Ukraine (1991-2010).

The chronological boundaries of the study cover the period 1991-2010.

The lower boundary – 1991 – was caused by radical changes in the socio-political life of the state, the beginning of the development of the national education system.

The upper limit – 2010 is due to the adoption by the Verkhovna Rada of Ukraine of the Law «On Amendments to the Legislative Acts on General Secondary Education and Preschool Education» (May 20, 2010), the State Targeted Program for the Development of Education by 2017, the first All-Ukrainian Congress of Preschool Education Workers (November 5, 2010), which exacerbated the need to move from hypothetical theories to the creation of new concepts of early childhood education.

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TEACHING FOREIGN LANGUAGES IN MULTILEVEL GROUPS

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The globalisation process sets new requirements for the foreign language teaching in higher educational institutions as a foreign language becomes a

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priority for modern students. Nowadays, language teachers are facing an extra challenge in ESP teaching as they often have to deal with large multilevel groups.

This research focuses on the problems of foreign language teaching to the multilevel classes and suggests their possible solutions. Teaching in the multilevel or mixed groups has become a sphere of interest for many scientists: J. Budden, C. C. Shank, J. Bell, C. A. Tomilson and others. The relevance of the study is stipulated by the necessity of finding new ways of teaching in different academic conditions.

First, we should define who ESP teachers are, their role and functions in the class. Scientists suggest ESP teachers to be not only language experts but to have knowledge and skills in teaching English for any technical student, be able to design teaching materials based on the content material presented by the professors, or experts in the subject area [1]. Teaching an ESP course sets special requirements to them. Their task is not only to teach language but to teach professional communication using a foreign language. This all is about forming language skills and competences that could be applied in real professional situations, that is, meeting with foreign partners, coleagues, negotiating, presenting. Among the most important tasks of the ESP teacher is choosing study material, so the teacher must be also an expert in a certain technical field and know the subject.

During ESP course teachers usually deal with the mixed groups which can be defined as a group of students with different levels of reading, writing, listening and speaking skills. Among the factors that add to the diversity of mixed classes are previous education of students, their acquired competences and psychological characteristics as well as aspirations and expectations. So, for further work a carefull assessment and analysis of the factors mentioned above should be made. In such circumstances we suggest application of differentiated approach. By differentiated teaching we understand such a teaching technique which allows to get knowledge and skills according to the level of each student. But the studying process is realised according to the same curriculum for every student.

In this context, the following difficulties the ESP teacher faces should be mentioned:

– different potential of the student group. Students are the group of people with different psychological, phisiological and study abilities, with different level of knowledge;

– lack of study materials and their poor variations. In this case teachers shourd choose and adopt material by theirselves;

– difficulties with the subject area knowledge. The ESP teacher usually does not possess sufficient knowledge on engineering subjects but the teacher

has to promote discussions on unknown topics, create a learning eviroment and teach technical terms to the students.

In the foreign language teaching methodology the following ways of handling such issues are suggested. J. Budden suggests two different of organising the study process in the heterogeneuos class. The first one is to devide students into groups of the same level and give the tasks of appriate complexity. The second way is to deliver material targeting at the average level students [3]. Here we should mention teacher's individual work with students which is very effective and gives good results as individual tasks are always given according to the individual students' knowledge and are checked and analysed individually, so the recommendations could be given with the relevance of the student's knowledge. J. Bell emphasises the importance of pair work where the teacher can form heterogeneous and homogeneus pairs [2, p. 109]. We consider forming heterogeneous pairs and groups more effective as better students take responsibility and help «weaker» students. This kind of work motivates both strong and weak students and each student is responsible for the certain task. The effectiveness of the cooperation in such pairs or groups depends on the teacher's ability and skills to organise it and to set correct goals, choose the right tasks.

To conclude, teaching in multilevel groups is a rather complex process as it requires for careful preparation and realising difirantiated approach in the class. Different teaching techniques should be applied, different study materials should be used, be constantly developed and improved. A great role belongsto the grouping techniques and teacher's ability to plan such classes. An ESP teacher should be not only a language expert but to have knowledge of technical subjects he uses for teaching ESP.

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CHARACTERISTICS OF THE CONCEPTUAL FIELD OF STUDYING THE ISSUE ON HISTORIOGRAPHY OF DEVELOPING HIGHER PEDAGOGICAL EDUCATION IN DOMESTIC RESEARCHES (THE OF END THE 20TH CENTURY – THE BEGINNING OF THE 21ST CENTURY)

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Over the last decades, Ukrainian historical and pedagogical science has undergone complex, contradictory transformations: there is a rethinking of scientific paradigms, the search for new theoretical and methodological guidelines. The nature and peculiarities of this process reflect the increase of factual base and strengthening of scientific discourse, pluralism of opinions, controversy of views, polyphony of theoretical conclusions. Therefore, the development of historical-pedagogical science is of no abstract-formal but practically oriented orientation, which corresponds to the urgent tasks of improving the education and upbringing system outlined in the Laws of Ukraine «On Education», «On Higher Education», and the National Strategy for the Development of Education in Ukraine for the period till 2020, etc.

Under such circumstances, there is a growing need for constructive-critical rethinking of the knowledge accumulated by the pedagogical science on the history of development of education, schooling, theory and practice of teaching and upbringing. Such a systematic retrospective view is necessary to elucidate the achievements of the past, to preserve and multiply the achievements of previous generations of scientists, to prevent mistakes, and to identify prospective areas of research.

The basis for this task is provided by the pedagogical and multi-sectoral studies devoted to:

– history of development of education, schooling, pedagogical thought in Ukraine (L. Artemova, L. Berezivska, V. Homonnai, M. Hryshchenko, M. Ievtukh, T. Zavhorodnia, V. Kremen, M. Levkivskyi, O. Liubar, V. Maiboroda, B. Mitiurov, N. Nychkalo, M. Stelmakhovych, B. Stuparyk, O. Sukhomlynska, H. Trotsko, D. Fedorenko, M. Chepil, M. Yarmachenko, etc.);

– finding out the content, structure, subject matter, tasks, other basic parameters of historical-pedagogical science (V. Bezrohov, L. Vakhovskyi, A. Vykhrushch, S. Honcharenko, I. Ziaziun, V. Kurylo, H. Matulis, I. Strazhnikova, Ye. Khrykov, etc.);

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– developing the theoretical-methodological bases for studying the theory and practice of teaching and upbringing (Yu. Babanskyi, I. Bekh, O. Vyshnevskyi, N. Volkova, I. Zvierieva, L. Pyrozhenko, N. Pobirchenko, H. Pustovit, L. Redkina, O. Savchenko, M. Skatkin, M. Sorokin, S. Tkachov, I. Kharlamov, etc.);

– scientific discourse on developing the theoretical-methodological foundations of historical-pedagogical researches, in particular on the problems of pedagogical personalistics, pedagogical initiatives (O. Adamenko, L. Vakhovskyi, S. Honcharenko, N. Dichek, T. Zavhorodnia, I. Ziaziun, V. Kremen, V. Kurylo, V. Luhovyi, Z. Nahachevska, O. Sukhomlynska, etc.);

– defining the subject, tasks, structure of historiography of historical and pedagogical sciences (D. Bahalii, L. Holubnycha, N. Hupan, O. Dzeverin, E. Dnieprov, Ya. Kalakura, I. Kolesnyk, I. Kulyk, M. Marchenko, M. Mykhailova, N. Pobirchenko, D. Raskin, O. Sukhomlynska, etc.).

The purpose of the study is to carry out the historiographic analysis of the domestic researches on developing higher pedagogical education in the period investigated in order to identify achievements and gaps in the development of pedagogical science and take them into account in reforming the modern education system.

The objectives of the study are:

1. To classify the source base and periodization of the historiographic process.

2. To characterize the process of accumulation of scientific knowledge on the development of higher pedagogical education in domestic researches.

3. To systematize personalistic direction in these researches.

4. To determine ways and perspectives of creative use of historiographical experience of studying educational processes in the modern system of education of Ukraine and developing historical-pedagogical researches.

The object of the study is historiography of the development of higher pedagogical education.

The subject of the study is the prerequisites, dynamics of the development of higher pedagogical education in the domestic researches at the end of the 20th century – the beginning of the 21st century.

The research methods. At various stages of the scientific study, a complex of methods has been used: *the search-heuristic one* (detecting, accumulating, systematizing, classifying source materials); *the genetic one* (finding out the origins and factors of the formation of scientific-pedagogical ideas, views, concepts); *the historiographic method* (defining the dynamics, tendencies, regularities of the process of accumulation of pedagogical and diverse literature on the development of higher pedagogical education); *the selective analysis method* (identifying and studying deeply representative scientific

studios to identify general and specific features, trends in the development of the historiographic process); *the comparative-analytical method* (comparing and analysing critically and constructively the process of increasing historical-pedagogical knowledge).

The expected scientific novelty and theoretical essence of the study are: the historiography of the development of higher pedagogical education in domestic studies (the end of the 20th century – the beginning of 21st century) is comprehensively covered: the process of accumulating knowledge about the development of theory and practice of higher pedagogical education; the creative achievements about the personalistic direction in researches on the history of higher pedagogical education (personification of the educational process; pedagogical prosopography) and activities of the authors' scientific history-pedagogical schools have been generalized; the prerequisites for the development of higher pedagogical education in the domestic studies (the end of the 20th century – the beginning of the 21st century) have been determined (peculiarities of historical development; change of scientific-theoretical directions of historical-pedagogical researches; formation of scientific schools, etc.); two periods of historiography of higher pedagogical education in the domestic studies are substantiated; the various scientific literature on the development of higher pedagogical education in the domestic studies has been analysed; specification of criteria, principles of selection and classification of sources in the historiography of pedagogical science have gained further development.

The practical essence of the study is in the fact that that the recommendations for the work of the problem group «Prosopography in the Development of Domestic Pedagogy» will be prepared, the materials of the study can be used in the course of delivering the disciplines «History of Pedagogy», «Fundamentals of Scientific Research».

The chronological boundaries of the study cover the period from 1991 to the beginning of the 21st century.

The lower boundary – 1991 – is caused by the significant political, economic, social transformations in Ukraine, its independence and sovereignty, which started a new stage in the development of higher pedagogical education. During this period, a qualitatively new period of development of historical-pedagogical science and other humanities began.

The upper boundary – 2013 – is due to the Presidential Decree of June 25, 2013, of the National Strategy for the Development of Education in Ukraine for the period up to 2021. This document defines one of the conditions for the reform of education, the necessity of carrying out fundamentally new practice-oriented psychological and pedagogical research on the urgent problems in the development of education.

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PHILOLOGICAL SCIENCES

ENGLISH AS A LANGUAGE OF GLOBAL COMMUNICATION AND DISSEMINATOR OF CULTURE

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An unprecedented phenomenon in the world language system, namely the transformation of English into a global language and disseminator of culture as a result of the information revolution and the process of globalization of all aspects of human activities, changes the generally accepted ideas about foreign languages and the concept of literacy. One of the first scientists who announced the change of linguistic-educational paradigm was the Brazilian webmaster Robert Schűtz who developed the site «English Made in Brazil» and became head of the group of authors publishing linguistic, philosophical and educational materials and studies on the site. In the paper «English is an International Language» on the 20th of December, 2002, Schűtz drew the site visitors' attention to the social changes in history, namely, he presented some interesting fact about the level of illiteracy. English can no longer be considered as a foreign language since possessing it as a means of universal communication is an obligatory part of education. «Having chosen English as the world language,» says Schütz, «history sentenced monolingualism to illiteracy in the near future» [8]. The implicit recognition of the new linguistic-educational paradigm, according to which English is actually considered not as «foreign», but as an indispensable condition for «ensuring the participation of all the Europeans in the new knowledge-based society», is also evidenced by the documents of the European Commission «Multilingual Framework Strategy of Mastering Language Skills and Abilities» of 2000 and «New Multilingual Framework Strategy» of 2005, which set the task for European educational systems to achieve mastering «practical skills and abilities in at least two languages other than their own» by the Europeans [1; 3]. Even more convincing is the tendency of changes in the attitude of

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linguists and the political elite to the status of the English language and their recognition of a change in the linguistic-educational paradigm observed on the basis of studies of the development of the English language by D. Graddol on behalf of the British Council and published in 1997 and 2006. In the first work titled «The Future of English», Graddol «analyzes the complex combination of material and cultural trends that will shape the global destiny of the English language», and concludes that «the future is more complex and less predictable than it has been expected» [4, p. 1]. The author of the study refers to the opinion of the scientific community about the offensive of a new «world order» in the 21st century in which the Internet and information technology can lead to changes in traditional ways of communication. D. Graddol believes that in the new «world era, in which humans have entered, language and communication will play a more central role than before in economic, political and cultural life «just at that historical moment when a global language has emerged» [4, p. 3]. The study emphasizes the role of English as an important element of global scientific, technological, economic and cultural development, but gives a careful assessment of the tendency of language dominance of English in the future, «We cannot simply extrapolate on the basis of recent decades and assume that this trend will continue without change» [4, p. 4]. Over the next decade, the pace of globalization of the English language has not only not decreased, but even increased. The following study by D. Graddol, published by the British Council in 2006, presents the development of English for the next decades as the period of its unconditional triumph as a global language in virtually all the spheres of human activities. According to the forecast of this study, by the end of this period, four billion people will speak English, which is almost five times the population of countries where English is the official language [5].

