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Section 1. Architecture

Секция 1. Архитектура

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Aesthetics of town-planning: anthropological background and methodological perspectives

Abstract: The anthropological backgrounds of the town-planning aesthetics are covered with this article; «vision of the individual» in the architectural theory is expanded. The Aesthetics is defined as a measure of an individual in an object. Measures of the Aesthetics are interpreted and major principles of formation of the city environments are determined.

Keywords: measures of the Aesthetics, town-planning aesthetics, anthropological backgrounds.

Aesthetic quality of the urban environment is the major problem in the architectural activity. The basis of the aesthetic problematic is represented by human nature, valuable conceptualization of a society, structure of needs, human definition. But in the town-planning an individual is considered basically in the simplified, plane measurement as the abstract individual with averaged needs, but problem of subjectness in interrelation of an individual and the urban environment remains insufficiently investigated. For this reason a challenge of holistic understanding of an Individual and his vital function has been pullulated in the modern architectural theory.

The purpose of the article is to expose the anthropological framework of the town-planning aesthetics and methodological prospects of its development. The philosophy of the scientific approach is represented by the dualistic model of the Aesthetics (Protagor, Aristotle, Socrates, Leonardo da Vinci, B. Ermilov, G. Kagan, U. Ken [1], N. Aleksandrova [2], et al.). The scientific base of the approach is represented by the system approach, aesthetics [2], the theory of the town-planning composition [3], global evolutionism, the integrated approach [1], cognitive-synergetic paradigm, the bodily approach, etc. The substantive provisions of the bodily approach (endophysics) that determine process of the individual perception as a cognitive one and which substantiate dependence of an object vision on the bodily nature of the individual have essential meaning in the research.

Statement of the basic materials. The Aesthetics is considered as a measure of an individual in a measure of an object. The integrated approach is used to determine the measure of an Individual; in particular it is referred to the model of space AQAL after K. Wilber [1]. This allows allocating the base conditions and measures of conformity which provide the aesthetics of urban environment: *biological measure, psychological measure, culture measure, social system measure.* Measures are interconnected and interdependent among themselves. The biological measure determines conformity of the town-planning form of the biophysical human nature, to satisfaction of physiological, biological needs, needs in protection and safety, and also coordination of the architectural forms to the anatomic properties and natural abilities of a body, to the anthropometrical data of a human body, features of vision, hearing etc., movement of the individual in space, to behavioural mechanisms of interaction of the individual and environment. The psychological measure determines conformity of the architectural form to cognitive abilities of an individual, to mental nature and the individual inner world; it is instrumental in satisfaction of needs of the individual in knowledge, novelty, spatial orientation and realization of needs in self-actualization. The culture measure should satisfy requirements of an individual for cultural orientation and cultural membership. The culture measure also determines dependence of aesthetic estimations of an individual on conformity of an object to the cultural context, value paradigms including

the aesthetic ones and includes ethicality of the town-planning activity and possibility of cultural identification of an individual. The social-system measure defines dependence of the aesthetic estimations on conformity of an object to the social context, to functional activity of society; it includes necessity of provision of the territorial identification and ethicality of the town-planning activity being on principles humanism (equality, accessibility of resources and their uniform distribution through the city territories, etc.). Requirement of the individual for social orientation, for respect and for social order is realized in this measure.

Also worth noting is that the subject of the aesthetic perception has at least three scale levels: an individual, society and mankind. They are complied with three scale levels of the Aesthetics: individual measure of a person, historically particular measures of a society and the universal human measure. The measure of an Individual includes all scale levels; consequently it is admitted as the basic one. Just as the cultural context varies, the system of human values varies too, so the social and cultural measures are the most dynamic and changeable and this fact defines also dynamism of the aesthetic qualities of urban environment. Successes of psychology in investigation of the aesthetic perception afforded grounds for psychologists to assume also presence of the generalia in aesthetic measures. Eysenck [4] designated them as t-factors which guarantee the positive aesthetic estimation, and Jan Mukarzhovsky [5, c.62] talked about anthropological preconditions of «the objective internal organization of an object» which are connected with human nature. It has formed the basis for allocation in the given research of a concept of anthropological attributes of an object which are complied with regularities of the morphological, physical and mental organization of an individual, which are determined by mechanisms of genesis, origin, biosocial and cultural evolution of mankind and act as a potential of the positive aesthetic estimation of any town-planning object.

The city appears and develops on a natural landscape. For the purpose of urban humanization the units of measurement are come forth, that is three necessary scales of formation of urban environments: *individual, social medium and nature*. The humane urban environment is defined by balance and harmony between certain measures of a city. This affords ground to mark the major principles of formation of urban environments: *anthropness, naturalness, social succession* and *principle of synergy*. We are to designate their essence in brief. *Naturalness of the urban environments* is reached by preserva-

tion of natural landscape and biological variety of natural complexes, ecological safety of the urban environments, preservation and integrity of ecosystems, returning of natural elements into the urbanized city environment, etc. *Social succession of the urban environment* means conformity of city space with the life-organization pattern and activity of the city community, with social and cultural values. Necessity of conformity of a city with the «internal political activity of citizens» already was specified by Aristotle in “Politics” (VII, 10–11), and the universal criteria of the comprehensive town-planning form were determined by Lynch [6]. Principle of the *social succession* is inseparable from ethics of public activity. *Anthropness of the urban environment* is provided at three levels which are complying with levels of human perception: *physical, social-and-psychological* and *energy-informative*. At *physical level* the unity of an individual and the urban environments is provided with conformity of architectural space with the biological measure. The anthropometrical scale of forms and spaces, ergonomics, anthropomorphness, comfort, tactile and visual accessibility of natural elements, etc. act as implementation means. At the *social-psychological level* the anthropic principle should provide with architecture means, the social communication of the individual, it should implement requirement for emotional contact with others, needs in territorial, social and national identification, in provision of possibilities for intellectual and social development of the individual, etc. At the *power-information level* unity of the individual and space is expressed in interchange with information and energy between them that requires not only the informative saturation and variety of urban environments, but also accessibility and comprehensibility of the space «language» to the «language» of the individual. The *principle of synergy* unites all measures of the Aesthetics and represents creation of conditions which conduce to unity and friendly relations between elements of the artificial physical world and sense and the purposes of human existence by means of architecture, design and planning.

Perspectives of development of the town-planning aesthetics are discerned in investigation of essence of the Aesthetics measures. Social-and-cultural measures define area of distinctions in the aesthetic tastes of people but the biological and psychological measures define area of similarity. Accordingly the architectural researches in the field of the aesthetics should develop in directions of revealing of distinctions and in searching of the generalia in aesthetic objects (that is anthropological attributes). The architectural science

traditionally in the researches rests upon the area of similarity. So, for example, in J. Jankovskay's work mechanisms of formation of the architectural image of an object are revealed and the universal typological method for designing of architectural objects was offered on this basis [7]. Research by N. Aleksandrov has determined recurrence in development of the aesthetic systems in Europe where contradictions between measures of the individual and a society are considered as a motive force [2]. Thus consistent patterns are available in the area of distinctions: aesthetic rhythms in evolution of mankind and in the independent cultures. Also I. Tan in due time considerably has expanded physiological bases of art, having shown in his works possibility of investigation of the cultural-psychological reality of the people [8]. The climate, landscape, religion, the social organization and cultural traditions influence evolution of mentality of the people, but the anthropological basis of the people as a primeval granite forms ground of formation of mentality and it is expressed in general techniques for people concerning morals comprehension, understanding

of nature, in verbiage, in methods of development of territory and interaction with nature, etc. [8].

Conclusions. Based on the above stated, the basic methodological principles of researches in a town-planning aesthetics are offered as follows: 1) consideration of the Aesthetics category in a broad sense which returns to the primary implication in understanding of the aesthetics used by A. Baumgarten (1714–1762), as a science on the sensitive perception of the world; 2) holistic principle of unity of a subject and an object under investigation (an individual and urban environment); 3) expansion of “image of the individual» in the town-planning culture; 4) use of ideology of the integrated methodological pluralism in researches that provides association of methods and approaches of different sciences; 5) orientation on investigation of anthropological attributes; 6) recognition of an Individual measure as a basis because the individual is a history constant. Thus the integrated methodological model of researches in the town-planning aesthetics considered from philosophical positions which unites universal and individual in the aesthetic tastes is offered.

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Section 2. History

Секция 2. История

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Socio-cultural image of a Russian provincial town in the last third of the XIX — the beginning of XX centuries

The publication is prepared within the frames of a project № 13–31–01242 supported by the Russian humanitarian scientific fund.

Abstract: The article describes the peculiarities of Russian provincial towns of the Imperial Russia. The authors formulated the notion of socio-cultural image of pre-revolutionary Russian towns.

Keywords: Russian town, province, socio-cultural space of Russian towns, urban culture, urban society, trends of urban development.

In prerevolutionary Russia a town was a populated settlement, which was granted a deed of gift with a coat of arms and a plan of urban development approved by the head of the state. Administrative and territorial system of towns, which had a strict hierarchy, was already formed in Russia by XIX century and looked as follows: capital cities (Moscow and Saint-Petersburg); governorate, district and non-district or small provincial towns (they didn't have a district) [8, 283]. All these categories of towns were the centers of administrative, legislative, military and religious power as well as the centers of cultural life.

The reforms of Alexander II contributed to interpenetration, a dialogue between urban and rural cultures, overcoming of aloofness and religious development of all social groups of the Russian society. This process was not based on a class principle, but on principles of civil freedom of a personality and economic start. Gradual growth of impact of urban lifestyle on household and morals of provincial nobility encouraged the formation of a new culture of thinking. Although, many universities, museums, academies, art galleries, theaters and libraries are closely tied with urban environment, it doesn't mean that the given achievements have nothing to do with rural area. Urban system is organically connected to the his-

torical development of the rural area and «there is little chance of a town's existence without a village compared to the village life without a town» [10, 81–82].

The turn of XIX — XX centuries was a crucial stage in the history of prerevolutionary Russia. The development of industrial sector was accompanied with the growth of capitalist relations, democratization of socio-cultural sphere, liberal reformation movement with further powerful conservative government course and strengthening of radical moods among the intelligentsia. The changes took place unevenly, which had impact on socio-economic processes in the towns of post-reform Russia determining their difficulty and inconsistency, particularly in district towns. Transformation of public relationships deepened the division of labor, strengthened social differentiation, decreased the role of traditions in social and private life, which brought about the weakening of interpersonal relationships that were of superficial nature [8, 289].

The process of industrialization changed the image of a provincial town, its relief, and inspired a new system of views and attitudes towards the surrounding world. Analyzing socio-cultural image of a town, one should rely upon the principles of geo-urban planning taking into account typical features of space and time nature, history

and culture of a certain area [2]. Formation and development of a peculiar urban environment as poly-functional organism influenced the life of Russian towns of all levels significantly. Urban population got new life conditions from capitalist era, which corrected perceptions about it and made people reconsider traditional views on the surrounding world formed long ago.

Provincial towns of Russia were located among rural settlements till the end of XIX century, preserved the characteristics of agrarian villages and their population preserved the rural lifestyle. It was not only determined by close location to rural settlements but also by peculiarities of urban economy, which preserved agrarian features [8, 309.]. Agriculture has defined the life rhythm, morals and values of the Russian society for many centuries. It led to the fact that the behavior of citizens of provincial towns was oriented to peasant household. Thus, towns became the centers of special socio-cultural life of Russian provincial society.

Formation of the specific urban provincial environment in the second half of XIX century is related to the appearance and development of new forms of communication, which was not known in the village. There were libraries, book stores and street stands, typographies and lithographies, photo studios [7, 81–82], anti-fire, law-enforcement (prisons, courts etc.) and post systems, exhibitions, treatment and preventive [6, 2–45], charitable [6, 36] and alms houses [13, 347]. The sphere of healthcare developed slowly [1]. Gradually, the processes of growth of the number of people engaged in the sphere of non-material but service production was observed in provincial towns and women were beginning to play a bigger role in it, including noble families; a new industrial structure of employment of urban and rural population was forming.

Studying traditional social structure of a Russian town of XIX century, it should be noted that the changes took place in the Russian society during the studied period. Many estates changed their status due to historic changes in the country. According to Town decree as of 1870, all persons possessing any property in the town became a part of urban population, i. e. nobility and peasants became lawful citizens.

Statistical data from the Records of different governorates of the Russian Empire enable us to speak about the fact that, at the turn of epochs, noble population reduced shifting to other social and professional groups [8, 95]. The process of social differentiation of the highest estate in Russia took place. Many noble people were impoverishing, but a part of them managed to adapt to another life and reform their household according to

the new capitalist manner [8, 97–98]. Due to country counter-reform of Alexander III the political activity of nobility was strengthened. They became actively engaged in country activities, achieved high success in the social sphere at the governorate and all-Russia level [11, 24]. One of the important aspects of socio-cultural development of a provincial society during the period of modernization was inter-estate marriages, which were more popular in the nobility circle and which made the privileged estate more open [3, 41–43].

Merchant estate as well as the nobility reduced in number. The category of merchants during this period was completed with richened lower middle class and lucky peasants-craftsmen. Due to merchant activity stone markets and street stands were built in many towns, where handicraft goods from other towns were sold. Development of stationary trade was a phenomenon spread in Russia at the end of XIX — the beginning of XX centuries. Usually, the merchants built their houses in central squares and town streets, often combining residential and commercial premises in one building. Traditionally, the activities of a merchant family included the participation in charitable events such as support of parochial schools, payment of scholarships to the poor but bright students and other acts of mercy [5].

The smallest but richest layer of town citizens was honorable citizens. In 1982 this category included people who succeeded significantly in the social sphere. The gradation of the estate into the descended and private determined the period and degree of activity of a candidate for the title of an honorable citizen. The category of private honorable citizens in small towns often included merchants and enterprising nobility. They mainly lived in the village leaving the town in search of a quieter life.

The most common category of citizens was lower middle class. They formed the bone of town dwellers, who lived literally throughout the town territory. The richest lower middle class members lived in the central part of the town. The main activity for most part of the lower middle class members was, as a rule, fishing, work at shipyards in the town or district located on local rivers, departure for industrial districts. The given estate was the most extended. All citizens who didn't have enough means to be considered as merchants were included in the lower middle class. The estate was diverse in terms of social and professional activity. The statistical data on the census shows the numerical advantage of the lower middle class by 10 times compared to all other estates. Small towns of Russia at the end of XIX — the beginning of XX century could be called typically middle-class.

Among provincial citizens we cannot avoid the clergy, because the presence of town churches presupposes a significant role of the estate in the life of the society. It was the most educated estate in the XX century Russia. Its number started reducing at the end of XIX — the beginning of XX century. The interests of church officers were infringed at the beginning of XX century and they started living in the grip of poverty. A part of provincial intelligentsia almost always consisted of priests because apart from the clergy they worked at the parochial schools, taught the Law of God at town colleges and gymnasias. At the end of XX century the clergy as estate lost its estate features and merged with other professional groups of citizens [8, 104–106].

Other citizens of small towns were peasants who shifted to towns, military estate and people of different titles. The poorest estates lived on the outskirts of the town, had ramshackle dwellings and worked on hire at any place. It should be noted that often the growth rate of the number of peasants outdid other categories. Perhaps, communal order burdened the peasants and they tried to escape to the town.

Thus, having considered the typology of citizens of small towns of Russia, we can conclude that in the last third of XIX — the beginning of XX century there were remarkable changes in the urban environment, which had impact on the province. The nobility that used to be the richest became poor. The new epoch demanded the development of capitalist forms of property and production. Hence, the leading role in social structure of the Russian society at the end of XX century was played by the merchants and other enterprising layers of the society, which lower middle class and peasants strived to become.

In prerevolutionary Russia there was a gradual process of transformation of external image of a provincial town from administrative, military and agrarian settlement to industrial and commercial, and at the end of XIX century to industrial, commercial and cultural center with dense regular construction [8, 309]. Socio-cultural image of a provincial town is not completed with the characteristic of categories of population and requires the study of its cultural forms and images. They included unique architectural structures of churches, streets and building facades. A typical feature of the town's culture was the condition of public education, which town authorities strived to make universal at the end of XIX century. Thus, at the end of XIX — the beginning of XX century in many towns there was a complex of educational institutions, among which we should not governorate colleges, real colleges, female gymnasias, pedagogical courses for men etc. Many of them were meant for all estates. The lack of teachers in towns and districts was gradually compensated, which allows speaking about the growth of level of education among citizens and activity of local intelligentsia [7; 12, 64].

Every provincial town formed its traditions, culture and mentality. Towns were beautiful with their churches; streets paved with wood; stone houses of merchants in the center; carved wooden patterns; talented and hard-working people, which preserved the unique image of Russian province praised by Russian writers of XIX century and which is currently the subject of discussions among historians and specialists of many fields of social sciences [4, 24]. Socio-cultural environment of a provincial town reflected social and spiritually-moral potential of the society in prerevolutionary Russia.

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Section 3. Mathematics

Секция 3. Математика

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The proof of the impossibility of the existence of perfect cuboid

Abstract: We used a quadratic identity for building Pythagorean chains to prove the impossibility of the existence of a perfect cuboid — integer brick that all seven core values (three edges, three face diagonals and space diagonal) are integers.

Keywords: Euler brick, algebraic identity, chains of Pythagorean numbers, perfect cuboid.

We first give a definition of the Euler parallelepiped. This is a cuboid with integer edges: a is an odd number, b and c - even numbers. While the edges Euler parallelepiped and diagonals of faces d_{ac}, d_{ab}, d_{bc} are integer and form a Pythagorean triples

$$a^2 + b^2 = d_{ab}^2, \quad a^2 + c^2 = d_{ac}^2, \quad c^2 + b^2 = d_{cb}^2.$$

We assume the initial three numbers are mutually simple, i.e. $(a, b, c) = 1$. Two numbers $b = 2^n \cdot \gamma \cdot \bar{b}$ and $c = 2^{n+m} \cdot \gamma \cdot \bar{c}$ not mutually are simple, \bar{b} and \bar{c} are odd and $(\bar{b}, \bar{c}) = 1$. The smallest parallelepiped Euler was discovered during the life of the Euler accountant Khalq in 1731: $a = 85, b = 132, c = 720, n = 2, m = 2, \gamma = 3, \bar{b} = 11, \bar{c} = 15, d_{ab} = 157, d_{ac} = 725, d_{cb} = 732$.

Perfect cuboid (integer brick) is called Euler parallelepiped, which squared space diagonal d is a integer and the sum of the squares of the lengths of the three edges, that is

$$a^2 + b^2 + c^2 = d^2. \quad (1)$$

At present, there is no analytical evidence about the existence of the perfect cuboid. The calculations up to 10^{12} are no such box [1–3]. We prove that perfect cuboid cannot be.

Consider a set of Pythagorean triples $x_1^2 + y_1^2 = z_1^2$ or build a right triangle with integer sides, using quadratic equations

$$4\alpha^2\beta^2 + (\alpha^2 - \beta^2)^2 = (\alpha^2 + \beta^2)^2. \quad (2)$$

In (2) $x_1^2 = 4\alpha^2\beta^2$ is an even number, $y_1^2 = (\alpha^2 - \beta^2)^2, z_1^2 = (\alpha^2 + \beta^2)^2$ — an odd numbers. Options α and β can be integer, rational or irrational.

If $z_1 = (\alpha^2 + \beta^2) = p_1 \cdot A_1$, where p_1 is a prime number, then you can create a chain of four Pythagorean numbers

$$x_1^2 + y_1^2 + x_2^2 = z_2^2. \quad (3)$$

Here $x_2 = (A_1^2 - p_1^2)/2, z_2 = (A_1^2 + p_1^2)/2$. If z_1 is a prime number, then

$x_2 = (z_1^2 - 1)/2, z_2 = (z_1^2 + 1)/2$. The last option is applicable in all cases.

Sample. Let $\alpha = 10, \beta = 11, x_1 = 220, y_1 = 21, z_1 = 221 = 13 \cdot 17$. There are two options:

1) $x_2 = 24420, z_2 = 24421$. 2) $x_2 = (17^2 - 13^2)/2 = 60, z_2 = 229$. Really

$$220^2 + 21^2 + 24420^2 = 24481^2; 220^2 + 21^2 + 60^2 = 229^2.$$

This process goes on, using the recurrent relationship

$$x_{k+1} = (A_k^2 - p_k^2)/2, z_{k+1} = (A_k^2 + p_k^2)/2. \quad (4)$$

Theory of constructing such chains developed in article Druzhinina [4] where is shown that this is the only way to create them.

In this task we are interested in Pythagorean numbers (1) for the four parameter values in the Euler parallelepiped. Consider the sum of the squares for the even-number edges $c^2 + b^2 = d_{cb}^2$. In passing on the left side of equals the total multiplier $2^n \cdot \gamma$, get the equation of the form

$$\bar{b}^2 + 2^{2m} \cdot \bar{c}^2 = \bar{d}_{bc}^2, \quad (5)$$

that gives the length of the diagonal of face $d_{bc} = 2^n \gamma \bar{d}_{bc}$. In the left part (5) add the third term $\bar{e}^2 = (A^2 - p^2)^2/4$, if $\bar{d}_{bc} = A \cdot p$. As a result, we have equality

$$\bar{b}^2 + 2^{2m} \cdot \bar{c}^2 + (A^2 - p^2)^2/4 = (A^2 + p^2)^2/4. \quad (6)$$

Next, multiply (6) on the previously remote multiplier ($2^n \gamma$) in the square and get the equation

$$c^2 + b^2 + e^2 = 2^{2n} \gamma^2 (A^2 + p^2)^2 / 4, \quad (7)$$

which is similar to the (1) and are constructed strictly according to the theory. But the third term on the left-

hand side of (7) $e^2 = 2^{2n} \gamma^2 (A^2 - p^2)^2 / 4$. is not the same as the first a^2 in (1), as both these numbers have different parity. We conclude that a perfect cuboid, whose space diagonal and edges form four Pythagorean numbers, does not exist.

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Section 4. Medical science

Секция 4. Медицина

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Interrelation of P300 cognitive potentials and neuro-immunologic values of patients with idiopathic and symptomatic epilepsy

Abstract: The inverse relation of latent period prolongation degree and amplitude to the presence and expression of neuro-immunologic values was detected in the analysis of interrelation of the latest ones and cognitive initiated potentials in the patients with symptomatic and idiopathic epilepsy.

Key words: epilepsy, forms, neuro-immunologic values, P300 cognitive potentials

Topicality. One of the most important aims of the modern neurology and epileptology is the study of epilepsy problems [2, 3–4]. During the recent decades multiple data were accumulated proving interrelation of epilepsy with immunologic disorganization, due to which the given pathology is considered to be one of immune-dependent diseases with pro-gradient progress [1, 9–11]. Though, it is possible that immunologic mechanisms can become an important part of integral theory of epilepsy origin and the further immunologic researches will promote better diagnostics of this pathology and will reveal new therapeutic possibilities [4, 14–16].

The progress of epilepsy is clinically expressed in the appearance and growth of various cognitive functions disorder degree. It was noted, that with the perfection of diagnostics and application of the modern anti-convulsion agents, more often psychic disorders in case of epilepsy are observed in the form of moderate cognitive disorders, while significant intellectual-mnestic ones are usually described in cases of resistant forms of the disease [5, 5–8]. The clinical analysis of the dynamics of cognitive disorders let us more accurately detect progressing, remission or inversion of brain organic damage in comparison with the study of motor and sensory disorders [3, 15–18].

P300 method of cognitive initiated potentials is actively applied recently in the study of electro-physiologic correlators of cognitive processes [3, 5–6].

Taking into account the aforesaid, nowadays one of the actual problems is to study the interrelation on

neuro-immunologic values and the cognitive sphere disorders in case of epilepsy.

The aim of the research: is to study the interrelation of neuro-immunologic values and P300 cognitive initiated potentials in the patients with idiopathic and symptomatic epilepsy.

Materials and methods of the research: 43 patients with epilepsy aged from 16 to 70 were examined (27 men; 16 women), among which there were 11 with idiopathic epilepsy (I group) and 32 patients with symptomatic focal epilepsy (II group). All the patients had detailed preliminary anamnesis and clinical selection performed by means of stratified randomization method using inclusion and exclusion criteria.

The quantitative definition of antibody (AB1 and AIAB2) serum immune reactivity to the neuro-mediators receptors (glutamate, GABA, dopamine, serotonin and cholin receptors) was performed with the help of ELI-N-Test firm-phase immune-enzyme method and its test sets produced by “Immunkulus” (Russia).

The study of acoustic cognitive initiated potential (ACIP) or P300 was performed in compliance with the standard “odd-ball paradigm” method. For the research we used four-channel electro-myograph by MEDELEC «Sapphire premier». The calculation of P300 main peaks was made automatically with the markers set in the progress of the analysis. We measured the latent periods of N2 and P3 peaks, N2 — P3 peak interval in milliseconds (ms), в миллисекундах (мс), N2/P3 complex amplitude in

micro Volts (mkV) as a sum of amplitude values of N2 and P3 peaks from isoline. The maximal positive component with latency 300ms and more was taken as P300. P300 alterations in the central leads were taken for quantitative analysis.

The analysis of the received values was performed by means of «SPSS for Windows» software with processing of the material with the help of variation statistic methods. The reliability of the received data was estimated by means pair method according to Student t-criteria. The difference was considered to be reliable with $p < 0,05$.

The results of the research: taking into account the deviations of immune reactivity from the individual average level of serum reactivity we detected doubtful decrease of aAB level to glutamate receptors (Glu-R) 1.92 times in the I group (1.50 ± 1.96 R.U) and 1.19 times in the II groups (2.42 ± 2.21 R.U), in comparison with the control group (2.88 ± 1.91 R.U). We noted a reliable rise of aAB to GABA receptors (GABA-R) 2.11 times in the I group (18.81 ± 2.76 R. U., $p \leq 0,01$) and 2.08 times in the II group

(18.57 ± 2.37 R. U., $p \leq 0,01$), in comparison with the control group (8.93 ± 2.05 R. U.). A similar rise of aAB was detected to dopamine receptors (Dop-R) and serotonin receptors (Ser-R): 2.18 times (16.05 ± 1.86 R. U., $p \leq 0,001$) and 3.04 times (5.63 ± 2.54 R. U., $p \leq 0,01$) in the I group; 2.19 times (16.10 ± 2.55 R. U., $p \leq 0,01$) and 3.66 times (8.65 ± 2.36 R. U., $p \leq 0,001$) in the II group correspondingly. Statistically non-significant deviations of aAB immune-reactivity were revealed in relation to cholin-receptors (Chol-R): decrease of aAB 1.2 times (16.97 ± 6.58 R. U.) in the I group and 1.13 times rise (23.03 ± 4.24 R. U.) in the II group correspondingly (table 1). Thus, while in the I group there were the greatest deviations of aAB immune reactivity tend to reliable rise to GABA-R, Dop-R, Ser-R and statistically non-significant decrease to Glu-R and Chol-R, in the II group there was noted rise of aAB to GABA-R, Dop-R, Ser-R and Chol-R and decrease only to Glu-R. Herein, the difference between the groups turned to be statistically non-significant (Table 1).

Table 1. – Deviations of aAB immune reactivity to neuro-mediator receptors from the individual average level of serum reactivity in case of epilepsy, R. U. ($M \pm m$).

Value	I group (n=11)	II group (n=32)	Control (n=16)
Glu-R	1.50 ± 1.96	2.42 ± 2.21	2.88 ± 1.91
GABA-R	$18.81 \pm 2.76^*$	$18.57 \pm 2.37^*$	8.93 ± 2.05
Dop-R	$16.05 \pm 1.86^*$	$16.10 \pm 2.55^*$	7.36 ± 1.73
Ser-R	$5.63 \pm 2.54^*$	$8.65 \pm 2.36^*$	1.85 ± 1.96
Chol-R	16.97 ± 6.58	23.03 ± 4.24	20.42 ± 1.92

Note: * — results are reliable in comparison to the control group, $p < 0,05$.

The patients with epilepsy had rise of individual level of serum immune reactivity of all aAB to receptors of neuro-mediators (table 2). Thus, we detected the rise of aAB level to Glu-R 1.21 times (69.30 ± 8.36 R. U.) and 1.41 times (80.88 ± 8.76 R. U., $p \leq 0,05$), to GABA-R 1.08 times (48.99 ± 5.86 R. U.) and 1.32 times (59.89 ± 6.53 R. U., $p \leq 0,05$), to Dop-R 1.1 times (51.75 ± 6.54 R. U.) and 1.33 times (62.36 ± 6.43 R. U., $p \leq 0,05$), to Ser-R 1.11 times

(62.18 ± 6.19) and 1.24 (69.81 ± 6.20 R. U., $p \leq 0,05$), and to Chol-R 1.50 times (50.83 ± 4.93 R. U., $p \leq 0,01$) and 1.63 times (55.43 ± 6.26 R. U., $p \leq 0,01$), in comparison with the control group, correspondingly in the I and II groups of patients. And the greatest increase of all aAB level to neuro-mediator receptors was statistically significantly higher in the group of patients with symptomatic epilepsy (table 2).

Table 2. – Individual level of serum immune reactivity of auto antibodies to neuro-mediator receptors in case of epilepsy ($M \pm m$).

Value	I group (n=11)	II group (n=32)	Control (n=16)
Glu-R	69.30 ± 8.36	$80.88 \pm 8.76^*$	57.19 ± 4.77
GABA-R	48.99 ± 5.86	$59.89 \pm 6.53^*$	45.38 ± 4.77
Dop-R	51.75 ± 6.54	$62.36 \pm 6.43^*$	46.94 ± 4.79
Ser-R	62.18 ± 6.19	$69.81 \pm 6.20^*$	56.16 ± 4.49
Chol-R	$50.83 \pm 4.93^*$	$55.43 \pm 6.26^*$	33.89 ± 3.15

Note: * — results are reliable in comparison with the control group, $p < 0,05$.

Thus, abnormal rise of aAB to ligand-binding side of neuro-mediator receptors (Glu-R, GABA-R, Dop-R, Ser-R and Chol-R) shows the alterations in the corresponding systems of neurons. The higher serum level of aAB to neuro-mediator receptors in the patients with symptomatic epilepsy can indicate the presence of various mechanisms of neuro-mediation and neuro-plasticity implementation in the patients with idiopathic and symptomatic epilepsy.

For the detection of cognitive disorders we applied neuro-physical research of cognitive initiated potential. As a result, in cases of SE we detected slight emotional deregulation disorders reflecting dysfunction of cortex — sub-cortex structures. It was manifested by the absence of clear P300 amplitude asymmetry between hemispheres (fig. 1).

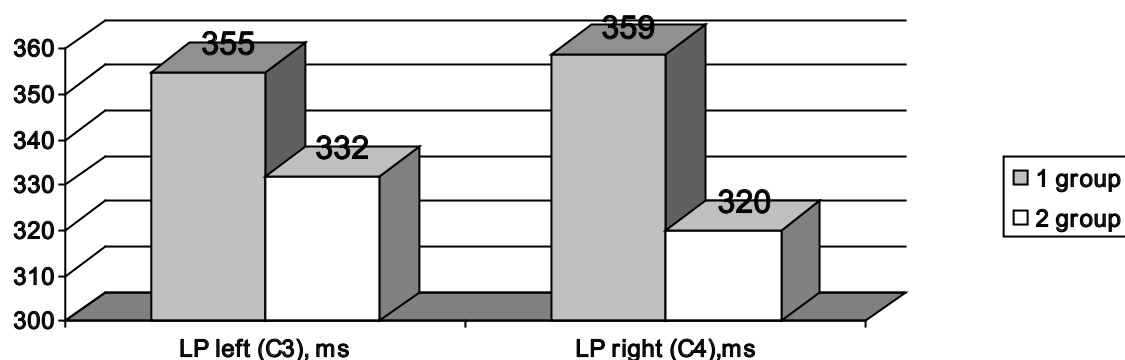


Figure 1. P300 wave parameters (latent period) in C3 and C4 leads in the examined patients with epilepsy

The patients with IE had more significant disorders, characterized by the absence of P300 amplitude

asymmetry between hemispheres and reliable increase of P300 latent period.

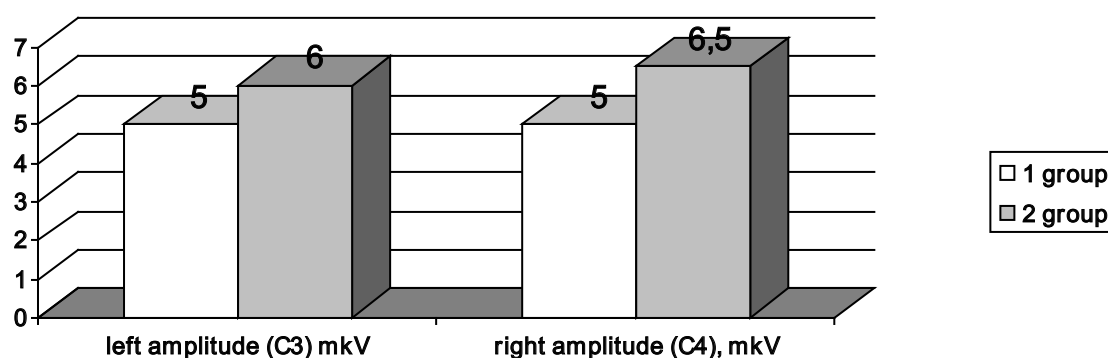


Figure 2. P300 (amplitude) wave parameter in C3 and C4 leads in the examined patients with epilepsy

In the analysis of interrelation of neuro-immunologic values and cognitive potentials of patients

with epilepsy we revealed the following regularities represented in the table 3.

Table 3. – Correlation link of neuro-immunologic values and cognitive potentials in the patients with epilepsy

Values	C3 lead				C4 lead			
	P1	N1	P2	N2	P1	N1	P2	N2
Glu-R	-0.357	-0.143	-0.216	-0.384	-0.078	-0.302	-0.287	-0.091
GABA-R	-0.371	-0.193	-0.269	-0.519	-0.418	-0.524	-0.328	-0.110
Dop-R	-0.390	-0.160	-0.265	-0.235	-0.088	-0.425	-0.335	-0.130
Ser-R	-0.273	-0.410	-0.279	-0.219	-0.449	-0.330	-0.332	-0.105

As it is seen from the table there is traced inverse relation of neuro-immunologic values and P300 cognitive potentials.

On the basis of the achieved data we can conclude there is inverse relation of the degree of latent period increase and amplitude to the presence and expression of neuro-immunologic values. It can indicate worsening of the initial stage of information process-

ing and salvation of cognitive problems, i. e. the process of stimuli recognition and differentiation in the patients with epilepsy.

Conclusion. Thus, circulating aAB to neuro-mediator receptors, particularly to glutamates, GABA, dopamine, serotonin and cholin receptors, in blood serum of the patients with epilepsy, indicate there are alterations in the corresponding systems of neurons. The higher level

of serum aAB to neuro-mediator receptors in the patients with symptomatic epilepsy can indicate the presence of various mechanisms of neuro-mediation and brain plasticity in case of idiopathic and symptomatic epilepsy.

On the basis of neuro-physiologic values of cognitive initiated potentials we detected characteristic disorders of the highest brain functions in case of epilepsy, reliable alterations of latent period and P300 amplitude dependently on the form of the disease. In cases of idiopathic and symptomatic forms there is

absence of P300 wave amplitude asymmetry between hemispheres indicating function disorders. The values of P300 latent period are increased in cases of symptomatic epilepsy, different from idiopathic one and these values reflect inhibition of cognitive processes.

The inverse relation of latent period prolongation degree and amplitude to the presence and expression of neuro-immunologic values was detected in the analysis of interrelation of the latest ones and cognitive initiated potentials.

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Exercise capacity in healthy perimenopausal women

Abstract: The work studies a relationship between the levels of endogenous sex hormones and exercise capacity in healthy women during their perimenopause. Seventy-one healthy perimenopausal women were included in the study. Mod BRUCE protocol has been used to assess exercise capacity. An effect of the follicle-stimulating hormone level on METs values has been detected. No similar effects have been found for estradiol, testosterone, aldosterone, and prolactin.

Keywords: women, perimenopause, climacteric period, exercise capacity, treadmill-test.

Despite the fact that menopause is a physiological stage in the life of every woman, very few patients go through this period smoothly and without symptoms. Great number of complaints presented by patients in perimenopause is related to the reduction in exercise capacity. E.g., according to the data of Ceylan B. and Ozerdoğan N., when assessing menopausal symptoms, 79.2% of women reported a feeling of tiredness [1, 1–18]. Vasconcelos-Raposo J., et al. found that vasomotor symptoms were more frequently reported by young women while older age group patients were in a greater degree concerned by feeling tired or lacking in energy, breathing difficulties [2, 257–260]. A reduction in exercise capacity in women in peri- and postmenopausal period

results in greater reduction in health-related fitness and contributes to an increase in various cardiovascular risk factors [3, 753–778]. This entire group of complaints can be combined into a reduction in exercise capacity associated with perimenopause. Exercise capacity is an estimate of the maximal oxygen uptake for a given workload and can be expressed in metabolic equivalents (METs). In addition, exercise capacity has been shown to be an independent predictor of the presence of CAD in women [4, 1018–1022]. It is known that it is difficult enough to interpret the workload test results in women for the diagnostics of ischemic heart disease. In this case, an exercise capacity assessment additional to the ST segment change allows increasing the specificity of this examination.

E. g., in the case of reaching a workload corresponding to 10 and more METs, the probability of ischemia is lower compared to those who reached less than 7 METs (0.4% versus 7.1%; $p=0.001$) [5, 538–545]. Another important property of the exercise capacity assessment in women is the prognostic value of this parameter [6, 1600–1607]. For symptomatic women for every 1-MET increase in exercise capacity, there was a 25% reduction in risk of all-cause mortality and a 23% reduction in risk of cardiac events [7, 2836–2841]. Prognostic value of exercise capacity was shown also for asymptomatic women. Gulti et al. detected that those asymptomatic women who were unable to achieve 5 METs on a Bruce protocol had a 3-fold increased risk of death compared with women who achieved more than 8 METs [8, 1554–1559].

The goal of this work was to assess the exercise capacity in patients in perimenopause depending on the level of sex hormones.

Materials and methods

Cross-sectional study with participation of 71 perimenopausal women was conducted. All women were examined by gynecologist for exclusion of gynecological diseases and confirmation of natural perimenopause.

Patients with coronary heart disease, cardiac failure, severe arterial hypertension (arterial pressure 180/110 mm Hg), thyroidal hormone producing function disorders, gastric and duodenal ulcerative disease, diseases limiting the life span to 1 year, menopause duration exceeding 5 years, and surgical menopause were excluded from the study. Patients received no therapy prior to exclusion to the study.

Follicle-stimulating hormone (FSH) serum content was tested by enzyme-linked immunoassay using a set of reagents Gonadotropin IFA-FSH from Alkor Bio Company LLC. PROGESTERONE-IFA from KHEMA LLC was used for progesterone test, PROLACTIN-IFA from KHEMA LLC was used for prolactin test, and TESTOSTERONE-IFA from KHEMA LLC was used for testos-

terone test. Estradiol was tested using Estradiol ELISA kit from DRG Instruments GmbH. Semi-automatic immunoenzyme analyzer Immunochem-2100 was used for the test. The menopause was diagnosed if FSH level was higher than 25 IU/l.

For assessing the exercise capacity, all patients were subjected to a workload treadmill-test. For the treadmill-test, we used the digital electrocardiographic complex with a treadmill “Cardio-Perfect MD” (Cardio-Control, Netherlands). Prior to the workload test, all patients discontinued beta-adrenergic blocking agents and calcium channel antagonists in advance. For blood pressure control during the workload test, ACE inhibitors or angiotensin II receptor blockers have been used. The test was conducted in a well-ventilated room at a temperature of 20–22 °C before noon, 1–2 hours after a light breakfast. Mod BRUCE protocol has been used, initial rate was 2.7 km/h, treadmill angle — 0.0%, duration of each stage 3 minutes. The patients with positive treadmill-test results were excluded from the further analysis and examined in accordance with the ischemic heart disease protocol. For assessing the exercise capacity, we assessed the metabolic equivalent (MET), which was calculated automatically by “Cardio-Perfect MD” software according to the formula: 1 ME = 3.5 ml O₂/min/kg body weight.

The study protocol was approved by local ethics commission of L. T. Malaya National Institute of Therapy of Ukraine. The aim of the study was explained to all patients and informed consent was signed before any study related procedures.

SPSS 21 for Windows PC software was used for statistical data processing. Data were represented as median and 25% and 75% quartiles (Me [25%-75%]). To test null hypothesis Mann-Whitney test and chi-squared test were used.

Results

Table 1 represents comparison results for patient groups depending on the FSH level in the blood. The group 2 showed significantly lower values of progesterone, prolactin, and estradiol levels.

Table 1. – Characteristic of study patients depending on hormonal status

	FSH < 25, IU/l (group 1) n=34	FSH > 25, IU/l (group 2) n=37	
Age, years, Median [25%-75%]	52 [45–53]	53 [49–59]	$p=0,21$
BMI, kg/m ² , Median [25%-75%]	27 [24–33]	28 [26–31]	$p=0,65$
Age of menopause, years, Median [25%-75%]	49 [45–51]	50 [49–53]	$p=0,25$
EF, %, Median [25%-75%]	62 [56–66]	63 [59–66]	$p=0,57$
Women with hypertension/women without hypertension, n/n	26/8	28/9	$p=0,12$
Smoking/non smoking women, n/n	3/31	3/37	$p=0,34$
Progesterone, nmol/l, Median [25%-75%]	2,87 [2,3–5,4]	2,72 [2,1–3,4]	$p=0,02$

Testosterone, mmol/l, Median [25%-75%]	0,56 [0,33–0,77]	0,6 [0,4–0,7]	p=0,10
Prolactin, mmol/l, Median [25%-75%]	247,4 [196,3–415,9]	182,7 [142,6–235,3]	p=0,05
Estradiol, pg/ml, Median [25%-75%]	110 [55,5–217]	39,14 [27,9–61,2]	p=0,001
FSH, IU/l, Median [25%-75%]	8,3 [5,7–16,0]	62,4 [46,2–79,7]	p=0,0001

The group 2 showed significantly lower METS value, while heart rate, systolic blood pressure (SBP) and diastolic blood pressure (DBP), Duke Index were not different significantly between the groups (table 2).

Table 2. – Treadmill-test results of women with different hormonal status

	FSH < 25, IU/l (group 1) n=34, Median [25%-75%]	FSH > 25, IU/l (group 2) n=37, Median [25%-75%]	
Heart rate, baseline, beats per min.	82,0 [69,0–87,6]	81,0 [71,0–88,0]	p=0,68
Heart rate maximal. Beats per min	153,0 [144,0–156,0]	146 [140,0–160,0]	p=0,76
SBP, baseline, mm Hg,	120,0 [110,0–135,0]	127,5 [120, —135,0]	p=0,34
SBP maximal, mm Hg,	170,0 [150,0–180,0]	175,0 [160,0–200,0]	p=0,56
DBP, baseline, mm Hg,	80,0 [80,0–90,0]	80,0 [80,0–100,0]	p=0,08
DBP, maximal, mm Hg,	90,0 [80,0–100,0]	90,0 [80,0–105,0]	p=0,6
METs	14,1 [9,0–15,0]	7,0 [4,6–7,0]	p=0,048
Duke index	6,2 [4,5–8,5]	5,0 [1,0–7,0]	p=0,11

For detecting the effect of sex hormones on METs, we carried out a stepwise regression analysis, which showed that only FSH had a significant effect on this parameter (table 3).

Table 3. – Influence of sex hormones on METs in health perimenopausal women

	beta	Standard error of beta	B	Standard error of B	p-level
FSH	–0,11259	0,04821	–0,0326	0,01398	0,01995
Estradiol	–0,05784	0,04821	–0,0057	0,00477	0,23083

Graph 1 shows the change of METs values with an increase in FSH. E.g., a significant reduction in this value is observed with an increase in FSH for more than 14.5 IU/L with a subsequent more marked

reduction after FSH reached a level of 30 IU/L. With further FSH increase, METs values do not change significantly and remains stably low (Fig. 1).

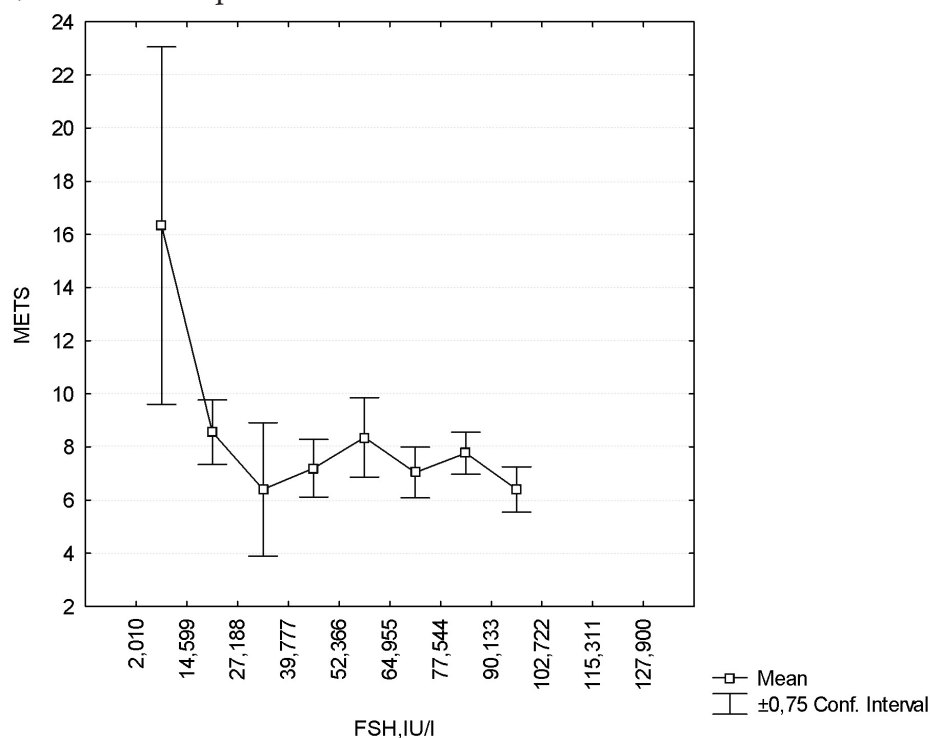


Figure 1. The relation between FSH and METs in healthy perimenopausal women.

Thus, we detected a significant negative correlational relationship between FSH levels and METs values (fig. 2).

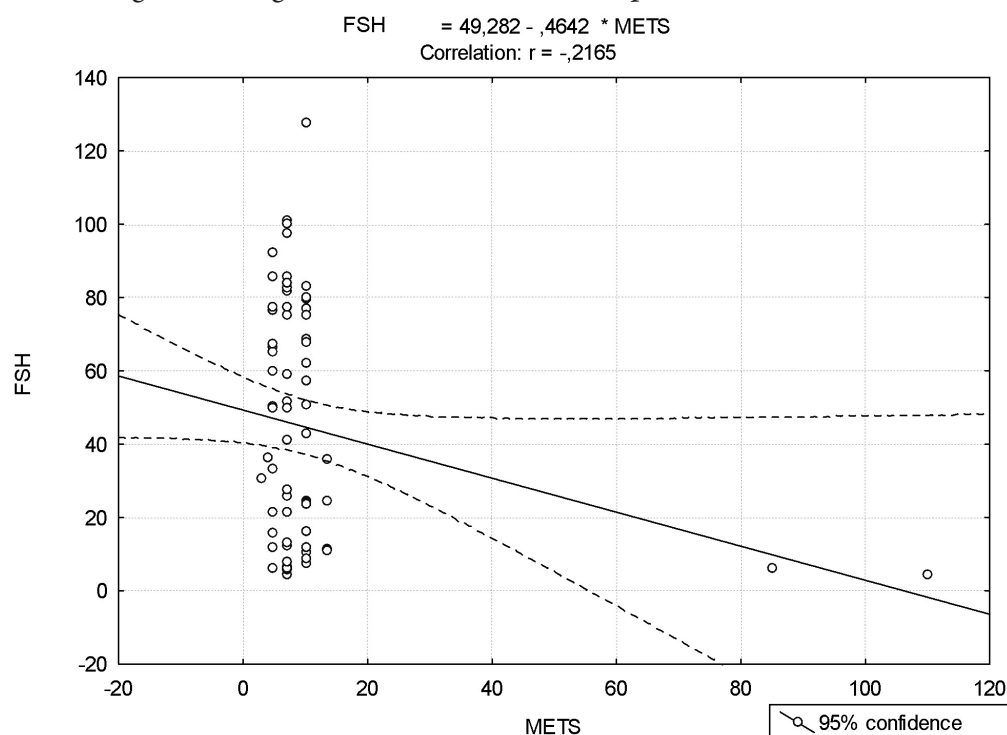


Figure 2. Correlation between FSH and METs in healthy perimenopausal women

Thus, we detected a relationship between the follicle-stimulating hormone level and exercise capacity in women in perimenopause. Higher follicle-stimulating hormone levels are associated with lower exercise capacity.

It is known that reproductive ageing in women is accompanied by a reduction in exercise capacity; however, there is a deficiency of works related to studies of relationships between endogenic steroid levels and exercise capacity. E. g., Mieczkowska J. et al. in their work studied a relationship between the levels of estradiol, total testosterone, dehydroepiandrosterone sulphate, sex hormone binding globulin and the degree of exercise capacity. Testosterone level correlated positively with exercise duration, level of free testosterone was associated with systolic blood pressure increase during exercise and exercise duration and bioavailable testosterone positively correlated with heart rate increase during exercise and with exercise duration. Authors concluded that exercise capacity of postmenopausal women may be influenced by sex hormones, which levels in blood could be useful in the qualification for physical recreation plan [9, 295–303].

Enough contradictory data are provided in the literature regarding the effect of exogenous estrogens on exercise capacity in women. It is shown that estrogen replacement therapy is associated with exercise capacity as measured by maximal oxygen uptake and anaerobic threshold in postmenopausal women without coronary

artery disease [10, 739–744]. At the same time, during the hormonal replacement therapy in a study conducted by Snabes M. C., although an increase in estradiol concentration in the blood and reduction of heart rate in rest were observed, exercise capacity did not show any increase [11, 110–114]. Similar data were also obtained in a study conducted by Aldrighi J. M., where no positive effect of exogenous estradiol on exercise capacity in women in postmenopause was also detected [12, 324–329]. A positive effect of testosterone on exercise capacity was detected in women with cardiac insufficiency [13, 1310–1316].

This work studied a relationship between endogenous sexual steroids and exercise capacity in women in perimenopause. No effect of prolactin, testosterone, or estradiol on exercise capacity was detected in healthy women, while an increase in follicle-stimulating hormone level was related to lower exercise capacity. An increase in the follicle-stimulating hormone level for more than 25 IU/L is a marker of the reproductive ageing and can be observed long before the onset of menopause. The effect of the hormonal background on workload test results and first on METs value should be taken into account when interpreting the workload test results in women.

Conclusion: an increase in follicle-stimulating hormone level during menopause in women is associated with a reduction in exercise capacity.

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Changes of indicators of viscosity of the blood in the remote postoperative period after operations on the damaged lien

Abstract: Studying of changes of rheologic properties of a blood is spent at 85 patients operated on the injured lien, in time not less than one year after operation. From them to 35 patients the splenectomy, 20 — organ saving operations has been executed, 30 patients have transferred autolientranspolantation. Terms after carrying out of op-

erative treatment have made from one year till fifteen years. It is established that at — organ saving operations and autolientransplantation do not lead to changes in indicators viscosity of a blood. At the same time after a splenectomy the expressed changes of viscosity of a blood are taped.

Key words: a lien, viscosity of a blood.

Introduction. Lien damages at a trauma occupy one of leading places in abdominal surgery. Ruptures of this organ meet at 20–25% of victims a trauma of a stomach [5]. Till now the most widespread operation which is carried out at traumatic damages of a lien, there is a splenectomy. It is possible to explain appeal of this operation by technical simplicity, reliability of the reached hemostasis. At the same time the lien possesses series of the major functions, one of which participation in a hemopoiesis [1,2,3]. It is known that excision of this organ leads to development of the various complications shown both an embolism of a pulmonary artery, and a bleeding [4,6]. For the purpose of preventive maintenance of some complications various ways of conservation of a lien are offered, and at impossibility of performance of such operations — transplantation of fragments of a lien (autolientransplantation). However on studying of influence of the chosen operation on changes a hemorheology depending on a kind of the chosen operation at traumatic damages of a lien to the accessible literature we did not meet researches.

Research objective: to study influence of the chosen operation at a lien trauma on changes of rheologic properties of a blood in the remote postoperative period.

Materials and research methods. Studying of indicators of a hemorheology spent at 85 patients operated on the injured lien, in time not less than one year after operation. From them to 35 patients the splenectomy, 20 — organ saving operations has been executed, 30 patients have transferred autolientransplantation. Comparison group have made 30 concerning healthy volunteers of the same age. Terms after carrying out of operative treatment have made from one year till fifteen years.

Changes of rheologic properties of a blood were carried out by means of research of viscosity of a blood, indexes of deformation and aggregation of erythrocytes. The blood sampling was made for this purpose in out-patient conditions from a vein with addition of 3,8% of a solution of Sodium citratum in the ratio 9:1. Studying of viscosity of a blood was spent by means of the apparatus at rates of shift: 200; 150; 50 and 20 c^{-1} . On the basis of the received data made definition of indexes of deformation and aggregation of erythrocytes.

The data obtained in researches was exposed to statistical processing with use of a package of applied

programs «Statistica 6.0.473.0». The importance of differences of two sets estimated with use of criteria of Stjudenta-Fishera, χ^2 , the God-send-uitni. Differences were considered significant at $p < 0,05$.

Results of researches. At studying of viscosity of a blood, aggregation of erythrocytes and their deformability it is revealed that at patients with traumatic damages of a lien in 1 year after organ saving operations indicators of viscosity of a blood, aggregation of erythrocytes and ability of erythrocytes to deformation statistically authentically do not differ from the data received in group of comparison ($p > 0,05$). Rising of these indicators, in comparison with comparison group, is taped only at 3 (15%) the surveyed. By comparison of the received datas of laboratory to results of clinical research by us it is established that in this group the least quantity of complications which are noted at 6,6% surveyed becomes perceptible. These complications are bound to disturbances of microcirculation and shown by headaches, rising of arterial pressure.

At patients, before transferred autolientransplantation after a splenectomy, statistically doubtful tendency to augmentation of viscosity of a blood, ascending of aggregation of erythrocytes and ability of erythrocytes to deformation ($p > 0,05$) is noted. Such changes are taped at 45% of the surveyed patients of the given group, at the same time at the others of 55% surveyed studied indicators did not differ from the data received in group of comparison. Changes of investigated indicators have naturally led to rising of the complications bound to disturbances of microcirculation in group of patients after autolientransplantation: giddiness, rising of arterial pressure are taped in 28% of observations.

Hence, use autolientransplantation after a splenectomy at a lien trauma prevents development of disturbances of viscosity of a blood in 45% of observations and the given method can serve as alternative organo-сохраняющих operations that is confirmed by absence of statistically authentic changes of viscosity of a blood, indexes of aggregation and deformation of membranes of erythrocytes.

Attract attention indicators of viscosity of a blood at patients after a splenectomy. At these patients substantial increase of viscosity of a blood is registered at all rates of shift in comparison with comparison group,

and rising of indicators of viscosity of a blood is noted at 28 (80%) the surveyed. At the same time at 7 persons (20%) results of researches corresponded to the indicators received at persons in group of the control. Besides, after a splenectomy observed augmentation of an index of aggregation of erythrocytes and an index of deformation of erythrocytes ($p < 0,05$). Undoubtedly, change of these indicators has led to development of disturbances of microcirculation which were clinically shown by development of vegeto-vascular disturbances (a headache, giddiness, rising of arterial pressure, a pain in the field of heart). Such complications are taped at 18 (31,5%) surveyed in the remote postoperative period.

Thus, the research carried out by us has shown that

at the patients who have transferred organ saving operations on a lien, it does not become perceptible disturbances of rheologic properties of a blood. While after a splenectomy added autolientransplantation, in the remote period some changes in these indicators are noted. At patients after a splenectomy of change of indicators of viscosity of a blood are most expressed.

Conclusion. Changes of rheologic properties of a blood in the remote postoperative period, shown by rising of viscosity of a blood at all rates of shift, are noted in 80% of cases after a splenectomy, in 45% — after autolientransplantation and in 0,8% — after organ saving operations.

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The prevalence of secondary diseases of the HIV patients in the Omsk region: cross — sectional study

Abstract: The prevalence of secondary diseases of the HIV — infected patients who were under observation in medical organizations of Omsk region in 2013 has been studied. 16, 8% of HIV-infected patients had a wide spectrum of secondary diseases, mainly infectious etiology. In the structure of secondary infections the leading position was occupied by tuberculosis (32, 3%), candidiasis (24,4%), bacterial diseases (23,7%). The average risk of tuberculosis diseases is 24 cases for 1000 HIV-infected patients.

Key words: HIV-infection, tuberculosis, tb hiv co-infection, HIV secondary diseases, population surveillance, Omsk region.

According to the statistics of the World Health Organization the region of Eastern Europe and Central Asia are characterized by the highest rate of increase of the HIV epidemic in the world and by the significant rate of deaths because of AIDS. [1, 4–5]. Over a period from 2001 to 2012 the quantity of people having HIV in the countries of region has increased to 860 thousand and it was 1,4 million people [2, 9–10].

With decreasing immunity in HIV-infected patients begin to develop secondary disease. In the countries where the population is infected with mycobacterium tuberculosis, the basic secondary disease is tuberculosis [3, 202–203].

Like the majority of Siberian regions Omsk region has been characterized by a high level of the prevalence, incidence and mortality from tuberculosis infection for many years and also a tendency to increase the incidence of HIV- infection.

The aim of this research was to study the prevalence of secondary diseases of the HIV- infected patients and assessment of average risk of tuberculosis of the HIV-infected patients.

Materials and methods: the research was set on the territory of Omsk region of the Russian Federation. The

material of this research is based on the data of the federal state statistical observation «The information about the contingent of the HIV-infected patients» (F.№ 61), «The information about the TB patients» (F.№ 33) for 2013 year. The cross-sectional epidemiological study was set. The objects of the research were 4405 HIV- infected patients, who were under regular medical check-up in medical organizations of Omsk region qualifying date 1 January 2014 year. The observational descriptive methods of the epidemiological study were used in this work. The statistical data manipulation was carried out with the use of resources of Microsoft Excel.

Results and discussions: At the beginning of 2014 there were registered 7657 cases of HIV-infection among the population of Omsk region. The prevalence of HIV- infection among the population of the region was 387,4 per 100 thousand population. At the time of the study, HIV- infection was amazed 0,38% of the population of Omsk region, which corresponded to the concentrated stage of the epidemic.

There were 4405 HIV- infected patients under check-up and among them people over 18 years were 98,4%, were males — 60,2%, urban residents — 73,5% (table 1).

Table 1. – Medical-demographic characteristics of the HIV-infected patients of Omsk region

Characteristics	N=4405 cases (abs)	%
Age		
0–7	47	1,06
8–14	6	0,18
15–17	16	0,36
18 and older	4336	98,4
Sex		
males	2653	60,2
females	1752	39,8
Place of living		
urban	3240	73,5
rural areas	1165	26,5
The clinical phase of HIV-infection disease		
The phase of primary symptoms	800	18,1
Subclinical phase	2890	65,6
The phase of secondary diseases	709	16,1
Terminal phase	4	0,09
Phase not determined	2	0,04

The analysis of the distribution of the number of patients with HIV infection according to the degree of the disease progression showed, that 18,1% patients (n=800) has been the phase of primary symptoms, among them 37,1% (n=297) cases had an

acute disease and 17,7% (n=142) had the secondary diseases in that period. Asymptomatic disease course in the phase of primary symptoms (2A) was recognized in 45,1% cases (n=361). The subclinical phase of the HIV-infection, which is characterized by

a slow progression of immunodeficiency and by an excessive producing of the CD4+ lymphocytes had 65,6% (n=2890) cases.

On the stage of secondary diseases was diagnosed with 16,1% HIV-infected patients (n=709) among them: 4A stage with 80,95% (n=574), 4B with 15,2%

(n=108), 4V with 3,8% (n=27). The terminal phase was found in 0,04% cases (n=4).

Latest stage diseases (4B, 4V, 5), which are characterized by severe immunodeficiency, development on the background of secondary diseases, had with 3,1% of HIV-infected patients (n=139).

Table 2. – Secondary disease in patients with HIV infection

The name of the diseases	The code number according to the ICD-10	Abs.	%
Total	B 20-B 22	744	100
Mycobacterial infection (tuberculosis)	B 20	241	32,3
Other bacterial infections	B 20.1	177	23,7
Cytomegalovirus infection	B 20.2	8	1,07
Other viral infections	B 20.3	92	12,3
Candidiasis	B 20.4	182	24,4
Other mycosis	B 20.5	22	2,95
The deployment of other infectious and parasitis infections	B 20.6, B 20.8	4	0,53
Plural infections	B 20.7	100	0,13
Malignant neoplasms, including:	B 21	17	2,28
- Kaposi's sarcoma	B21.0	1	
- Non-hodgkin's lymphoma	B 21.2	4	

For early detection of secondary diseases were examined to 82,9% of HIV-infected patients (n=3656).

Among secondary diseases in HIV-infected patients 97,5% (n=726) cases was infectious and parasitic diseases. Malignant neoplasms was 2,28% (n=17) of cases (table 2).

The study of the structure of secondary infectious diseases showed that the leading position occupied mycobacterial infection (tuberculosis) 32,3% (n=241), candidiasis — 24,4% (n=182), bacterial infections — 23,7% (n=177) cases.

Tuberculosis deserves special attention among comorbidities in HIV-infected patients. Tuberculosis is characterized by the potential severity of disease, rapid progression and the need to use long specific antituberculosis therapy. In the structure of causes of death of HIV-infected percentage of tuberculosis is 19,2% of cases.

On the background of the increasing incidence of HIV infection in the Omsk region and the high prevalence of tuberculosis among the population there is a high risk of the occurrence of comorbidity.

The epidemic process of tuberculosis, co-infected with HIV in Omsk region for the period of 2004–2013 years had a marked tendency for the growth of morbidity having an average accession rate 14,7%. Co-infection of tuberculosis and HIV infection was among 253 patients, including 41,8% (106 cases) new cases detected in 2013.

In a cohort of HIV-infected individuals the prevalence of tuberculosis infection has reached

57,4 per 1000 population, which is 28 times higher than the prevalence of tuberculosis in the population of Omsk region. An average risk to get tuberculosis for the HIV- infected patients was 24 cases for 1000 HIV-infected, whereas the risk to get tuberculosis in the general population of Omsk region was 0,98 cases for 1000 population.

Tuberculosis of the HIV-infection people was set with the help of different screening methods. The largest share was accounted for by radiation methods — of 99,1% cases (n=3251), the method of microscopy was 9,1% (n=299), bacteriological method was 7,7% cases (n=255). The index of detectability of tuberculosis among the HIV- infection cohort was 29,8 for 1000 examined.

Chemo-prophylaxis of tuberculosis had got 177 HIV-infected patients that was 24,9% of the quantity of sick people who were in the phase of secondary diseases. Antiretroviral therapy was appointed to 641 HIV-infected patients that was 14,5% of the general quantity of individuals who were under medical control.

The pervasiveness of the viral hepatitis B and C was 316,2 for 1000 examined and besides in most cases the viral hepatitis C — 98,1% (n=2278) is registered. The viral hepatitis B was diagnosed less often that is probably connected with the vaccination and comparatively lower potential for chronization this infection.

The prevalence of the sexually-transmitted infections among the HIV-infected patients was 20,7 for

1000 examined (n=152). The largest share among them occupied trichomoniasis (30,2%), chlamydia infection (21,0%) and genital herpes (29,6% cases).

Conclusions:

1. The HIV-infection epidemic in Omsk region was characterized by a further development and growth of the advanced stages of disease.

2. 16,8% HIV-infected patients was a wide range of secondary diseases, predominantly infectious etiology.

3. In the structure of secondary infections the leading role took place tuberculosis (32,3%), candidiasis (24,4%), bacterial infections (23,7%). The average risk of getting tuberculosis was 24 cases for 1000 HIV- infected patients.

4. The received results show the necessity of optimization of the approaches to the organization of the early diagnostics and prevention of secondary disease of the HIV- infected patients.

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The value of vascular endothelial growth factor in the diagnosis of cardiohaemodynamics disorders in children with asthma

Abstract: The authors found that the increasing of VEGF concentration in the serum of children with asthma is a poor prognostic factor, indicating the activation of neoangiogenesis processes and the formation of pulmonary hypertension.

Keywords: asthma, children, vascular endothelial growth factor, cardiohaemodynamics disorders

Introduction. Asthma is one of the most common childhood diseases, often leading to the formation of pulmonary hypertension (PH), the development of «pulmonary» heart and patients disability [1]. The formation of PH in patients with chronic lung disease is always associated with structural changes of the vascular bed — with remodeling of the pulmonary vessels being characterized by a medial layer proliferation, migration

and proliferation of smooth muscle cells into the intima, fibroelastosis of intima and thickening of the adventitia [2, 3]. However, remodeling of pulmonary arteries occurs not only in the advanced stages of the disease but also in the early stages of pathology development. Vascular endothelial growth factor (VEGF) may be one of the most informative factors reflecting the initial micro-circulation changes [4].