The transformation of English into a global language of universal communication and disseminator of culture, and the ubiquitous transition to studying it not as a foreign language (English as a foreign language, EFL), but as a second language (English as a second language, ESL) also require the abandonment of the traditional model of distributing and using English in the world in the form of three concentric circles, first proposed by an American linguist of Indian origin B. Kachru in the fundamental article «Standards, Codification and Sociolinguistic Realism: English in the Outer Circle» (1985) [6]. According to the model by Kachru, the three concentric circles, internal, external and expanding, represent «types of distribution, models of assimilation and functional areas (domains) in which English is used as a means of intercultural and interlingual communication» [6, pp. 11–30]. The changes that occurred in the world by the end of the 20th century led D. Graddol to the conclusion he expressed in the study of the development of

the English language (1997) in which he writes that Kachru's concentric circles model «will not be the most useful model for describing the use of English in the 21st century [4, p. 10]. According to D. Graddol, with an increase in the number of English speaking people as their second language, the future of English will be determined largely by them, and not by «native speakers». Accordingly, instead of the concentric circles, D. Graddol offered three partially overlapping circles. In the given study, D. Graddol still considers the use of terminology in terms of English to be consistent, according to which all the English speakers are divided into three groups: those who speak a language like the first (L1), speak a language like the second (L2), and a foreign language (EFL). Explaining the difference among the English speakers both as the second language and a foreign language, he notes, «The main difference between those speaking English as a foreign language fluently and speaking English as the second depends on whether English is used in the country and in the family of speakers and, thus, whether it determines the language repertoire of his/her personality» [4, p. 11]. In the second study of the prospects for the development of English, Graddol (2006) describes the peculiarities of English as a foreign language and its study, which is now becoming part of the heritage of history [5].

In connection with the acquisition of the global status of the English language, the most urgent issue is what is the language of global communication and how it differs from the national variants of English. One of the characteristic features of the English language is its variability, which is not limited to the differences in the grammatical and lexical structure of the two main variants of the English language that have developed historically as a result of the independent political development of the United States, which led to the emergence of the North American English version. The British variant, however, has retained its influence on all other countries that were British colonies, and then – the countries of the Commonwealth. Both the basic versions of English – American English and British English, despite a number of characteristics that separate them from each other, are not homogeneous. British English in Australia, New Zealand, South Africa, etc. has its own characteristics that allow considering the English languages in these countries as separate variants. The variability of the American version, in its turn, is evident not only from certain differences between the USA's and Canada's variants but also from the considerable variability in both in the USA and Canada.

The concept of «English as a language of global communication» reflects a completely new phenomenon, although many researchers of use of English for international communication even long before turning English into a global language conducted a series of investigations of the English language

as a «lingua franca» (English as a Lingua Franca, ELF), in contrast to studying the use of the language as the national one by the very native speakers. At the beginning of the 21st century, in the opinion of A. Mauranen, in the preface to the scientific collection «English as a Lingua Franca», published in 2009, investigating the use of English as ELF became one of the most «burning areas of research» [7, p. 2].

The process of transforming international English into a means of global communication at the turn of the 20th and 21st centuries has proceeded so rapidly that the academic community have been unable to reach a consensus on the global standard of the English global language due to insufficient research of the issue. But there are still a lot of unsolved and provocative issues: a) whether to recognize for the language of worldwide communication the right to develop its own norms based on studying research material contained in the database of using international English those who speak English as the second language or not; b) whether to consider the so-called «broken English» appropriate for being used as a means of interlingual communication among people who do not speak the standard form of the language used in education and government administration (In 1994, P. Blanche, in the article «Is the international language «broken English»?» analyzed the reasons for the success of the widespread use of English and the emergence of its many forms and concluded that with the increase of international communication throughout the world it should be recognized that the phrase «broken English» became obsolete [2]) or not; c) to develop the strategy of perfectionism in learning English as this gives way to the strategy of developing communicative competence for communicating not only with native speakers but mainly with bilingual users or not.

Thus, it can be concluded that today English has become a truly global language for intercultural communication. English, being the language of global distribution, is a secondary means of cultural and linguistic identity, allowing each ethnical community to share its cultural heritage with representatives of other nations. The above indicates that the influence of English in the world is quite large and continues growing with each passing year. However, one should not forget about the literary norm, which is a significantly differentiated complex of language means, which preserve a number of variants and synonymous ways of expression. Multilingualism does not take into account or does not wish to take this into account, and in this one can consider the impending threat to the language norm, because the variability of language means provides functional and stylistic differentiation of the literary language, and that, in its turn, ensures its richness and expressiveness. Without this, the language becomes lean and emaciated. Based on the above, the most effective is the combination of globalization

processes and the preservation of local elements, i. e., close communication of world cultures in all spheres of life, carried out with close attention and constant consideration of such factors as the national mentality.

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PSYCHOLOGICAL SCIENCES

ADOLESCENCE AS A PERIOD OF ACQUISITION OF ADULT IDENTITY

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Adolescence is a period of age crisis, the positive meaning of which is to satisfy the teenager's need for self-knowledge and self-affirmation through the struggle for independence in relatively safe conditions, which does not take extreme forms, with crisis symptoms being episodic phenomena, intensity and different ways of expression. The peculiarities of the manifestation and course of adolescence are determined by the specific social circumstances of life and development, the position of the teenager in the world of adults.

Confronting yourself with adults and actively gaining a new position – a natural phenomenon, productive for the formation of adolescent personality. A teenager, if provoked by prohibitions, would then be able to test his own strength in overcoming these prohibitions and to push the boundaries that set the boundaries of his independence. It is because of this collision that the teenager recognizes himself, his capabilities, satisfies the need for self-affirmation.

The crisis of adolescence is related to the changing social situation of development and leading activities. The social situation of development is a special position of the child in the system of relations, accepted in this society. In adolescence, it represents a transition from dependent childhood to independent and responsible adulthood. The teenager takes an intermediate position between childhood and adulthood. In adolescence, leading activities change to intimate-personal communication. It is in the process of communication with peers is the formation of a new level of awareness of the child, the skills of social interaction, the ability to obey and at the same time to assert their rights [2, p. 151].

The main psychological phenomenon that characterizes adolescence is a sharp jump in the formation of self-concept. This is mainly due to the development of self-awareness. During this period, it is enriched by such an important discovery as the teenager's opening of his inner world. With the discovery of one's «I», one gets the sometimes impossible task of determining

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what «I» is? In this way, the teenager, whether he wants it or not, receives a spiritual, psychological task that he must solve.

The main psychological acquisition of adolescence is the discovery of one's inner world, since for the child the only conscious reality is the outside world, where she projects her fantasy. Fully aware of her actions, she is not yet aware of her own psychological states. With the awareness of its uniqueness, dissimilarity to others comes a sense of loneliness. The youthful «I» is not yet defined, vague, it is often experienced as a vague concern or a sense of inner emptiness that needs to be filled [5, p. 54].

The central psychological process of self-awareness is the formation of personal identity, a sense of individual identity, continuity and unity. The most detailed analysis of this process is given by E. Ericsson.

According to E. Erickson, adolescence is built around an identity crisis consisting of a series of social and individual-personal choices, identifications and self-determinations. If a teenager is unable to complete these tasks, he or she has an inadequate identity that can be developed along four main lines:

1. A departure from psychological intimacy, avoidance of close interpersonal relationships.

2. Blurring of sense of time, inability to make life plans, fear of growing up and change.

3. Blurring of productive, creative abilities, inability to mobilize their internal resources and focus on any major activity.

4. Formation of «negative identity», rejection of self-determination and selection of negative role models [1, p. 98].

D. Baumrind put forward four types of identity development, as measured by the degree of professional, religious and political self-determination of a young person.

1. «Uncertain, blurred identity» is characterized by the fact that the individual has not yet developed any clear convictions, has not chosen a profession and has not faced the crisis of identity.

2. «Premature, premature identification» takes place if the individual joined the appropriate system of relationships, but did so not on his own as a result of the crisis and test, but on the basis of other people's thoughts, imitating another's opinion or authority.

3. The moratorium type is characterized by the fact that the individual is in the process of a regulatory crisis of self-determination, choosing from numerous options the only one that can consider his own.

4. At the stage of achieved, «mature identity» crisis is over, the individual has gone from finding himself to practical self-realization.

An adolescent with an uncertain identity can enter a moratorium stage and then achieve a mature identity, but may also remain permanently at the level

of blurred identity or go on the path of early identification, refusing active choice and self-determination [4, p. 26].

Throughout the process of identity formation, adolescents have to correlate their own values and behavior with those of their family. On the one hand, successful parents give their children a sense of security and support in a loving environment. On the other hand, they encourage children to become independent adults, able to act in society independently of others. The way parents interact with teens has a significant impact on their adulthood. As adolescence is an era of significant and often dramatic transformation, the family as a social system is also undergoing a change, as is the nature of intergenerational communication.

Most researchers point to the leading role of the system of interpersonal relationships in the formation of self-concept and sense of identity. In adolescence, the features of another person, which make it possible to establish trusting, close, friendly relations with her, come to the fore. The benchmark for comparison and evaluation is one's own style of communication, and perhaps the communicative style of parents, since these three elements – I, the mother and the father – usually act as the main carriers of personal qualities associated with communication. Parents continue to play a major role in organizing the perception of themselves and others, which is consistent with the data that parents' deideologization and emotional separation from them is not a norm of development, but an indicator of experiencing psychological distress complicated by the course of the adolescent crisis, but rather by conflicts with the parents themselves, so global and more relevant to the individual aspects of a teenager's life.

This age is characterized by a desire to be like someone, that is, to create sustainable ideals. For adolescents who have just entered adolescence, the most important criteria in choosing the ideal are not the personal qualities of the person, but the most typical of his behavior and actions. They distinguish certain personal qualities of people (moral, strong-willed qualities, courage for boys, etc.) to which they aspire.

Social self-determination and self-seeking are inextricably linked to the formation of an outlook. The worldview is a view of the world as a whole, a system of ideas about the general principles and principles of being, the human life philosophy, the sum of all its knowledge. The cognitive prerequisites of the worldview are the assimilation of a certain and quite a considerable amount of knowledge (both scientific and vital – scientific worldview and life outlook) and the ability of the individual to abstract thinking, without which scattered special knowledge does not fit into a single system. The worldview search involves the social orientation of the

individual, that is, the awareness of oneself as a part, an element of social community, the choice of one's future social status and the ways to achieve it.

The interests of the child are directed, first and foremost, to the knowledge of the world and themselves in this world. During this period, children are improving their ways of knowing, actively accumulating information, information about what has been and is happening. Activity (inner desire for effective development of the surrounding reality, self-expression towards the outside world, activity towards oneself and the surrounding reality), independence (independence of choice and responsibility for the results of their actions), reflexivity (knowledge of internal mental acts and states) are improved. Self-development (movement to emotional and cognitive maturity, which is expressed in the pursuit of achievement and in an adequate level of aspirations), constructive interaction with the environment (regulating the boundaries of one's Self with the outside world) [3, p. 52].

The development of theoretical thought in explaining the crisis in adolescence is the gradual accumulation of generalizations, which indicate that the peculiarities of manifestations and course of adolescence are determined by the specific social circumstances of adolescent life and development, his social position in the world of adults.

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HISTORICAL SCIENCES

MAJOR TRENDS IN THE DEVELOPMENT OF MONUMENTAL PAINTING IN THE PERIOD OF INDEPENDENT UKRAINE

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The monuments of the Middle Dnieper region, which have appeared over the last 25 years, are of particular interest for historians, monumental experts, ordinary citizens, they characterize not only the regional differences of the cultural heritage of this region, but also comprehensively reveal certain trends that have spread in architecture, monumental art, art history in the period of independence of Ukraine as a whole. The monuments erected over the last quarter of a century can be divided into categories, which allow to reveal certain trends in the socio-cultural space of the cities of the Middle Dnieper region and to trace their connection with political events.

The monuments and memorials created during this period reflected the man-made catastrophes of the twentieth century – monuments to residents of contaminated territories, workers and liquidators of the consequences of the Chernobyl nuclear power plant accident. Monuments and memorials of honor of participants of liquidation of consequences of accident and memory of victims of the Chornobyl disaster appeared in the districts of Kiev and Cherkasy region, in Poltava region. In 1994, the first commemorative sign for the victims of the Chornobyl disaster was erected in Kyiv under the project of sculptor V.A. Chepelik and architect M.I. Kisly. The Monument to the Unbended by Chernobyl (2016) was erected in Cherkasy, in 1996 a memorial sign was in Poltava and «The Alley of Remembrance of the Chornobyl Victims» in the village of Mgar Kobelyatsky district were opened. Monuments to the participants of the so-called local wars began to appear from the mid and second half of the 1990s, for example, the war in Afghanistan from 1979 to 1989, monuments to soldiers-internationalists were erected in Kropyvnytskyi (1995), Vyshgorod (2006), Kyiv (2009), Lubni (2009), Boryspil (2012) and others.

In connection with the commemoration of the 75th anniversary of the Holodomor of 1932–1933 and the commemoration of the victims, a corresponding decree of the President of Ukraine «On actions in connection

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with the Day of Remembrance of the Famine Victims» was issued on September 25, 2008 [1], which sparked a growing public interest in this tragedy in the history of the Ukrainian people, and including discussions on the forms of commemoration of those events. A database of monuments dedicated to the Holodomor with images of monuments by regions of Ukraine has been compiled in Ukraine. The most famous monuments, of course, are concentrated in regional centers. However, few people know that the Kyiv Region alone has about 33 memorials, among which are genuine works of art [2].

At the dawn of Independence, monuments were erected to famous historical figures – state, political, religious and military figures: the Ukrainian hetman Bohdan Khmelnytsky (Cherkasy, Kropyvnytskyi); to the Rev. Mykola Svyatosha, Princess Anna Yaroslavna, Prince of Kiev Yaroslav the Wise, Prince Svyatoslav (Kiev); the Cossack chieftain of the Crimean Tatar origin Taras Fedorovich (Pereyaslav-Khmelnitsky); Joseph Nelyubovich-Tukalsky (Chigirin); Macarius Kanowsky (Kaniv) and others.

Monuments appearing to perpetuate the memory of participants in national liberation competitions, including memorials and plaque memorials to Mikhail Hrushevsky, Pavel Skoropadsky, Vyacheslav Lipynsky, and Helen Teliga. At the same time as the appearance of monuments that were supposed to perpetuate the memory of nationally significant figures and events, many were erected to remind of our glorious countrymen. Initiated by government agencies, the efforts of local patrons and the active public, in a monumental form, are honored the people whose lives and creativity are linked to different cities and villages. This group includes a number of monuments, which were erected in Kropyvnytsky: a monument to the outstanding mayor of Yelisavetgrad Alexander Pashutin (2009) by architect V.E. Kryvenko and sculptor L.A. Yaremchuk, a monument to Lieutenant Colonel of the Soviet Army, a member of the guerrilla movement in Ukraine and Czechoslovakia, O.S Egorov (2010) as well as to the prominent public and political figure of the UPR time Volodymyr Vynnychenko, a writer and political scientist,– the world's first monument designed by Lviv sculptor V.O. Cesarik and Kropyvnytsky's architect V.E. Kryvenko; a monument to the Ukrainian poet V.A Symonenko was installed in Cherkasy. A number of monuments were opened to scientists, inventors and entrepreneurs who have contributed to the foundation of cities or the development of their industry, as well as to the famous film directors and actors: Hnat Yura, Mykola Yakovchenko, Igor Sikorsky (Kyiv). In small towns and villages of the Middle Dnieper region, too, for the last quarter of a century a number of monuments to famous countrymen have appeared, namly: Gogol, A.S. Malyshko, I.A. Zubkovsky, V.L. Borovikovsky, V.I. Kosovsky, P.P. Gulak-Artemovsky and others. Ukrainians and representatives of numerous national minorities who lived side

by side paid tribute to the prominent Polish figures (a monument to Juliusz Slovacki, Kyiv), Jewish (a monument to Sholem Aleichem, Kyiv), Armenian (a monument to Sergiy Paradzhanov, Kyiv), Azerbaijani (a monument to Vurgun Samed, Kyiv; Aliyeva Zarifa, Irpin), English a (monument to brothers Robert and Thomas Elworth, Kropyvnytskyi) and other peoples whose lives and works were connected with Ukraine.

It is also worth noting a small group of monuments of the past, united by a common tragic fate – they were once destroyed, dismantled or stripped of some elements for certain ideological or political motives, and today are being restored in their original form by the Ukrainian authorities and the conscious public. This group cannot be a priori numerous, among them are such as «Monument to the glorious defenders of Poltava and Alexei Kelin, the commandant of the fortress».

The gradual abandonment of the gigantomania of authoritarian times, as well as the spread of contemporary European art trends, led to the appearance of many monuments that embody original generalized images, monuments to the ordinary person. These monuments are a true phenomenon of modern monumental art, which with their elements or whole compositions convey subtleties and peculiarities of certain professions: the monument to «Cherkasy Vodokanal» (2004), graduate students (2010), a fireman (2011) in Cherkasy; «The Boots of an Insurance Agent» (2011), a garbage truck monument (2009) in Kyiv; the Kobzar and the Leader monument (2014), the monuments that transmit human values and feelings: a monument to the Destroyed Temples (2004), a monument to the Granite of Science (2009), a monument to «Storks» (2008, 2012), a monument to «Strangers», a monument to «Fighters for the Will of Ukraine» (2016) [3].

Closely related to this category of monuments are monuments and objects of urban sculpture dedicated to particular works of art. Such monuments are constructed in the form of individual figures or the whole groups, in one complex with the monuments to the authors of works or in the form of reliefs on the posts of the monuments. Images of heroes of literature and folklore works, embodied in a monumental sculpture, serve to promote literature, enrich national culture: the sculpture of Marusya Churai (2006) by D.A. Korshunov and V.P. Golub, «The Alley of Heroes from Gogol's Works» (2009) in Poltava, a monument to the main character of the play «Natalka Poltavka» by I.P. Kotlyarevsky (2013) in Kropyvnytskyi. A monument to the characters of the famous Soviet comedy film «For Two Hares» was erected in several cities of Ukraine, including Kiev (1999), Cherkasy (2009, 2011).

Summarizing and generelizing the mentioned above, it should be noted that in the period considered we can conditionally identify certain trends in the development of monumental painting. Initially, two trends were clearly

observed: 1) commemoration of the victims of the crimes of the Soviet regime, victims of the Chornobyl disaster, Afghani soldiers. In future time this tendency will be preserved and implemented through the erection of monuments to the victims of the Holodomor, victims of genocide, victims of mass repressions; 2) the construction of monuments to those individuals who represented the struggle for independence of different generations of Ukrainians. This trend has continued to this day, with the names of those who defended Ukrainian Independence and universal values during the Maidan and the Revolution of Dignity – the names of the heroes of the so-called «Heavenly Hundred» added to this list. As to the second stage, it has generally made some changes to the attitude towards the monuments. We can mark the following trends: 1. Memory regionalization that manifests itself in the installation of monuments predominantly to local figures or tied to local events. 2. Desacralization and demonumentation, that is, a departure from the gigantomania and monumental monuments inherent in the times of the Soviet Union's development, and the transition to monuments, often made in full size, are set in the middle of streets and squares, fitting them into the landscape and urban environment. 3. Depoliticization, which is manifested in the erection of monuments not to political persons, but rather to those who represent other spheres of society – economy, culture, sports, etc., or does not at all carry representations of any sphere or person, being an abstract work of art. This is how monuments to lovers, animals, fairy-tale heroes, various dishes of national cuisine appear as well as monuments that demonstrate self-irony, the ability to make jokes over the stereotypes inherent from our mentality [4].

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GEOGRAPHICAL SCIENCES

THE METHOD FOR CALCULATIONS OF THE VERTICAL DISTRIBUTION OF TEMPERATURE FIELDS BY SATELLITE DATA ON THE EXAMPLE OF THE BLACK SEA

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The method for calculations of the vertical distribution of temperature fields by satellite data on the example of the Black Sea is presented. This method is described in the article [1].

Calculations of the vertical distribution of water temperature in the Black Sea are founded on the «Method of calculation of the vertical distribution of water temperature in the Black Sea based on satellite information» (hereinafter referred to as the Method) created by us in 2015 year [2].

In undertaking this work the developed Method [2] was significantly completed with new equations, criteria for calculations, corrections for the temperature of the water, which significantly improve the accuracy of the calculations of the vertical distribution of water temperature. Complex calculations of linear and exponential regression equations were included in the last Method version compare to Method of the 2015 year where the calculations were performed only on the equations of exponential regression [1, p. 98].

Method of calculation

Calculations of the vertical distribution of temperature fields in the Black Sea in a layer of 0 – 50 meters were carried out in three main stages.

The first stage – the finding of statistical dependences between the values of water temperature at the neighboring levels in the Black Sea according to the data of water temperature and the creation of regression equations.

The second stage – setting the criterion for calculating the vertical distribution of water temperature ($\pm\Delta T$).

The third stage – calculation of water temperature corrections at depths of 10, 20, 25, 50 meters.

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Development of regression equations and determination of criteria's for calculation

In each square (Figure 1) the equations exponential and linear regression were built for each month in the period May – October. The total number of equations exponential regressions amounted to 432 and linear regression equations – 432 respectively.

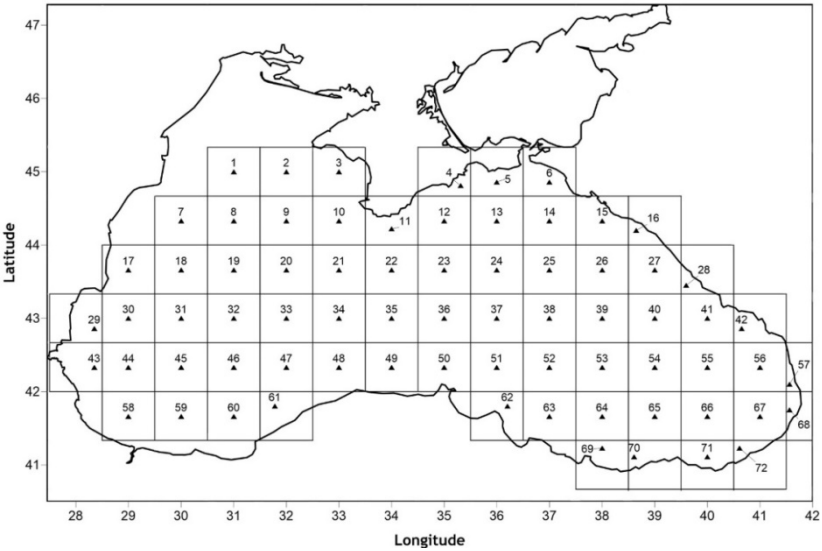

Figure 1. Location of squares (square size 40' to 60') for calculating regression equations in the Black Sea [1, p. 99]

The criterion (±ΔT) was used as determining factor in the calculations of the vertical distribution of water temperature on equations, exponential or linear regression.