VEGF was first identified by Napoleon Ferrara in 1989 and the gene which is responsible for this protein synthesis has been recently discovered [5]. Interacting with two close on a structure membrane tirozine kinase receptors (VEGF-1 and VEGF-2) VEGF activates them and starts a signal cascade of processes that stimulate the growth and proliferation of endothelial cells. The lack of oxygen resulting from emerging respiratory failure is the main stimulus for angiogenesis activation during the asthma exacerbation. Hypoxia contributes to the accumulation of a number of transcription factors — HIF (HIF-1 α and HIF-1 β). These factors penetrate into the cell nucleus, contact the appropriate HIF — responsible site and change the many genes transcription including VEGF-genes [6].

Thus, the determination of VEGF level allows diagnosing the changes in the microcirculation of the bronchopulmonary system in the early stages and, therefore, enables to correct the therapy and prevent cardiovascular system complications in patients with asthma in later life.

Objective: to evaluate the significance of VEGF contribution in the genesis of pulmonary hypertension in children with asthma.

Materials and Methods: to achieve this goal 30 children with asthma were studied. Diagnosis verification was performed in accordance with GINA (2011) [7]. Patients were examined in the exacerbation period. The mean age was $12,2 \pm 3,5$ years. Boys predominated among the patients — 20 (66.67%), girls — 10 (33.33%). The control group consisted of 30 children, matched by sex and age.

All the patients were carried out the complex clinical and laboratory examination including history taking and complaints, shared clinical and biochemical blood tests, determination of total Ig E, partial oxygen tension, chest radiography, peak flow monitoring, spirometry, electrocardiography and echocardiography. Cardiac ultrasound was performed on the scanner VIVID-3, General Electric, USA, using a transthoracic array sensor 3.5 MHz in the patient lying on his back or on the left side by the standard method [8]. Assessment of ventricular diastolic function was performed at a frequency of sinus rhythm, allowing them to identify two peaks motion valve leaflets. Control volume (PW) was placed consistently on all levels of the mitral and tricuspid valves in the apical four-chamber position by measuring the following parameters: early diastolic inflow velocity (E), late diastolic inflow velocity (A), an E/A ratio, deceleration time of early diastolic filling (DT), isovolumetric relaxation time (IWRT). We used M-mode recording and doppler

examination. Doppler examination and color flow imaging have provided reliable assessment of cardiac hemodynamics and blood flow.

On admission all children were performed blood sampling for determination of VEGF levels in the serum by the method of immune-enzyme analysis.

Statistical processing of the investigation findings were carried out with the help of a set of application programs «Microsoft Office 2000 Pro» for Windows OSR 2 on a computer PC Intel Pentium- 166 (Microsoft Office 97 Professional, 1997). Computer program «STATISTICA 6.0» was used for statistical analysis. The analysis included the determination of mean arithmetic values of the correlation coefficients. Differences reliability between the groups in average arithmetic values, as well as the accuracy of correlation coefficient were determined by Student's -t. The result in $t > 2$, in which $p < 0.05$ was reliable.

Results. Our studies showed that the VEGF concentration in the serum of patients with asthma ($60,86 \pm 17,45$ pg/ml) was significantly higher than the average values determined in healthy children ($27,84 \pm 14,86$ pg/ml). And the value of VEGF ($r = -0,32$) was lower if the disease manifested in older age. Perhaps it is due to the fact that processes of angiogenesis are the most active at early age and they slow down with time.

A comprehensive study of morphometric parameters of cardiovascular system (the diameter of the aorta, left atrium, right atrium, interventricular septum, end-diastolic dimension, left ventricle posterior wall, end-systolic dimension, the diameter of the pulmonary artery) in the examined patients failed to reveal the significant differences of morphometric parameters both in patients with asthma and children of control group ($p > 0,05$). It confirms the data on later development of morphological myocardium changes forming in patients with chronic bronchopulmonary pathology.

In estimating cardiohemodynamic parameters characterizing blood movement in the pulmonary circulation

It was established that pressure indicators on pulmonary artery (PA) in patients with asthma had no significant differences from the indicators in children of control group and their mean values were $6,246 \pm 2,95$ mm Hg. (Table. 2) while estimating cardiohemodynamic parameters characterizing blood movement in the pulmonary circulation. However, the value of this indicator in children of control group were significantly lower ($3,01 \pm 0,12$ mm Hg). At the same time in 20% of patients with asthma velocity value of maximal blood flow to PA were above normal. It has a pathogenetic substantiation: in pa-

tients with bronchial obstruction in the hypoaerated sites of lungs hypoxic vasoconstriction occurs, which leads to the increase of the resistance in pulmonary vessels.

The analysis of received findings showed the velocity increase of late diastole stream to tricuspid valve in patients with asthma (tricuspid inflow $A=0,59\pm0,02\text{m/s}$), as compared with control group (tricuspid inflow $A=0,49\pm0,02\text{m/s}$) [$r=0,001$]. Indicating the significant rise of loading on the right ventricle during the acute period of the disease caused by the increase of pressure in the pulmonary circulation. Statistically significant value difference of tricuspid inflow to E/A in the examined children groups and in the control group ($p=0.001$) was also established. Among the studied patients tricuspid inflow coefficient E/A did not exceed 0.9 in 18 children (21.90%) in the period of asthma exacerbation, that indicates the formation of right ventricle diastolic dysfunction. The majority of them experienced either a severe dyspnea (46.0%) or an attack of moderate severity (23.0%). Hence, the increase of loading on myocardium in the development of bronchial obstruction is accompanied by the increase of pressure in RV, and consequently, by the increase of velocity values of blood flow in the pulmonary artery, indicating the formation of pulmonary hypertension.

Hypersthenea of pulmonary vessels is the main factor determining the development of pulmonary hypertension, hypoxia and activation of endogenous mechanisms with the releasing of significant amounts of biologically active substances. The proof of this is a significant increase of VEGF concentration in the serum of patients with high velocity values of blood flow to the pulmonary artery ($81,48 \pm 12,41\text{ pg/ml}$), which greatly exceeds the average data of patients without echocardiographic evidence of pulmonary hypertension ($55,71 \pm 19,40\text{ pg/ml}$). And the higher values of pressure on the PA are, the greater VEGF concentration in patients serum ($r = 0,73$) is.

It should be noted that the longer duration of the disease is, the greater of VEGF concentration in serum ($r = 0,29$) is. Perhaps this is due to the fact that the new ves-

sels of respiratory ways which were formed in the result of bronchial remodeling have instability that contributes to the increase of vascular permeability and, therefore, the progressing of edema and bronchoobstruction.

Thus, chronic hypoxia may lead to thickening of pulmonary arteries media, muscularization of precapillary pulmonary vessels, smooth muscle cell proliferation and fibroblasts adventitia and the increase of collagen and elastin content in the wall of pulmonary vessels as well. A progressing of changes indicated above contributes to the increasing of PH in patients with bronchial asthma.

Also the pressure findings on PA and the VEGF concentration in the serum of patients with bronchial asthma are strongly influenced by the severity of asthma: the more the number of exacerbations within a year occurred, the higher the values of this factor ($r = 0,53$) were. In turn, increase the number and size of blood vessels under the effect of VEGF contributes to the thickening of the airway wall, it resulting in the narrowing of the lumen, and therefore promotes the bronchial obstruction under the influence of minimal by force trigger factors.

This vicious circle can only be broken by correctly selected basic therapy that contributes to the reducing of inflammatory reactions in the bronchi, and also the decreasing the number of exacerbations. In the present study it was found that the longer the basic therapy was, the lower findings of pressure to PA and VEGF concentration were and, consequently the lower probability of pulmonary hypertension development in future would be.

Conclusion. The increasing of VEGF concentration in the serum of children with asthma is a poor prognostic factor pointing to the activation of «angiogenesis» mechanisms which predispose not only to the development of pulmonary hypertension in patients, but to the recurrence of bronchial obstruction processes. The detection of increased values of this biomarker in the serum of children with asthma allows to optimize the therapy and prevent the deterioration of patients' conditions and the development of serious complications in the cardiovascular system in the future.

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Quality of life of children with diabetes mellitus associated with iron deficiency anemia

Abstract: On the basis of studies found the impact of anemia on the course of diabetes in children and adolescents is characterized by increased appearance of symptoms of the disease decompensation, decreased physical abilities, intellectual and psychosocial functions of patients.

Key words: diabetes, iron deficiency anemia, quality of life, children and adolescents

Topicality. Diabetes mellitus (DM) is the most widely spread endocrine disease which is recently called world non-infectious epidemics: it is supposed that the number of DM patients will exceed 300 million to 2025. It means that remote complications, appearing as a result of metabolic disorders caused by hyperglycemia, will also increase. It is well known that the duration and quality of DM patients' life is conditioned by the development and progress of the complications [2, 8–9; 4, 62–63]. Opposite to that, in the case of one-moment patients' examination in one of Australian diabetic clinics it was detected that 23% of them were diagnosed anemia according to WHO criteria [5, 1165–1667]. There are cogent data of the latest researches proving that anemia has unfavorable impact on the progress of

diabetic complications, it increases the risk of cardiovascular diseases and rise of lethality.

We found a lot of works dedicated to interrelation of anemia and diabetes mellitus in adults in scientific-research references. Though, that problem is not clarified in children yet, and the available works are inconsistent [3, 2–4]. Besides that, we didn't find works dedicated to the quality of children's life with diabetes mellitus complicated by anemia.

In relation with that, we consider it reasonable to study the effect of anemia on the progress and quality of life of children with pancreatic diabetes.

Materials and methods of the research: the research includes the results of examination of 72 children with the 1st type diabetes mellitus aged

from 5 to 18 years old sick and getting insulin therapy from one to ten years.

For the evaluation of anemia impact on the quality of life of children with diabetes mellitus the patients were divided to two groups: the first group ($n = 43$) included children with DM and anemia, and the second group ($n = 29$) — children with DM without anemia.

The evaluation of QL of sick children was performed using international standard inquirer PedsQL™: its common and diabetic modules. PedsQL™ (Pediatric QL inquirer) is one of the most popular inquirers in the world [1, 7].

That inquirer is meant for the study of QL of patients aged from 2 to 18 years old inclusive suffering DM. The mentioned instrument consists of 28 questions united in the following scales:

«Diabetes» (clinical manifestations of hypoglycemia, keto acidosis) — 11 questions;

«Therapy» (problem situations appearing due to the necessity of daily glycemia self-control, insulin therapy, complaints of painful feelings) — 11 questions;

«Anxiety» (the risk of acute and chronic diabetic complications development, worry about the efficiency of performed therapy) — 3 questions;

«Communication» (complications in patients communication with medical staff and surrounding people) — 3 questions.

The answers to the questions in both modules are presented in 5-point Likert's scales (horizontally located variants of answers to the questions, each of which correspond to certain number). The amount of points in the answer varies from 0 to 4 (0=never, 1=almost never, 2=sometimes, 3=often, 4=almost always). There are from three to five answers suggested for each question (dependently on the age of children).

The respondent can choose only one of the suggested answers. Each question is estimated according to the frequency of proposed situation appearance for “the last month”. The final results of each scale of the inquirer are presented in points from 0 to 100: the greater is the total value the better the quality of life is.

The results of the research: in manifestation period of DM all examined patients had prevailing typical symptoms of the disease such as thirst, polyuria and progressing loss of body weight.

The structure of DM 1st type complications among children the first place is occupied by diabetic neuropathy (79,2%), less percentage — nephropathy (5,6%), retinopathy (4,2%) and diabetic cataract (1,4%).

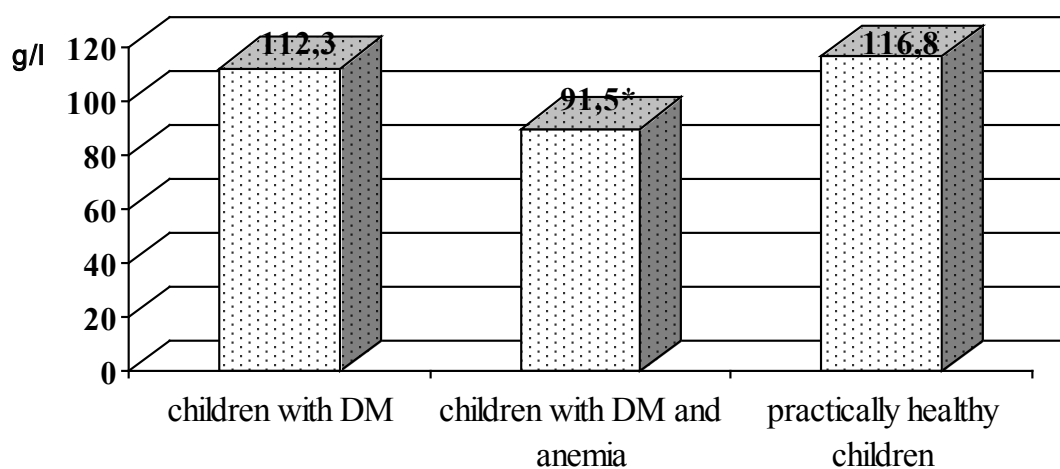
Specific weight of iron deficiency anemia (IDA) frequency among children with DM is 59,7%.

Several reasons were detected in the analysis of anemia development in children with pancreatic diabetes. Among these reasons there is inflammation, insufficient nutrition, accompanying autoimmune diseases, renal diseases, drugs and hormonal alterations.

According to the received data it was detected that anemia in children with DM increases the risk of unfavorable progress of diabetic retinopathy, nephropathy, neuropathy and cardiac-vascular complications.

Thus, the given group of children more often had registered cardiac-vascular diseases in comparison with DM patients without anemia (52,9% con 34,5% correspondingly), and it is evidently linked with the independent factor contributing disorder of the work of heart and blood vessels.

Children with DM associated with anemia have average HbA1c value $9,2 \pm 0,12\%$: 23,2% patients had the values of metabolic control corresponding to sub-compensation level, and 76,7% — de-compensation level.



* — reliability of the data in comparison with practically healthy children and children with DM ($P < 0,01$)

Figure 1. Concentration of hemoglobin in peripheral blood of children with DM

Children with DM without anemia had HbA1c average value $7,1 \pm 0,14\%$: 12 patients (41,4%) had sub-compensation state, 17 patients (58,6%) — carbohydrate exchange compensation state.

Study of hemoglobin level in children with DM with anemia showed that hemoglobin concentration in the patients of that group was much lower than that of the comparison group ($P < 0,01$) (fig. 1).

The given contingent of children had decrease of appetite, physical abilities, intellectual and mental functions because of the background anemia.

The analysis of the values of life quality was conducted in three age groups in compliance with methodic standards: from 5 to 7 years old inclusive, from 8 to 12 years old inclusive, from 13 to 18 years old inclusive.

The group of children with DM associated with anemia had prevailing patients aged 5–7 years old (44,2%), though in case of DM without anemia prevailing age group was 8–12 years old children (34,5%) and 13–18 years old (37,9%). Reliable decrease of the level of physical, emotional, social and psycho-social functioning, functioning in kindergarten and school (tab. 1) in all age groups was detected in the analysis of the values of life quality of children and adolescents with DM associated with anemia.

According to the data of diabetic module children of kindergarten and junior school age gave the lowest evaluation of “Diabetes” scale among patients of the 1st and 2nd groups, and the highest values in that age group were given to “Therapy” (unit 1) and “Anxiety” scales.

Table 1. – Comparative values of life quality of children and adolescents

Scales of inquirer	Estimation of age groups					
	5–7 years old		8–12 years old		13–18 years old	
	1 group	2 group	1 group	2 group	1 group	2 group
1. Common module						
Physical functioning	$69 \pm 1,2$	$80,5 \pm 1,4^*$	$72 \pm 1,1$	$92,5 \pm 0,5^*$	$72 \pm 0,9$	$94 \pm 0,8^*$
Emotional functioning	$68 \pm 1,1$	$74 \pm 0,9^*$	$77,5 \pm 1,1$	$82,5 \pm 1,2^*$	$80 \pm 1,3$	$90 \pm 1,1^*$
Social functioning	$75 \pm 1,2$	$79 \pm 0,9^*$	$82,5 \pm 1,2$	$95 \pm 1,2^*$	$90 \pm 0,8$	$95,5 \pm 0,9^*$
Functioning in kindergarten/school	–	–	$82,5 \pm 1,1$	$80 \pm 1,3$	$55 \pm 1,4$	$77,5 \pm 1,1^*$
Psycho-social functioning	$72 \pm 1,1$	$77 \pm 1,2^*$	$82,5 \pm 1,3$	$86 \pm 0,9^*$	$75 \pm 0,8$	$90,5 \pm 1,1^*$
Summary point	$71 \pm 1,0$	$78 \pm 1,2^*$	$81 \pm 1,1$	$89 \pm 0,9^*$	$74 \pm 1,3$	$89,5 \pm 0,9^*$
2. Diabetic module						
«Diabetes»	$63 \pm 1,2$	$64 \pm 1,3$	$59 \pm 1,2$	$86 \pm 1,2^*$	$64 \pm 1,1$	$79 \pm 1,3^*$
«Therapy» unit 1	$82 \pm 1,1$	$93 \pm 1,2^*$	$81 \pm 1,3$	$88 \pm 1,1^*$	$88 \pm 1,2$	$87 \pm 1,4$
«Therapy» unit 2	$86 \pm 1,3$	$85 \pm 1,2$	$64 \pm 1,4$	$100 \pm 0,8^*$	$89 \pm 1,1$	$93 \pm 0,9^*$
«Anxiety»	$80 \pm 1,4$	$84 \pm 1,1^*$	$75 \pm 0,9$	$67 \pm 0,9$	$58 \pm 1,6$	$87,5 \pm 1,3^*$
«Communication»	$69 \pm 1,2$	$67 \pm 1,3$	$75 \pm 1,2$	$83 \pm 1,2^*$	$100 \pm 0,9$	$100 \pm 0,6$

Note: * — reliability of the data between the groups ($P < 0,05–0,01$)

Initially at the debut of the disease all manipulations (self-control, glycemia values interpretation, count of bread units, insulin injection) of the patients of that age group are performed by their parents because of patients' young age. Though, as it was clarified in the process of individual interview, in future the situation does not change in most of the families. Children are more like detached onlookers and not active participants of the process. That's why most of the situations immediately linked with the process of pancreatic diabetes therapy are not considered to be problematic for them, except periodically appearing painful feelings relevant to insulin injection and/or taking blood samples for self-control of glycemia.

Because of young age these patients do not worry about diabetic complications and are not afraid of the

aforesaid complications, and it is reflected in the evaluation in “Anxiety” scale.

Respondents of the middle age group considered the situations linked with self-control and insulin injection less problematic and painful in comparison with younger children, and that can be conditioned by the adaptation to own disease, rise of pain sensitivity threshold with proceeding of DM.

Different from younger children, significant part of the respondents in the age of 11–15 are ashamed of their disease. Because of the same reason most of them avoid questions about their disease in communication with other people.

The wish of being similar to children of the same age is a distinctive feature of children at that stage of personality

development, and often it becomes the reason of deviation of therapy curriculum, leading in its turn to appearance of several conflict situations in relations with parents. That is proved by estimation in the "Therapy" (unit 2) scale.

In the analysis of the received data we pay attention to the fact that all three age groups estimated "Diabetes" scale, reflecting disease de-compensation symptoms, very low, proving labile progress of DM in overwhelming majority of inquired respondents. Though adolescents and children of senior school age are more concerned about the symptoms characteristic for hypoglycemic states (shivering, headache, hunger), while kindergarten age children, on the opposite, more often subjectively feel manifestations of hyperglycemia (thirst, often urination, rise of appetite).

The respondents of the senior group (mostly girls) differ from the other patients by the high degree of anxiety about developing and progressing of chronic diabetic complications reflected in extremely low estimation in the "Anxiety" scale. Among the patients with DM 1st type the worry about future characteristic for all teenagers [6, 63]

is additionally aggravated by the awareness of their disease as a new category of existence, reality of invalidity and possible limitation of workability.

We would like to notice, that reliable low values in the evaluation of diabetic module were received from the children of the 1st group ($P < 0,05-0,01$).

Thus, anemia has negative impact not only on the clinical progress of DM, intensifying the development of the disease and its complications, but also life quality of these children and adolescents.

Conclusions

1. The impact of anemia on the progress of pancreatic diabetes in children and adolescents is characterized by the increase of disease de-compensation symptoms, decrease of physical abilities, intellectual and mental functions of the patients.

2. The negative effect of diabetes mellitus associated with anemia on the quality of life of children and adolescents is proved and it is related to the decrease of the level of physical, emotional, social and psycho-emotional functioning.

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Section 5. Pedagogy

Секция 5. Педагогика

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Potential of Russian extra-curricular education for children in a changing world

Abstract: The article interprets phenomenological characteristics of extra-curricular education for children and opportunities of using the potential of this educational sector in a changing world. The importance of a special psychologically comfortable atmosphere of creativity, success and respect for children, regardless of their age, health and material well-being, that is created in extra-curricular education and compensates the rigid framework of school education is emphasized.

Keywords: continuous education, formal education, informal education, extra-curricular education for children

Extra-curricular education is defined as «a kind of education that is aimed at comprehensive satisfaction of a man's needs in terms of intellectual, spiritual and moral, physical and (or) professional improvement and accompanied with the enhancement of education level» [6]. This is how they characterize the sphere of «informal» (according to UNESCO terminology) education related to the individual development of a man in culture, the direction of which is chosen by them independently in accordance with their interests, desires and needs. It is obvious that informal education, the foreign analogue of extra-curricular education, is defined as an organized educational activity beyond the formal system.

In accordance with the 36th Resolution of the session of the UNESCO General Conference (Paris, 2011), informal education is the education, which is institutionalized, goal-oriented and planned by a person or an organization that provides educational services; is additional or alternative to formal education during the entire life of a man, gives an opportunity to involve different social groups (including those that require special approach and attention) in the educational process and different age categories (from school children and youngsters to elder people); ensures overall right of access to education for people of any age but it doesn't necessarily have a continuous structure;

can have a short duration and be timesaving in terms of intensity (short-period courses, master-classes and seminars).

Such foreign experience is quite interesting, diverse and multifaceted, deserves serious attention and requires a detailed study, because it consists of the best samples reflecting human and democratic tendencies of development of world educational systems.

The main difference of the Russian phenomenon from foreign practices of informal education lies in the fact that in the presence of all characteristics of informal education, its nucleus is the process of state-regulated learning of additional educational programs at state educational institutions of all types [1, p.73]. Consequently, extra-curricular education for children combines hardly compatible properties and features, which is «informal formalized education».

Russia is one of few countries, where, in spite of objective difficulties, state financing of organizations of extra-curricular education for children is conducted. Hardly anywhere in the world there analogue systems of extra-school activity for children and teenagers in terms of scale, which are financed from budget funds despite the fact that unlike pre-school and general education, there are no guarantees of general accessibility and free of charge base of this type of education confirmed the legislation.

State sector of extra-curricular education for children in Russia is unique: 10,9 million children or 49,1% of children aged from 5 to 18 use these services at the moment, and by 2020 it is planned to cover 70–75% of same age children with extra-curricular programs [5]. The opportunity for children to obtain extra-curricular education is ensured by organizations, subordinate governing bodies in the sphere of education, culture, sports and social protection [3, p.126].

As for the place in the system of education, it is the entire sphere of educational activity, which is beyond the federal state educational standard including those areas of culture and science that are not present in school programs [2, p.7–9]. Due to that, extra-curricular education is built up in the structure of any activity in which a child is involved, creates opportunities for transition of a personality from one level of education to another; it can precede standardized types of activity and follow them as well as go in parallel.

Modern extra-curricular education is not just an element of existing system of general education, but an independent source of education contributing to the achievement of key competences in different spheres of life self-determination of a child. Its purpose is to strengthen the motivation of a personality with regard to learning and creativity and provide «trials» in different kinds of activity: game, communication, sports, art, science and engineering (i. e. learning at practical, instrumental level). The result of these «trials» shall be self-determination of a personality in two main areas — the professional area and the area of future free time.

Extra-curricular education for children forms the space of self-determination (self-learning, self-identification, self-development) of a child in emotionally comfortable conditions: positive and constructive style of attitude towards children independent from their abilities, physical, mental, material and other resources; at certain moment, it predetermines an open prospect of free choice of an appropriate form of free time for every child in accordance with their needs, which presupposes [1, p.93]: recognition of a child as an equal subject of activity, respect towards the opinion of students and orientation to obtaining new knowledge by a teacher related to it; «nonintrusive» (accidental) involvement in communication with the purpose of understanding the child's problems and definition of what they can accept; invitation to participate in mass events based on difficulty built educational programs reflecting their typology (concerts, celebrations, exhibitions, competitions, presentation of projects,

demonstration of the results of learning of educational programs); learning of education programs of different difficulty levels; inclusion in project and research activity, productive activity allowing execution of the results of intellectual property; orientation to satisfaction of different needs of the students taking into account their social and personal peculiarities and abilities; creation of special psychological and pedagogical conditions: comfortable, friendly environment that reduces and removes negativity and offers new starts; ideological freedom (right to express opinion, hear the position of others and reflect their position); a chance to be included in the activity of an institution at different stages unrelated to the time frames of an academic year.

Attention of the Government of the Russian Federation paid to extra-curricular education for children in the recent years gives confidence that this system has a new stage related to the elaboration of conceptual fundamentals and normative base that form value principles and requirements to organization and performance of the activity on additional general educational programs. In the logic of such statement tasks of the improvement of extra-curricular education for children from theoretical and practical points gain special importance:

- renewal of its content, forms and technologies on the basis of organization of effective inter-departmental and intra-departmental interaction and in accordance with the interests of children, needs of the society and family;
- activation of the processes of integration of general and extra-curricular education with the purpose of creation of a unified educational space and provision of new quality of education;
- development of social partnership, including with business structures, designs of mechanisms of their participation in the provision of educational services;
- modernization of competitive educational environment at the expense of creation of new types of educational organizations that have developed infrastructure and are oriented to realization of complex programs;
- provision of a wide range of educational services as a space of opportunities and choice of own path of development;
- reformation of the system of development of staff potential of the sphere of extra-curricular education.

Moreover, there is a trace of a strive for informatization of the sphere of extra-curricular education, detection of the results of operation of the institutions, creation of information systems or application registration of

students, data bases and electronic banks of development of extra-curricular education. A noticeable path is the improvement of resource provision of extra-curricular education (development of programs and technologies, equipment with media technologies, advancement of the staff of the system of extra-curricular education) [4, p.86].

Summarizing the above said, it should be emphasized that the solution of tasks objectively

set before the Russian extra-curricular education for children requires cooperation of resources at intra-departmental and inter-departmental levels, attraction of highly qualified specialists from different areas of science, culture, sports, update of program field and material and technical base in accordance with constantly changing needs of the population and innovative economy of Russia.

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Pedagogical conditions of quality assurance for preschool education by realization of federal state requirements

Abstract: In this paper the regional experience of year long preschool educational institution offers to children who don't visit educational facilities. The main purpose of Russian educational system's reformation is quality assurance of study that meets the requirements of innovation development country, the personal needs and society. The important condition of this quality assurance becomes the guaranteeing of education's continuity.

Keywords: preschool education, education quality, short-term groups, competence, complex comprehensive program.

In present-day world preschool childhood is a special national resource that allowed to solve complex social and economical problems of state development.

There are many stages of human progress. But what age is the most difficult and vulnerable? Many scientists and pedagogues-practitioners consider that transition period from preschool to school time is the most important and complex.

Therefore the government and society should support children of this period. However, more than 50% Russian children of preschool age are out of public preschool education. It means that this transition period for big quantity of children becomes difficult and hard.

Today the most important priority of education in Russia is quality assurance of education and also preschool education. The certain conditions should be

created in order to achieve efficiency. The first-priority condition is supply of continuity.

There are several problems of modern preschool education that are connected with objective and subjective reasons. These reasons don't allow the succession and continuity of two educational stages. The main reasons are;

- °shortage of preschool educational institutions. Therefore the big quantity of children become out of preschool preparing system;

- °insufficient quantity of skilled specialists in the preschool institutions that can carry out the qualitative preparation for children to school and use the traditional and innovation programs;

- increase of children who have development deviation;

- lack of correction and pedagogical assistance to children with special needs;

- insufficient quantity of year long preschool educational program for the short-term groups by comprehensive schools.

Let's discuss the problem how in modern conditions we can solve the tasks of education continuity?

The active usage of other types of educational facilities can compensate lack of preschool educational institutions. For example, centers of child development, short-term groups by comprehensive schools, child centers of gaming support. The main condition is creation the appropriate study and material foundation, subject and developed environment, playing place in these institutions

We offer to examine the analysis of activity of short-term groups by Chekhov Gymnasium in Taganrog that are functional within the framework of region Centre of pedagogical preparation by the program of preschool education "Preschool child. Adaptation. Development". This example indicates that named problems could be solved.

This centre carries out the educational, educative, diagnostic, correction and development functions.

Now the parents take an interest in qualitative preschool education of children. We can see that 76% of children, who visit the centre, live in different residential district and also in countryside.

In order to create the conditions of successful realization of educational continuity it is necessary to answer two questions:

- Who is a teacher?

- How the children are taught?

There differs in the system of preschool education should be carried out on conditions that pedagogues

are ready to work with 5–6-year-old children subject to their opportunities and needs. Due quality of preschool education can be provided by leading preparation of pedagogues to new kind of activity.

However it appears pointed problem of personnel assurance of preschool education. The cause of this problem is absence of necessary pedagogical education. We can see the tendency that in the short-term groups by comprehensive school come pedagogues without special education. This fact impedes the rise of quality of preschool education.

For analysis of modern situation of preschool education were conducted several researches, such as opinion poll of parents of 1st year pupils of five schools in Taganrog, diagnostics of readiness level of 1st year pupils to study, analysis of preschool children's workbooks that studied in the short-term groups by comprehensive schools. There data show that:

- in the most cases in the short-term groups by comprehensive schools there is duplication of education programs of first class with dominance of school kind studying;

- absence of constant pedagogical staff in preschool groups (usually the teachers work in these groups and then take children to 1st class.). This tendency doesn't allow pedagogues getting the high professional competence;

- by preparation of preschool children to study at school the attention of pedagogues and parents directs to knowledge preparation, forming of especial studying skills and actions. It may adversely affect on physical and mental feels of children;

- the school pedagogues fell the lack of understanding and unacceptance of gaming and spontaneous behavior patterns. These behavior patterns for 6–7-year –old children prevail over other activities.

In order to solve the tasks of succession and continuity between two educational stages the pedagogue should have necessary technological skills. These skills allow the preschool child to become full and interested member of all kinds of activity. The pedagogue who works in preschool institution should have sound knowledge in the psychology of preschool child, can sort in modern educational concepts, have the new technologies of gaming, creative, cognitive children's activity, the methods of development of preschool child motivational sphere, can create the cooperation relations between children and their parents.

Therefore in our Centre we take the next steps:

1 part:

— constant qualification rise of pedagogues (2/3 pedagogical staff along with basic pedagogical education got second higher education: psychological, logopedic etc. Also all employees pass the preschool education's extension courses.);

— study and preparation of pedagogues by program "Preschool child. Adaptation. Development" that work in preschool institutions. In 2011–2012 32 pedagogues and 11 students of Taganrog State Pedagogical Institute named after A. P. Chekhov studied at special courses;

— holding of seminars, round tables, conferences in order to discussing of actual questions of development, upbringing and study children, that are out of preschool education.

— holding of individual and group consultation;

— conducting of master-classes;

— attraction of volunteers from students of Pedagogical Institute for work in the short-term groups;
2 part:

— systematic educational and preventive work with parents;

Every parent wants to see their child happy now and in future. The happy child is physically healthy, mentally and aesthetically developed child who have different practical skills that can help in future life, achieve success, be loved. But parents of children who don't visit kindergartens quickly forget one important personal quality. It is an ability that helps to build positive interrelations with world around. This ability consists of skill of understanding other people, their feelings, moods, personal children's feelings, skill of control their emotions, express them so that others understand them correctly and using social right forms.

We understand that different skills, mental new formations, specific psychological skills of child don't appear of its own accord. They appear if the special environment and the special system of child's relationship are created. All of these form wish, need and intellectual readiness. They are needed by child in connection with systems of relation with world, other people, him/herself that these qualities or processes get value.

If in proper time the conditions weren't created in which preschool child could develop special qualities, the different problems at study, in communication, psychological development appear when children become pupils.

We offer the efficient relationship system of cooperation with parents and pedagogues. This system consists of individual and group consultations, seminars, parents' meetings, meetings with specialist, information

about upbringing and development children, parent's stand, workbooks, child-parent's lessons.