Studies have shown (> 1000 numerical experiments) that when the deviation of the sea surface temperatures from climatic values of water temperature (T_{clim}) in the Black Sea is ±2°C a linear relationship between water temperature values is dominated on the neighboring levels.

Thus, if the value of the sea surface temperature (T_0) is in the interval $[T_{clim} - 2 < T_0 < T_{clim} + 2]$, the vertical distribution of water temperature is calculated by, exponential regression equations. If they are not included in this interval, the equations of linear regression are used.

To improve the results of calculation of the vertical distribution of water temperature based on the satellite data, regression equations were developed to calculate the water temperature corrections at depths of 10, 20, 25 and 50 meters.

Research has shown that water temperature corrections must be entered depending on the time of the year. So, for the spring – summer period the correction at depths of 10, 20, 25 meters should be introduced. For autumn correction should be introduced at depths of 10, 20, 25 and 50 meters.

Calculations of the vertical distribution of temperature fields by satellite data on the example of the Black Sea

The local calculation of the vertical distribution of water temperature in the Black Sea by satellite data in the layer 0 – 50 meters at several stations can be easily carried out by applying the developed equations. But if the whole water area of the Black Sea should be counted, this process is very time consuming.

Therefore, we designed a prototype of a computer program (hereinafter referred to as the Program) for the calculating of the vertical distribution of water temperature in the Black Sea by satellite data. The Program includes 864 exponential and linear regressions equations to calculate the vertical distribution of water temperature in the Black Sea and the months between May – October; linear regression equations to calculate corrections for temperature at standard levels (10, 20, 25, 50 meters); intervals to determine the calculation by exponential or linear regression equations.

Thus, the Program automatically determines where and by what equations the vertical distribution of water temperature in the Black Sea and the corrections to the water temperature can be calculated.

The initial data for the calculations are only daily satellite data of the sea surface temperature and the month of the year.

To visualize the results of the calculations by the Program the maps of the vertical distribution of temperature fields at standard levels, zonal (latitude 44° N) and meridional (longitude 36° E) sections for 30.05.2017, 27.06.2017 and 10.09.2017 were built.

The results of calculations of the vertical distribution of temperature fields on satellite data at the standard levels in the Black Sea for 30.05.2017 are shown in Figure 2.

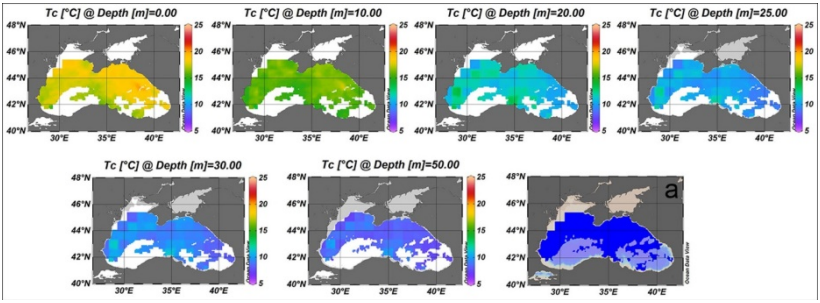

Figure 2. Maps of the vertical distribution of temperature fields (T_c) at the standard levels in the Black Sea for 30.05.2017. Map (a) is map of the distribution of satellite data for calculation [1, p. 109]

The results of calculations of zonal (latitude 44° N) and meridional (longitude 36° E) sections in the Black Sea for 27.06.2017 and 10.09.2017 are presented in Figure 3 respectively.

Figures 2 and 3 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 [3].

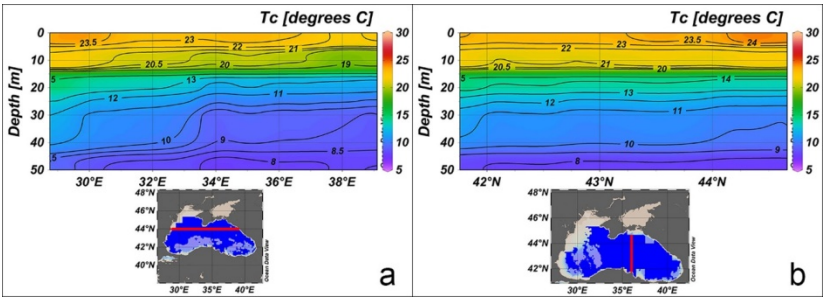

Figure 3. Distribution of calculated of water temperature (T_c) on zonal at latitude 44° N (a) and meridional at longitude 36° E (b) sections in the Black Sea for 27.06.2017 and 10.09.2017, respectively. The maps show the location of sections in the Black Sea [1, p. 109]

Designed by us, the prototype of a computer program to calculation of the vertical distribution of temperature fields in the Black Sea by satellite data could serve as a basis for the establishment of a «Monitoring system of water

temperature in the Black Sea». With the help of which the dynamics of water temperature and water temperature change effects on hydrobiological, hydrochemical, hydrophysical processes in the Black Sea and the ecosystem of the sea in general can be evaluated.

Research results from the calculations of the vertical distribution of water temperature in the Black Sea by satellite data at standard levels (0, 10, 20, 25, 30, 50 meters) in spring – autumn period showed that the change in the vertical profile of water temperature obeys the exponential law of distribution. The linear law of distribution is dominated when the deviation of sea surface temperatures (T_0) from climatic water temperature values (T_{clim}) is more than ± 2°C.

Water temperature corrections are introduced on the levels of 10, 20, 25 meters during spring – summer, and in autumn – on the levels 10, 20, 25, 50 meters.

Standard error (S) of calculations of the vertical distribution of water temperature in the Black Sea by satellite data in 2017 year is amounted to 2°C.

In our opinion the developed method for calculating of the vertical distribution of temperature fields by satellite data can be applied to others water area of the World Ocean taking into account their hydrological conditions.

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PHYSICAL EDUCATION AND SPORT

RESULTS OF PRENOSOLOGICAL DIAGNOSTICS OF STUDENTS OF THE FIRST COURSE OF TECHNICAL UNIVERSITY

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It is well known that the progress of illness is conditioned by prenosological and later premorbid states. These states of practically healthy people are the object of prenosological diagnostics [13, p. 5], i. e. the investigation of transition from being healthy to being ill. According to the author [7, p. 63], this study area is timely nowadays.

Prenosological state is the state of body when there is a tension in regulatory mechanisms but the work capacity is not changed and it is possible to ensure physiologically normal state through preventive and recreation activities [5, p. 11]. Apart from that prenosological state the evaluation of cardiovascular system as the given functional system is an indicator of adaptational and accomodational body activity that reflects the interconnection between the body and environment [8, p. 21]. Adaptational capacity of a body distinguishes the human standard of health and risk of disease development, that is why the study of adaptational capacity of a body as an integral criterion of health is mostly preferable [6].

It is undeniable that preservation of health is especially important in students' age. That is the period when a future professional and holder of intellectual potential of nation is being formed, that is why students' health undoubtedly takes on enormous social importance [4, p. 3].

Students' health is determined by the peculiarities of that period in life. The students' youth may refer to a high risk group since apart from uneasy age problems, the period of studying at a contemporary higher educational establishments is interconnected with the influence of numerous negative factors of educational process and lifestyle that cause changes in functional state of different body systems and lead to decline of adaptational capacity [2, p. 6 and other]. As a result, students may face serious medical, social and psychological problems of different types [1, p. 136].

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The relevance of the preclinical evaluation of level of health of students' youth, evidenced by the numerous scientific works [3, 4, 11-13 and other], presents the problem of preserving and improving the health of today's youth as important and unsolved until now.

When conducting the research we considered the statement that [10, p. 17] «close connection between the functional reserves of a body and adaptation is being proved by numerous researches. Therefore adaptational capacities of a body may be considered as the measure of health».

Under prenosological diagnosis should be understood as an assessment of the functional state of the body and its adaptational capabilities in a period when there are still no obvious signs of disease. Prenosological diagnosis deals with the recognition of conditions that are borderline between norm and pathology, which can be called prenosological [8, p. 21]. A sufficiently high accuracy of recognition of the state of the body provides a methodology of identifying the adaptational potential according to R.M. Baevskiy [9, p. 34].

The following characteristic value was followed when allocating the participants of the experiment according to their indices of adaptational potential (AP) [2, p. 65]:

– satisfactory adaptation	1st group	not more than 2,10 conventional units (c.u.);
– tension of mechanisms of adaptation	2nd group	2,11 – 3,20 c.u.;
– unsatisfactory adaptation	3d group	3,21-4,30 c.u.;
– failure of adaptation	4th group	from 4,30 c.u. and more.

Thus, according to the prenosological diagnostics the participants of the experiment are divided in the following way: first group – satisfactory adaptation contains 44,64% (n=25) students, second group – tension of mechanisms of adaptation –55,36% (n=31), at the same time there are no participants with unsatisfactory adaptation and failure of adaptation.

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MEDICAL SCIENCES

KNOWLEDGE, ATTITUDE AND AWARENESS OF DENTAL STUDENTS ON HEALTH RISKS RELATED TO ORAL PIERCING

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Vadym Orishchenko[2]

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The purposeful alteration of normal human anatomy to achieve a desired appearance, is a popular practice that has led to a rise in the prevalence of oral piercings [3, p. 887].

Oral piercings are associated with numerous complications [1, p. 64; 5, p. 688], and it is possible that the incidence of complications may increase as the prevalence of oral piercings rises in the Ukraine population.

Complications of oral piercings have been discussed in scientific literature and include local and systemic complication, with potentially severe health consequences [2, p. 37; 6, p. 3033]. These include cross-infection (HIV, HCV, HAV, HBV and HSV), bacterial and viral problems (endocarditis, focal disease, gingivitis, lingual abscess), short and long-term local issues related to piercings (pain, swelling, haemorrhage, chipping or dental fracture, gingival recession, tissue hyperplasia, plaque accumulation, galvanic reaction, scialorrhea, soft tissue trauma, taste disturbances, dysphagia, ingestion of piercing) and allergic reactions to the jewelry materials [1, p. 66; 3, p. 890; 5, p. 690].

Dental students should educate patients with oral piercings or those who plan to have this type of body art performed about potential side effects and possible oral, dental, and systemic complications. Considering the continuous increase in the youth population of oral piercings, it is important that awareness of health risks associated with practice of oral piercing is supported with adequate training and information to dental students. The unawareness of dental students about the potential complications of oral piercing on health constitutes a further health risk factor for users.

A literature search was carried out with studies related to knowledge, attitude and awareness of dental students towards health risks linked to the practices of oral piercing and the result found to be futile. Considering this, a

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questionnaire was a self-prepared, pilot-tested and it was specially designed for the study.

The study sample included 200 students (89 final year dental students and 111 first year medical students) of Dnipropetrovsk medical academy. Dental students of final year formed the study group and the first year medical students served as controls. Controls selection based on the assertion that freshmen do not have professional knowledge and are approaching oral piercing users.

The anonymous questionnaire included different sets of questions regarding practice of oral piercing. Some questions allowed «yes» / «no» / «don't know» / «your answer» response options (e.g. «Does oral piercing cause local health problems?»; «Does oral piercing cause systemic health problems?»; «What is your attitude to oral piercing»). Other questions included the possibility of multiple choices (e.g. «What is the main motivation to have oral piercings?»). The participant's responses for questions «Do you have oral piercing?»; «If you don't have oral piercing, would you consider it in the future?» were recorded dichotomously and given as «yes» and «no».

A copy of the questionnaire was given to each student personally and student was requested to answer it before being collected back from them after 20 minutes.