The important condition of preschool education's efficiency is trust, mutual understanding, structural cooperation with parents. All information that children study in attendance should be repeated at home. It is possible in conditions of only close cooperation between parents and pedagogues. The social effect of our Centre is the change of parent's role. They stop to be observers and to become active helpers.

The next question is "How the children are taught?"

In the judgment of the specialists the special program of upbringing and study is necessary to children who don't visit preschool educational institutions. This program should provide the base of children development and give the opportunity of usage of different, varied pedagogical technologies.

The federal state requirements (preschool education) and federal state educational standard (primary education) are the single theoretical and methodological base — system and action approach that considers:

— upbringing and development of personal qualities that are competent to requirements of information society, innovation economy;

— forming of readiness to self-development and continuous education;

— active study and cognitive activity of pupils;

— creation of educational process subject to individual, age, psychological and physiological features of pupils.

Thereby the goal of preschool preparation is creation of preconditions for smooth step to development of metasubject, subject and personal results.

We conducted the research in which the teachers of primary classes in Rostov region took part (in 2011–326 people, in 2012–268 people). The results of this research are the children who don't visit preschool educational institutions feel considerable difficulties of adaptation to study at school. The respondents (in 2011–85%, in 2012–89%) pointed that children, who visit preschool educational institutions and school of early development and children, who don't visit preschool educational institutions, they enter differently in new social situation such as entrance in the 1st class. It depends on differs of preschool time.

In 2011 the 78% and in 2012 82% of questioned people pointed that because of lack of communication with "strange" people, unsystematic acquisition of knowledge and insight about around world children who don't visit preschool educational institutions can't use their potential opportunities.

The most quantity of respondents note that children, who visit preschool educational institutions and children who don't, come with different levels of social, personal and intellectual preparation to the end of adaptation time (end of 1st term — beginning of 2^d term).

The following features are typical for children who don't visit preschool educational institutions: the low social status, low self-appraisal, higher uneasiness. At the primary school children who have these abnormalities should spend large number of strength, energy, physical and emotional health for creation of relations with coeval and adults, forming of appropriate self-appraisal etc.

The poll of teachers in primary classes and longstanding psychological and pedagogical monitoring that is conducted at the 1st class show that there are three main groups of "domestic" children's difficulties:

1. Inability of communication;
2. Unequal (low or too high) self-appraisal;
3. Emotional trouble, instability of emotional sphere.

Many children who don't visit preschool educational institutions haven't experience of communication because they spend much time with the same adult. Often TV programs and computer games substitute communication. As a result of this the damage causes to social, personal and emotional development. Inability of communication for children who don't visit preschool educational institutions is a 1st group of possible school difficulties.

Incongruity self-appraisal is a next group of difficulties that prevent to the forming of child's readiness to school. The researches of M. M. Bezrukih and longstanding experience of work in the short-term groups show that normal self-appraisal is a rarity among modern children [1].

On the one hand, it connects with impossibility for children have a wide communication with same age children (the lack of conditions for forming of self-appraisal in child group via gaming activity) and strange adults (the lack of conditions for right estimation of child's actions).

On the other hand, it connects with widespread approach to forming of preparation to school when stress

lay only on development of intellectual field. Now the pedagogues and psychologists consider that child's self-appraisal, his/her relation by him/herself and personal perception mainly define his/her school behavior and school results. Data of many researches show that bad school results, disinterestedness in study, low motivation and bad behavior ride from negative personal relation and low self-appraisal. The self-reliance contributes to success. Hence the special attention should be devoted to the forming of adequate self-appraisal when the teaching and educational process is formed for children who are out of preschool education.

The Emotional trouble is a third group of "domestic" children's difficulties. The emotional steadiness, emotional well-being of older preschool child is decrease of impulsive reactions, ability of overcoming the feeling of school anxiety, the special level of emotional steadiness.

The domestic scientists, psychologists, pedagogues (L. S. Visotskij, M. V. Korepanova, E. E. Kravcova etc) in their researches showed that often abnormalities of emotional sphere become more negative for study then abnormalities of cognitive process [2–4].

Therefore by the development of educational courses "Preschool child. Adaptation. Development" took into account risks that trouble the forming of child's readiness to school who don't visit preschool educational institutions.

The program "Preschool child. Adaptation. Development" is complex because the work on every lesson includes the developing exercises for child communication skills, child arbitrary regulation, development of emotional and upbringing sphere but by the obligatory usage of cognitive part. This program is used by pedagogues in the educational institutions in the 6 cities and in the 4 territories of Rostov region.

Therefore the actual problem for parents and schools can be solved using the new approach. This modern method carries out the development of complex social, intellectual, personal and physical qualities of child. The achievement of named conditions allows to provide the smooth and painless step of preschool child to the pupil.

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Leveling classes as a form of individualization of studies of pupils at primary school in Ukraine (the second half of the seventies — the eighties of the 20th century)

Abstract: The article deals with the attempt to analyse the work of the leveling classes as a form of the individual studies of the slow pupils from the primary classes in Ukraine in the second half of the seventies — the eighties of the 20th century taking into consideration actual questions of modern primary education. The author pays attention to the results of the long-term experimental research; they showed the appropriateness of the functioning of this educational form.

Keywords: leveling classes, differentiation, individualization of studies, primary education, junior pupils, experiment, educational failure, Ukraine.

Dynamic modern social processes in Ukraine influence reformation of the educational sphere, general high education in particular. Among the main trends of this process are differentiation of studies; providing of the individual educational way for pupils' development taking into account their personal needs, interests and abilities (these points are stressed in the National Strategy of the Educational Development in Ukraine for 2012–2021 years) [6]. At the same time the attention must be paid to those pupils who have problems with their studies because of different reasons. Especially it is very important to help such pupils when they are getting primary education, because this period is suitable for laying the foundation of the general educational and sociocultural competences which are necessary for further successful studies; also the desire and skills to study are formed.

Appropriately we can refer to the domestic historical pedagogical experience, to the period of the second half of the seventies — the eighties of the 20th century in particular, when active search, experiments and introduction of new forms of differentiation and individualization of studies of pupils at primary school (especially those who have problems with their studies) took place in Ukrainian Soviet Socialist Republic (USSR further). Leveling classes were among such forms.

A historiographic search has showed that different aspects of activity of leveling classes are described in Ukrainian and Russian scientists' works (M. V. Bohdanovych, Yu. Z. Hilbukh, H. F. Kumarina, N. F. Skrypchenko etc.). The problem of differentiation and individualization of studies in USSR at the mentioned chronological period is the subject of investigation of the Ukrainian historians of pedagogics (L. D. Berezivska, L. S. Bondar, T. V. Vozhe-

hova, N. M. Hupan, N. P. Dichek, O. V. Sukhomlynskyi etc.). The aim of this article is to reveal the peculiarities of the activity of the leveling classes as a form of the individual studies of the junior pupils who had problems with their studies in the second half of the seventies — the eighties of the 20th century in USSR.

We should mention that the first experimental classes of individual studies or leveling classes on the territory of the former Soviet Union were opened in Estonia SSR (1969). Their formation was caused by the fact that it was very difficult to organize individual work with pupils who had problems with their studies and development in the conditions of the ordinary classes. The pupils of the V–VII classes who lagged behind took part in the research. The results of the three-years experiment showed that only 50% of the pupils were able to cope with the knowledge gap and were not behind the program requirements. Consequently the Estonian scientists came to the conclusion that correction work with the slow pupils must be started at the primary school [2].

In July 1975 Ministry of Education board in USSR made a decision on the organization of the experimental inspection concerning the appropriateness to form the classes of knowledge leveling for the pupils of the II–III classes at the eight schools of Donetsk region [9, 25]. The group of scientists (experts in didactics, special methods, development, psychology, physiology, logopedics) from the research institutes of pedagogics and psychology in USSR (M. V. Bohdanovych, Yu. Z. Hilbukh, I. S. Diomina, A. P. Koval, V. V. Kumarin, H. F. Kumarina (scientific supervisor), N. F. Skrypchenko etc.) controlled the experiment. It gave the opportunity to study the effectiveness of the new form of the individual studies fully and in detail [5, 44].

We would like to analyse the peculiarities of the organization of the teaching and educational process of the leveling classes formed during the experiment. The leveling classes were formed for those pupils who lagged behind their studies. They had undergone medical and pedagogical examination beforehand and then were taken to the leveling classes by parents' approbation. Psychophysically deviated pupils were sent to the special educational institutions.

In order to put the individual studies into practice the number of the pupils was shortened half, there were only 18–20 pupils for a class. Only those professional and experienced teachers who had undergone the appropriate training worked with these slow pupils. Each leveling class had the extended-day group and it was possible for the teacher to give individual help to the pupils in time. The studies were put into practice according to the school plan and programs for the primary classes of the secondary schools. That is why the pupils of the leveling classes were taught simultaneously with the pupils of the ordinary classes. If a pupil had coped with his knowledge gap he was taken to the ordinary class and another pupil could be moved up into his place. Consequently the contingent of the class was not permanent [3, 32].

Research and analysis of the individual characteristics of the pupils taken to the leveling classes showed many typological problems: negative attitude to the studies and school in general; lack of self-confidence; undue fatiguability; low efficiency; undevelopment of educational interests; poor results [5, 45]. Therefore searching for the ways to cope with these problems became one of the main tendency of the experimental work for the teachers and scientists.

During the experiment it was established that the main factor concerning the effectiveness of the work of the leveling classes is rather uniform contingent of the class. It gave the opportunity to teach (using frontal work in particular) taking into account the tempo of learning typical for the particular group of pupils. Considering undue fatiguability of the pupils the lessons were planned in such a way that the period of the pupils' active attention was used in the most effective way. Thus the process of getting of new knowledge was carried out at the beginning of the lesson; the process of checking pupils' knowledge was not marked out as a separate grade level. Additional lessons being given during the individual work to the slow pupils from the ordinary classes were not used for the leveling classes. This form of the work caused the increase in the teaching load and as a result the pupils suffered from mental fatigue and

overwork, they felt bad and their attitude towards the studies was a negative one etc. We consider it positive that the slow process of getting of new knowledge was not compensated in an extensive way (by the increase of educational time) but in an intensive way (by the maximum using of educational time). H. F. Kumarina, the scientific supervisor of the experiment, mentioned that rather uniform contingent of the pupils created favourable conditions for the realization of the developing function of education. Moreover under conditions when the children had the same level of educational abilities they were not sensible of their inferiority and their development was not restrained [5, 45–46].

We should point out that one of the ways as for the solving the mentioned problems was changing the manner in checking the knowledge, abilities and skills of the slow pupils. Thus analyzing value judgement the teachers did not fix pupil's mistakes but they paid attention to the positive sides of his (her) activities. The teachers tried to accentuate every (even if it was not great) success of the pupil [5, 47]. As a result the mark was transformed from the "punishing instrument" into the instrument of motivation and stimulation of the educational activity.

Among positive moments we should mention the following: calm and friendly atmosphere; teacher is interested in the results of the pupils' studies; the teacher is trying to find out every pupils' latent abilities, to identify the positive personal qualities and to rely on them during the teaching and educational process; creating the feeling of success in studies. As we can see favourable conditions for the development of the positive motivation in studies and forming cognitive interests etc. were created within the leveling classes. We consider such changes as a move towards the humanization and child centrality of the teaching and educational process.

We should notice that during the initial experiment period the leveling classes were formed by means of the pupils of the II–III classes who were lagging behind. But the experience of the first year of the investigation showed that during the educational process the teachers had to give the new knowledge according to the program of the appropriate class and at the same time to cope with the pupils' educational gaps concerning the previous period; to re-teach and re-educate the pupils; to develop the wish to study and to go to school etc. That is why the teachers made the following conclusion: the priority task of the activities of the leveling classes must not be coping with the educational failures but prevention of this negative phenomenon. The members of the theoretical and practical conference taken place in June 1976 in

Donetsk (in a year after the beginning of the experiment) admitted it reasonable to open leveling classes starting from the first year of studies, not from the second one [4, 70–71]. It was surmised that forming separate classes of pupils with low abilities to study from the very beginning would help to avoid educational failures, “moral distress,.. emotional experiences connected with the realizing their own low educational abilities in comparison with the children of the same age cause it is the initial stage towards the dissatisfaction of oneself, of the school and studies” [5, 50]. This approach makes the teachers’ work easier: “there is no need to waste time and make efforts coping with the educational gaps of the pupils for the first class, to brake wrong stereotypes concerning the skills in the educational work,.. to overcome the negative attitude towards teaching and school in general, to re-educate pupils which is always more difficult...” [5, 50].

During four years of the experiment the scientists were gathering facts (tests data, psychological tests results, observation diaries, materials of parents’ questioning, journals with fixed conversations with teachers and pupils, direct observation over pupils) which gave the opportunity to make the conclusion about the effectiveness of the new form of studies. Thus 82% of the junior pupils from the leveling classes improved their marks. The research showed that the majority of the slow pupils could study the program of the primary school in the fixed three-years term of studies. The experiment showed that the organization of the leveling classes influenced positively not only pupils of these classes but facilitated successful studies of the pupils of the ordinary classes as well. The teachers of the ordinary classes noted that it was easy for them to work in the classes without slow pupils: they had the opportunity to teach effectively, to offer the pupils creative tasks, to solve difficult problems with the pupils, to develop pupils’ interests and abilities [4, 70].

Therefore the results of the first stage of the experiment (1975–1979) were positively judged by the Ministry of Education board in USSR (April 13, 1979). The decision to continue the research was passed and as a result the number of the leveling classes in Donetsk region was enlarged and new leveling classes were opened in all regional centers in USSR [10, 3]. Leveling classes’ work was regulated by the Statute of experimental educational leveling classes at the secondary schools in Ukrainian SSR (August 14, 1979). The main point of the document was the questions about forming of the leveling classes and organization of the teaching and educational process in them. The positive moment is the fact that the

main tasks of the leveling classes were not only coping with the educational failure of the young pupils but prevention of this negative phenomenon. So these classes were formed not only with the pupils of the II–III classes but the pupils of the first classes who lagged behind the children of the same age because of different reasons (temporary mental retardation, pedagogical neglect, physical weakness etc.). We also would like to accent that one of the main characteristics of teaching in the leveling classes was individualization of studies [7, 27].

We should mention that during the second stage of the experiment (1979–1982) the attention was paid to the finding out organizing and psychological and pedagogical conditions for the successful studies and development of the pupils of the I–III classes who lagged behind the children of the same age and studied at the leveling classes. As a result of the four-years research the following favourable conditions were ascertained: rather uniform contingent of the class, the opportunity to control school-hours, experienced and skilled teachers, diminution of the number of the pupils in the classes. It was accented that high results could be obtained when these conditions are simultaneously followed but not one after another or separately [1, 20–22]. At the same time some problems were not solved during the experiment: the methods concerning pupils’ selection to the leveling classes, effective teachers’ training, methodological support, the expedience of the transferring the pupils from the leveling classes to the ordinary classes etc. Moreover the increasing of the number of the leveling classes (there were 118 primary leveling classes where 2050 pupils were studding in 1982–1983 school year [11, 17]) arose the question of providing such schools with highly experienced teachers and speech therapists; the question concerning the forming of appropriate material and technical support for the teaching and educational process etc. [1, 25].

But the general results of the long-term research finally confirmed that the experiment in the leveling classes (started in the schools of Donetsk region and spread on the other regions of USSR) demonstrated its value in practice. Its results proved that if necessary it is appropriate to organize leveling classes at the secondary schools as an effective form of the individualization of studies and as a means of overcoming and prevention of the educational failure and lagging behind the studies and development of the pupils of the I–III classes [1, 26].

Since 1983 the results of the experiment were put into mass practice. Leveling classes were opened at many schools in USSR. Their functioning was deter-

mined by the Statute about leveling classes at the secondary schools in Ukrainian SSR (September 9, 1983); it gave detail information concerning the questions of the forming of such classes, organizing of the teaching and educational process and control after leveling classes [8].

Therefore studying and analysis of the peculiarities of the leveling classes in USSR in the second half of the seventies — the eighties of the 20th century (taking into consideration the actual problems of modern primary education) make it possible to draw the conclusion that this form is an effective one concerning prevention and overcoming of the educational and development failures of the junior pupils. The favourable conditions for education and development (diminution of the number of the pupils in the classes; highly experienced teachers; rather uniform contingent of the class; educational intensifica-

tion; paying attention to the educational progress; the existence of the extended-day group; positive emotional atmosphere etc.) help to individualize the work with the pupils, to carry out their educational and social rehabilitation.

It is very difficult to answer the question whether leveling classes are necessary nowadays. But we hold the opinion that differentiation of the educational conditions is more effective than the differentiation of the educational content at the primary classes where the children with different levels of training, skills and cognitive process development are taught. Based on the ethical principles we believe that if there are such classes at modern schools they must be renamed into the classes of the individual studies or classes of the heightened pedagogical attention etc.

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Basic guide of modern Russian education

Abstract: This article is devoted to the study of the problems of modern Russian education in the context of globalization of the world of education. The publication addresses the main guide of the modern Russian education. It presents an analysis of contemporary processes of globalization and their impact on the international scientific community.

Keywords: trend of globalization, informatization, information resources, transdisciplinary knowledge, phenomenology of setevizm.

At the present phase of development of society content and direction of changes in the Russian system of education directly related to the new resources of society, need to cause changes in the content, structure, management activity of the head of the modern educational institution, the system requirements for the individual manager of the new type. New rapidly changing society largely complicates management activities leader, which should be formed professional qualities of the person oriented global trends in education and providing him professional success. It is necessary a deep awareness of the characteristics of these trends of modern civilization.

The study of management problems in education shows that today more and more difficult to talk about the education system in any particular country, because undeniable are centripetal tendencies of global educational process, called *globalization* — one of the main problems of the modern world (U. Beck, A. Giddens, C. Lasch, F. Lecher, R. Robertson, L. Skler, G. Therborn, M. Waters, M. Featherstone et al.)

Prerequisites of contemporary globalization processes were: the information revolution, increased competition in the world, the population explosion, etc. As a result, it became significant for all countries in the world such realities as the growth of international trade and multinational corporations, international organizations and communications networks, as well as multiculturalism.

Study of the characteristics of globalization and its influence on the world international scientific community began to pay special attention to the second half of the XX-th century. Meanwhile, the study of the problems associated with the process of globalization, shows that they are not new. So G. Therborn attributes

to the top of the world becoming a global relates of the III — VII centuries AD [33], R. Robertson and M. Waters — the XV and XVI centuries [30]. The term “globalization” was first introduced to science as one of the conceptual terms J. McLean in 1981. In more detail this concept has been described by R. Robertson in 1980 [29]. It was the beginning of the emergence of fundamental research on globalization (A. Appadurai, M. Archer, G. Ianni, B. Turner, I. Wallerstein, M. Featherstone et al.)

Globalization processes associated first of all with changes in social interactions based on the dichotomy — “local/global”. So according to L. Skler, globalization creates a system of transnational practices “at this economy — multinational companies, at the policy level — the transnational capitalist class, on the level of ideology and culture — consumerism” [31]. By A. Giddens globalization is “the intensification of spreading worldwide social relations which link localities in this way that local events are formed on the many miles away and vice versa” [28], that determines the formation of new social organizations.

The main thing in this process is the transformation of the world into “a single socio-cultural place,” in which the expansion of the “universal values” Western-style, according to the writings of R. Robertson [30].

The study M. A. Cheshkov globality is defined as a broad “a set of processes and structures, which can be termed as the process of interdependence, interpenetration and mutual of the various components of most of the international community, that is, in the modern world there is a single entity, where any local event is determined by events at other loci, and vice versa” [23]. In general these processes determine the phenomenon of globalization and globality.

According to U. Beck globalization processes lead to the erosion of the sovereignty of nation-states, to the decisive role of transnational corporations (TNC) to the interpenetration of the local cultures. The growing trend of globalization, according to scientist, contribute to global dangers:

- 1) “environmental catastrophe caused by the high level of technical and economic development (greenhouse effect, industrial pollution, the ozone” hole, etc.);
- 2) environmental disasters caused by a low level of (lack of drinking water, deforestation, etc.);
- 3) disasters caused by the existence of weapons of mass destruction [27].

The appearance of *the risk society* as a global phenomenon leads to a “second modernity”, which, according to G. Toborn, is “a flight of modernity in space” [33].

Suchwise it can be argued that at the current phase *globalization* becomes a key concept that characterizes global development processes. It is characterized by complexity and expansion interdependent relations as between people as states. It manifests in the formation of the global information environment, capital markets, international conflicts and security, internalization of environmental problems, etc. Therefore the process of globalization begins to cover most of the life of society, including politics, ideology, culture, conditions and lifestyle, education. “It is a process of global economic, political and cultural integration and unification. The main consequence of this is the global division of labor, migration across the planet capital, human resources and production, standardization of legislation, economic and technological processes, as well as convergence of different cultures. It is an objective, natural historical process that has systemic nature, namely covers all aspects of society.” [22].

According to Indura M. Goklani thanks to globalization the modern world community says about such categories as “indicator of human well-being”, which includes the per capita consumption of food, infant mortality, child labor, life expectancy and “human development index” (HDI), which the researcher pays special attention. He includes in HDI so options such: “life expectancy, level of education and the logarithm of per capita income.” Quality education is “fundamentally necessary for the preservation and creation of new human capital” [9].

In general the impact of globalization on human society can be defined as positive. The process has

a planetary character. The involved in globalization countries acquire certain benefits through increased production scale, cost reduction, quality improvement and opportunities to expand the range of products on the market. It is evidenced by data analysis of studies conducted by the World Bank [20].

With globalization are related not only positive trends in the world, but also the complexity, non-linearity and extreme mobility of modern society, which gives it a number of specific features. So certain events in one country can lead to unintended consequences worldwide. It takes place “not only the universalization of certain scientific, technological, information models, but the universalization of the problems associated with the same achievements of science and technology” [5]. It reinforces the responsibility of society as a whole and for each country separately to humanity for the world processes.

However the findings of a study by scientists at the phenomenon prevail the predominance of culture in society over the economy and politics. Support of this opinion we find in the writings of M. Waters [34].

On this basis we believe that the role of education as an important part of the culture of society can be seen as leading in a global society. It promotes the formation of identity in the new spatial dimension: the global space, which may differ significantly from the cultural values of any particular country, nationality, social group, etc. For example, in America Association of control and the development of education as a global education sees in the study of beyond national borders, it focuses on awareness training, people’s perception of other cultures and helps to see the world through the eyes of others.

Investigation of the processes associated with the development of the education system and changes in the global society show that the modern education system linked to new social realities and primarily with the global market of educational services.

If we talk about the trends of globalization and their relationship with the educational system in the Russian Federation, it should be noted that these processes today are irreversible and objective. The new federal law “On Education in the Russian Federation” (from 29.12.2012) emphasizes, that “... the content of education should promote mutual understanding and cooperation between people, nations regardless of racial, national, ethnic, religious or social affiliation, address the diversity of worldviews approaches ...” [17]. According to Russian liberal ideologues the goals of globalization in education is possible only in market relations. Under these conditions significantly reduced the state’s role in

the management of the education sector, which in our view helps educational institutions more responsive to react on changes taking place in modern society.

Limiting the role of the state in managing the education sector is observed in the foreign experience. The study notes that "... in many countries today a centralized state control over educational institutions, especially school, replaced the supervision of the local authorities and non-governmental organizations, which are a kind of boards of trustees, which along with representatives of local government and parents include the business community. Reducing the financial participation of the state in the development of education, the introduction of market-based management of educational institutions, promoting competition between schools lead to the commercialization of education. Market (as an institution) begins to define the ultimate goals, objectives and organization of education, displacing the state in this sphere. Students are increasingly seen not as citizens with the right to education, as well as consumers of educational services and on the basis of such an approach built their relationships with educational institutions. Actively go in life so concepts such as "market education", "educational enterprise", "business of education", etc. " [1, p. 45].

Analysis of the results of scientific research has allowed us to identify the main problems the solution of which a region of co-existence of globalization and education:

- strategic direction of internationalization of education;
- increasing assertion of transnational education;
- ensuring compliance with international quality;
- effective cooperation at the regional and interregional levels;
- the emergence of virtual universities;
- implementation in the educational system communication and information technologies;
- problems of access and equity in education [16].

Globalization begins to show more demanding to educational systems around the world. Degree of social responsibility in the context of globalization is greatly increased, as otherwise the regulator relations are only market mechanisms leading to economic dominance in education. The phenomenon of globalization in the education system should be considered when we are talking about the structural organization of the educational space.

The main problems of modern Russian education include:

- new societal needs and challenges of demography;
- a fundamental contradiction between education and situational needs of the market.

It should highlight features of today's education process:

- applied knowledge of the nature of the production process;
- the emergence of transdisciplinary knowledge;
- emergence of complex and nonlinear social and technical knowledge by create relationships between participants;
- high social responsibility for the results produced by training and knowledge;
- expansion of the base control and quality monitoring.

In search of solutions to the problems explored prospects of a new civilization as reflected in studies Z. Bzezinski, P. Byukenen, I. Wallerstein, E. Giddens, J. Galbraith, P. Drucker, E. Luttwak, M. Castells, Henry Kissinger, J. Nesbit, Alvin Toffler, A. Touraine, L. Thurow, Francis Fukuyama, Samuel Huntington, A. Etzioni, etc. Among the controversial issues we have identified such as: new world order, the transformation of its economy, the rapid the emergence of the information economy.

Consideration of social change, including in the education system, in the format of globalization has allowed us to note the actual phenomenology of social reality, such as: *information, society "knowledge", a network organization of society*. It is revealed that a decisive influence on the processes of globalization and the education system today has *informatization*.

Information of the society began in the 70s of XX century and revamped its vital functions. Assess its value and actually manages to scale only in the context of globalization. For example the process of transformation of educational institutions in the agencies working on the basis of integrated information networks (which involves education globalization) includes the addition of new technologies and the inevitable changes in mentality.

Today we can talk about becoming a fundamentally "new environment — automated infosphere. Dominant trend of further development of modern civilization is the transition from an industrial to an information society in which the objects and results of the overwhelming majority of the labor will be employed population information resources and scientific knowledge " [11]. The education system in these processes has confirmed acceptance of the Concept of education informatization. It emphasizes that the computerization of education — is "the process of preparing a person for a full life in the information society" [11].

In the process of informatization the human resource becomes important organization's ability for competition. Increased competition in the business world is the need to intervene more in the educational process and new demands to the education system. An important task of education is continuous training of "human resources" to work in a rapidly changing society.

However problems arise insistently talking about the crisis of education worldwide. Informatization has made mostly superficial changes in educational process. Today the traditional education system is not able to form a new power of creation. It confirms the results of studies conducted by the American scientist F. G. Coombs, on which analysis was made of difficulties in education. The researcher concluded that the crisis phenomena in it, noting that "depending on the conditions prevailing in different countries, the crisis is manifested in different forms, stronger or weaker. But his inner springs equally exude in all countries — developed and developing, rich and poor, have long been famous for its educational institutions or with great difficulty creating them now ..." [13].

Informatization product becomes so-called "knowledge society." It replaced the accumulation of capital in the form of things and money comes development and accumulation of information, lending and investment contribution in creative activities. New features information networks to transfer information, processing done many conventional procedures that were impossible 30 years ago. Changes in daily life confirm the trends of our society in transition "knowledge society." In studies of P. Drucker it says: "knowledge is relatively detached from its carrier-man quickly began to emerge as one of the independent factors of production adding to capital and labor" [7].

Under a *society based on knowledge* (Knowledge society) it means "a society, where knowledge permeate all spheres, they are not only created inside it, but also efficiently and effectively used. Economics of such a society creates, distributes and uses its knowledge to ensure its growth and competitiveness" [25]. In the social environment such paramount importance is the availability of the latest information, knowledge and skills.

Analysis of the results of research on this problem it is possible to identify the *main features of a society based on knowledge*. All societies evolutionarily come to replace each other accompanied by the creation and implementation of new knowledge for its development. From the 1980–1990's marked certain qualitative changes in the process:

1. Informatization of society led to the creation of huge databases and knowledge bases.

2. Technologies of information on distance has been developed and implemented

3. the World Wide Web has been created.

It has led to a completely new interaction between people. Gradually information becomes a commodity that can be bought or sold. Society became known information. Main dimension of this society — technology. It is characterized by the generation of information on a massive scale. It is important knowledge of "how to act" implemented within the "knowledge economy".

The knowledge society is becoming a guarantor of high economic development of individual countries and TNC, but does not provide the quality and safety of their members' lives. "Some countries and big multinationals have adopted more powerful productive forces, what was the information and knowledge of the" how to act "with the purpose of their further enrichment. So according to the World Bank in 1973 the income gap between the richest and poorest countries are determined by the ratio 44:1 and at the beginning of the XXI century this figure increased to 72:1 " [19].

Strategic perspective trends of modern social development becomes that in the near future a certain group of countries significantly increase its role in global processes by priority production and use of new knowledge, thereby improving the quality of life and safety of its citizens. The rest of the country not mastered this knowledge and tools to become more dependent on the first group and will be settled with her for the blessings of civilization cheap labor, natural resources, environmental quotas and other components of its national security [8].

In the context of a knowledge society change its characteristics:

- the pace of innovation is accelerated;
- product development cycles is reduced;
- the share of services in the economy is increased;
- the power and speed of computers simultaneously with the falling prices of hardware are increased;
- negated by the physical distance as a communication barrier and as a factor of economic competitiveness through the development of telecommunications and satellite technologies to transmit data at high speed and at low cost;
- technology is pervasived communications through the dissemination of the Internet and mobile telephony.

So today only those who have the knowledge and technology of its use and processing can dramatically improve their economic performance. Evaluation of “eight”, “society’s ability to form, disseminate and apply knowledge is crucial for sustainable economic growth and improve living standards” [15].

The general trend is that the current stage of development of the world economy is defined knowledge in the form of ideas and technologies. Modern production is largely dependent on the availability of highly qualified specialists in the field of digital design, information technology and communications and computerized robots equipped with control systems, rather than from physical and manual labor. All these new technologies are developing rapidly and require complex knowledge, skills and competencies that must be constantly updated. Specialist’s image has been changed. It is required from him high professionalism usually narrow profile and knowledge must be “brought to the ability to transform into a source of profit information and technical resources” [24].

It forms a new educational paradigm and quality standards appropriate requirements of the modern era. Not only the content of the training is changed, but first of all there are new forms of teaching and management methods. So-called “education through life” becomes not a declaration, but a way of life. Information is updated rapidly that in some foreign universities for their diplomas is introduced “shelf life”.

Benefits that provides a global economy based on knowledge may be obtained by the condition of constant attention to the training of state citizens. World Bank Country Director for Russia D. Schweitzer notes in the report that “the dizzying speed of the global economy shows that governments must constantly promote the renewal of education systems so that they remain relevant to children and young people who ultimately will have to work in the market determined by the level of technology and rewarding them for their ability to think independently and openness to new ideas...” [20].

Recently based on the concept of a knowledge society the type of knowledge “how to act” are replaced by the type of knowledge “how to coexist.” They coordinate both internal and external social contradictions. Thus knowledge-based society allows a person to move to a wide production of new knowledge using information technology and computer. One of the main parameters of the society is “to produce high quality human capital, which provides education, the creation of additional resources and the formation of the knowledge economy

on this basis vector integral development of society, oriented to improve the quality of life and security of all its members” [8].

A. N. Dobrynin and S. A. Dyatlov give in their study the following definition of the concept of “human capital” — “it is formed as a result of investments and gained a man certain stock health, knowledge, skills, abilities, motivations, which are expedient used in the labor process, promoting the growth of productivity and earnings. At an individual level, human capital stock includes health, abilities, knowledge and skills” [6].

Meanwhile the results of Russian and international studies show that in Russia there is a loss of human capital. This is due to demographic and migration processes in our country, reducing the quality and level of education, general culture, health, the slow pace of innovation processes, etc.

In this regard the recent documents of the Russian Federation an increasingly prominent is given the place issues related to the “investment in man” ensuring economic growth, care “from the resource and industrial economy to a knowledge economy” [14]. The attention is paid to the need to develop the capacity of the individual through affordable and quality education. Stresses the increasing role of human capital “as a key factor in economic development” [10], the importance of quality professional staff to ensure the country’s competitiveness in the global market, the strategic orientation of public policy objectives in the field of education “requirements of innovative economic development needs of modern society and every citizen” [10].

To achieve this goal it is assumed the following priorities:

- providing innovative nature of basic education;
- modernization of the education system institutions as instruments of social development;
- establishment of a modern system of continuous education, training and retraining of professional staff;
- formation evaluation mechanisms of quality and relevance of educational services involving consumers, participation in international comparative studies “ [12].

Thus today we can speak about a new society, in which along with matter and energy productive factors are important information and scientific knowledge. Vector of social development is formed aimed at ensuring a high level of quality of human life and in the national and global levels. And this is an important role for the education system is assigned the education system to meet modern demands of society.

Globalization and information of society marked another important vector of development and organization, including the education system namely the setevizm phenomenon that affects not only today questions the dissemination of information, but also on social processes. Study of the phenomenon of the information society are updated by categories such as “Network”, “Network Organization”, “Network structure.”

At the present stage of the international community in general and Russia in particular are experiencing very significant changes of social structure, which consist of the continued establishment of direct and equal relations with all. “Internet technologies have made it possible to create such links public and free of spatio-temporal constraints are the real foundation of a new” network “social order. [18].

The research we have done a few conclusions about what leads to knowledge society or information society:

1. The Information Society is more ruthless, rational.
2. In this society also it is dominated power hierarchy.
3. Most valuable asset of networking is reputation or trust capital.

4. The priority value of the information society is not the information itself, but its sorting and manipulating it.

Thus, on the one hand, society has given rise to a new phenomenon — the phenomenon of network organization, as the next stage of development of the system organization and, on the other hand, the information society enables new methods of self-exploration. Networking phenomena occur in the evolutionary philosophy of Henri Bergson, T. Chardin, V.I. Vernadsky. In particular V.I. Vernadsky wrote: “Under the influence of scientific thought the Biosphere of human labor to a new state — the noosphere. Progress ... of scientific thought, for example, in the creation of machines, as has long been noted, quite similar to the course of reproduction of organisms” [2].

Meanwhile the term “network” is still treated differently. However all definitions are similar in one network: the network is not rigidly organized structure. It is characterized by a common vision, values that unite the different members of the network. And the essence of it is:

- Activities of its members for systematic collection and dissemination of information;
- In the sharing of information resources primarily;
- In the perception of each other all the network members as equal partners;
- Available in the network management structures, which mean “coordination” rather than dictate.

For education is important the fact that the emergence of network organizations and their growing role — determining the trend of today. The basis of traditional interactions and Institute of formal relationships, in the case of network organization — is an individual activity. Before the organization of production relations of participants lined up on the basis of formal hierarchy, staffing, and other post functions. “Network is an organization based on the conceptual unity, unfixed leadership, autonomy parts outsourcing, maximum, personal, risk-sharing, pronounced creativity. Underlying is polyphonic, sometimes a cacophony of individual projects and group coalitions. Their essence and value is in synergy in mission and personality. At the same time such an organization is not so much concerned about the formal statements as conceptual leadership” [3].

The presence of equal relations gives all participating increase capacity. This is due to the fact that “a network organization of interaction generates the following circumstances:

- first it is dramatically reduced the need for built on rankhaving of management structures;
- secondly, the social status of participating in any case cease to be the dominating fact determining their behavior;
- thirdly it is clear that the network organization of interaction dramatically increases the speed of virtually any issues” [4].

Network is different of independent personality. Therefore the human activity on the network becomes controlled by states, as it is not visible. It causes a certain direction position change state to claims arising in the network community [4].

Thus the information revolution giving the XXI-th century more rapid scientific and technological progress forming a new structure of both vertical and horizontal communication. In the works of Habermas, Maslow, C. Popper and Talcott Parsons it is talking about the importance of network culture in solving communication problems.

The Communicative Philosophy poses the question in a way that the plane of technical setevizm phenomenon as the plane goes into communication. Network thus regarded are as the basis of communication and primordial activity. In particular Yu. Habermas writes that the network has a real incarnation of communication open solutions. As the works of L. Barabash shows, is network structures around us and in many phenomena we can see Network [21].

Thus it is possible to identify the main guiding the development of modern education: globalization trends; computerization; establishment of a society based on knowledge; setevizm phenomenology. These

areas require transforming the public consciousness and actualization needs in the definition of modern approaches to the reform of the educational system and its management in the new environment.

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Moral education and tolerance in lessons of a foreign language in professional college

Abstract: The article highlights the issue of moral and tolerant education college students in lessons of a foreign language. Educational potential occupations are represented in different aspects (paths, methods, forms). It is impotent the interaction of the teacher and the student.

Keywords: foreign language, morality, tolerance, student of college, educational potential

One of the urgent problems of modern education is to find ways of effective pedagogical interaction on students' education system of values that reflect the overall personality and moral culture [1].

The main task of a teacher is the human form of the carrier of culture, having quite broad-minded. Consequently a teacher of foreign languages should largely present in his lessons lingualand, sociocultural and linguacultural facts.

Among the professional college students are those who will be involved in the competition in the European labor market. Naturally they have a high motivation to learn the language of international communication. But this is not enough studying individual linguistic facts (lexical, phonetic, grammatical, etc.). Indeed the most highly sought after those experts who not only know the language, but can find a "common language". But it is possible only with the knowledge and sociocultural and linguacultural facts. The preparation of such students is the realization of practical purposes discipline "foreign language."

An important aspect of the nature of language is that, it serves as a means of national and socio-cultural identity. The language helps to distinguish between different social groups, so there are so many linguistic differences. But these differences do not become an obstacle, if

people really want to communicate. In the context of the dialogue of cultures learning a foreign language should be based on an intercultural comparative approach. For better understand it is necessary to try to find commonalities. College students learn to see the world through the eyes of others, given that the other person can perceive and evaluate the same facts, actions, events quite differently. We need to teach adolescents to tolerate other cultures that the language will be indeed a means of communication and understanding between people, because it is on the ability to communicate effectively depends largely on our lives. Tolerance will help students find a common language as with friends, parents, peers, teachers and representatives of other cultures.

In modern society the problem of tolerance manifestation is becoming increasingly important. It is due to many objective reasons. The need for a more thorough study of the problem of tolerance arose in connection with the adoption of the Declaration of Principles on Tolerance, adopted Resolution 5.61 of the General Conference of UNESCO on 16 November 1995. Declaration proclaimed November 16 as the International Day for Tolerance.

According to the Declaration of Principles on Tolerance the concept of tolerance is nothing like

“respect, acceptance and appreciation of the rich diversity of our world’s cultures, our forms of expression and ways of being human. Promote of tolerance it is fostered knowledge, openness, communication and freedom of thought, conscience and belief. Tolerance is a harmony in difference. It is not only a moral imperative but also a political and legal requirement. Tolerance is the virtue that makes peace possible, contributes to the replacement of the culture war by a culture of peace. “

Tolerance is a new concept. We try to turn to the etymology of the concept of “tolerance”. It comes from the Latin verb *tolerate* (endure, endure, tolerate). The modern understanding of tolerance is ambiguous in different cultures. In the English language according to the Oxford Dictionary, tolerance is a “willingness and ability to accept without protest the person or thing”; in French — “respect the freedom of another, his way of thinking, behavior, political and religious views”; in Arabic — “forgiveness, indulgence, gentleness, compassion.” [3]

In Russian “tolerance” means “ability, the ability to endure, to put up with someone else’s opinion, be lenient to the actions of other people, treat them gently blunders, mistakes.” V.I. Dahl notes that the meaning of tolerance (tolerance) is associated with human qualities such as humility, gentleness and generosity. And intolerance temper, rashness, demands and other activities that are shade crudity, impulsiveness, immaturity [4]. Explanation of what is tolerance, Dahl gives examples of tolerance personal beliefs, tolerance to other faith. As we can see tolerance is quite complex term with a variety of nuances.

The scientific literature is seen as tolerance and respect for the recognition of equality, the rejection of domination and violence, the recognition of the multidimensionality of human culture, refusal of information, diversity or uniformity to the dominance of a single point of view.

Thus at the present stage the emphasis in learning of foreign language is the inclusion of students in the dialogue of cultures. Foreign language is a discipline where the imaging system directly affects the values of personality, provides many opportunities for addressing the problem of tolerance. But it is necessary to build the learning process so that students see the diversity of the existing world, began to take its versatility and do not be afraid to be different.

Communication in a foreign language is in real life almost always intercultural interaction. It is necessary to convey to students that foreign culture is no worse and

no better than ours, it is just different and you need to tolerate and to be sensitive to these differences.

Selecting of a method of education is on employment of foreign language in accordance with the theme of employment. You could say that any software enables topic in discussion issues related to spiritual and moral qualities of the person. In discussing in the study of foreign languages it is sounded many pressing problems. Among them are such as:

- the problem of tolerance,
- problems of the modern family,
- problems of education,
- problems associated with the work, professional growth,
- problems of charity
- problems of national culture

Conducting of educational activities during the study year allows the teacher to form knowledge about moral behavior, discussion of the problem in this case is one of the methods of work. And the work does not end only one discussion. The decision in the discussion of any problem is presented to the whole group while the group chooses the best solution and justifies his choice.

The next effective method of work in the above direction is role-playing game. Role play is a form of collective interaction. During the use of this technique it is necessary to enter phase of reflection for students were they are able to analyze the appropriateness, necessity and effectiveness of a particular model of behavior.

The important role in the upbringing play visual aids as well as technical training. Of great importance are authentic materials, including video, as one of its advantages is the emotional impact on students.

Based on the theoretical analysis and study of advanced experience on the spiritual and moral education of students of vocational college means learning a foreign language it can draw the following conclusions. The learning a foreign language:

- enhances the spiritual and moral culture,
- develops logical thinking,
- has a great impact on memory,
- expands horizons,
- increases the overall culture.

The Formation of moral and spiritual guidance for students is a lengthy process complicated often continuing throughout life. Some values are assimilated personality easier and faster while others require a longer time period with respect to third persons can not decide at all. What deeper a person is aware of human values and accepts as personal, so more he is attached to the culture.

A foreign language as a discipline has an important feature: we *teach communication* which by its very nature is personal. Teacher and students should become speech partners and lesson — a lesson of creative friendship. The task of the teacher is to arrange students to discuss the topic, the problem; listen carefully to himself, to teach it to their students; behave naturally, correct mistakes in the form of tips correct answer (in passing). If the teacher was able to successfully solve all these problems, then each lesson will be lesson forming the communicative skills of tolerance. Educational potential lies in the methods and forms of education.

In our college we also implement educational and training programs, drawn up in a moral of peace, non-violence and tolerance. We spend a group meeting and integrated thematic lessons. Foreign language provides a tremendous opportunity for the formation of humanistic outlook, tolerance, peacefulness.

Selected and used in lessons texts contain specific information about the organizations, events, facts related to the themes of the culture of peace, human rights, solidarity, cultural interaction, the relationship of people to each other. They are recommended for homereading and discussion in lessons. For example, the first and second courses. One of the goals of the study of a foreign language should act, according to E. I. Passov not only pragmatic knowledge and skills, but also education. In this case as the content speaks culture which refers to activities personally mastered spiritual values, the space in which the process of socialization. [2]

Educational potential of foreign language lessons is an important source of educational values of students. To achieve the goal of the teacher in lesson it is important to select the content of the materials used to build a system of training and methodically; it plays an important role of the teacher personality. It is necessary to develop students' ability to use practical knowledge for the benefit of man and society. It can serve as features of a modern foreign language (English, German, etc.)

speech etiquette. For example, the specificity of verbal behavior of Americans or Germans is that an important place among the typical speed of speech etiquette occupy thanking that are absorbed and used by the Americans and the Germans in early childhood almost as an afterthought. It brings a sense of interpersonal communication, mutual respect, warmth, kindness and, consequently, has a "learner-paced" effect. In the formation of a system of values that unite the citizens of any state, members of any social group, education and training plays an important role. Moral culture is assimilated as learners through communication with people projecting its bearers, and by involving students in activities Harnessing education moral culture through the development of the capacity for reflection, empathy, self-awareness, self-knowledge, self-discipline [1].

Educational value of the individual teacher in the teaching of foreign languages is very high. It is defined by its level of professional competence, a common culture, personality and the ability to establish good contact with the students. The task of the teacher during the lesson is to stimulate interest in a foreign language and culture, to increase the motivation to learn a foreign language, to generate sympathy for the country of the target language.

The process of mastering a foreign language serves as a powerful mechanism for personal development learning. Purposeful formation of speech skills in the classroom foreign language activates the memory, thinking, thus contributing to the intellectual development of students.

Full use of the breeding, educational and development potential discipline provides a solid basis for the formation of creative intelligent person, practically speaking foreign languages. The result is a person capable of taking an active part in the socio-economic and cultural development of society, as well as fully included in the integrative processes occurring in the world today.

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The way of the harmonious development of a personality in the sport

Abstract: The article reveals the importance of harmonious personal development of young athletes. This includes the following components in the sports education: motivation, theoretical, educational and axiological.

Keywords: personality of the athlete, motivation in sport, raising in sports, education in sports, pedagogical conditions.

The sport encompasses a huge potential for human impact on the physical and spiritual abilities of people, their relationships, gives the person the opportunity to assess their attitude towards their environment and through these relationships to understand their place in society. Young athletes included in the sports community, where they learn communication skills, develop a sense of belonging to a common cause, responsible for athletic performance. In sports, even at an early age student can perform social roles in the groups of peers. Therefore, youth sports schools are an effective counterbalance to the existing negative trends in the individual groups of modern society.

Children involved in sports school should not just be trained and educated, and to live a full, emotionally rich life in which they can satisfy their natural, social and spiritual needs, and to prepare themselves for adult independent life as a moral, law-abiding member of society, has found its place in society.

An important role in the socialization process is the determination of an individual in the team, i.e. the level of self-esteem perception of the team. For the development of personal qualities necessary discipline, which is supported by motivation, and knowledge of the norms of socially important standards and requirements. Universal norms of morality acquire specific traits in social communication and professional activities.

The problem is the current status of physical education is that sports is most often used only to improve physical condition and hardly used for the formation of moral and aesthetic culture of the person, his creative and intellectual capacity to meet its needs in communicating with other people and with nature. The main attention is usually drawn to the formation of certain abilities and skills to participate in sports activities and show high results, interest in the commercial side of the sport activity.

Unilateral physical development in ahead of spiritual and intellectual is a violation of the principles

of Olympism, which declared the harmonious unity of the physical, spiritual and intellectual.

The idea of personality reflects the social nature of human beings, belonging to human society. Personality — socialized individual, subject and object of social relations and historical process. The formation of man depends, on the one hand, from a full-fledged biological, physical conditions conducive to active relationship to perception, exploring the outside world, on the other hand, from the environment in which he will develop.

Personality-creative component of sports education due to the fact that the student is aware of self, allocates a separate "I" from the environment. The formation of the personality of the young athlete is represented as a process of purposeful, organized with the help of special methods and various means and forms of active learning interaction of students and teachers.

Personal sports culture can be formed using the methods of character education, high culture, training, recovery, self-control, the formation of self-discipline and persistence in achieving goals, ability to multi-year systematic work on his improvement, ability to win and lose without losing your dignity and belief in future success.

Despite the fact that the role of the cognitive component in sports education is of great importance, it is often underestimated. As a consequence of the lack of knowledge in the field of sports activities. But we should fight it. Sports education largely creates conditions for sports literacy, i.e. awareness in the field of sports.

Valeological education network expansion and deepening of knowledge about the culture of health on the basis of learner-centered instruction from the perspective of professional activity. The purpose of valeological education is the formation of a culture of health, the responsible person's relationship to personal health and the environment as the condition and the factors of its formation and development.

The result of valeological education is determined, on the one hand, the level of theoretical knowledge about the basics of health and healthy lifestyle, and that is particularly important is the presence of valeological culture, which allows the individual to take an active position in relation to the preservation and strengthening of their own health, to use the available methods and means of control and correction for the development of their potential.

The aim of Olympic education is the inclusion of children and young people to the ideals and values of Olympism, the values of which are: social characteristics of the ideal all-round development of harmonious personality, patriotism in sport, waiver requirements from racial, political, religious or other discrimination, self-expression, self-determination, self-improvement for the sake of society as a whole and of each person individually by means of sports.

Anti-doping education aims to promote health, fairness and equality for all athletes. Doping is fundamentally contrary to the spirit of sport. Anti-doping rules, like competition rules, are sport rules that should be adhered to. Prevention of doping in sport contributes to increased attention to existing problems and queries to the dissemination of relevant and accurate information, but also has a positive impact on beliefs, attitudes and behavior of athletes.

Of course, need to inform young athletes theoretical material regarding sports activity, a sport that he chose, and the information should be presented in accordance with the age of the student.

There should be the following sections:

- the concept of physical qualities;
- the concept of means and methods of development of physical qualities;
- basic knowledge about the rules of competition in the chosen sport.

The education of the child during sports activity involves the formation of moral foundations. The personality of a young athlete is represented as a process of purposeful, organized with the help of special methods and various means and forms of active learning interaction between young athletes and coaches.

Value sport involves achieving an integrity of the knowledge of the person, importance of human values in the modern world, awareness of their place in culture, the development of cultural identity and abilities to transform cultural activities.

It manifests itself through harmonization of spiritual and physical strength of personality, the formation of

such universal values as health, physical culture, physical perfection. Therefore, value consciousness can exist both at the level of the public individual consciousness. Value consciousness of society is represented in the form of social value systems: ideas, ideals, norms, traditions of a given society. The value consciousness of the personality is the totality of individual landmarks to certain social values: ideals, norms, and customs. Internalized social values presented in personal consciousness, are specific, moving system and become value orientations of the person.

When the formation of a harmoniously developed personality should be respected pedagogical conditions (it is necessary to clarify the concept of “pedagogical conditions”. Philosophy determines the category of “condition” as an expression of the relationship of the subject to surrounding phenomena, without which he cannot exist. Thus, the condition is a certain optimal environment in which phenomena are dynamic):

1. Subject-subject relationship between coach and athlete, based on the interaction;

2. Pedagogical support, when the coach directs the activities of the athlete, but he does it gently, creating appropriate pedagogical situations. The implementation of sport education will have a certain effect in the case of compulsory pedagogical support from the coach, which should provide advice, not forgetting certain amount of independence for young athletes, respect their wishes and aspirations. This is quite a difficult moment in sports education, as it is necessary to build a lineage relationship between coach and athletes (in order not traced dictatorship on the part of the coach, as well as unwanted effects athletes on the decision of the head), as well as relations between the athletes themselves.

3. Conversations with parents, which helps to come to a unified requirements concerning the education of athletes;

4. Information support of athletes required for formation of a harmoniously developed personality. The athlete should be theoretically prepared to realize that it can work.

5. Creating problem-search situations in training sessions, which are a natural productive creative activity and determine the mental activity that occurs in the process of formulating and solving problems. Problematic situation as a necessary condition in the development of creative abilities of young athletes, acceptable at a sufficiently high level of acquired knowledge, abilities and skills in sports activities.

6. Mandatory homework.

Thus, it is possible to make the following conclusion: for harmonious personal development of young athletes need to pay attention to the motivational component of the training sessions, as well as theoretical and

educational units, which unites the axiological block. With the exception of at least one of them, we will deal with one-sided approach in the educational process, which is unacceptable in the formation of identity.

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Formation algorithm for optimal learning technology

Abstract: In a given article situational analysis has been carried out. Reasons have been pointed out which lead to a decline in a quality of modern higher technical education in Russian Federation. One of the ways to solve this given problem has been offered. It contains within itself a possibility of researching an algorithm which is to be used to form and correct the universal educational technology.

Keywords: problems of the pedagogical education of students in technical universities, connections of educational process, pedagogical situation, algorithm of educational process

It has been known that among the questions that stimulate the progress of humanity reside the two following:

1. How to produce a quality product?
2. How to minimize expenses producing it?

The basic approach to finding the answer for those two questions lies with the theory of optimal projection, which became more widespread recently [5]. Several definitions of given term do exist, and they characterize it from different points of view while characteristics are based on an application areas of optimization. Results

of the search of generality between optimizing solutions made it possible to form the methodology of optimal projection theory, a theory that has its own structure, principles, means, logic, conditions and regulations. When being applied to different areas of knowledge, the theory is being filled with different content. Methods of optimization are most commonly used in the areas of knowledge where numerical methods apply: machine industry, automatization, production of construction materials and elements, etc. At the present time there is a tendency for spreading the optimal projection's methodology into those knowledge areas, which rarely or do not apply to mathematical models. One of those knowledge areas is pedagogics. The actuality of application of the optimal projection theory bears no doubt, especially at the present time, once the question concerning the optimal ratio between learning quality and economical costs of the learning process would be put up [1,7].

Basic principles of the methodology of the optimal projection theory allow to form the ways to search for a best solution, the latter being the learning technology [2,4]. The pedagogical experience of authors shows that

the optimal learning technology largely corresponds with specific pedagogical conditions. Table 1 gives the

formulation for those stages for pedagogical needs, based upon their basic statements.

Table 1. – Stages of construction of the optimal learning technology

	Optimal projection theory	Pedagogics
1	Task formulation	Learning technology has to conform with specific pedagogical situation
2	Gathering and analysis of data	Specific pedagogical situation has to be determined and complexly accessed
3	The choice of optimal solution for a given task	The algorithm for creation of the optimal learning technology

We will examine those stages further in detail. The task formulation for optimal projection has been already given in table 1.

At the second stage it is necessary to point out and access a specific pedagogical situation. As long as any pedagogical situation presents itself as a rather difficult combination of factors, it is advisable to have it accessed complexly. The mathematical model was developed to handle this [3,6,8].

The analysis of a pedagogical situation influencing the learning process has allowed to point out the following parameters, which, to our knowledge, are of paramount importance:

1. The qualification of a tutor.
2. The educability of a student.
3. The logical structure of a learning course.
4. Material and technical provision for a learning

process.

5. Learning course timelines.

6. The economical expenses.

Sadly, at a present time learning course timelines and economical expenses are beyond the influence of a tutor, so they have been excluded from consideration. Four remaining parameters were chosen as guidelines for construction of a mathematical model for a specific pedagogical situation. Feedback level proved to be the most successful parameter. Feedback level shows the rate of influence of a tutor upon a student, also being a complex assessment of a pedagogical situation. Our model has five such levels. A discreet installation in five-dimensional space, based upon the method of limiting geometrical modeling [3], had been chosen to demonstrate the mathematical model, adjoining the parameters, described before. The scheme of this model has been presented in fig. 1.

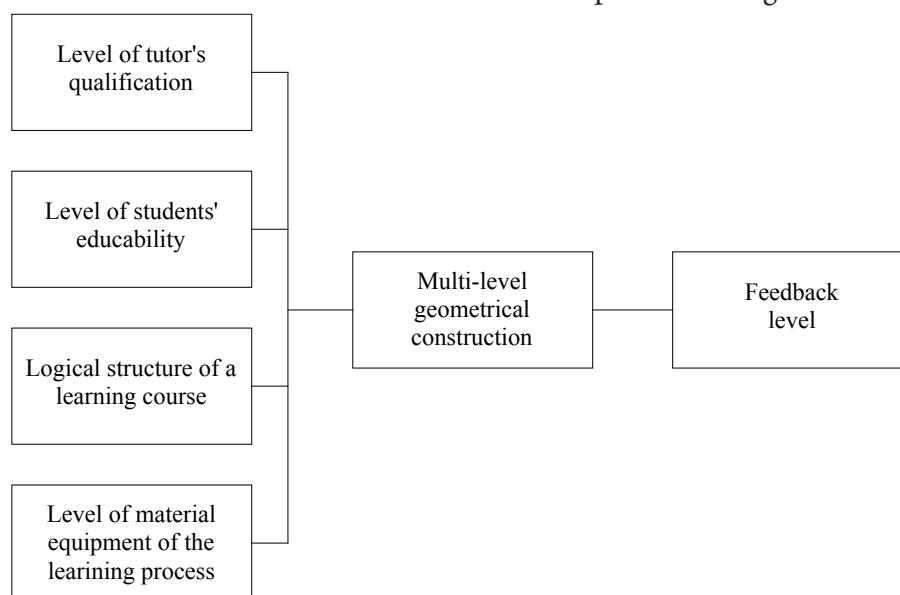


Figure 1. The scheme of the pedagogical situation's model

To determine the source parameters it was necessary to point out the following components of a pedagogical situation.

1. The level of tutor's qualification and professional competence correspondence.

2. The level of participating students' educability and education.

3. The features of learning courses' logical structures.

4. The correspondence to specifications for

equipment of the learning process with necessary materials and technical devices.

Data received has to be incorporated into a mathematical model. One of five feedback levels is a result. The given level characterizes the specific pedagogical situation.

Now the learning technology can be chosen correspondingly to a specific situation. To do that, it is

necessary to determine the feedback level which is to be realized using that technology. If feedback levels for the pedagogical situation and learning technology coincide, the technology is deemed optimal.

So, upon the realization of the third stage it is necessary to provide a scheme of its analysis. We have provided an algorithm of the learning process, upon which we base our scheme. The scheme itself is shown in figure 2.

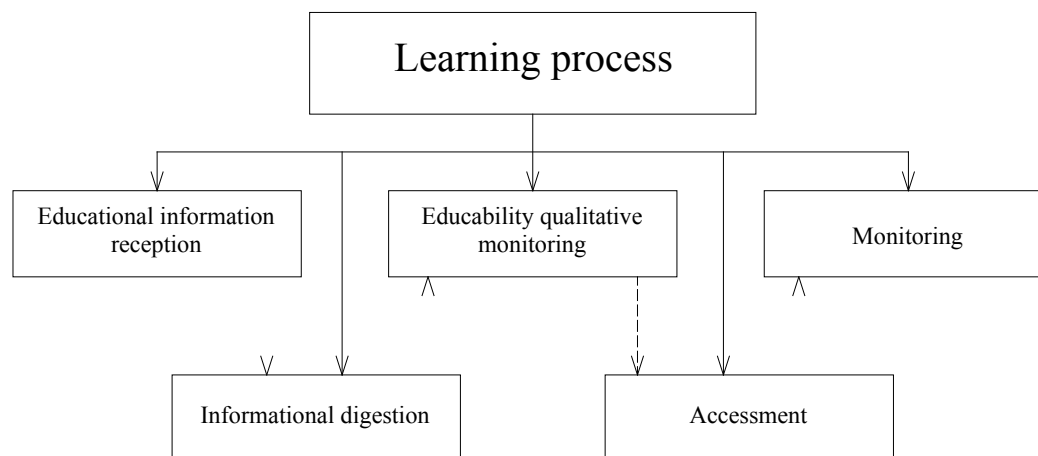


Figure 2. The structure for an algorithm of the learning process

Each of the specified stages is being realized in some formations, between which the feedback level is different. The analysis of these formations had allowed us to point out five groups depending on the realization of feedback levels. The data on these levels is provided in table 2.

Table 2. – Classification of formations of first stage realization of the learning process' algorithm

Feedback level	Learning information source	Learning information recipient
1	Directly by the students	Students
2	By means of methodological provision	Students
3	Tutor, methodological provision (prevalence)	Students (21 persons and more)
4	Tutor (prevalence), methodological provision	Students (11–20 persons)
5	Tutor	Students (1–10 persons)

Table 3. – Classification of formations of second stage realization of the learning process' algorithm

Feedback level	Formations of educative information's digestion
1	Knowledge
2	Knowledge, partially abilities
3	Abilities
4	Abilities, partially skills
5	Skills

Table 4. – Classification of formations of third stage realization of the learning process' algorithm

Feedback level	Formations and methods for knowledge qualitative monitoring
1	Frontal, final, didactic tests, oral
2	Selective monitoring, didactic tests, direct monitoring, oral
3	Didactic tests, written tests, practical application tests
4	Didactic tests, combined tests, written tests
5	Overall, individual, current, didactic tests, written tests

Each of the formations of realization of any learning algorithm stage has to have the same feedback level, as the corresponding pedagogical situation. These formations will complete a specific learning technology. The resulting technology may appear to have been researched before, or may be completely new and different from existing

technologies. That is not the most important part. The most important part is the fact that the resulting learning technology would be optimal concerning the specific pedagogical situation. It also can be corrected continually, depending on the changes in the situation, conforming to the next algorithm stages. To create a such learning technology the following algorithm may be used [8]:

1. Data retrieval on basic entry level parameters of a certain pedagogical situation.
2. The retrieval of a complex assessment on a given situation in a form of a feedback level, thanks to a mathematical model.
3. The choice of an optimal pedagogical technology, being a system of formations of learning algorithm realizations, conforming to the feedback level received.

Table 5. – Classification of formations of fourth stage realization of the learning process' algorithm

Feedback level	Merit formations
1	100 points — based
2	Five points — based
3	Five points — based, verbal
4	Four points — based, verbal
5	Two points — based, verbal

Table 6. – Classification of formations of fifth stage realization of the learning process' algorithm

Feedback level	Formations of correction
1	Frontal
2	Combined (group, frontal)
3	Group
4	Combined (group, individual)
5	Individual

The limited volume of this publication does not allow to describe the presented optimal learning technology scheme thoroughly, but it does give a reference point in searching for an optimal solution to prepare a quality specialist with least monetary expenses.

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Mechanisms and tools of motivating teaching staff and their role in ensuring the education quality

Abstract: The job of a higher school teacher can be characterized as highly complicated, as it combines teaching, scientific, educational and organizational functions. Solving problems related to the organization of teachers' work will

help universities to attract highly qualified personnel to develop and implement innovative programs and technology. It is well known that the motivation is the process of encouraging people to achieve the objectives, and at universities motivation aims at improving the quality of the educational process.

Keywords: Motivation, educational process, teacher, qualification, quality, employment conditions, education institution.

Increasing requirements for the quality of training specialists and their motivation play a main part in achieving the current level of education and improving its efficiency.

Qualification of university faculty often becomes one of the key criteria for assessing the quality of education in any higher education institution, that is why effective incentive programs become essential for modern higher educational institution [1].

In accordance with the research conducted by the group of the authors of the Center for International Higher Education at the Boston College the wages, employment conditions and promotion of teaching staff are the key to the welfare of the academic profession and its contribution to the development of universities. In case of inadequate wages it will be impossible to attract the “best of the best» into the academic environment and the employed teachers will be forced to look for additional jobs and it will distract their attention from the academic activity. This study revealed significant differences in wages of teaching staff worldwide. As a rule, in more economically prosperous countries the wages of faculty are the highest. However, there are significant differences among them. Thus, in academic systems of the English-speaking world academic wages are generally higher compared to continental Europe.. In Russia and in the former Soviet Union countries the wage is quite low, despite the fact that their economy is relatively prosperous. In the results of the study, there were a few surprises. For example, in India the wages have proved to be relatively high. On the other hand, in the People's Republic of China where significant investments are made into higher education, particularly, in the development of research universities, the average wage of faculty remains quite low.

For comparison and analysis of motivational activity of universities different types of motivational activities and labor payment in the universities of the CIS countries, Russian and Kazakh universities have been discussed in this article [2].

Hungary. The International Business School, Budapest (IBS-Budapest).

In the IBS-Budapest the motivation of the teaching staff comprises: firstly, an individual wage system, and

secondly, the transparency of work evaluation, and thirdly, the opportunity to work scheduled hours for 2 years.

In accordance with the IBS- Budapest individual wage system, after an employee is hired, he is set an individual wage based on several criteria: image, academic title, publications, academic achievement, job experience, disciplines, length of work, etc. There exist several positions: a program manager, an assistant professor, etc. An amount of the individual wage depends on the position for which the employee is taken. The agreement is valid for 2 years.

Another feature of this university is that all types of work performed by the teacher are recorded on paper, i. e. for each type of work a certificate is issued indicating the amount of time spent and the type of work. For example, attendance at the exam during the session — a special unit responsible for carrying out the test, notes the time of a teacher's arrival and departure and gives him a certificate stating that he really did this job. Another example, a teacher under his own account enters the database and performs a university assignment, the time of his work is immediately pinpointed and the number of hours he spent on performing this or that work will be confirmed by a certificate. Another example, if a teacher comes to the library to work with the literature or other scientific publications, he is given a certificate of his actions.

Thus, each teacher can always prove his activities and perform the planned workload. This system is very transparent and fair, the working hours are calculated in accordance with their actual fulfillment.

South Korea. Kangnam University. In Korea researchers -economists conducted a rating of the most demanded professions: according to the results a profession of a teacher is in the 5th place after cosmetology, dentistry, jurisprudence (judge) and a manager of the national company.

The Kangnam University has the Foundation of shareholders which provides additional financing to socially vulnerable teachers (with several children, disabled people, people who do not have housing, etc.). The rating of teachers is conducted once in 3 years in accordance with several indicators: training Masters,

publishing scientific papers, writing textbooks, etc. For 3 years a person working as an assistant, for example, should go further to the post of a professor or an associate professor. In case he does not confirm the status in 3 years, his contract is terminated. And if in general he does not show himself and occupies the same position, he automatically quits. Therefore they retrain or upgrade qualification every 5 years.

Thus, motivation at Kangnam University of Korea comprises: firstly, the existence of the Foundation of shareholders for socially vulnerable teaching staff, secondly, the possibility of upgrading qualification by teachers and career opportunities.

At the State University — Higher School of Economics in Russia motivation is provided in the form of remuneration payments to authors and compilers, remunerations depend on the type of publication [3].

In the HSE wages of teaching staff include some incentive mechanisms:

- Start up (initial) grant;
- Academic allowances;
- Grants program “Science Foundation”;
- Surcharges to the best teachers and scientific supervisors of winners of SSR;
- Grants program “Foundation for Educational Innovation”.