The data was analyzed using statistical tests (unpaired students t-test) and p value of less than 0.05 was considered to be statistically significant [4, p. 124].

The study was carried out in the second half of the academic year 2018-2019. All students agreed to participate in the study and therefore they did sign the consent form.

Classification of the participants based on gender showed a predominance of female participants 142(71%) with a higher percentage 87(78.4%) was noticed with medical students.

Of the 200 students includeed in the analysis, 128(64%) recognize the risks of oral piercing practice, 35(17.6%) consider it not risky to undergo this practice, and 37(18.5%) do not know if it is risky or not. Significant differences were showed in the data distribution when comparing freshmen from dental students of final year.

From the current study, it is arguable that the participants were aware of the possible local risk of oral piercing and it is more so with the dental students. 76 (85.4%) of them indicates oral piercing as a possible local risk. It might seem obvious that dental students know more of the aspects of an irritant on oral tissue, if we did not consider the fact that the oral piercing practice is quite new in Ukraine. 11(12.4%) of them were not assumed of the local risks of oral piercing and according to 1.1% of the dental students oral

piercing is a harmless. While only 78(70.3%) of the medical students were assumed that oral piercing falls under the category of risky procedure.

A clear consensus was noticed among dental students and freshmen in medicine to question – Does oral piercing cause systemic health problems? 44 (49.4%) of the dental students and 55 (49.5%) of the medical students agreed about the adverse systemic effects of oral piercing. 17(19.1%) of the dental students and 23 (20.7%) of the medical students believed that oral piercing does not carry the risk of developing systemic complications. However, almost a third (31.5%) of the dental students were not aware of the systemic complications associated with the practice of oral piercing and showed a neutral response (option «I don't know») which shows considerable doubt in the minds of many graduates about the systemic dangers of oral piercing. Medical students were two times less likely to check the option «I don't know». The results of the study showed insufficient knowledge of dental students towards of the systemic complications linked to the practices of oral piercing.

Although 85.4% of dental students conscious of local health risks related to oral piercing, and half of them conscious of systemic health risks of oral piercing, 40(44.9%) of graduates were unable to shape their negative attitude towards oral piercings (option «I don't know»), and 12(13.5%) of graduates were even positive about oral piercing. Interestingly, freshman in medicine have a greater negative attitude towards oral piercing, 60(54.1%) of them responded that they were negative about oral piercings. Contrary to this only 36(40.4%) of the dental students have a negative attitude towards this type of body art.

In our study, the main motivation of oral piercing, which students indicated, was related to the image management (58.4%); smaller percentages are related to fashion (40.5%) and to improvement of aesthetic aspect (23%).

Fortunately, our investigation shows that only a limited number of students have oral piercing (2.5% of total). Nevertheless, dental students are about twice as many as medical students had oral piercings (3.4% and 1.8%, respectively). Among the interviewed who have stated that they do not have oral piercings, to the question «If you don't have oral piercings, would you consider it in the future?», 187 (93.5%) answered «no» and 13(6.5%) marked the option «yes». A significant difference resulted between dental students and freshmen: dental students have showed a higher interest than freshmen in future oral piercings (7.9% and 5.4%, respectively).

A high level (85.4%) of awareness of the dental students about local oral piercing-risks has been established. Just over half of the dental students believed that oral piercing are associated with systemic complications, but contrary to this around 60% of the dental students do not have a negative

attitude towards oral piercings. This disagreement in knowledge and awareness of the threat to the health of oral piercing could be considered an a problem of the deficit health-saving competency, in particular because the dental students are not sufficiently motivated to a healthy lifestyle.

Being a recent field of interest, the level of oral piercing knowledge is insufficient and needs to be increased in order to raise dental students' awareness of health risks related to oral piercing.

To the best of our knowledge, this is the first study to examine the knowledge, awareness of health risks related to oral piercing among Ukraine dental students. However, further studies with a larger sample size are required to validate our hypotheses.

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ENGINEERING SCIENCES

REDUCING RISKS OF WELDING POROSITY

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The modern quality management system in production is based on the control of risks of non-compliance with quality requirements [1, p. 41]. Pores are a common defect in welds. The appearance of pores can disrupt the functionality of products, lead to man-made disasters, human casualties. To reduce the risks of porosity of welds, coordinated actions of managers, designers, technologists, quality inspectors are required. The reduction of porosity risks can be achieved by optimizing the applied welding methods, the parameters of the welding modes, the welding materials used and their preparation for welding, methods for controlling the porosity and sample control volumes. Unreasonably large volumes of control lead to additional costs, and too small volumes of selective control increase the risk of transferring into operation products with unacceptable porosity of welds. Thus, by optimizing sampling volumes, the risks of weld porosity can be reduced with minimal technical control costs.

Hydrogen is the main cause of porosity of welds. The moisture of welding materials is the main source of hydrogen in the weld metal. We have developed a method for determining the resistance of welds to pore formation [2, p. 38]. This technique allows you to experimentally determine the probability of exceeding the permissible porosity of the welds.

Risks for exceeding the permissible porosity of welds can be assessed using the Potential Failure Mode and Effect Analysis technique (FMEA) [3, p. 24]. The risk of non-compliance with a quality requirement is determined by three factors: the probability of non-compliance, the consequences of such non-compliance and the possibility of timely detection of non-compliance or its cause. Quantitative data on the probability of exceeding the permissible porosity of the welds, combined with an understanding of the consequences of exceeding the permissible porosity and an acceptable level of risk, allow us to calculate the minimum required volumes of selective control of the porosity of the welds [4, p. 5].

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The method for determining the minimum sample volume necessary for controlling porosity has been successfully implemented in the production of air tanks R7-78 in combination with statistical control of the production process.

A method for reducing technological risks, based on determining the minimum required sample size, seems to be quite universal and can be recommended for controlling defects with known (predicted) occurrence probabilities.

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PROBLEMATIC ASPECTS AND WAYS TO INCREASE THE LEVEL OF METALLURGICAL SLAGS DISPOSAL

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Functioning of the industrial complex of Ukraine is characterized by a high level of waste formation, resulting in more than 30 billion tons of solid waste, accumulated on the daylight surface of Ukraine [1, p. 24; 2, p. 46]. The metallurgical industry is one of the leading sectors of the Ukrainian economy, hence, it plays an important role in the functioning of the economy, providing inflow of foreign currency to the nation's budget at the level of 40%. Instead,

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in the process of the main products development (pig-iron smelting, steel melting), large-tonnage waste in the form of metallurgical slags is formed, which is not sufficiently used as raw material, and what is more, valuable land areas are allocated for its accumulation [3, p. 115]. Technogenic accumulation, including metallurgical slags, has a negative impact on the environment [4, p. 1; 5, p. 77].

More than 250 million tons of metallurgical slags have been accumulated within the territory of Ukraine, of which 130 million tons are steelmaking slags [6, p. 40; 7, p. 220]. The metallurgical production wastes, as well as tailings, occupy large areas for emplacement. Serednia Balka, located near to Zaporizhia city, is the largest dump of metallurgical slags in Ukraine, where the waste from three industrial enterprises – Zaporizhstal, Dniprospetsstal, Zaporozhsky Ferroalloy Plant – is emplaced (Figure 1).

Figure 1. The largest in Ukraine area of metallurgical slags dumping (240 ha), Serednia Balka (Zaporizhia city)

As a rule, the metallurgical slag dumps are located outside settlements, thus, the negative impact from them, first of all, is experienced by such environmental components as soils, surface watercourse and atmospheric air [8, p. 22]. Therefore, the problem of recycling the accumulated metallurgical slags in Ukraine is constantly relevant for the Ukrainian society and has an environmental and economic justification for accelerating its solution – vacating the valuable land from technogenic accumulation with its subsequent return to agricultural or other type of use.

At present, the following directions for recycling the metallurgical slags are known:

– construction sector (slag cements, dry building mixes, slag concrete);

– roads and railroads construction (crushed stone for the lower layers of pavement, mineral powder);

– agricultural sector (mineral fertilizers for acidic soils);

– processing and a partial return to the manufacturing cycle (extracting scrap from slag, partial limestone replacement);

– backfilling material for recultivation of the mined-out space of mine workings (cementing or inert component).

The implementation of these directions of metallurgical slags disposal in various sectors of the Ukrainian economy is characterized by a rather low level of their recycling – at the level of 45%, while in the EU countries the indicator reaches 90% [9, p. 1]. Every year, the accumulation of metallurgical slags, in spite of a partial disposal, continues to increase, which undoubtedly makes an impact on the environment. The transport and logistics component significantly affects the level of slag disposal. The cost for transporting this recoverable resources for further usage by consumers, as a rule, is several times higher than the sale price of the unit itself of the slag product. Therefore, in some cases it will be rational to manufacture the products from slag of a higher technological process stage (for example, mineral additives or paving slabs) near metallurgical enterprises and sell them at an extra cost than transporting raw materials to the consumer.

To increase the volume of recycling the slag, it is necessary to revise the existing regulatory acts and regulatory-technical documents. An especially important step at the legislative level will be the creation of a 'green list' for public procurements, which should include potentially valuable secondary products of industrial manufacturing. At the government level, sectoral and intersectoral recycling programs should be developed and comprehensively supported [9, p. 1]. In general, in the context of the current level of economic development of the country, it is impossible to solve the issue of fast and full-scale metallurgical slag disposal. But to gradually reduce the problem acuteness, a more flexible strategic approach is required, which will result also in solving all the other attendant problems of the industry.

As a result of mineral resources extraction, the technogenic voids are formed in the earth's crust. In case of underground mining activity, the mined-out space of mine workings may eventually lead to deformations of the daylight surface. To prevent the soil subsidence, the backfilling is performed of the mined-out space with solidifying mixtures [10, p. 465; 11, p. 383]. In these mixtures, significant volumes of metallurgical slags can be disposed of as cementing or inert aggregate materials. As a result of the mixture hardening, a technogenic, monolithic, artificially created massif is formed in the bowels, which ensures the rock massif stability [11, p. 183; 12, p. 75]. During the open-pit (quarry) mining, the technogenic voids are open and have an access to the daylight surface [14, p. 1]. After mining the industrial mineral reserves of the quarry, the mined-out space remains, the remaining reserves are written off from the balance sheet and the recultivation measures of

disturbed lands should be implemented. The mined-out space of the quarry, depending on the situation, can be measured in millions of cubic meters.

In compliance with the current legislation of Ukraine, the recultivation measures are mandatory in case of disruption of the landscape integrity in the process of the enterprise economic activity. The type of recultivation in each case is substantiated, based on an assessment of a complex of factors (estimated monetary value of land and its purpose in the national economy, agrochemical composition of overburden rocks, geographical location, socio-economic factors, etc.) [15, p. 206]. According to the project, the rock refuse (overburden and non-standard) can be placed in the mined-out space of the quarry at the mining-engineering stage of recultivation.

A promising direction for recycling the metallurgical slags can be their emplacement in the mined-out space of quarries, close to metallurgical enterprises, since they have a hazard class IV. When performing the mining-engineering stage of recultivation, it is necessary to scientifically substantiate the use of slags instead of waste rock. The positive aspects of this direction implementation will be primarily a high level of the metallurgical slags disposal. The waste rock dumps can be used at the stage of biological recultivation after appropriate measures of the mining-engineering stage. Even if the waste dumps of the very quarries are not fully utilized, they are safer for the environment due to their natural origin.

Thus, before to implement this direction of recycling, it is necessary to solve a number of priority scientific problems:

– examine the state of the quarry provided that it is ready for recultivation;

– investigate the impact of metallurgical slags on soils and substantiate the necessity for emplacement and parameters of a reliable safety shield between the quarry bottom and the metallurgical slags bulk;

– substantiate the sequence and scheme of layers allocation of metallurgical slags with a certain granulometric composition in the mined-out space of the quarry;

– study the balance and optimal existence of the ‘layer of metallurgical slags – fertile soil layer’ system, as well as to substantiate the specific vegetation types for mechanical soils fixation.