The Far Eastern Federal University of Russia

At the Far Eastern Federal University of Russia a new program of encouraging teachers has aroused a great interest, based on the rating system of evaluation of the teaching staff, in the framework of which almost 200 million rubles (1 billion tenge) are allocated annually in the form of allowances for teachers. Of course,

they have not been the first. In the west it is called as evaluation based on KPI or key performance indicators. The program development of the university from the beginning has supposed various mechanisms of tangible motivation of different categories of university staff. In 2011 they began with lump-sum payments for publications in scientific magazines of the Scopus publishing house, for victories in the international scientific and public contests and competitions, for the defense of dissertations, etc. [4].

Motivation at the Kazakh National University named after Al-Farabi is held in the following way:

Once a year the rating of the teaching staff is carried out, according to the results of a monthly bonus is added to the salary. Criteria of this rating are the following: first, a questionnaire of the teaching staff “the teachers in students’ eyes”, second, a questionnaire among the teaching staff, third, indicative plan of the teaching staff. There are the following types of work in indicative plan of the teachers: Scientific- research activity, Scientific-educational work, study methodical work, Innovative activity, International activity, Socio- educative work and etc.

Motivational activity at the KazEU named after T. Ryskulov.

At the KazEU there is a scheme of encouragement for admission of students for Bachelor programs, for full-time tuition and distance learning, for master’s programs, which was introduced last year (5% of income for academic year). There is also a regulation for evaluation of the teaching staff for [5].

The most detailed motivation at the KazEU with notes and offers is given in

Table 1 – Motivational activities at the KazEU

№	Types of motivation at the KazEU	Notes	Offers
1	2	3	4
Tangible motivation			
1	Regulations on certification of teaching staff for payment of allowances for the quality of work (bonuses)	1. Omissions in assignment of points when they fill the document reflecting work of the teaching staff in academic year, for example: a) 5 points for the publication of educational literature, the textbook and educational and methodical aids are estimated equally b) the publication of articles within RK and abroad evaluated equally — 5 points and the quantity isn’t considered 2. Bonuses are paid once a year, whereas in some higher institutions, they pay monthly	1. To reconsider a sheet of evaluation, to consider complexity of work in writing of educational literature and number of articles, also to evaluate publications abroad 2. For quality of work to make an extra charge monthly in addition to a salary

1	2	3	4
2	2.Promotion for admission of school leavers for full-time tuition of Bachelor programs and distance learning, to master's programs, which was introduced last year (5% of sum of income for academic year)	1. In the scheme the payment for labor is taken into consideration in the structure of faculty, only to deans, deans assistants, heads of department and professional orientators, but teachers who participate in career professional work aren't encouraged 2. 5% of the annual sum of the income for remunerations on implementation of the plan and for fund of faculty and departments aren't enough	1. To bring in the scheme stimulating payments of encouragement of professional orientation work of teachers of department 2. To increase up to 10%
Social encouragement of the teaching staff			
1	Payments to anniversaries and holidays	No	To make payments regular for each state holiday of the Republic of Kazakhstan
2	Privileges on payment for teaching children of employees (20%)	No	No
3	Providing preferential cards of admission to sanatorium-health-resort treatment (30% of the card of admission within RK are paid by university from means of trade-union contributions)	30% is not enough as the quality sanatorium-health-resort treatment costs too expensive	To increase up to 50%
4	Payment or partial compensation of medical service (medical centre sana 50% for the service of doctors and laboratories for analysis)	There aren't enough doctors- specialists, service prices in the medical center are higher than averages, respectively the discount imperceptible	To increase% discount, to provide the teaching staff by the service of specialists
Moral stimulation of the teaching staff			
1	the gratitude of the Rector;	No	No
2	honoring employees with the birthday or other significant dates	No	No
3	placing photos on the stand «Pride of the University»;	No	No
4	badges, charters, medals, diplomas	No	No

Thus, at the KazEU, motivation for the teaching staff is conducted to provide more efficient work in order to improve the quality of education, but it needs rework. For example, at the university there are bonuses for quality of work, but many teachers of the university, mainly the teaching staff with a big working experience, middle- aged and elder people refuse to collect the necessary documents for bonuses, many teachers only have a threshold points for the certification, they think that encouragement which they will have is not worth of all the efforts. Some teachers in the beginning of the year

published 8–10 scientific articles within Kazakhstan, and also abroad, but all the same it is still evaluated in 5 points, as the result, they came to the conclusion that there is no need to publish many articles, it has additional expenses. As a result, indicators of SRW of departments and the university decrease.

Also it should be noted that corporate allowance to the salary for doctors of science 50000 tenge, for candidates 40,000, for senior teachers and teachers it is 30000 tenge. But working load, for example, of senior teachers and doctors the same, but the doctors of sciences do a small part

of the work, the main part of the work do young teachers, including candidates of science, senior teachers, teachers. In this regard, it is necessary to equalize the size of corporate allowance, make it equal for all.

In the process of survey there was a questionnaire among the teaching staff concerning motivation at university. In this survey participated 102 people from university, from each department for 7–9 people. Among them doctors, professors- 5 people, associate professors –32 people, senior lecturers- 57 people, teachers –8 people. According to the results of survey, many teachers are not satisfied with the salary at the university, they think that there is no motivation at the university; they are overloaded with paper work, which is not properly evaluated.

For the question, are you satisfied with the salary at the university?: 41% answered negatively, 55% answered — perhaps, if there was an increase to a salary, and only 7% are satisfied with their salary.

For the question what motivation affects or can it affect the quality of your work at the university: 64% of respondents said that the bonuses, allowances, related salaries, 47% — public recognition, including students, 20% — giving a rank, and only 7% pointed out that characters, gratitude, photo honorary board.

According to the results of the survey it is revealed that 75% of respondents do not combine their job with other activities, but they indicated that they could combine if there was any time, because of lack of income. Due to lack of earnings combine work with other activities, 23% respondents, 4% because of interest to other work and opportunities to realize themselves in another sphere.

For the question what are your reasons of teaching: 60% responded that they like working with the students, 40% they have pedagogical abilities, 40% aspiration to impart the knowledge to others, 18% — flexible schedule of work, and only 1% responded because of the good salary.

Thus, according to the results of the survey, we can make a conclusion that many teachers who participated in the survey love their profession, but they would like to get appropriate salary and respect at the university. Motivation for the teaching staff of the university are allowances to the salary for the amount of SMCD, for the publication of books and scientific papers, participation in a research project, the preparation of students to participate in international conferences, Olympiads and curatorial work, also remunerations to significant holidays of the Kazakhstan.

Thus, on the basis of analysis of motivational activity in foreign and domestic higher education institutions,

in addition to what we have, the following mechanisms and tools of motivation of the teaching staff and learners of university have been offered for increasing the quality of education:

1. Revise regulations on certification of the teaching staff and bonuses, bonus calculation on the basis of annual work to make it monthly.

2. To enter remunerations for certain achievements in science, for publications of scientific articles and writing of educational and methodical literature.

3. For socially unprotected teachers to pay extra allowances to a salary and financial support.

4. To motivate curator activity, to appoint certain teachers -curators of courses and to enter additional payment for it.

5. For carrying out professional orientation work it is necessary to create a group of professional orientators who will get salary, and to exempt other teachers from this loading.

6. To enter a rating of activity of the teaching staff, encouragement of especially teachers who caused a stir, who show activity in scientific researches, in educational and methodical work and public work of university.

7. To work out the system of social work incentives of teachers: medical insurance (the social. package); providing office housing; transport for work (especially between two buildings).

8. To make more transparent the system of evaluation of work of the teaching staff which are performed by the teacher, to fix them, i. e. by each type to issue references with the indication of quantity of spent time and a type of work.

Recommendations:

The main recommendations in the filed of increasing the quality of education are effective programs of motivation which get the key meaning for the modern university. In accordance with changing approaches to the management of universities in Kazakhstan the function of motivation of the personnel should be looked through as one of the function of management of the university.

The level of motivation of the staff of universities greatly influences on the general emotional conditions during the lessons, and creates conditions for mutual respect of students and teachers and also allows using innovative methods in the process of teaching.

For universities of Kazakhstan it is recommended to go to the system of management without fixed aims as it is unreasonable to put in front of the teacher earlier fixed aims and then to control their actions and work in

connection with these aims. An agreement between the executive group, teachers and personnel under conditions of an agreement of concerning improvement says that the objective of executive group is in making of stimulating climate of openness in organization where personnel are responsible for the constant improvement of their results.

At universities for increasing the quality of education it is necessary to pay attention to the teaching process and motivate the teaching staff to productive work, to lessen paper work, to simplify reporting, to create all necessary conditions for scientific- research work, to increase qualifications to study deeper the discipline.

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Main periods of andragogy development in Ukraine (second part of XIX — beginning of XXI centuries)

Abstract. In this article author tried to divide into periods development of andragogy in Ukraine in the second part of XIX — beginning of XXI centuries. Characteristic of each period was made on the basis of analyze of cultural, socio-economical and socio-political factors, ideological concepts and pedagogical determinants which defined the way of development of theory and practice of adult education.

Key words: andragogy, history of andragogy, periods of andragogy development, adult education.

One of the main scientific problems in the field of humanity is periodization. Periodization is a division of the whole process of science development on time intervals, which differentiate from each other by specific peculiarities, determined on the basis of objective criteria and principles. Periodization helps to comprehend historical process and to determine its inner regularities and also gives possibility to make scientific conclusions.

Periodization is a logical beginning of study of andragogy history development. Andragogy studies theoretical and practical problems of adult education. Modern approaches to periodization in history of andragogy are reflected in works of Ukrainian scientists: L. Vovk, I. Vorobez, L. Lukianova, O. Martirosian, L. Sihaieva, M. Skrypnyk, L. Shynkarenko and also Russian scientists S. Zmieieva, O. Marona, I. Kolesnykova etc.

Taking into account famous approaches to periodization in modern historical and pedagogical science, [9] in given article we will describe main periods of development of andragogy in Ukraine

Period is time interval, limited by certain dates, events etc. Phase is separate part of this period. Basic understanding of notion "periodization" can be defined as "logical separation of studied period corresponding to qualitative characteristic of its relatively independent stages. Such characteristic should reflect both general rules of social life development and specific and also substantial components of main methods and forms of problem origin [2, 19].

On the basis of analyze of socio-cultural, socio-economical, and socio-political factors of ideological conceptions and pedagogical determinants in the history of

Ukrainian andragogy we study four periods within such chronological limits: 1) second part of XIX — beginning of XX centuries; 2) 1918–1940 years; 3) 90-s of the XX century- beginning of the XXI century.

First period is the period of theory and practice formation (second part of XIX — beginning of XX centuries). We can emphasize two main phases within this period. In the first phase (1859–1890) starts the formation of adults education in the context and form of educational movement, which started on Ukrainian territories in the second part of XIX century. Traditions of adults education were established in Sundays schools, schools of re-education, reading rooms, public houses, public universities, during lectures carried for people etc. It became basis for theoretical generalization and formation of first ideas of andragogy. Only after “creation of first Sunday schools Ukrainian pedagogues worked independently on both general problems of out-of-school education and some questions of adult didactic”, — stated modern scientist L. Vovk [1, 34]. On such basis we can emphasize second phase (1895–1917). This phase can be characterized as a phase of theoretical comprehension of adult education problems in the concept of out-of-school education. One of the foundations for chronological separation of the first period on two phases is documentary confirmed attempts of conceptual and categorical identification of science about adult education. Since 1895 all educational activities, directed on wide sections of adult population were called “out-of-school education”. With this first extended term there were first attempts of scientific reflection of questions of study and education of adults, in particularly description of organizational and pedagogical principles of educational institutions functioning for adults, formulation of theoretical basis of forms, methods and subject matter of adults education. At the same time increases and extends activity of establishments for adults (Sunday schools, repetitive schools, courses for unlettered people, libraries, generally educated and scientific lectures, professional courses, public universities).

Socio-political events at the beginning of XX century, beginning of which were marked by overthrow of autocracy in Russia during the February Revolution in 1917, caused huge and often changes in Ukraine, which affected development of adults education.

That is why starting point of 1917/1918 we determine as a beginning of second period of andragogy development in Ukraine. There were several changes of authority in Ukraine since then and till 1920 and each authority established different approach to education de-

velopment. But even though if there were no improvement provided by new authority, they didn't destroy old system. Independent from political redirecting in the center, on-sites schools for adults, formed in prerevolutionary period were still working. But old schools under new conditions and due to new direction of education were changed in new format or were substituted by new types. Organizational principles of their work depended on socio-political conditions of the countries, to which different parts of Ukraine belonged.

On the western part of Ukraine under conditions of Polish, Romanian or Czechoslovak occupation quantity and diversity of organizational education forms changed but there were no considerable variations in their work (these territories were under conditions of foreign dominance). Beginning of 1920-s was marked for Ukraine by active processes of state building, rebirth of Ukrainian culture and education. There were promising conditions for creating Ukrainian educational system and these conditions were proved by Bolshevik government declaring ukrainization policy. But in the end of 1922 within the framework of creation of new country Russian Soviet Federative Socialist Republic (RSFSR) put pressure on Ukrainian colleagues to develop joined conceptual approaches of educational models of two republics. Despite that fact that Ukrainian Soviet Socialist Republic (USSR) had to defend its conceptual direction and educational model, at the beginning of 1930-s unification of educational system of USSR on the model of educational system of RSFSR became obvious. Education became reliable tool to propagate ideology of proletariat and philosophy of communist party.

Despite political changes, evolutionary processes took place in adults' education: general strategy in theory of adults' education was established (“all work, connected with education and development of adult people”), search for methodology and subject matter of out-of-school education (equal to the notion “adults' education”) was continued, state governing body of adults education was established (Out-of-school Department in Central Rada).

In Ukraine the same as in other republics of USSR in 1920-s there was a major educational campaign of illiteracy liquidation. During this campaign network of educational institutions for adults called “system of illiteracy liquidation” started to develop (Sunday schools, circles of individual and group education, schools for illiterate people) [11]. Development of theoretical problems of general adults' education took place: didactics of adults, teaching methodology, education in the study process,

structuring of adults' education system, description of types of educational institutions.

At the same time evolution of conceptual and theoretical foundations of adults' education theory: term "out-of-school work", which was used since prerevolutionary period, was substituted by notions "educational work" and "political education". These terms were used during the period of Soviet Union and neutralized pedagogical (or andragogical) essence of adult education, stressing only on its capacity as political technology. It should be mentioned that unlike part of Ukraine with bilshovyk ideology, on Western territories of Ukraine, term "andragogy" is widely used, in particularly in works of Galician pedagogues M. Halushchynskyi and I. Iushchyshyn.

Great events in educational field are regular meetings and conferences where different questions were discussed. Adults' education became an official standing of pedagogic researches and the creation of Political Education Department at Pedagogical research institute in Kharkiv (1927).

Mentioned above information showed that there were active processes in the development of theory and praxis of adults, which is connected with huge campaign of liquidation of illiteracy (development and success of which was in 1921–1931).

Compulsory general primary education for children and seven-year school education were established in 1930-s. Using census of enumeration USSR leaders claimed about "complete literacy of population" and about successful fulfillment of campaign. Unification of subject matter of education took place at mass schools and establishments for adults. It has caused narrowing of adult education but the events of WW II complicated situation.

To generalize characteristics of this period (1918–1940) we define it as a period of formation of scientific basis of adults education in the system of illiteracy liquidation.

It is known that the campaign of illiteracy liquidation was continued in a postwar period (till 1954). But in the field of scientific research of questions of adults' education we notice serious changes. These changes turned to pedagogical field. 1950–1980 we consider as third period in the development of domestic andragogy and characterize this period as period of scientific development of andragogy problems in the format of adult education concept.

In the postwar period severe problem was of general education of working youth and adults, because during

war and period of destroyed agriculture young people for different reasons had to leave their studies at school. Insufficient level of education hinders development of research and technology revolution in the country. Adopted in 1958 law "About strengthening connection between school and life and about further development educational system of USSR" was aimed to provide 8-year compulsory education for young people and adults (up till 35 years), who worked in the national economy. According to the law night school was main source for getting general education.

Scientific studies of adult education problems were made. In 1960 in the Academy of Pedagogical Science of RSFSR was created Research Institute of night and extramural general education schools. His main task was to develop theoretical basis of general education for working youth and adults without being distracted from work and to help schools in solving organizational, pedagogical and methodological problems. It was first institute in the world, which started to develop systematically theoretical foundations of adults' education on cross-disciplinary basis. First directors of this institute was first famous Methodist-biologist, Candidate of Pedagogical Sciences V. Korsunskaya and then Doctor of Sciences, Professor A. Darynskyi.

During 1960–1969 the main task of Research Institute of night and extramural general education schools was to study problems of basic general education of working youth and adults in night school.

In 1970–1980 there was an extension of research problematic, caused by rapid development of adults' education in the country (increasing of night and extramural schools, public universities, establishments for advanced training etc.) and new directions in the Academy of Pedagogical Science, which turned from republic to national. On the basis of Research Institute of night and extramural general education schools in 1970 there was created Research Institute for general adult education at the Academy of Pedagogical Science USSR. Its tasks were to study history of adult education in the country; to develop socio-pedagogical and psychological basis of adults education; to study deductive and organizational and pedagogical problems of adult education; to improve distance and evening general education of adults; to develop pedagogical basis of out-of-school education of adults; to search ways to improve the preparation and advanced training of pedagogues.

Since 1975 topical problems of adult education begun to study in the direction of one concept of continuous education. Research Institute of general adult

education in the end of this year will reorganize itself into Research Institute of continuous adult education of Academy of Pedagogical Science USSR. At the head of Academy of Pedagogical Science since 1976 was W. Onushkin. On the basis of general conception of continuous education and in connection with UNESCO the Institute started research on functional illiteracy of adults, adult education under conditions of change into market economy, “eternal” study in the changing society. This period of study is connected with names of such famous scientists as T. Brazhe, S. Vershlovkyi, L. Vyso-tina, I. Kuliutkin, L. Lesohina, A. Maron, H. Suhobska, O. Yonkonoha, O. Fedorova.

In the USSR dominant conception of adult education was the conception of pedagogy of adults, which is the part of pedagogy as comprehensive science about education. During long period of time soviet authors refused to approve concept of andragogy because of ideological beliefs. Andragogy concept was developed in the other ideological beliefs

But some scientists emphasized discipline, subject of which was research of study and adult education. The most famous among them was A. Darynskyi. He considered that pedagogy of adults was inevitable part of pedagogy as an integrative science about education. A. Darynskyi indicated the specific of adults’ pedagogy, which first of all is reflected in the subject matter of education. According to Darynskyi field of research of adults’ pedagogy is broader than pedagogy.

But though soviet scientists studied adult education in terms of general pedagogy, they developed the whole range of subdivisions for this science. Some scientists classified division adult pedagogy in the following manner: sociology of adults’ studies, gerontopsychology and pedagogical psychology of adults didactics of adults, pedagogy of evening school, pedagogy of production etc. Soviet scientists extended the structure of science about adult education without falling outside the scope of general pedagogy. The biggest contribution to development of andragogy as a science in the Soviet Union was made by B. Anan'ev and his Leningrad school. According to D. Savitsky, contribution of this scientist to the development of pedagogy can be compared to the contribution of E. Thorndike to the development of science of adults’ education in the USA.

New social transformations at the beginning of 1990-s caused cardinal changes in all spheres of life. Former soviet republics begun to create their own states and to develop independently. Changes took place in educational system too, which gives grounds to study next

period of andragogy development. This period lasts until now (90-s of the XX century — beginning of the XXI century).

In the post-Soviet space big scientific development of andragogy begun in Russia, where in 1990 there was created Institute of adults’ education as a part of Russian Educational Academy (under direction of V. Podobiedova). Range of scientific works and educational books dedicated to andragogy were published: S. Vershlovskyi (“Work book of andragogue”, 1998), S. Zmeiov (“Basis of andragogy”, 1999; “Formation of andragogy: theory and technology of adults education”, 2000; “Andragogy: basic theories and technologies of adults education”, 2003); I. Kalynovskyi (“Introduction to andragogy. Mobility of pedagogue in the adults’ education”, 2000); T. Lomteva (“Andragogy in the context of humanistic paradigm”, 2001); T. Vasylkova (“Andragogy”, 2002); I. Colesnicova (“Basics of andragogy”, 2003); M. Hromkova (“Andragogy: theory and praxis of adults’ education”, 2005), O. Kukuiev (“Problems of andragogy status in the domestic science” 2009) etc.

Since 1994 in Russia to the official list of specialties of pedagogical education of higher educational institutions was added the specialty “Andragogy”. In 1995 The State Standard of the specialty was certified and performed preparation of specialists.

In Ukraine profession of andragogue doesn’t have an official status and there is no preparation performed. But in recent years interest of Ukrainian scientists to andragogy as a science and subject increased.

First departments are created in Ukraine where scientists make scientific and theoretical (philosophic, historical, socio-political, ethical, psychological and pedagogical) analyze of andragogy and determine on its basis optimal and effective technological principles of adults education. Subject “Basics of andragogy” was included into preparation of pedagogues [10].

To conduct fundamental and applied researches, directed on solving topical theoretical and methodological and methodical problems of adult education in 2007 there was created a Department of Andragogy of Institute of Pedagogical and Adult Education of NAPS of Ukraine which is directed by Professor L. Lukianova. Under her direction there was developed a project of adult education concept in Ukraine, started essential investigations, formed andragogical scientific school. Scientific and methodological yearbook “Adult education: problems, searches, perspectives” was initiated. (V. Kremen — head of research council — President of NAPS of Ukraine, actual member of NAS of Ukraine and NAPS of Ukraine,

L. Lukianova — main editor, Doctor of pedagogical Science)

To implement the ideas of adult education in Ukraine there is Ukrainian Coordination Bureau of International public program “Adult education in Ukraine” which is created with the help of Institute of education UNESCO (since 2000). With the help of this bureau Ukraine carry out each year International weeks of adult education. Aim of these weeks are popularization of study groups as a study methods; ideas of public higher schools; extension of education in favor of stable development.

Bibliography of andragogy sources was enriched with works of Ukrainian scientists, where scientific researches of different aspects of adult education are described:

— Philosophical and theoretic-methodological basis of adult education as components of permanent education (V. Andrushchenko V. Aleksandrov, S. Arhypova, I. Beh, S. Boltivez, S. Honcharenko, I. Zel, V. Kremen, I. Leshchenko, V. Luhovyi, L. Lukianova, N. Nychkalo, S. Sysoeva, L. Sihaeva, L. Sushchenko, E. Hrykov etc.);

— Andragogical basis of postgraduate education (V. Anishchenko, N. Bibik, I. Vakarchuk, V. Vitiuk, I. Vorotnikova, H. Hrebenuk, I. Dmytrenko, A. Zubko, V. Kryzhko, S. Krysiuk, M. Lapenok, N. Naboka, V. Olinyk, N. Protasova, V. Puzov);

— Scientific and theoretical principle according to peculiarities of adult education (S. Arhypova, O. Verbyzkyi, T. Hryhorieva, O. Kurinnyi, S. Naumko);

— conceptual principles of methodology of comparative andragogy and comparative research

(D. Antonova, I. Beiul, M. Borysova, M. Berdnyk, L. Vedernykova, H. Voronka, V. Davydova, T. Desiatov, T. Zotova, S. Kovalenko, O. Kotliakova, O. Kotliakova, O. Mytina, O. Ohienko, Z. Safina, A. Sbruieva, O. Suhomlynska, O. Fedotova, I. Fokina, I. Folvarochnyi, O. Hahubia).

Thus on the basis of analyze of socio-cultural, socio-economical and socio-political factors, ideological concepts and pedagogical determinants we emphasized four periods of andragogy development in Ukraine.

1) Second part of XIX — beginning of XX century — theory and praxis formation of adult study in the context of adult education development as a form of socio-educational movement and out-of-school education;

2) 1918–1940 — formation of scientific basis of adults study in the system of liquidation of illiteracy;

3) 1950–1980 — scientific development of andragogy problems in the form of soviet concept of adult pedagogy: (1950–1960 — development of theoretical basis of studies of working youth and adults; 1970–1980 — scientific researches in theory and praxis of adults study in the concept of permanent education)

4) 90-s of the XX century — beginning XXI century — development of andragogy as a science, subject and social praxis.

Four periods reflect the deepness of Ukrainian andragogy and its evolutionary development. Analyze of each period helps to understand all previous process of development of this scientific subject from the point of view of maximal objectivity and expediency.

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Techniques and Methods for improving Reading skills

Abstract: Many people who want to improve reading skills are already avid readers. One of the main objectives for these individuals is to have the ability to read faster while retaining more information accurately. This is not a very easy task. Even the well-versed reader will admit taking in a lot of written information quickly does not usually result in comprehension and recall.

Keywords: visual aids, non-verbal, rephrase, practicing, Elicit, enrichment.

Teaching English language learners can be challenging, problems seem to arise from all directions. However, this challenge does not have to rub off on onto your students. The following are ideas and techniques to spice up your ESL classroom and make lessons more interesting and effective.

Teaching English to people who speak other languages is a rewarding thing, because there is great amount of people all over the world who are eager to teach English as a Second Language. While teaching English as a second language the teacher should follow the next directives:

Apply such non-verbal cues as facial expressions, hand gestures and other non-verbal cues to get rid of the language barrier. If you are eager to explain the meaning of the word “tall”, raise your hand high into the air. If you are eager to explain the meaning of the word “cold”, shiver and chatter your teeth.

Apply visual aids. A simple picture can replace a long description and it is especially effective while teaching English as a second language. Visual aids are universal, because they are applied to teach everything beginning from vocabulary and ending prepositions. Visual aids have instructional benefits, they make lessons interesting, and they can maintain and activate the students’ interest. It is recommended to apply an overhead or slide projector for the performance of effective presentations.

Divide students into groups. The teacher, who is always talking, does not give learners of English as a second language a possibility for practice and communication. Group work is an effective way of starting practicing a foreign language. The best number of participants in groups is from 2 to 5 people. If the number of participants is more, some learners will not

have a chance of a foreign language practice. It is effective to make up groups of students who have various first languages.

Apply bi-lingual materials. If the teacher and the students speak the same language (s) as, the attitude to learning a foreign language will be different, it will be easier to teach and learn a foreign language. Frequently, teachers do not speak the same language (s) as his/her students do. In such case, a teacher of English as a second language can apply bi-lingual materials to draw on a student’s native language, because they speak their native language.

Repeat and rephrase. Teachers of English as a second language should repeat everything at least three times. It is strongly recommended to change the wording of their remarks. A student may understand one set of vocabulary but do not understand another one — even when the topic of discussion is the same. After the first explanation of a word or word-combination, the student can be able to understand the new variation of a concept or its repetition. Such technique is quite effective, because it enlarges the students’ vocabulary with new words and phrases.

Don’t correct too much. Teachers of English as a second language have a strong desire to correct student language errors immediately. If you correct them too much, students will be uncertain and reluctant to apply the language. They will be afraid that they will make many mistakes and will be corrected every time they speak. They will lose the wish to speak and, finally, the wish to learn the foreign language. It does not mean that the teacher should not correct language errors at all; there are appropriate times to correct language mistakes. If you discuss something, for example, the past tense during the

whole class, it is necessary to correct students when they make mistakes in building up and use of the past tense.

Create a safe, friendly and comfortable atmosphere. It is difficult to learn English as a second language. Besides, it is not safe emotionally. Students understand that their knowledge, skills and abilities are not enough to speak English well; they feel self-conscious and do not want to practice the language. The teacher of English as a second language should create a safe, friendly and comfortable atmosphere, where the student will be always able to experiment with the language, because the teacher supports him. A teacher, who laughs at students or puts them down, is intolerant and rude. His behaviors causes negative attitude of the students to the teacher and his subject. A teacher, who supports and cheers up students, causes a positive attitude to him and to his subject.

Improve Reading Skills for Young Children through Adolescence:

Fill your home with many reading resources appropriate for your child's age. This can include magazines, books and newspapers. Make time for family reading.

An important aspect of teaching children to read is for them to develop an appreciation for reading — in essence, a desire to read. If a child successfully develops print and phonological awareness as the child's verbal language develops, the child is likely to establish the foundations for being a skilled reader. Children who do not develop these skills often have difficulty learning to read, and from this often stems a lifelong dislike of reading.

Beyond print awareness and alphabetic knowledge, the development of initial phonics skills includes building an awareness of letters and words. Learning to read involves forming connections between graphemes and phonemes to correlate the spellings of words to their pronunciations and meanings. However, these core building blocks of learning to read may be difficult to instill in a child if the experience is not fun and enjoyable. This fun and enjoyment may be provided in a variety of methods, including positive interaction by the child or other less experienced reader with a parent or other more experienced reader, initial success in learning new reading skills, and engaging in activities that introduce and/or enrich the development of these core skills.

Phonics-based devices and methods for improving reading skills. The reading improvement devices and methods may incorporate a book or other text-containing

media that includes an initial activity-based phonics portion that is designed to teach a less experienced reader about an aspect of phonics. The activity is designed to promote interaction by the less experienced reader with a parent or other more experienced reader to complete the activity portion. A story portion that includes text selected to emphasize the phonics skills from the activity portion follows this initial activity portion. The readers may perform the reading of the story portion collaboratively. The more experienced reader may provide additional instruction to emphasize the teachings of the initial activity portion. The reading improvement device may include a third portion, which may contain additional instruction about the phonics skills from the activity portion.

Some of the phonics skills presented in the activities of the activity portion may be familiar to the less experienced reader, while others may be new or less familiar. The inclusion of some familiar phonics skills may be helpful to increase the less experienced reader's sense of knowledge, comfort, and/or accomplishment, while the inclusion of some less familiar (or new) phonics skills will increase the less experienced reader's actual knowledge and repertoire of reading skills. Additionally, and perhaps especially in the case of less experienced or other developing readers, repetition of core reading skills, including phonics skills, may increase the less experienced reader's familiarity, comfort, and abilities with respect to these skills and thereby promote further increases in the less experienced reader's reading development.

A reading improvement device according to the present disclosure is schematically illustrated in. Reading improvement device includes a story portion, an activity portion, and an optional enrichment portion. Typically, the activity portion will precede the story portion, and the enrichment portion, when present, will follow the story portion, but this is not required to all embodiments. Activity portion may additionally or alternatively be referred to as a pre-reading portion, and/or an instructional portion. May additionally or alternatively Enrichment be referred portion to as a post-reading portion and/or a supplemental portion.

Story primarily by the less experienced reader. The one or more stories should include, and may emphasize and/or make repeated use of, the phonics skills introduced in the corresponding activity portion of the reading improvement device. The one or more stories may be on any desirable topic or topics, and may include fictional, non-fiction, and/or fact-based stories. The length

of the story portion may vary within the scope of the present disclosure. As illustrative, non-exclusive examples, lengths of 10–35 pages may be used, with lengths of 15–30, and 20–25 pages being illustrative subsets of this range. The relative length of a particular story portion in a reading improvement device may vary based at least in part upon the reading skill level of the particular device and/or story portion. With story portions for devices that are designed to be at a higher reading skill level having longer lengths than the corresponding story portions for devices that are designed to be at a lower reading skill level. The length, number, and/or complexity of the corresponding activities of a particular device also may (but are not required in all embodiments to) vary at least in part based upon the reading skill level of the device in which the activities are present.

At least the activity portion and the story portion of a reading improvement device will be all phonetically correlated. By “phonetically correlated,” it is meant that the portions are designed to introduce and develop reading and awareness of the same phonics skills and/or phonetic elements. For example, the activity portion may introduce a series of phonetic elements and/or sight words, with the story portion including one or more stories that include the phonetic elements and/or sight words introduced in the activity portion. As illustrative, non-exclusive examples, these phonetic

elements may include or relate to such phonetic elements as graphemes, phonemes, allographs, and the like. Sight words are frequently used words, or even high frequency words, that will tend to be recognized due to their frequent occurrence, as opposed to being phonetically decoded each time the word is read. Sight words may or may not be phonetically decodable words, or at least may or may not be intended to be phonetically decodable by a less skilled reader having the reading skill level intended for a less skilled reader using reading improvement device. As such, the awareness and recognition of sight words may be within the phonics skills to be emphasized in a particular activity even if the phonetic elements to be emphasized do not provide for the phonetic decoding of all of the sight words being emphasized.

Other illustrative, non-exclusive examples of more experienced readers include teachers, tutors, development specialists, guardians, relatives, and siblings (typically older siblings) of the less experienced reader with whom the more experienced reader is using a reading improvement device according to the present disclosure. The references herein to a less experienced reader and to a more experienced reader may additionally or alternatively be references to a lesser skilled reader and a more skilled reader, and/or to a reader at a lower reading skill level and a reader at a higher reading skill level.

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Section 6. Political science

Секція 6. Політологія

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Corruption as a psychological phenomenon in public administration in Ukraine

Abstract: The article is focused on the analysis of the main psychological aspects causing the emergence of corruption. The researcher highlights the psychogenic nature of corruption, analyses its basic psychological mechanisms, investigates the influence of the unconscious mental processes on the problem under investigation.

Key words: public administration, psychological aspects, phenomenon of corruption, unconscious psychological factors, behaviour strategies, consciousness.

Formulation of the problem in general and its connection with the main tasks. Since corruption in the system of public administration in Ukraine retains its stability, it suggests the existence of factors that are not taken into account in the public strategies of fighting against corruption, namely its psychogenic nature. Therefore, it is necessary to analyse the psychological aspects of corruption and to consider the influence of the unconscious mental mechanisms on the existing situation.

The analysis of the recent research works and publications. A significant amount of foreign and native researchers are still interested in the problem of corruption. Thus, the scientific investigation called Shady Deals: Participants, Resources and Mechanisms of Political Corruption by D. Porta and A. Vanuchi [7] is focused on the problem of political corruption in Ukraine.

The native researchers' works on public administration arouse considerable interest, for example: the works by O. Prokhorenko and Y. Kalnysh. The authors justify the conceptual principles of the scientific support of the government's anti-corruption policy, define the means of diagnosing corruption, suggest effective means of preventing the phenomenon under investigation [4; 8].

Continuing extensive research into the problem of eradicating corruption, the author of the article will focus on the outstanding aspects of the problem under consideration and on the following objective: to highlight

the basic psychological aspects of corruption and the psychological factors contributing to its spreading.

The main material. Nowadays the phenomenon of corruption binds public administration and all the layers of our society together, penetrating deep into the rules and social traditions.

Most investigators view corruption as a destructive behaviour that originates from someone's motivation to make an illegal profit [5], or as a conflict between the office-holder's actions and the employer's interests, or as a conflict between the personal interest of the elected officials and the public interest [4].

From the psychological point of view, this conflict can be considered much deeper — as a conflict between the individual and the state system, as a compensatory mechanism that is used to compensate the lack of government support, as a subconscious protest against the existing system of relations.

The phenomenon of corruption shows the ways of society development and reveals the outdated, non-functional interaction scenarios. Namely, the commensurability of job loads with the salary; greater transparency in the system of official material encouragement; the legality of the selection procedure and qualification process of personnel; greater flexibility in providing public services; speeding up the mechanisms of decision-making; mobility and simplicity instead of unnecessary bureaucracy; giving the right to make decisions and grant requests; overcoming

the employees' dependence on the administration; limiting the officials' monopoly power; getting rid of rigid rules; the opportunity to be heard. It must be taken into account that more productive ways of solving urgent problems are required [2].

In the 17th century Thomas Hobbes pointed out that corruption was the root of all evil, the root of temptation to violate the existing laws irrespective of the epoch. This statement induces people to realise that the phenomenon of corruption threatens the human society with a catastrophe for moral standards and everyone concerned. It is also clear that inner discontent and disobedience have been masquerading as the outward acceptance of all the rules and legal regulations. Thus, if people cannot achieve all their ambitions or satisfy their needs, they prefer to ignore the existing rules and violate the laws. As a result, it leads to the growth of tension in contemporary society and sparks revolutionary disorder riots which have recently involved the whole Ukrainian society.

To understand the complexity of the analysed phenomenon, we consider it necessary to throw light on the psychic necessity that is hiding behind the scheme of unlawful social interaction.

Dealing with a particular person in a corruption scheme gives the perfect opportunity to demonstrate individual abilities, to display absolute power to take decisions, to keep up competence and professionalism at a respectable level, to retain the position of authority and power. In that case the need for recognition is entirely compensated, and the personality of an employee comes out of the bureaucratic paper flow to the fore. At the same time, the official takes responsibility for his/her powerful decisions, and for making the desired changes. It must be mentioned that the official accepts other people's significance and the importance of their petitions, and guarantees to solve all their problems. It means that the system of public administration meets other people's needs destructively, as it ensures self-preservation. Thus, corruption is a mirror which reflects a deep need for recognition and building up qualitatively new relationships between the state power and society, the relationships that are based on mutual understanding and respect for each individual [2].

The confirmation of this idea can be found in Buddhism philosophy and the practical approach to revealing and eliminating corruption in public administration and business.

Michael Roach, a Buddhist monk and a businessman, describes in his book how the Buddhism laws work in everyday life and business. In accordance with the

Buddhism philosophy, success in any field is a great achievement. It has its own reasons and causes. If you cannot achieve success, it means that you do not understand what leads to it. The wisdom of ancient books is undeniable. The ancient assertions are still true nowadays. Philosophers claim that everything has its hidden potential, and people are no exception. The human mind is limitless. Human capabilities are boundless [9, p.127].

The author points out, "If you have encountered the problem of corruption, the solution to the problem is very pleasant — you should consciously rejoice in other people's success. Rejoice in your company's or your competitors' success! Admire a well-done piece of work! If someone copes with the duties or is worthy of praise and admiration for a valuable contribution to business, take the opportunity to become a little happier, enjoy success with other people! Express your sincere pleasure and admiration for other people's achievements!" [9, p.127].

The followers of the Buddhist approach point to the importance of all the moments taking place in society and in our lives. In accordance with this approach, people's attitude, behaviour, feelings and emotions affect their lives and form stable mental patterns of the collective psyche.

Therefore, it is obvious that in order to overcome this phenomenon (corruption is meant) in the public administration, another approach is necessary to solve the problem. Moreover, people should get rid of stereotypical actions and deeds which make the existing situation worse.

Yevheniy Holovakha, a Ukrainian scientist, claims: "I think that the biggest problem nowadays is not the public calamities that result from the lack of social macrostructures, but people who are not formed, and are unable to govern themselves. Consequently, they are unable to govern the society in which they live. The absence of the feedback leads to dissoluteness, irresponsibility and inefficiency of the government. The officials understand that they can lose control over self-governing people who refuse to obey and follow the instructions blindly. In that case the officials have no incentives to improve or bring something to perfection.

No doubt people in power can take care of themselves, but whether they are able to take care of other people in need is still in question. Ordinary people should be able to make the government keep their promises. Besides, they should learn to govern themselves in a new social space [1].

Corruption, as a negative social phenomenon, is a source of economic, political and social risks to the Ukrainian society. But from the psychological point of view, it is also a good chance of understanding one's own significant role and identity. Thus, corruption is a painful phenomenon, so-called '*seal of human civilisation*', as it is bound to lead to a mutual agreement between the human nature and human culture" [6, p.23].

James Madison said, "If people were ruled by angels, there would be no need for any control over the government, neither external nor internal. Forming the next government, it is necessary not only to give the governing class a chance to oversee the inferiors, but also to make them oversee themselves."

Conclusions. Thus, the problem of corruption draws attention to the necessity of being conscious of personal responsibility for all the changes, and stimulates people to join their efforts in order to solve the above-mentioned problem. Psychological investigations confirm that unconscious psychological factors influence the neurotic state of the society. It, in turn, causes the emergence of corruption.

Since public administration is a specific sphere of human activity, its effectiveness depends on the

awareness of individual motives of the public officials and their behavioural strategies.

It is not enough to create new state mechanisms of governing in order to tackle widespread corruption. To solve the mentioned problem people should change their attitude towards it, get rid of all the stereotypes and unilateral assessment of corruption, be aware of its disastrous consequences. Unfortunately, it is very difficult to fight against and overcome corruption without having changed the society's attitude to it.

It is evident that there are no simple solutions to the problem under consideration. But one of the best ways to solve it is to find other interpretations of the phenomenon under study and approaches to dealing with corruption and combating it.

We consider that excessive efforts at eradicating corruption can reinforce the problem. We also believe that our strong desire to improve the current situation and find some alternative means of interaction will help take the right decision and find the best way out.

Prospects for a further scientific investigation. Our further research will be focused on the study of various psychological reasons for numerous destructive phenomena in the modern society.

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Diagnostics of political sphere in Russia through the prism of mass consciousness

Abstract: The diagnostics of political sphere of society includes the collective assessment of the domestic political environment and the activities of the state authorities. The results of sociological polls allow identifying the subjective image of political sphere of society in the mass consciousness of population. It is characterised by the set of coefficients and the aggregate indicator of the assessment of Russian political sphere.

Keywords: political sphere of society, domestic political environment, state power, subjective image, indicators.

Introduction

The system of objective factors and subjective images creates various kinds of social tensions, which form in total the conflictogenity of society [1, 2]. The level of conflictogenity determines the stability of society and safety of citizens' existence. In this regard, one of the most important tasks of ensuring social stability is to maintain conflictogenity of society at a permissible level. It requires condition diagnostics in different spheres of society.

The political sphere represents one of the most important life spheres. It includes the state, political parties

and movements, public organisations and associations, labour collectives, pressure groups, mass media, etc. The political sphere of society exerts a strong influence on social stability, comprising political and power relations between the state and society.

Political stability is first of all ensured by the government authorities, and it relies on massive support from citizens, which is manifested in the support of specific government decisions and stable positive assessments of the activities of the state authorities, confidence in political leaders and political regime, willingness to protect own interests through lawful means, etc.

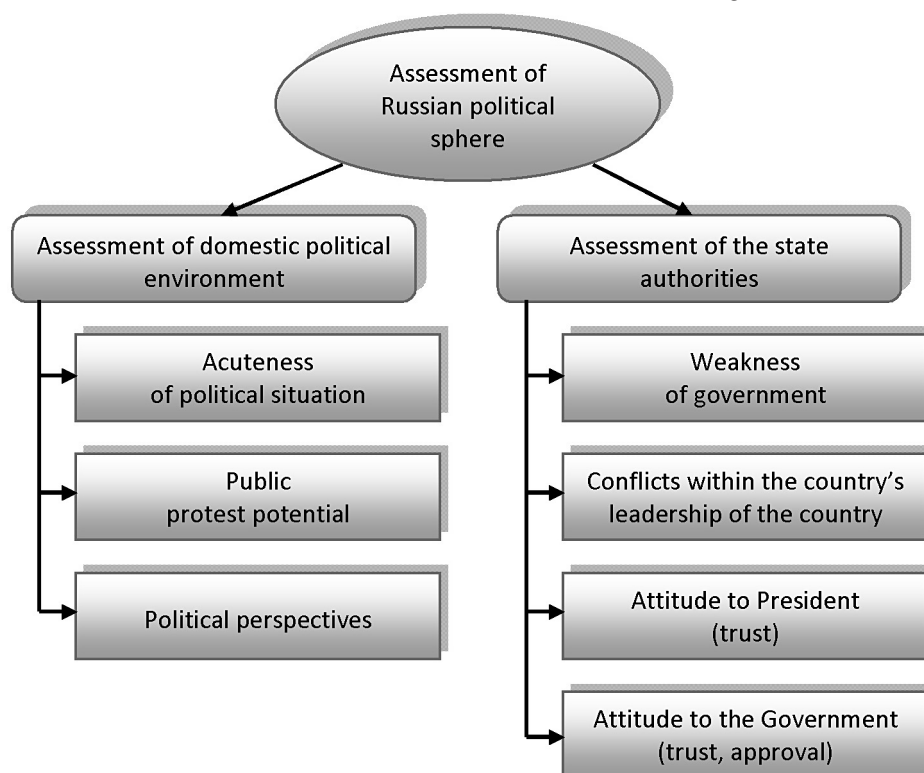


Fig. 1. Logic of the assessment of the subjective image of Russian political sphere

The aggravation of political disagreements, tense political situation in the country provoke decrease in political stability of society and may evoke negative population response. Political disagreements arise between political parties, organisations, movements promoting political interests of different strata and groups of society. Accordingly, the subjective image of political instability in the country is characterised by lack of citizens' confidence in and support of the authorities, willingness to protect own interests.

Therefore, the assessment of the political sphere of society comprises the collective assessment of the domestic political environment and the activities of the state authorities (Fig. 1).

Different methods are used in the analysis of political activity; they allow the political sphere of society to be characterized with varying degrees of adequacy. The empirical methods, based on the generalisation of the large volume of factual material (for example, data of sociological polls), are applied quite often. Weakness of the government and political instability are reflected in the mass consciousness of population. Opinion polls allow identifying the individual and collective notions of the internal political situation in the country or region, and to obtain the population assessment of the activities of the state authorities. The problem is to adequately generalise the analysed material.

Assessment of the country's internal political situation

Domestic political environment is characterised by the state of political life, alignment of and interaction between political forces in the country under certain historical conditions at any given time of social development. It is substantially reflected by the population subjective assessment of the country's political conditions, public protest potential and predictive assessment of the political situation in the country. The subjective assessments are identified on the results of sociological polls [3–7].

The acuteness of the political situation in the country according to population estimates is determined by the results of the responses to the question "How would you assess the political situation in Russia as a whole?" in the monitoring of public opinion of social and economic changes (Bulletin), regularly conducted by All-Russian Public Opinion Research Center (VCIOM) upon representative samples several times a year in almost all regions of the country [3, 1993–2012]. The responses offered in the questionnaire are the following: "favourable"; "calm"; "tense"; "critical, explosive"; "I cannot say".

Until the year 2000 the political situation in the country was assessed as "calm" by no more than 7% of respondents, as "tense" by 54–61%, "critical, explosive" by 22–36% of respondents on an annual basis. The situation changed significantly with the newly elected President of the country coming to power. In the year 2000 the situation was assessed as "calm" by 10% of respondents (as compared to 2.6% in 1999), "tense" by 16% (as compared to 36% in 1999). Then, the political situation in the country according to population assessments improved: in 2008 the situation was characterised as "calm" by 51% of respondents, as "tense" by 26%, as "critical" by 3% of respondents. The financial crisis makes its effect shown since 2009, and the tension of the political situation in the country has been slightly increasing, but the smaller share of respondents characterises it as "critical, explosive".

The overall population assessment of the political environment is given in the form of the coefficient of the acuteness of the political situation in the country. The coefficient of the acuteness of the political situation is obtained from the expression:

$$Q_{pc}^t = \sum_v e_{pcv} \bar{m}_{pcv}^t,$$

where Q_{pc}^t — coefficient of the acuteness of the political situation in t year $Q_{pc}^t = [0, 1]$;

$v = 1...5$ — number of response choices when assessing the acuteness of the political situation;

e_{pcv}, \bar{m}_{pcv}^t — assessment of the acuteness of the political situation in the country and the average share of respondents in t year, giving the corresponding assessment;

favourable — $e_{pc1} = 0$ and \bar{m}_{pc1}^t ;

calm — $e_{pc2} = 0.33$ and \bar{m}_{pc2}^t ;

tense — $e_{pc3} = 0.66$ and \bar{m}_{pc3}^t ;

critical, explosive — $e_{pc4} = 1$ and \bar{m}_{pc4}^t ;

I cannot say — $e_{pc5} = 0.5$ and \bar{m}_{pc5}^t .

The closer the coefficient value to 1, the more critical, explosive the situation in the country is estimated to be. As follows from the graph in figure 2, up to the year 2000 the political situation in the country was assessed as tense and critical; according to population assessments, since 2001 it is tense and calm.

Low incomes, income differentiation of population and social contrasts form *mass protest moods*. Protest moods are particularly noted by the part of the population, whose living standards have declined. The official statistics on mass actions is not publicly available. The number and the form of protest actions can be inferred by the individual data of the Ministry of Internal Affairs

and political movements. While they provide rather controversial picture of the citizens' protest activities, the

significant level of protest potential is obvious, especially at the beginning of the analysed period.

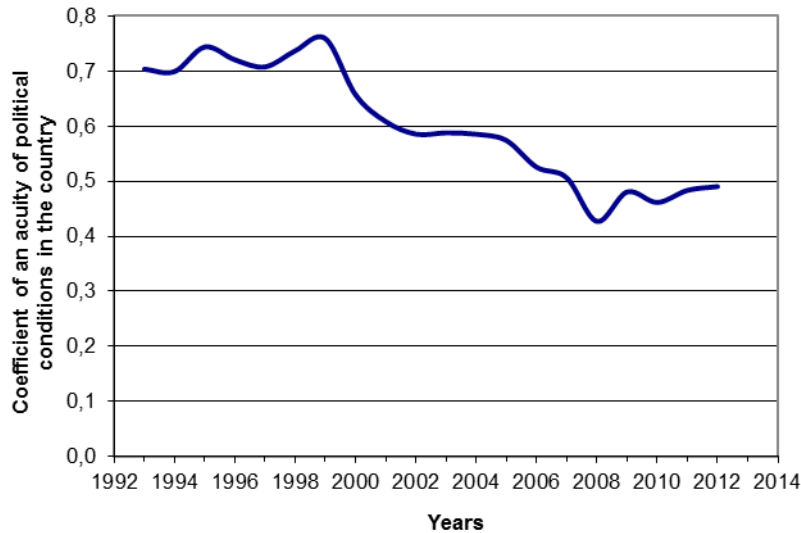


Fig. 2. Coefficient of the acuteness of the political situation in the country

The picture is also corroborated by the results of the sociological poll [3, 1993–2012]. In response to the question “What, in your opinion, is the probability of mass actions of population against drop in the living standards, for the protection of human rights in your city/settlement at present?”, the respondents chose one of the several answers (“it is quite possible”; “it is unlikely”; “I don’t know/I cannot say”).

The monitoring shows that the probability of mass actions of population against drop in the living standards, for the protection of human rights was considered higher by respondents in 1997 and 1998. During these years 35–40% of respondents on average by year chose the response “it is quite possible”. In certain surveys of these years the probability of mass actions was estimated to be 45–48%. 31% of respondents on average by year considered such actions quite possible in 1993 and 1999, while in certain surveys the share of such responses made up 35–40%. Protest potential was observed to increase again during the second financial crisis; in 2009 and beyond this fact was noted by 28–30% of respondents. In the remaining years the probability of mass actions was estimated to be 21–28%. On the whole, the answer “it is unlikely” prevailed over the answer “it is quite possible” during all years of the analysed period.

The coefficient of public protest potential reflects the overall assessment of the probability of mass protest actions. It is defined as weighted arithmetic mean of the respondents' assessments, and it is expressed in the form of the coefficient:

$$Q_{pp}^t = \sum_v e_{ppv} \bar{m}_{ppv}^t,$$

where Q_{pp}^t – coefficient of public protest potential in t year $Q_{pp}^t = [0.1; 0.9]$;

$v = 1...3$ — number of response choices when assessing the level of public protest potential;

e_{ppv}, \bar{m}_{ppv}^t — assessment of the probability of mass actions of population and the average share of respondents in t year, giving the corresponding assessment:

it is quite possible — $e_{pp1} = 0.9$ and \bar{m}_{pp1}^t ;

it is unlikely — $e_{pp2} = 0.1$ and \bar{m}_{pp2}^t ;

I don’t know/I cannot say — $e_{pp3} = 0.5$ and \bar{m}_{pp3}^t .

The higher the value of the coefficient is, the more sure the respondents are of the probability of protest actions in their settlement. The dynamics of values of the coefficient of public protest potential is presented in figure 3.

As follows from the graph, the highest level of public protest potential was observed in 1997–1999, when it reached the values of 0.42–0.49, and the lowest level was registered in 2002 (0.3). The years of economic changes and the first financial crisis were accompanied by the growth of public protest potential. In the remaining years the probability of mass actions was estimated as “rather unlikely”.

However, according to VCIOM surveys, the overwhelming majority of Russians (92%) never participated in strikes. Every fifth Russian citizen (21%) considers it unnecessary to support strikers. Those respondents, who are confident such actions are necessary, note rallies and petitions as effective methods (24% and 25% of respondents respectively). Gathering money and products for participants of protest actions and their families, as well as solidarity strikes, are marked by 12% of respondents (for each). Those who

do not consider it necessary to support strikers are mainly Muscovites and Petersburgians (32%), as well as

respondents residing in localities of less than 50 thousand of inhabitants (56%).

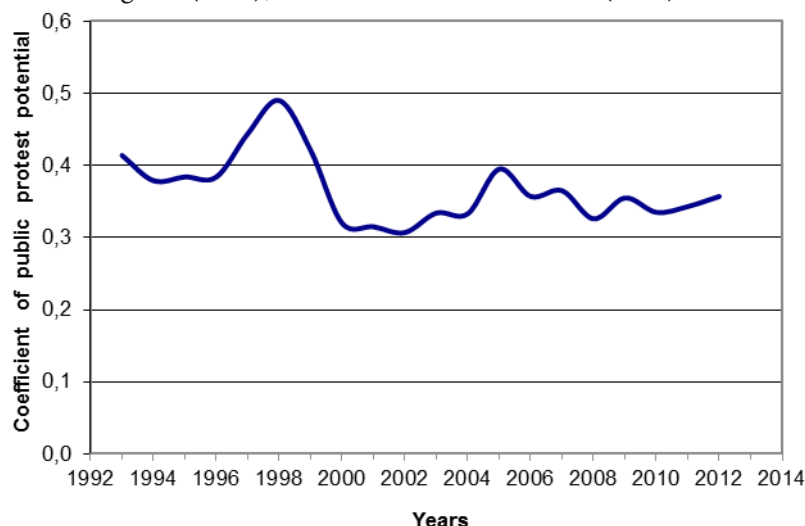


Fig. 3. Coefficient of public protest potential

Political conditions in the country are indirectly characterised by the *predictive assessment of the political situation* in the country. The assessment is determined by the results of the responses to the question “In your opinion, what expects Russia the next months in political life?” in sociological polls [3, 1994–2012; 4, 1993; 5, 2008, 2009, 2012]. The responses offered in the questionnaire are the following: “significant improvement of the situation”, “some improvement of the situation”, “some deterioration of the situation”, “significant deterioration of the situation”, “It is hard to tell”.

According to the opinion poll results, negative forecasts prevailed in the 1993–1999 period. Subsequently, the forecasts became more positive. The most positive forecasts were observed in 2008 with half of the respondents

(50%) choosing the responses “significant improvement of the situation” and “some improvement of the situation”. In the remaining years the forecast of the political situation was more pessimistic.

The coefficient of political optimism gives general characteristic of political forecasts (Fig. 4). It is calculated as the difference between positive and negative predictive assessments of respondents. Positive assessments include the responses “some improvement” and “significant improvement of the situation”, negative assessments — “some deterioration” or “significant deterioration of the situation”. In this case 0 signifies neutral assessment, positive values are considered as the optimistic forecast of political prospects, negative values — as the pessimistic forecast.

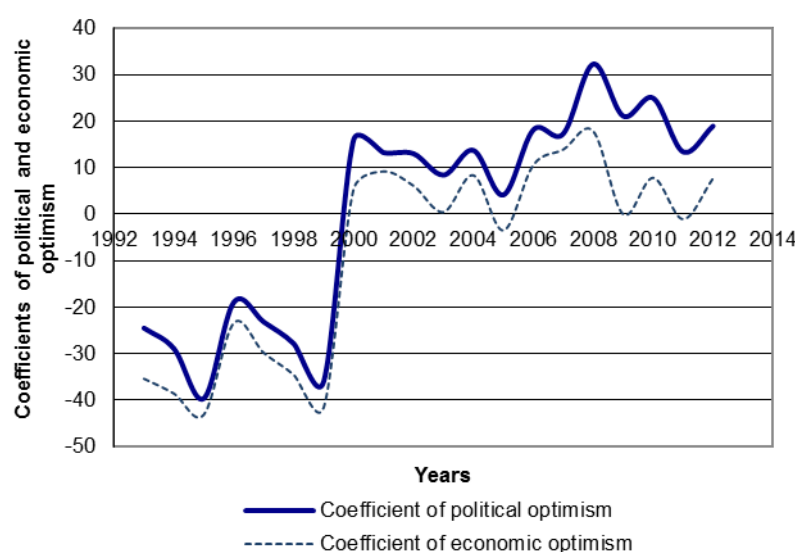


Fig. 4. Coefficients of political and economic optimism

The curve of economic optimism is presented in the same graph for comparison. The forecast of the situation

for the economic sector is constructed on the basis of the emotional reaction of the population to the state and changes of the economic situation in a country or in a region. The assessment of the economic optimism is set based on the respondents' choice of an answer to the question "In your opinion, what awaits Russia in the economic sector in the coming months?" [3, 1993–2012; 5, 2008, 2009, 2012]. The questionnaire offers the same variants of answers as for the assessment of political prospects. The overall coefficient of economic optimism is determined identically to the coefficient of political optimism.

As follows from the graphs, the curve of political optimism retraces the curve of economic optimism to a considerable degree. It can be inferred from the graphs that until 2000 the subjective forecasts of both political and economic situation were pessimistic, subsequently becoming neutral or optimistic. In general, political forecasts are more optimistic than economic forecasts, particularly at the end of the analysed period.

Set of the population assessments of the political environment reflects the *subjective image of the political situation in the country*. It is characterised by the received coefficients: acuteness of the political situation in the country; public protest potential and political optimism. The overall indicator — the aggregate indicator of the assessment of the domestic political environment — is constructed on the basis of these coefficients.

Since the coefficients are constructed on different logic and have different variation of values, it is necessary to reduce them to the comparable form. Hereafter the aggregate indicators are constructed according to the following algorithm:

a) all coefficients are reduced to the form reflecting the positivity of assessments;

b) due to different variation of coefficients values, z-set is constructed for each of them:

$$\tilde{x}_i = \frac{x_i^t - \bar{x}_i}{\tilde{A}_i},$$

where x_i^t — value of i coefficient in t year;

\bar{x}_i — average value of i coefficient for the analysed period;

σ_i — mean-square deviation of i indicator;

c) rationing is performed through nonlinear transformation:

$$x_i^t = \frac{1}{1 + e^{-\tilde{x}_i}}.$$

As a result, it is possible to determine the corresponding standardized indicator, which ranges from 0 to 1, while the average ratio is 0.5. Increase of the indicator value implies the rising positivity of the assessment.

The dynamics of the values of the aggregate indicator of positivity of the assessment of the political situation in the country is presented in figure 5.

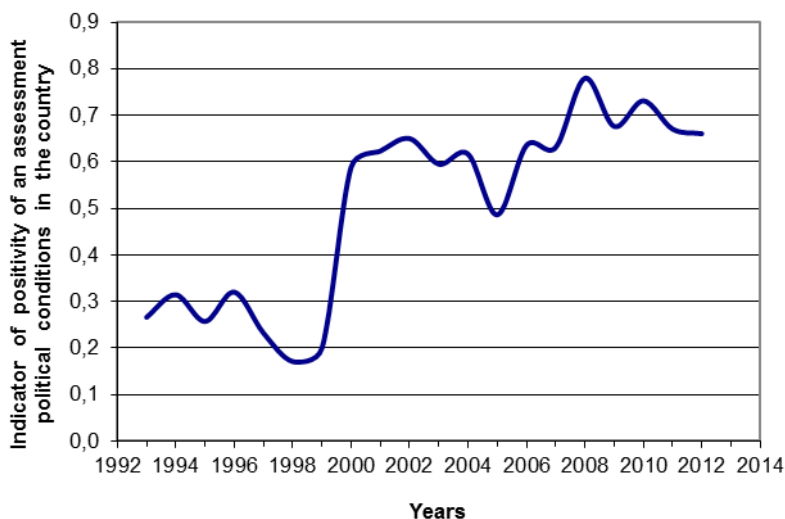


Fig. 5. The aggregate indicator of the positivity of the assessment of the political situation in the country

The negative image of the political situation in the country was marked by the respondents at the beginning of the analysed period (until 1999), when the level of the aggregate indicator did not reach the value of 0.4. The intensification of negative political environment was also noted in 2005 and during the second financial crisis at the end of the analysed period. On the whole, since

2000, the domestic political environment was estimated to be neutral or positive.

Assessment of the state authorities

State power represents the system of political institutes that are engaged in the organisation of social life in certain territories. The power is divided into legislative, executive and judicial branches, which have state powers,

perform certain state functions and act within the scope of their competence and the powers granted. The President holds a special place in the system of public authorities, being the Head of State and the guarantor of rights and freedoms of citizens. The Federal Assembly of the Russian Federation (the Federation Council and the State Duma) exercises legislative power. The Government of the Russian Federation is the supreme body of the executive power. Federal courts represent judicial power. The President and the Government of the Russian Federation exercise the powers of the federal government throughout Russia. Increasing negative attitude to the government is one of the signs of the conflictogenity of society.

The effective governance of society requires that the population trusts and approves of the activities of the state authorities. In this regard, it is necessary to estimate the level of people's trust in and approval of the activities of the state authorities, first of all, the Government and the President of the country. Should the assessments be negative, certain measures aimed at the formation of more positive image of the government in mass consciousness are to be adopted in order to prevent negative emotional and behavioural response of the population.

Transformation periods in the state are accompanied, as a rule, by the weakening of the government. The economic life of the country is profoundly affected by the level of political stability, governmental ability to face challenges. Weak government is not fully capable of

collecting taxes and complying with financial obligations from non-inflationary sources of funds. The impossibility to balance budgetary income and expenditure leads to budget crisis, the aggravation of problems concerning fiscal commitments. The possibilities guaranteeing the fulfilment of contracts are reduced. When the vertical state power structure weakens, the authorities have to solve routine society's problems rather than to perform strategic functions.

Strong disagreements between powerful factions weaken the Government. 86% of respondents indicated the presence of such disagreements in the sociological research "What Russians are afraid of?" in 2008. The study of the level of people's trust in state and public institutions demonstrated that the population has the least confidence in parties (13%), judicial system (21%), law enforcement agencies (24%), trade unions (23%). 60% of the population trusted the Government, while only 29% of the population had confidence in the State Duma [6].

The dynamics of the subjective assessment of the government is determined on the basis of the data from the monitoring of social and economic changes [3, 1993–2008, 2012]. The assessment of the activities of the state authorities in general, according to the monitoring results is reflected by two indicators: weakness of the government and conflicts within the country's leadership according to population estimates.

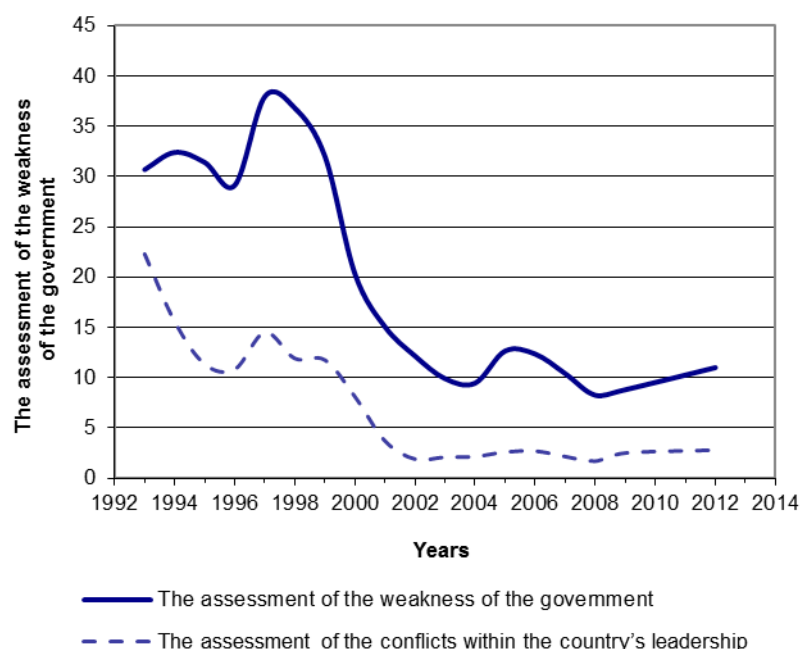


Fig. 6. The assessment of the weakness of the government and conflicts within the country's leadership

Until the year 2000 *the weakness of the government* was marked by 29–37% of respondents. Since 2000,

with the newly elected President of the country coming to power, this fact was reported by no more than 15%

of respondents, which indicates the strengthening of the government according to population estimates. The dynamics of the assessment of conflicts within the country's leadership (between different branches of government) is similar (fig. 6). Higher level of conflictogenity within the country's leadership was also noted in the first half of the analysed period. The financial crisis at the end of the analysed period intensified the negativity of the assessment of the government again.

The population attitude to the President of Russia is reflected by the indicator, characterising *trust in the President*. The level of trust in the incumbent President of Russia was monitored according to representative samples in the sociological polls of the monitoring of social and economic changes [3, 1993–2006] and FOMnibus [7, 2003–2012]. The respondents answered a question, concerning trust in the President of Russia. They were offered to choose one of the answers, expressing their trust in the President, distrust of the President, or providing no answer.

At the beginning of the analysed period the confidence of respondents in the President (“I more likely trust”) did not exceed 28% (1997). In certain years the confidence in the President was absolutely low (3% in the autumn of 1998 and in 1999). Accordingly, the most distrust (“I more likely distrust” or “I completely distrust”) was expressed to the then President B.N. Yeltsin in the autumn of 1998 and in 1999 (91% of the population).