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THE RESEARCH OF TECHNOLOGICAL PROCESS OF GRAIN EXTRUSION WITH VEGETABLE COMPONENTS

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According to scientists, most vegetable plants for their economic purpose provide valuable products that should be used as a food and feed. Many vegetable plants have a large amount of nutrients and vitamins, preserving, antiseptic and bactericidal properties, which is extremely important for improving the quality of feed [1–7].

The purpose of the experiment. To develop optimal indicators of technological process of grain extrusion with vegetable components on the basis of multivariate experiment.

Research methodology. The experimental part was performed at the Department of Grain Storage and Processing Technology and at the Scientific Laboratory of Mass Analysis (attestation № AO6-203 of 25.10.16) of Uman NUS. The research were conducted in accordance with conventional methods. The technological process of grain extrusion with beet was adopted as the object of research. The data obtained was processed using Microsoft Excel applications and STATISTICA for Windows software.

The planning of the experiment was carried out by the method of steep ascent, or the Box-Wilson method, with the subsequent construction of a mathematical model of the process. Based on the chosen plan, we built a model that corresponds to the review under consideration, and used known methods of finding the extremum to find the values of the factors for which the selected objective function defined in the model will be extreme. If the

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found values of the factors corresponding to the extreme point lie on the boundary of the applied plan, the planning area either shifts or expands and a new model is built, after which the search for the extremum is repeated.

We used the following components: grain content (x_2), beet content (x_1) in planning, conducting and processing the results of a multifactorial experiment to formulate and solve an optimization problem. The experiment plan is shown in Table 1. Two experiments were implemented at each point of the plan. The variables x_i (i= 1, 2, …q) of such systems are the proportions (relative content) of the i-components of the mixture and correspond to the condition $\sum x_i = 1$ ($x_i \geq 0$).

Table 1

Experiment planning matrix and parameter definition

№	Beet content (x_1)	Grain content (x_2)	Dependent variable
1.	2,5	97,5	y_1
2.	5,0	95,0	y_1
3.	10,0	90,0	y_1
4.	15,0	85,0	y_1
5.	20,0	80,0	y_1
6.	22,5	77,5	y_1

Research results. A multifactorial experiment was conducted to develop and introduce into the production process of grain extrusion with vegetable components. During the examination of each object of the study distinguished input actions affecting the system and the corresponding reactions of the system. The parameters of influence on the system are called factors, the response of the system to the external influence is called the response, parameter or criterion of optimization. There are certain requirements for response function and optimization factors.

As the optimization criterion, which best characterizes the object of study, the specific energy intensity of the extrusion process, taking into account the degree of grinding and the quality of the crushed particles, is selected:

$$E = \frac{N_c \cdot K_к}{Q \cdot \lambda} \rightarrow min \text{ , kJ/kg,} \quad (1)$$

where N_c – the total power, kW; $K_к$ – dimensionless quality factor; Q – productivity, kg/h; λ – the degree of grinding.

The proposed assessment (1) allows us to objectively determine the specific energy intensity of the feed extrusion process at different degrees of grinding and

quality of crushed particles and more accurately characterize the degree of perfection of the work process. The multifactor experiment was carried out in order to obtain a mathematical model of the technological process of extrusion and to determine the optimal parameters that ensure the minimum energy intensity of the process according to the specified quality indicators of feed.

For the multivariate experiment, the significant factors that most strongly influence the initial parameters of the grinding process were selected (Table 2).

Table 2

The list of variable factors

Factors	Marking	Area of the experiment	Explanation
Beet content, %	x_1	5...15	The limits of factor change are chosen without the minimum (2,5) and maximum (22,5) possible values
Grain content, %	x_2	85…95	The lower and upper levels of the factor are selected for technological reasons and correspond to the limit of change during the use of the extruder
Producti-vity, kg/h	x_3	10–25	The limits of factor change are determined by previous experiments

The coding factors and the choice of intervals for their variation are shown in table 3. To obtain a mathematical model of the process described by the second-order polynomial, a three-factor rotatable three-level plan of the Box-Wilson for three factors, which is more economical in number of experiments and has their properties, compared to orthogonal and rotatable ones.

Table 3

Encoding of factors and choice of intervals of their variation

Designation of factors	x_1	x_2	x_3
Name of factors	Beet content, %	Grain content, %	Productivity, kg/h
Basic level	8	85	15
Variation interval	5	5	5
Upper level factor	15	95	25
Lower level factor	5	80	10
Response function	y – energy consumption of the extrusion process		

The hallmark of the plan is that some factors are at zero levels. The design parameters of the extruder were in accordance with the design of the experiment.

Using STATISTICA for Windows, regression coefficients were obtained and mathematical model of energy intensity of feed extruding process y as a function of beet content x_1, grain quantity x_2 and extruder productivity x_3, which can be written as a second-order polynomial:

$$y = 4{,}700165 - 0{,}703805\, x_1 - 0{,}297750\, x_2 - 0{,}038090\, x_3 + \\ + 0{,}001279\, x_1 x_3 + 0{,}021375\, x_1 x_2 + 0{,}001000\, x_2 x_3 + \\ + 0{,}035609\, x_{12} + 0{,}018750\, x_{22} + 0{,}000247\, x_{32}. \quad (2)$$

Finalloss: R=0.99545 Varianceex plained: 99.092%.

The correlation coefficient of the results of the calculations of the polynomial model (2) is equal to R = 0,99545, which indicates a sufficiently accurate description of the obtained model of the real process of feed extrusion. The mathematical model obtained also determines the significance of the influence on the dependent variable of both the factors of the experiment and their products. Thus, the energy intensity of the extrusion process is significantly influenced by factor x_1 than factors x_2 and x_3.

The graphical representation of the model obtained as a function of the factors $x_1 - x_2$, $x_1 - x_3$, $x_2 - x_3$ can be obtained as a square surface of the energy response of the feed extrusion process (Figure. 1–2).

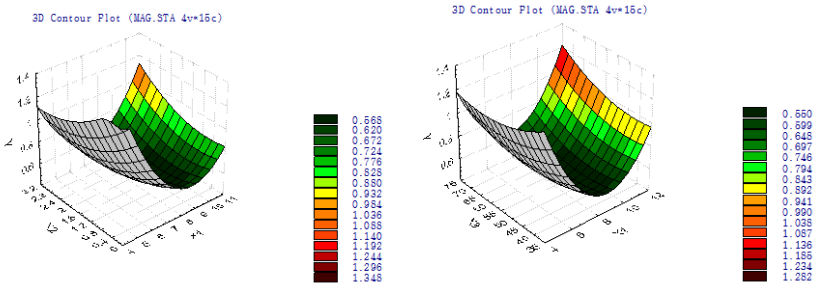

Figure 1. Polynomial energy response surface feed extrusion process as a function of factors $x_1 - x_2$, $x_1 - x_3$

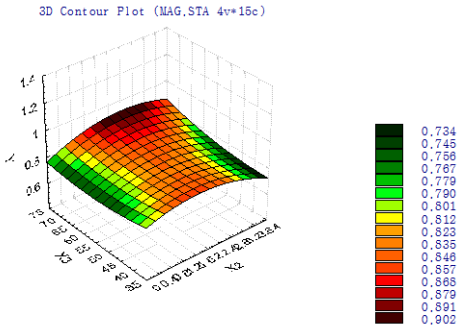

Figure 2. The polynomial surface of the energy response of the feed extrusion process as a function of the factors x_2– x_3

Graphical analysis of the model showed that the optimal value of the parameters corresponding to the minimum energy consumption of the feed extrusion process is y = 0,480 ... 0,568 kJ/kg, are within: beet content x_1 = 8%, grain amount x_2 = 92%, productivity, kg/h. x_3 = 48 ... 52 kg/h.

Conclusion. It is proved that vegetables are a valuable raw material for the production of compound feed and analysis of the model showed that the optimal value of the parameters corresponding to the minimum energy consumption of the feed extrusion process is y = 0,480 ... 0,568 kJ/kg, are within: beet content x_1 = 8%, grain amount x_2 = 92%, productivity, kg/h. x_3 = 48 ... 52 kg/h.

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ECONOMIC SCIENCES

THE NEEDS OF THE SERVICES MARKET IN UKRAINE FOR STAFFING

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The services sector takes the important place in development of national economy and in satisfaction of various needs of the population. According to it, all set of the enterprises of a services sector can be subdivided into the enterprises of production and non-productive character. Traditionally carry to a services sector: organizations of education and health care, trade and public catering, public service establishments of the population, housing-and-municipal organizations, transport and communication, tourist enterprises and so forth. Let's note that services can have material and non-material character. Besides, services cannot be developed in advance and to store in a warehouse until consumption that gives placements of the enterprises directly in the places of residence, work or rest of consumers.

All types of business within this sphere have accurately expressed labor dominant character. According to it, in the greatest component of capacity of the enterprises of a services sector its social and labor component on which quality and efficiency of use the long-term success depends is.

The market of services in Ukraine almost did not suffer from the economic crisis which began in 2014: unlike other branches, it continued the development [1, p. 3-14].

Development of the market of services influences emergence of highly competitive spheres. For business it is possible to distinguish from key factors of successful start: uniqueness of the offer, high quality of service and the cost reflecting market realities. One of perspective categories of services sectors in Ukraine it is possible to call now:

– cleaning services (complex and partial cleaning of housing, office rooms) – 36,7% of total of orders;

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– logistic and warehouse (transportation, storage) – 21,13%.;

– the house master (sanitary and electrotechnical works, small repair) – 14,98%.; construction works (specialized or complex services) – 7,36%;

– express services (pedestrian transport delivery of parcels, purchases, correspondence, gifts) – 3,79%.

The problem of efficiency of vocational training of future experts in a services sector is caused – by need of overcoming difficulties which arise between requirements of society to vocational training of future experts from a services sector and their qualification according to educational and qualification level; content of the professional focused disciplines and pedagogical technologies of implementation of this contents; orientation to new models of teaching and educational process.

Awareness of the importance of staffing as priority factor of development of services industry at all levels of management, it is carried out only at the present stage as a result of aggravation of contradictions between requirements of dynamic development of this sphere in the conditions of financial and economic crisis and tendencies of education market as a result of their discrepancy on quantitative and quality indicators. The education system, owing to many reasons, does not train the experts capable to solve new problems of development of a services sector at the modern technological level.

Let's note, professional and practical training of future expert in a services sector has a number of specific features [1, p. 3-14]:

– the purpose of practical preparation – formation at students of bases of professional skill;

– a basis of professional and practical preparation is production activity of students, the solution of teaching and educational tasks;

– content of professional and practical preparation provides formation at students of the skills characteristic of a profession in a services sector;

– process of professional and practical preparation happens on the basis of close interrelation of the theory and practice during which skills are formed on the basis of knowledge which in the course of their application is improved, go deep and extend;

– for the normal course of process of professional and practical preparation a special role, tutorials and objects of industrial practice activity of students play.

In services industry it is necessary to develop such training programs which were based on classical training and requirements of the certificate of the international professional associations for high-quality training of specialists. Besides, standardization of programs at all universities which train experts in

services industry is required, it will help to level quality of their preparation in various higher education institutions of the countries [2, p. 20-27].

As shows experience of foreign countries, in services industry, in the market of services the special expert is necessary. Abroad the main functions of the expert in services industry have accurately outlined functions.

1. The educational function directed to professional development of the worker of services industry. The expert in this case imparts new knowledge, imparts experience, informs, explains, directs, helps to find the necessary solution, advises, offers new techniques and technologies in the corresponding services sector.

2. The supporting function includes personal support of the worker of a services sector, attempt to remove or soften tension from work, search of additional sources of maintenance of vitality of the expert.

3. Control function partially has administrative character and is necessary not only at the initial stage of formation of the professional. The need for it does not disappear and now is a necessary condition of a quality assurance of service in the corresponding services sector. As a rule, the circle of administrative duties of the worker of services industry is limited by the following kinds of activity:

− selection and placement of personnel;
− scheduling;
− selection of teams
− distribution of duties in team;
− control and assessment of quality of work;
− coordination of work between teams;
− organization of external communication of team;
− settling of the conflicts between the worker of a services sector and the client;
− protection of professional interests of workers of a services sector.

In the world there are several thousands of higher education institutions of services industry and specialized faculties of the universities preparing professional workers in services industry. Only in Europe there are more than 500 educational institutions which educate in the field of professional education. In the majority of the countries this education is financed by the state, however there are many private educational institutions, for example, in Italy, France [4, p. 23].

Summing up stated, we will note that the professional and adaptive component of communicative culture of experts of services industry provides activization of their abilities and development of abilities to model communicative process in the professional sphere, to predict reactions of partners, to distinguish congruence of the verbal and nonverbal speech of the

interlocutor, to distinguish his emotional state, intentions and motives of behavior, to be guided in unusual communicative situations. All this is a basis for realization and improvement of the relations with other people who it is positive to influence process of adaptation to new conditions of professional activity of services industry.

Professional abilities of experts of services industry have complex structure and are formed in the course of training and the follow-up professional activity. High level of formation of professional abilities of experts of services industry will promote formation of the highly qualified specialist in labor market, at observance of all pedagogical conditions of formation of professional abilities.

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EMPLOYMENT AND SOCIAL SECURITY IN THE AGE OF ARTIFICIAL INTELLIGENCE

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It is well known that innovative technological changes, started in XX century, have radically changed the normal pattern of the society, giving rise to economic development. Artificial Intelligence (AI) is in the vanguard of breakthrough technologies that influence world economy in general and national economies in particular. AI is represented by specific computer programs, that are able to find optimal solutions on the basis of data entered by people, and to learn and self-develop [8, p. 1251]. The ability to learn, change and update gives AI the characteristics innate to living beings.

It is important to mention, that the AI influence on the employment is quite complicated and controversial. Many researchers think that

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AI implementation gives rise to the production effectivity, stimulates demand on workers in the IT sphere and starts the chain of further innovations in different spheres and branches of economy [1]. By this we mean labor market restructuration, connected to the delegation of labor-intensive and time-consuming work to machines equipped with Artificial Intelligence, that contributes to employment growth in innovative spheres. This is confirmed by Eurostat data on positive employment dynamics in IT and high technology in 28 EU countries in 2010-2018 (Figure 1). At the same time, more developed countries (Great Britain, Germany, France) are characterized by stable dynamics of this indicator with an increase of 1% over the specified period, while countries such as Croatia, Poland, Lithuania show an increase of 4-6%.

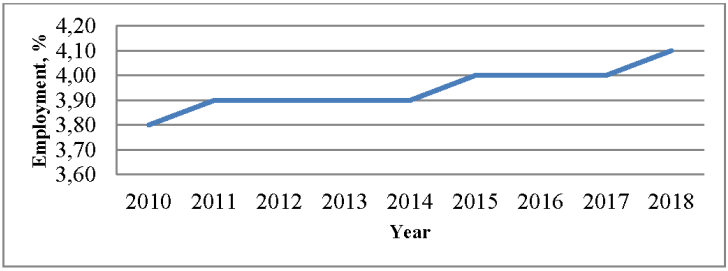

Figure 1. Employment change in IT ang high-tech spheres in EU countries

Source: developed by the authors on the basis of [5]

In this context, Eurostat's data on the priority areas for the introduction of high technology at enterprises in EU Member States (Figure 2) are noteworthy. According to the above data, the largest number of high technologies, including AI, is used in the field of storage facilities control. A large number of EU Member States' businesses use AI in the areas of construction, delivery and cleaning. At the same time, such technologies are less common in the areas of sales, installation and cleaning, due to the multitasking and complexity of the algorithms used to perform these specific types of work.

It is important to note that the introduction of Artificial Intelligence creates not only new opportunities for innovative development, but also unprecedented threats and challenges to employment and social policy of the country. The most prominent is unemployment growth due to job automation, which in the future may have a negative impact on the pace of global economy development [10]. Thus, according to estimates by C. Frey and

M. Osborne, 47% of jobs in the US economy are at risk due to the use of robots. These jobs can be quickly automated over the next few decades. The other 33% of jobs (e.g., doctors, lawyers, engineers, teachers, etc.) fall into the low-risk category, which is a somewhat relative classification, as these jobs may also undergo automation pressure [6].

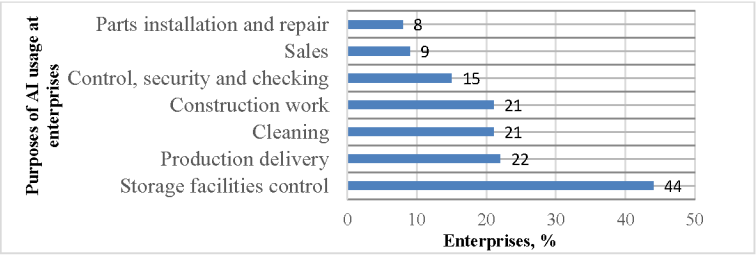

Figure 2. The use of high tech at EU enterprises by aims

Source: developed by the authors on the basis of [4]

According to World Economic Forum forecasts, as a result of the development of robotics and Artificial Intelligence systems, about 5 million people working in countries in the economies in the top 15 may lose their jobs in the next 5 years. The aggregate labor market of these countries is 65% of the total world labor resources. In this case, the biggest changes will affect the office and administrative specialties, as well as some professions in the social sphere [9].

The negative effects of artificial intelligence include:

– deepening the opposition between «digital professionals» – innovators, and «second class» – representatives of professions not related to IT sphere [7];

– formation of the «education gaps» phenomenon, when the necessary staff haven't got the appropriate education yet [10];

– appearance of «precariousness» phenomenon, which embodies the instability of employment, the lack of guarantees of employment, generating anxiety in the society [3, p. 6].

In these circumstances, the social policy of the country needs to be rethought, transformed in the light of new opportunities, risks and threats posed by the introduction of Artificial Intelligence. In this context, the initiative of the European Parliament to introduce a detailed set of rules by which people will have to communicate with Artificial Intelligence is noteworthy. According to MEPs, it is necessary to adopt a law that legally regulates the AI-human interaction. In particular, it is proposed to introduce compulsory insurance for robots to cover the damage they may cause [11, p. 71].

D. Acemoglu and P. Restrepo provide another way of solving these problems. They justify the need for an innovative social program and an appropriate political strategy. According to these researchers, government policy should influence not only the speed of automation, but also the type of technology that will receive the biggest amount of investments. This will mitigate the negative effects of Artificial Intelligence by creating new tasks, understanding the value of diverse policy programs, academic and applied research, social factors, and promising directions for the development of Artificial Intelligence systems [1].

It is important to note that solving the problems of labor market efficient functioning in the age of Artificial Intelligence is impossible without reforming the education system. It is well known that the generation Z is now entering the labor market. This generation is characterized by high adaptability to new technologies that are perceived as a factor of personal development and career growth. In this context, modern educational programs should develop digital literacy at all stages and directions of economic activity in the society. The role of «soft» management technologies should also be enhanced as a means of human capital accumulation by highlighting unique individual-personal characteristics, competencies and creative skills of employees.

In the broad context, there is a departure from the functional-administrative model of labor coercion and a reorientation to the so-called «participation economy», focused on forming direct interest of employees in the results of work and involving them in management processes [2, p. 8].

Thus, the introduction of Artificial Intelligence creates new, unprecedented opportunities and challenges for the public employment and social policy. It is impossible to comprehensively solve emerging problems without thorough scientific research in this field, to unite the efforts of scientists, practitioners and statesmen to develop and implement sound strategic and tactical measures at the global, regional and local levels of economic life.

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THE CONCEPT AND ROLE OF INFRASTRUCTURE IN ECONOMIC DEVELOPMENT OF COUNTRY

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Infrastructure is the capital stock that provides public goods and services. It produces various effects, including those on production activities and quality of life for the households, which thus permeate the entire society. Poor infrastructure impedes a nation's economic growth and international competitiveness. Insufficient infrastructure also represents a major cause of loss of quality of life, illness and death. This raises infrastructure services from good investment to a moral and economic imperative. In order to stimulate growth and reduce poverty, it is essential to improve the supply, quality and affordability of infrastructure services. So, the adequate supply of infrastructure services has long been viewed as essential for economic development and poverty reduction, both in the policy and academic realms.

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Over the last two decades, considerable efforts have been devoted to theoretical and empirical evaluation of the contribution of infrastructure to growth and economic development.

Moving from Barro essentially [1] and Aaran [2] studies analysing many the relationship between infrastructures and the development economic have been realised. On this field there is a broad of theoretical spectrum viewpoints some of opposed to one another them diametrically. A general consensus basic infrastructure is facilities achieved around the idea that are features related important to economic performance. Apart this main idea from opinion differs greatly: both magnitude and causality remain subjects of debate.

Many other sustain intermediate studies often thesis distinguishing between (more or less) productive and infrastructure unproductive and trying to deal with endogeneity problem infrastructure with appropriate econometric tests.

They could be together into four grouped approach:

− The *production function* approach the amount of output that models that can be produced factor of production for each, given technological constraints. In this infrastructure enters as a free input approach public by government furnished.

− The *cost function* approach takes into such as account factor prices the price of labour, machinery, and finance. Public conceived infrastructures are as costs saving factors.

− *Growth models* belonging to the tradition of *endogenous* to consider growth and augmented as growth enhancing also public factors infrastructures.

− *Data-oriented models* analyze data series including infrastructures relations between several and GDP and do economic not rely heavily on theory.

More deeply, infrastructure is the sum institutional and personal facilities of material, and data which are to the economic agents available and which contribute of the remuneration to realizing the equalization of comparable case of a suitable in inputs the allocation of resources that is complete integration and maximum level of economic activities. Or, in a pragmatic sense, material infrastructure is understood as: 1. the totality of all earning assets, equipment and capital in an economy that serve energy provision, circulating transport service and telecommunications; we must add 2. for the conservation structures etc. of natural resources routes and transport in the broadest sense and 3. installations of public buildings and administration, education, research, health care and social welfare.

Thus, it is infrastructures include (rather should be) diffused in capillary private investments and way on the territory. The territory services that, even

if object of activities, have effects the life and on the dynamics on the territory attractiveness, on its quality infrastructure classification of development. Table 1 aims to summarise the different ideas acording Infrastructure classification.

Table 1

Infrastructure classification

Hansen (1965)	Aschauer (1989)	Sturm, Jacobs et al. (1995)	Di Palma, Mazziotta et al. (1998)	Biehl (1991)
Economic	**Core**	**Basic (main)**	**Material**	**Network**
Roads highways airports naval transport sewer networks aqueducts networks for water distribution gas networks electricity networks transfer	roads highways airports public transport electricity networks gas networks network for water distribution sewer networks	(main) railways (main) roads Canals harbors and docks electromagnetic telegraph drainage Dikes land reclamation	transport network water-system energy network	roads railroads «water highways» networks of communication systems for energy and water provisioning
Social	**Not-core**	**Comple-mentary**	**Immaterial**	**Nucleus**
Schools structures for public safety council flat plant of waste disposal Hospitals sport structures green areas	residual component	light railways tramways gas networks electricity network water supply local telephone network	structures dedicated to development, innovation and education	Schools hospitals museums

Source: compoused by author

Focusing on it is the empirical side worthwhile noting depends on data that all (empirical) studies regardless of theoretical consideration heavily availability. Therefore it is of some interest taking into account how official statistics address the theme of of the macro-areas infrastructure. Regarding the

scheme that physical side, the follows illustrates the composition divided into areas and sub-areas according to classification (Table 1). As can be infrastructures include areas related to the network for commodities and seen, the economic people transport those for the energy, water, and gas transportation.

Table 2

Infrastructure classification according to macro-area and sub-area

Economic infrastructures	
Transport Network	road Transport railway Transport air Transport sea Transport other aspects
Energy Network	electricity network gas Network water-system other aspects
Social Infrastructures	
Health Infrastructures	free hospital treatment health service social security Other aspects
Educational Infrastructures	nursery primary school for pupils aged 11 – 14 secondary school compulsory education University other aspects
Culture Infrastructures	Cultural, artistic and historic heritage, Theatre, music, cinema and entertainment,Sport other aspects
Environmental Infrastructures	Water purification plant, Waste disposal, Green areas Other aspects
Territory Infrastructures	
Tourist infrastructures	Tourist receptiveness other aspects
Trade Infrastructures	Retail trade, Wholesale trade Other aspects
Monetary intermediation Infrastructures	Monetary intermediation other aspects

Source: [3]

The macro-area related to social comprises four infrastructures areas: the infrastructures of the health, education, culture and of the environment infrastructures. The last to the financial side the territory infrastructures and includes resources for commerce, tourism and for monetary intermediation macro-area concerns. Turning the attention following table 3 below of public spending shows how the 30 sectors contained in the Regional Public Accounts (RPA) system are join up into macro-sectors [4].

Table 3

Macro-sectors and Regional sectors

Macro-sectors	Regional sectors
Economic infrastructures	Roads, Transport, Telecommunication, Environment, Waste disposal Water, Sewers and water treatment, Energy, Agriculture, Marine fishing and aquaculture, Industry and artisans, Wholesale and retail distribution Tourism, Other public works, Other economic sectors
Human capital	Education, Training, Research and development, Pensions and wage supplementation, Labour
Social infrastructure	Culture and recreational services, Health, Other social affairs (assistance and charity), Other health and sanitation, Defences, Public order, Justice, General administration, Unclassified expenditure
Residential building	Residential building

Infrastructure should make a net contribution to improve per capita growth performance. Raising the country's infrastructure endowment to that of the region's middle-income countries could boost annual growth by around 4 percentage points. Extensive reforms are ongoing in the power, ports, ICT, and domestic air transport sectors. But challenges persist.

Nonetheless, from the foregoing, it is clear that inadequate infrastructure is also a contributing factor. Lack of adequate power, high quality transportation, telecommunication and similar infrastructure will continue to hamper economic development in countries.

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LAW SCIENCES

CURRENT CONDITIONS OF FORMING FINANCIAL RESOURCES FOR TERRITORIAL COMMUNITIES IN DECENTRALIZATION CONDITIONS

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Current tendencies of the state and local self-government development are aimed at introducing the processes of decentralization and changes on the basis of the order of inter-cooperation between state authorities and united territorial communities. Decentralization is the way of territorial organization of administration management in which the state transfers the right to make decisions on certain issues or in certain sphere to the entities of local or regional level that do not belong to the system of executive power and are relatively independent from it; this is complicated and complex phenomenon in the legal system of democratic state, which is to delegate by the central bodies of state power a certain amount of authority onto the entities of the lower level of management with the necessary rights, duties and resources» [1, p. 167]. One of its integral components is fiscal decentralization, which involves the transferring of power by fiscal authorities to the administrations of a lower territorial level (in revenue generation and expenditure based on own decisions)...» [2, p. 19]. That is, territorial communities are assumed to have their own financial resources to support their functioning.

At the same time, the Report of the Accounting Chamber of the Verkhovna Rada of Ukraine (Supreme Council of Ukraine) «On the results of the analysis of the formation and the use of inter-budgeting transfers from the State Budget of Ukraine to local budgets in 2016-2017» shows that the increase in the revenue base of local budgets was achieved only partially, primarily due to small amounts of financial resources obtained from fiscal sources. In addition, there is a deformation of the distribution of intergovernmental transfers in favor of the state budget [3, p. 27]. Therefore, territorial communities and local self-government ones are not sufficiently

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provided with their own resources to finance their needs in the whole, and therefore remain dependent on the state budget.

A. P. Lelechenko, O. I. Vasilyeva, V. S. Kuybida and A. F. Tkachuk point out that there are 5 forms of fiscal decentralization: 1) self-financing or compensation for production losses by paying users for services; 2) partial financing or production measures through which users participate in the provision of services, infrastructure development through financial contributions or labor input; 3) expansion of local revenues (real estate taxes, sales or indirect payments); 4) transfers that move general tax revenue provided by the central government to local authorities for general or specific usage; 5) granting permission for municipal borrowing or mobilization of funds of local authorities through loan guarantee and crediting [4, p. 13]. And if the first ones are predictably assuming the development of the local economy primarily, then local taxes, transfers and borrowings are more dependent on the state and its activities in the fiscal area.

As the statistics show, and also according to the righteous opinion O. M. Pidhomny and O. Yu. Zhurba, «…the practice of applying local taxes in Ukraine has shown that they are not essential in the formation of local budgets. In this regard, a significant number of local authorities do not even fully exercise their authority to impose such taxes and fees» [5, p. 999]. This is the fact indeed, since local taxes do not seem to have a significant impact on the size of local budget revenues. In the EU member-states, tax revenues to the budget are about 70%, in Sweden and Denmark they are more than 80%. Local taxes make up about 60% of the local government revenue base in Germany, 48% in Switzerland, 38% in Italy, 45% in Australia, 44% in Norway, as opposed to 5-7% in Ukraine [6].

This state of affairs necessitates the extension of the local government tax base and the transfer of additional tax payments from the state budget (granting them the status of local ones).

There shouldn't be ignored the transfers from the state budget which are to support territorial communities and without which a certain number of communities are just not able to exist independently, taking into account either the peculiarities of economic development, location, industry, migration processes, etc. Therefore, maintaining transfer support for the budgets of some particular territorial communities is the precondition for their normal functioning. In addition, in order to carry out real fiscal decentralization, in particular along with the delegation of powers and responsibilities to public authorities, local self-government bodies should be provided to real compliance with the provisions of Article 85, paragraph 1, of the Budget Code of Ukraine as for the appropriateness of transferred rights on for the expenditures of the financial resources allocated directly for this purpose [7, p. 82].

So, the state has to finance the implementation of the powers delegated to local self-government fully, bearing in mind the needs for financial resources to fulfill them.

At the same time, the factor of the effectiveness of the territorial communities' management should not be underestimated, as it is quite rightly affirmed by M. V. Goncharenko, «Legislative consolidation of an expanded list of local government budget revenues, allocation of large amounts of budget funds in the form of intergovernmental (inter-budget) transfers and funds of the State Regional Development Fund, as well as the expansion of opportunities to attract additional financial resources are not quite sufficient conditions for community development and do not mean automatic increase of local public services quality» [8, p. 6]. This means that territorial communities are to be motivated to use their funds efficiently, primarily through self-financing and the existing consequences of inefficiency being a non-covered budget deficit.

Budget loan is a promising factor in replenishing local budgets that can contribute to the economic development of united territorial communities. A. E. Briazkalo in this regard noted that increasing role of local budgets would allow more efficient usage of borrowed funds, directed onto support of domestic manufacturers, stimulate them to obtain additional financial resources in order to enter foreign markets, which will ultimately contribute to the overall economic recovery of the territories [9, p. 101]. However, along with the benefits of loans, there are also significant drawbacks in the form of community debts to creditors, which should be repaid back in the future.

Considering the mentioned above, local loan should become a full source of replenishment of local budgets with mandatory condition for their use on economic projects, which is to bring significant additional revenues to the budgets of the united territorial communities.

In this regard it is possible to formulate the following contemporary conditions for the formation of financial resources of territorial communities: 1) expanding the tax base of local self-government authorities and transferring additional tax payments from the state budget (granting them the status of local ones); 2) maintaining transfer support for the budgets of individual territorial communities for their normal functioning; 3) the state must fully finance the implementation of the powers delegated to local self-government, taking into account the need for financial resources to fulfill them; 4) territorial communities should be motivated to use their funds efficiently, first of all, through self-financing and the consequences of inefficiency being the non-covered budget deficits; 5) local loans should become a full source of replenishment of local budgets with obligatory precondition of their use for

economic projects (expansion of the revenue base of budgets of the united territorial communities).

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CERTAIN ASPECTS OF THE INTERNATIONAL LEGAL OBLIGATIONS OF UKRAINE ON THE BAR'S ORGANIZATION AND ACTIVITY

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When joining the Council of Europe, Ukraine has undertaken international legal obligations to ensury the proper protection of the status of the legal profession (lawyers) and to establish a professional bar association on an independent basis at the legislative level (see paragraph ix of the article 11 of the Opinion No. 190 (1995) of the Parliamentary Assembly of the Council Of Europe on the joining of Ukraine to the Council of Europe dated September 26, 1995 [1]; paragraph 10 of Resolution of the Parliamentary Assembly of the Council of Europe 1346 (2003) «Honouring of Obligations and Commitments of Ukraine» dated September 29, 2003 [2] paragraph 7.3.6 of the Article 7.3 of Resolution of the Parliamentary Assembly of the Council of Europe 1755 (2010) «The Functioning of Democratic Institutions in Ukraine» dated November 04,2010 [3]).

In this context, in view of the current situation, the Ukrainian Bar (Art. 2 of the Law of Ukraine «On the Bar and Practice of Law» dated July 05, 2012 No. 5076-VI [4]) was defined at the legislative level as a non-governmental self-governing institute providing protection, representation in court and other types of professional juridicial (legal) assistance (on an independent basis), as well as independently resolving all key issues of its organization and activity [4; 5].

All attorneys of Ukraine, regardless of their will, were united in the Non-governmental Non-commercial Professional Organization «Ukrainian National Bar Association» (UNBA), which, according to the Law of Ukraine «On the Bar and Practice of Law» (dated July 05, 2012 No. 5076–VI) [4], was created with the purpose of ensuring the implementation of the tasks of advocate self-government, enhancing the level of juridicial (legal) assistance provided by attorneys, the role and authority of the bar in society [6; 7]. The historical background is presented in Table 1.

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Table 1

Historical background [7, p. 11–12]

DATE	EVENT	SIGNIFICANCE
September 26, 1995	Joining of Ukraine to the Council of Europe	**1.** Ukraine assumes obligations on ensuring the proper protection of the legal profession status and establishing a professional bar at the legislative level
June 28,1996	Adoption of the Constitution of Ukraine [8]	**2.** The Bar in Ukraine acts to secure the right to defense against prosecution and to provide legal assistance in courts and other state bodies (Part 2 of Art. 59 of the Constitution of Ukraine)
July 05, 2012	Adoption of the Law of Ukraine «On the Bar and Practice of Law» [4]	**3.** The Bar in Ukraine is constituted as a non-governmental self-governing institute
August 15, 2012	Coming into force of the Law of Ukraine «On the Bar and Practice of Law» [4]	
November 20, 2012	Coming into force of the new Criminal Procedure Code of Ukraine [9]	**4.** Only attorneys can be defenders in criminal investigations
November 19, 2012	Registration of the «Ukrainian National Bar Association» (UNBA) [6] (*https://unba.org.ua/*)	**5.** The non-commercial Professional Organization «Ukrainian National Bar Association» (UNBA), which consolidates all the attorneys if Ukraine, started to operate
June 02, 2016	Introduction of amendments to the Constitution of Ukraine (on justice) [10]	**6.** The attorney's monopoly on the standing in the law proceedings of Ukraine
September 30, 2016	Coming into force of the amendments to the Constitution of Ukraine (on justice) [8; 10]	
December 15, 2017	Coming into force the amendments to the Commercial and Procedural Code of Ukraine, the Civil Procedural Code of Ukraine, the Code of Administrative Proceedings of Ukraine and other legislative acts [11]	**7.** The attorneys only can stand for the other persons in court, except the events, regulated by the court

Thus, with the adoption and coming into force of the Law of Ukraine «On the Bar and Practice of Law» (dated July 5, 2012, No. 5076-VI) [4], which needs improvement, the registration of the National Bar Association of Ukraine and the beginning of its activity [6], Ukraine formally fulfilled its international legal obligations to the Council of Europe to ensure the protection of the status of the legal profession (lawyers) and the establishment of a professional bar association at the legislative level [7]. At the same time, it is also worth noting that today the professional bar community emphasizes the problems of violation of the lawyers' rights and the guarantees of advocacy in Ukraine (when providing professional juridicial (legal) assistance to a client on an independent basis). Independent bar is a necessary and important prerequisite for securing the rule of law and democracy in society [7; 12].

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