On the election of V.V. Putin as the President of Russia the following year, already more than half of the population expressed their trust in the President (52% as compared to 2% to B.N. Yeltsin previous year). Nevertheless, more than third of the population still expressed distrust (37%). During all the years of V.V. Putin presidency more than half of the population trusted him (from 52% in 2000 to 66% in 2007). Distrust was expressed by 37% of respondents in 2000 to 8% in 2008.

The number of respondents, who trusted President D.A. Medvedev, was slightly lower, and it decreased on an annual basis from 55% in 2008 to 43% in 2012. Nevertheless, about half of the population in those years trusted the incumbent President of the country. Accordingly, from 10% (in 2008) to 18% (in 2011–2012) of the population distrusted the incumbent President of the country.

The generalising coefficient of trust in the incumbent President of the country is constructed on the basis of poll results. It is defined as the difference between the part of the population, who trust, and the part of the population, who distrust the President. The dynamics of the coefficient is presented in figure 7. In the 2003–2006 period the results of two polls are superimposed on one another in time and slightly differ; hence, the interval of variation in respondent opinions during these years is shown by a dotted line.

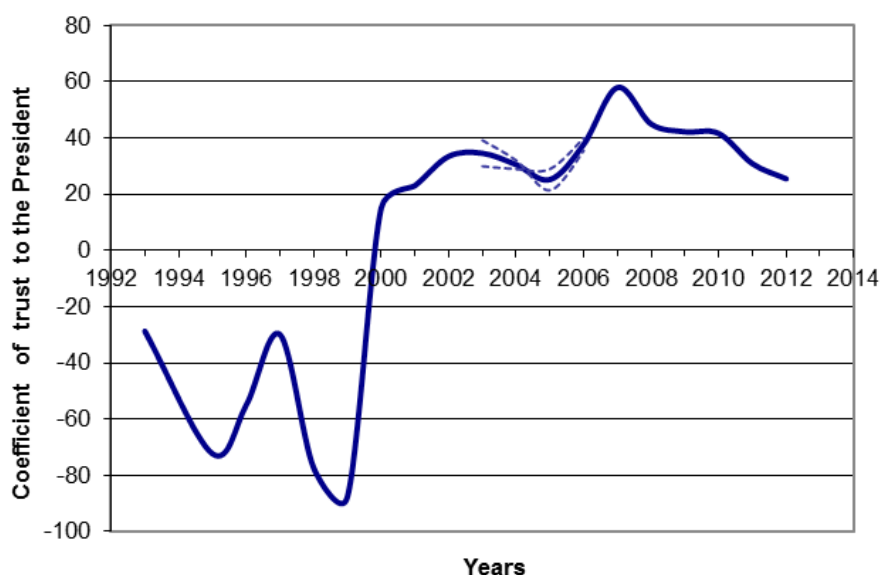


Fig. 7. Coefficient of population trust in the President of the country

As a result, it can be seen that in general, until 2000 the attitude to the incumbent President of the country (B.N. Yeltsin) was negative, due to the following reason: B.N. Yeltsin's activities have been directed at the destruction of the existing economic system. How-

ever, this period dragged on, and the population got tired of economic and political uncertainty, decrease in the level of income and unemployment. Following the election of V.V. Putin as the President of Russia the population hoped that the social and economic situation in

the country would improve. In the following years the attitude to the incumbent President changed by year in the period under review, but remained generally positive.

The population attitude to the Government is reflected by the indicators, characterising trust in and approval of its activities. The level of trust in the incumbent Government of Russia was monitored in the sociological polls of 1993–2006 [3, 1993–2006]. The respondents answered the question “To what extent do you trust the Government of Russia?”. The responses offered in the questionnaire were the following: “completely distrust”, “rather distrust”, “rather trust”, “it is hard to tell”. Since 2003 the assessment of the approval of the activities of the incumbent Government was made. The respondents answered the question, reflecting the level of the approval of the government activities. The responses offered were the following: “absolutely yes”; “rather yes”; “rather no”; “absolutely no”; “it is hard to tell”.

The most confidence in the incumbent Government (“rather trust”) was observed in 2008. However, only third of the population (32%) trusted the Government of Russia that year. The population expressed the least confidence in the Government (“rather distrust” or “absolutely distrust”) in 1995–1999. During those years

three quarters of the population (73–79%) considered the Government not be trusted.

The approval level of the activities of the incumbent Government (“absolutely yes” or “rather yes”) had been increasing from 28% of respondents in 2005 to 62% in 2009 with the subsequent decrease of the coefficient up to 49%. Accordingly, half of the population (50%) did not approve of the Government activities in 2005. In the following years the share of the population disapproving the Government activities fell to 23% in 2008 with the subsequent growth of the coefficient to 42% in 2012.

As a consequence of the rearrangement of the poll results, the three groups of responses characterising the attitude to the incumbent Government (negative attitude, positive attitude, hard to tell) were formed, and the overall coefficient of the positivity of the population attitude to the Government of the country was constructed (fig. 8). The coefficient is calculated as the difference between positive and negative assessments. In the 2003–2008 period the results of two polls are superimposed on one another in time and differ; hence, the interval of variation in respondent opinions during these years is shown by a dotted line.

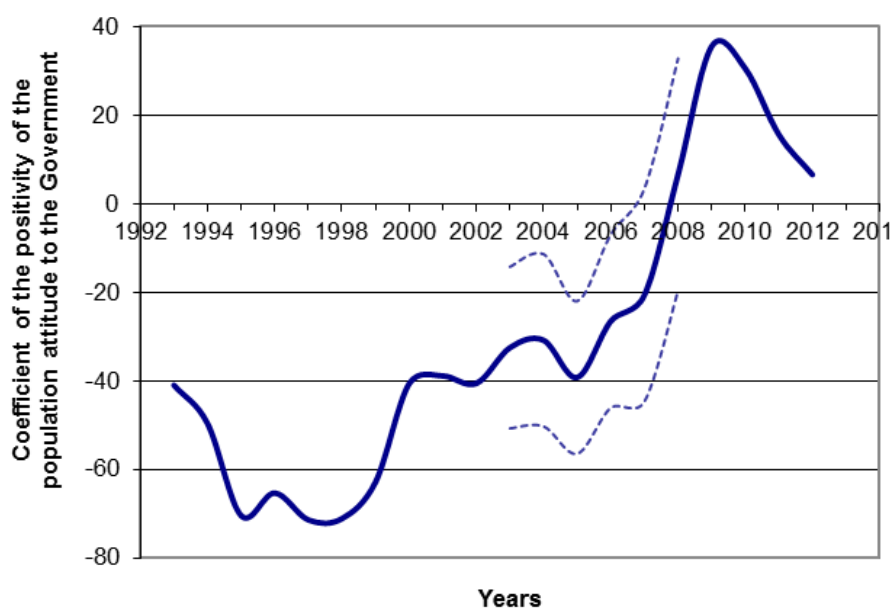


Fig. 8. Coefficient of the positivity of the population attitude to the Government of Russia

As follows from the graph, until 2008 the attitude to the Government of the country was generally negative, but the level of negativity had been decreasing since 1999, and at the end of the analysed period the attitude to the incumbent Government became positive.

According to available information, the subjective image of the activities of the state authorities is characterised by the aggregate indicator of the positivity

of the assessment of the state authorities based on four indicators: the coefficient of the population attitude to the President, the coefficient of the population attitude to the Government of the country, the assessment of the weakness of the government, the assessment of conflicts within the country's leadership. The dynamics of the aggregate indicator of the assessment of the state authorities is demonstrated in figure 9.

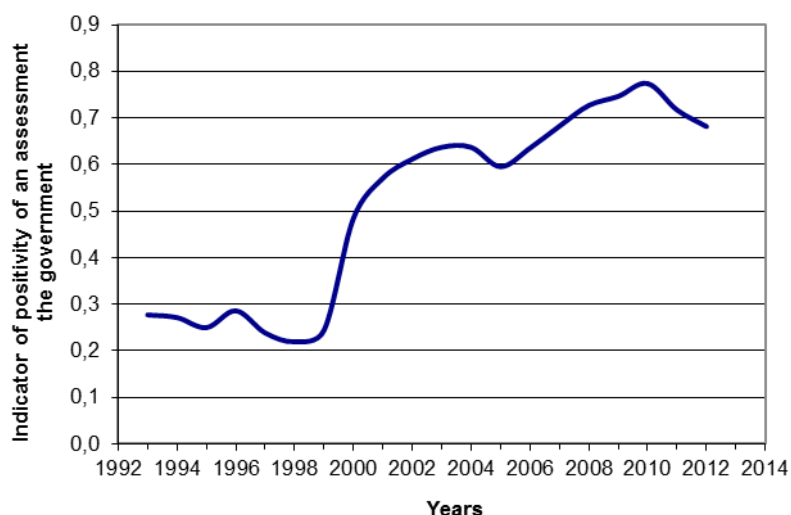


Fig. 9. The aggregate indicator of the positivity of the assessment of the state authorities

On the whole, the overall tendency of the assessment of the activities of the state authorities on the basis of the analysed indicators is to increase the positivity of the assessment. Decrease in the positivity of the assessment was observed in 1998–1999, in the year 2005, and in 2011–2012. In addition, the activities of the President are perceived by the population through the prism of a certain individual and depending on the ability to resolve social and economic problems.

Assessment of Russian political sphere

The overall aggregate indicator of the assessment of Russian political sphere is constructed on the basis of two aggregate indicators of the positivity of the assessment of the political situation in the country and of the state authorities. The dynamics of this indicator by year is graphically presented in *figure 10*. The dotted lines in the figure show the graphs of the positivity of the assessment of the country's political situation and the state authorities.

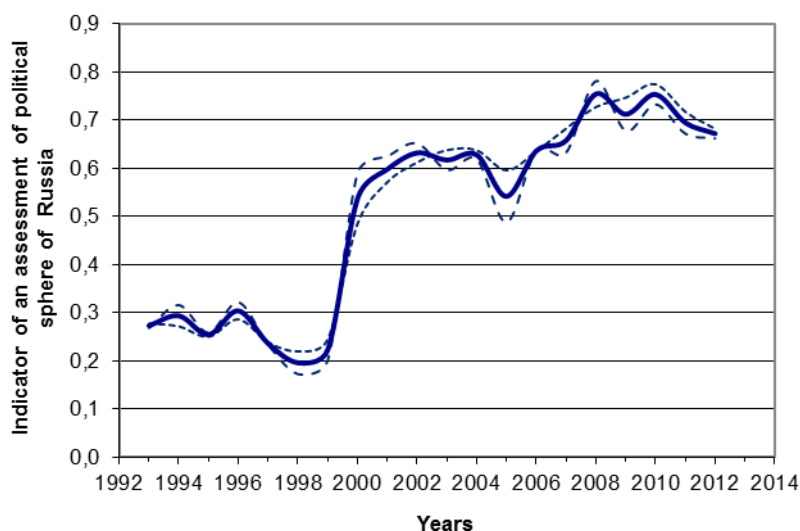


Fig. 10. The aggregate indicator of the positivity of the assessment of Russian political sphere

Testing of all aggregate indicators evidenced their high quality. Upon availability of the additional sociological polls data, characterising the political situation in the country and the activities of the state authorities, the set of indicators covered by the indicator of the assessment of the country's political sphere, can be expanded.

Conclusion

The results of sociological polls allow us to identify the subjective images of the domestic political

environment and the activities of the state authorities in the country, to construct the set of coefficients characterising the subjective image of Russian political sphere in mass consciousness. The aggregate indicators enable us to obtain the overall population assessment of the positivity of the political situation in the country, positivity of the assessment of the state authorities, and positivity of the assessment of Russian political sphere as a whole.

The dynamics of the aggregate indicators suggests that the positivity of the assessments of the domestic political environment and the activities of the state authorities in the country, as well as of the political sphere as a whole, tends to increase since 2000, except for the year 2005 and the

years of the financial crisis at the end of the analysed period.

The subjective image of the country's political sphere should be considered in the process of governing society. The suggested tools allow estimating the options of management measures in the political sphere of social life.

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Political expert as a self-sufficient party of political analytics

Abstract: The author examines theoretical essence and methodological specificity of the political expert's professional activities, seeing the expert as a self-sufficient party of political analytics. The author maintains that political expert, in their professional activities, is guided mainly by qualitative methods and procedures of research, worked out by the analysis of politics, rather than quantitative ones, which are more of use for the political analyst. The former also actively uses their own superindividual intellectual faculties, professional knowledge, and personal experience.

Key words: political analyst, political expert, qualitative and quantitative methods and procedures of political research, self-sufficient party of political analytics.

The actual value of the research into essential characteristics of the political expert as a self-sufficient party of political analytics is determined, first of all, by the experts' ever-increasing sociopolitical significance. During the recent decades the political expert has become one of the leading parties within the system of public reproduction of political power in a modern society of highly-developed democracy [1, 1].

Secondly, the necessity of close research of these problems is called for by its poor academic readiness. Today, you will hardly find any special academic works, which would analyse the above-mentioned details of the

political analyst and political expert's professional activities as representation of their status as self-sufficient parties of modern political analytics.

That is why the purpose of this article lies exactly in trying to identify the specificity of the political expert's procedural and functional significance in the modern process of political analysis and expertise. This must be the basis for showing the expert's professional self-reliance as one of the leading parties in the scientific process of preparing, taking and implementing political decisions and programs. Starting to execute the above-formulated purpose of the research, we must state from

the very beginning that the notion “party” as used here is not accidental and refers to essential characteristics of the political analyst and political expert as the main figures in the modern political analytics. First of all, it is by no means accidental because it has an exact purpose, namely, to identify and establish their definite professional specificity, both procedural and functional, which cannot be rendered with such seemingly synonymous notions as, for instance, “actor,” “doer” or “executor.” “Party” can only refer to a person having freedom of choice when taking decisions and, what is still more important, freedom of choice in defining their objective. These qualities result from the person’s ability to self-reflection [2, 128]. The party always occupies certain position in the space-time continuum and has the right to choose and defend their own point of view, ready to take the ensuing responsibility. As distinctive from this, the executor or doer is a person who only “executes (the task set by someone else or by some body of power)” or “does something,” [3, 137], while the actor’s imminent quality is their subjectivity [4, 59].

Thus, the party is the one who not only learns and acts, but who also possesses such attributive qualities as self-institutionalization, self-assertion, which by definition are not characteristic to either actor or executor.

If we, moreover, proceed from the statement that being a party means “belonging to an active, creative person who authors the action” [5, 126], then a real possibility emerges to consider procedural functions of political analyst and political expert, in the process of preparing, taking and implementing political decisions and programs, as creatively unique professional activities in relation to each other. This is a particularly important point to implement in our research with due consideration of the fact that, in political science literature, there have been done first and rather successful (in our opinion) attempts to scientifically define the above-mentioned specificity, exemplificative for the activities of no other than the political expert. Thus, the authors of a specialized German dictionary on political science, when defining the specific features of professional activities of the participants in the process of expertise and analysis, justly note that a modern political expert is “a person, who on the basis of their special knowledge and/or their personal experience, is invited for giving necessary information, advice or other assistance. A council of experts is indispensable in the process of political decision-making, during various hearings etc.” [6, 679]

From this, the question arises, quite naturally for the sake of further studying the problem we are interested in:

What exact professional qualities should the political expert possess in order of being able to fulfil their creative procedural functions, thus justifying their indispensability in a modern process of expertise and analysis?

Looking for an answer to this question, we should remember the following. If we consider professional qualities of the expert from the point of view of ideal requirements, which they should meet as professionals and civil servants in the sphere of political analysis, then such requirements — as Canadian Prof. Paul Brown has shown in his study of the problem — can be grouped in six divisions: 1) knowledge, 2) managerial abilities, 3) technical skills, 4) intellectual abilities, 5) art of communication and 6) personal qualities [7]. It is noteworthy that the above-mentioned requirements, according to Prof. Brown, should apply to a team of analysts as entity rather than to an individual political analyst. And, what is yet more important, these requirements can vary greatly, depending on the specific tasks of different governmental departments and on specific types of political researches [7].

This view is shared by a well-known Russian academician M. Khrustalyov, who thinks that “the degree of differentiation between professional specializations is quite high, which fact poses a problem for the organizers of team expertises — that of the right correlation of experts belonging to different categories within the team in order to ensure the complex study of the object to be studied.” [8, 92–93]. This is why the rigorous selection of experts plays an especially important part in the whole process. The real problem lies in the fact that increasing the number of team members never increases (but rather often decreases) the accuracy of the results expected. The more members you have in the team, the higher is the probability of inviting persons who do not meet the requirements to an expert as such. What requirements do we mean exactly in this case?

According to M. Khrustalyov, the total complex of qualities, which a modern political expert must have to carry out their professional procedural functions successfully, can be divided into four main groups: competence, professional experience, intellect, personal disposition [8, 92]. The basic requirement is competence, that is a free command of a considerable amount of special knowledge in political science, because the expert is, first and foremost, a highly qualified professional in a certain branch of science. Yet, for a modern political expert, this quality alone is absolutely necessary but obviously not sufficient. Considering the complex nature of politics, one should have rather deep knowledge in some related sciences, such

as economics, law, military science etc. So, a modern political expert's competence combines at least two constituent parts: the core one and the associated one.

Though the core knowledge is undoubtedly dominant, the knowledge of associated branches is also very important, because the latter largely determines the expert's erudition, one of the most significant qualities. A person that lacks erudition can never work as an expert, especially as a political expert. The insufficient level of erudition, even despite free command of the core knowledge, puts a dramatical limit to the expert's procedural analytical capabilities, turning the expert, more often than not, into a source of nothing else than registered facts, that is, into a political analyst. In order to fully implement a competent political expert's high potential it must be strongly supported by the expert's participation in executing professional research projects as well as by their experience of applied political analyses, aimed at preparing, taking and implementing political decisions. "The expert's professional competence, says M. Khrustalyov, is determined, all told, by possession of optimal combination of knowledge and practical skills." [8, 93]

There are certain specific features of forming such a combination up. Firstly, training the analytical skills is always followed by accumulation of knowledge — never the other way round, that is, the accumulation of knowledge in itself cannot lead to acquisition of the skills one needs. Then, the accumulation of knowledge on the object studied inevitably has some rational limit, which can be described as "threshold of informational satiation." Crossing that threshold does not increase one's analytical capabilities, but only decreases them. This happens because the desire to obtain maximum of information possible — quite natural by itself — leads gradually, even contrary to the researcher's personal will, to their concentration on small and petty details of the situation studied, while the integral vision of the whole situation becomes more and more obscure.

Secondly, adding theoretical knowledge requires much less time and effort than working out analytical skills. Consequently, the loss or weakening of the latter may prove to be irreparable, while specialized theoretical knowledge can always be regained [8, 93].

Thus, we can come to the conclusion that a political expert's intellectual level must always be kept sufficiently high, because otherwise the expert would be unable to carry out their specific professional procedural functions in the process of analysis and expertise, being reduced to more or less qualified specialist in the field of

preparing, taking and implementing political decisions and programs.

Still, as M. Khrustalyov aptly noted, "this presupposes, not rules out, the presence of qualitatively heterogeneous intellect. Due to the fact that experts use logical and intuitive method of research, essential differences of their intellects are predetermined by the correlation of logical capabilities and intuition." [8, 94] Overcoming the normal limits leads to emergence of professionals with outstanding logical capabilities or exclusively developed intuition. Considering this, M. Khrustalyov quite soundly proposes to work out their typology: to divide experts into categories of ordinary and extraordinary ones, the latter being further divided into experts-rationalists and experts-intuitivists. An ordinary expert is the one who possesses good analytical capabilities and average (sometimes even good) prognostic capabilities. Expert-rationalist has excellent analytical and good prognostic capabilities, while intuitivist has average (sometimes good) analytical and excellent prognostic capabilities [8, 94].

So, speaking of ordinary experts taking part in preparing, taking and implementing political decisions and programs, we can state that, in principle, they are able to provide for rather reliable analytical and prognostic results, while their extraordinary colleagues produce outstanding results. Cathrine Milkman, Dolly Chugh and Max Bazerman, who studied the problem of intuition's impact on the process of decision-making, justly noted: "The more we understand intuition's impact on the process of decision-making, the deeper we strive to dive into inventing new strategies, which are to be based on experience." [9, 9–10] Such a situation is caused by the fact that great portion of procedural functions, which play major role in expertise and analytical process of political decision-making, cannot be expressed by mathematical formulae. At first the invention of PCs and their use in mathematical simulation promoted the misconception that PCs would help to avoid in principle the intuitive nature of choosing the optimal decision. Experience soon disproved those illusions — even in cases of the so-called rationally motivated choice. As a well-known Russian academician O. Larichev convincingly proved in his works, computer, mathematical and other methods of strict formalizing the process of choosing the right decisions are but auxiliary means for persons who carry out the final choice of decisions, while intuition was and still remains the main method of working out the model [10, 190]. This is no surprise because intuitive judgments are widely used the process of expertise

and analysis as early as on the very first stage of formalizing the primary data, when defining significant factors for initial modeling [11, 75]. In this process, cyclic by its nature, the same type of judgments is further used on the next stage as there, like on the first stage, we need the informal component of intuition: modeling the prognosticated object is the invention of something new, and intuition is the only means that can help us to go beyond the limits of what is already known [12, 179].

The most specific feature of creative intuition lies exactly in discovering the essential foundations, which are very far from perfunctory study. An intuitively creative person not only singles out separate properties of things and their interrelation, but also draws out such specific features, significant albeit hidden from first glance, that allow by themselves to discriminate between the intuitive and strictly analytical [13, 195]. Creative intuition is a specific form of world outlook, of perception of the world, of creative search. Each creative act has its unique degree of intuitive inspiration. The so-called “everyday intuition” helps us in taking the right decisions, in finding the only way out of a complicated wordly situation, it is a guide in finding solutions for everyday petty problems. Heuristic intuition is characterized by realizing absolutely new ways of development, special methods and plans of action, which do not need logical substantiation [13, 197].

All that taken for granted, A. Ivanov justly stresses, one must not consider intuition as something contrary to positive knowledge and rational thinking, because “... it harmoniously intertwines with the rational cognition up to putting forward the notion of ‘rational intuition’ (or intellectual intuition), simply indispensable for New European Rationalism (from René Descartes to Edmund Husserl). Intuitive cognition is not irrational, but rather extra-rational as it *amplifies* (italicized by V. R.) the rational cognition quite like humanitarian rationality amplifies conceptual rationality” [14, 503]. In spite of absence of generally accepted concept, which would enable us to review and analyse the very mechanism of how intuition works [15, 127], we nevertheless already know that — as far as creativity is concerned — this mechanism is not only very complicated (what is justly stressed by N. Belyakin и Ye. Cherepanov [16, 100–101]), but also very durable. Intuition works from the moment of one’s realizing the sense of the problem up to obtaining the clue to its solution, that is from the stage of preparation to the flash of inspiration, or insight. The moment of insight, of generation of an idea is the culmination of intuitive creative process [17, 9–10].

In other words, the flash of inspiration results from the lasting extramental labor. For some time, one has to live considering the problem but lacking the key to its solution, and then, at a certain point, it is almost sure to flash in one’s brain like a lightning, bringing an exciting insight of exclusive depth, clear vision, flight of spirit, the happiness of a real breakthrough. This is why we are inclined to agree with the researchers who maintain that — as far as expertise in analysis is concerned — “one can be taught it, but never really learn it, because it can be mastered only with necessary inborn abilities and, with those, only by way of constant training them, while self-education is obligatory as the means of self-perfection.” [18, 20] A political expert, at least, unlike a political analyst, needs ten years or more (according to those who specially studied the problem) in order to form up two main and closely correlated components: basic knowledge and schemes of cognition. Academic scientists have even formulated a special concept to assess the level of the expert’s professional training, calling it “intellectual threshold.” It expresses a certain minimum level of intellectual development that allows the expert to carry out their professional tasks [19, 232]. Alongside with it, when speaking of the advantages of expert methods and procedures, which necessarily prevail over strictly formalized methods and procedures in the process of expertise and analysis, one should remember that real significance of procedures and functions is not to be overestimated. At the same time one should not underestimate the significance of formalized methods and procedures, because in real processes of preparing, taking and implementing political decisions and programs all these *actually different* methods and types of analytical activities are closely and naturally *intertwined and interdependent*. It is sufficient to mention the indisputable fact that scientists, as a rule, analyse and process the expert data, relying on mathematical methods, whose precision largely defines the success of the consequent method of the expert’s assessment [20, 15].

So, as we see it, one can speak in this case of attaining a certain ideal balance both in the use of formalized and intuitive methods and procedures of research and in the real procedural and functional professional activities of a political analyst and a political expert, with due consideration of their accrual roles within the system of social division of labor. This is, first of all, called forth by the very specificity of expertise. None of its registered opinions and judgments is, strictly speaking, a scientific explanation or a neutral general conclusion.

Secondly, the necessity of the balance mentioned above is greatly caused by political expertise playing highly special functional role within the system of the expert and analyst's joint efforts. The expert plays the part of the *importer* of relevant information on political realia, taken from scientific sources and adapted for the needs of current communication and actual political and administrative problems [21, 111]. The analyst, on the other hand, generally works out basic scientific data, using for this end chiefly quantitative and strictly formalized methods and procedures of research.

For the sake of preserving impartiality we must observe that, in practical ensuring of the process of expertise and analysis, it is extremely difficult to achieve the above-mentioned ideal procedural and functional balance of professional activities of a political analyst and political expert; in some cases, it may prove to be impossible at all. This can be explained by the fact that each of these professionals, in the process of studying political problems, has to use, to some extent, the whole arsenal of the instruments available, both formalized and intuitive methods and procedures of analysis. In fact, it is equally impossible to reduce the whole complex process of expertise and analysis to the participation of only one figure, that of a political analyst or a political expert. Such an approach would contradict natural processes of differentiation and integration of various branches of political science and their applied use. The point is that the appropriateness established above — that of the process of expertise and analysis depending on the nature of the methods and procedures involved [22, 29–42] — revealed itself, with time, not only in new types of professional activities, but also in the course of development of natural process of differentiation and integration in political science and was realized in corresponding institutionalisation of a separate branch of politically-administrative scientific knowledge, known as *the analysis of politics*. The emergence of this new branch of science of political administration has become, in fact, a logical manifestation of a peculiar unity of *the general* (political analysis) and *the particular* (analysis of politics) — in the process of expertise and analysis for preparing, taking and implementing political decisions and programs. Due to that, the political expert, quite like political analyst, must now be regarded as a self-sufficient party of the process of expertise and analysis, because they rely, in their professional activities, mainly on purely professional methods and procedures of research — qualitative, worked out by the very process of analyz-

ing political problems — as well as on their own individual intellectual capabilities, professional knowledge and experience. Thus, the whole activities of the expert, unlike that of the analyst, are aimed, directly or indirectly, at working out a potentially uniting (expert's) language, which would commensurate and reconcile all the political positions defended by participants in the process of preparing, taking and implementing political decisions and programs. This is exactly why such a dramatic necessity always arises, when making political decisions, to rely on an expert or the expert network in general rather than on an analyst [23, 233].

This is also why the very institution of political expertise has nowadays become an integral element of the process of preparing, taking and implementing political decisions and programs. Moreover, it has become — and that is still more important — an independent type of professional analytical activities.

D. L. Weimer and A. R. Vining have characterized the dynamics of this social phenomenon under present conditions, sagaciously observing that “not long ago, even fifteen years ago, very few of those involved in analyzing politics did realize their belonging to a profession called ‘analysis of politics’; still fewer specialists occupied a position of a ‘political expert.’” [24, 22] “Yet,” they go on to say, “during the recent years we saw emergence of the profession of a ‘political expert’.” Many practicing experts, specialists in various branches, joined the academics from universities to create a trade organization, ‘Association for the Analysis of national Politics and Administration’. Now they have a real trade union of political experts.” [24, 23]

Summing up all said above, we may come to certain conclusions:

1. The political expert as a bearer of socio-political analytical activities can exist only within the context of direct social division of labor with the political analyst, which fact allows us to differentiate between the participants of the process of analysis; the criterion for such a differentiation is whether or not the person in question has a specific set of professional knowledge, skills and abilities. The qualities forming up the said criterion are developed (this is the main point) under the influence of strictly defined methods and procedures of studying the object: while the political analyst uses as a professional mostly quantitative methods and procedures of analysis and represents, so to speak, “academic science”, the political expert uses mainly qualitative methods and procedures of researching and thus represents what we may call “the art” of political analysis.

2. It is exactly this circumstance that provides for carrying out specific professional functions by both of them as self-sufficient parties of political analytics. This also corroborates with both theory and practice of the process of expertise and analysis, especially in prognostication of political events and situations, where such a professional quality of a political expert as intuition has always been the only means of overcoming immense difficulties, imminent for purely logical constructions, because only intuition allows for true comprehension of flexible, changeable and complex phenomena of political affairs.

3. Regarding the political analyst and political expert, the major figures of modern political analytics, as “self-

sufficient parties” is also justified by the fact that being a party is not only a conscious act, involving responsibility, but a volitional act as well. This is manifested by utter insufficiency of scientific credibility as such for the process of preparing, taking and implementing political decisions and programs, which is formed up mainly by a political analyst. There is also a critical need for volitional efforts of all the participants in the process of expertise and analysis, the political expert being especially important as such efforts mostly belong to their procedural functions. It is this way that the right balance of three major values — analytical impartiality, responsibility before the client, and adhesion to one’s own ideals — can be achieved.

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Section 7. Psychology

Секция 7. Психология

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Revisiting the study of pedophilia phenomenon and related issues in Russia and in the world on the basis of Yuri Burlan's System Vector Psychology

Abstract: The paper is about pedophilia phenomenon. Pedophilia is a phenomenon that should be studied through innovative approaches in science. The causes of pedophilia and the early prophylaxis methods have been discovered in Yuri Burlan's System-Vector Psychology.

Keywords: Pedophilia Phenomenon, Yuri Burlan's System Vector Psychology, Issues

Pedophilia phenomenon is not socially regulated today and is not being monitored actively. The growth of the phenomenon is kept being concealed, the data on its prevalence in society as well as on its consequences being not exposed intentionally to public view. The exact causes of pedophilia were not conclusively established. This all makes us state the fact that pedophilia, though becoming more widespread, is being neither studied thoroughly, nor detected or investigated on a mass scale.

In this material we make an attempt of showing the modern state of the problem of pedophilia in Russia and around the world, using the new method — Yuri Burlan's System Vector Psychology.

Today experts "find it difficult to tell the exact number of pedophiles in Russia" [1]. At the end of 2011, the First Deputy Head of "United Russia" faction in State Duma, Tatyana Yakovleva, said that, at a rough estimate, the number of pedophiles has increased 3–4 times over the last 10 years, and the number of cases of sexually based crimes against children increased almost 20 times [ib]. According to figures from the human rights advocate, Pavel Astakhov, since the beginning of 2011, 4.9 thousand cases of crimes against sexual immunity of minors have been registered in Russia [1].

The Russian psychiatrist, Doctor of Medical Sciences, Professor of the Psychiatry and Narcology Department at Rostov State Medical University (RostGMU) and of the Faculty of Law at Southern

Federal University, A. O. Bukhanovskiy, confirms the politicians' opinions. In his interview he states that "... the number of deviations from normal behavior is growing, including the increasing number of people with pathosexual deviations. And not only in Russia — all around the world. Among them must be pedophiles whose number is growing as well. However, no one has such statistics" [2].

Pedophilia as a social phenomenon did not arise today. As we know, in a number of historical communities "... homosexual intercourse between grown-up men and boys was common alongside heterosexual intercourse" [3].

What is happening in the world then? What is the attitude of the world community towards pedophilia? The American Psychiatric Association defined pedophilia as "sexual orientation" in 2013. This definition was included in the Diagnostic and Statistical Manual of Mental Disorders (DSM 5) [4]. This is an extremely troubling sign.

And if we omit the historical retrospective review of investigations of the phenomenon of pedophilia and analyze modern scientific sources, the following facts draw our attention: firstly, Elsevier, the largest database of scientific articles, contains only 889 articles on pedophilia, at the same time, we cannot say that this is not a topical issue and that the phenomenon was studied thoroughly; secondly, in Elibrary, the Russian database of scientific articles, a "pedophilia" search

request returns only 62 results (for 23/08/2014) out of 18.821.472 articles on certain topics.

In such situation there naturally arises a question: is the miserably small number of the articles an indication that the phenomenon, which is becoming spread worldwide and which the mass media write about, is being ignored, or are there some hidden reasons behind this avoidance of studying pedophilia?

Let us consider the historical background. What was the attitude towards this phenomenon in the former socialist countries not so long ago? In the following we used the data which were cited in the article written by Molodets P. "Pedophilia — a hidden attitude of homosexuality" [5]. Thus, in the Czech Republic, until 1961, male homosexual acts were prohibited and punishable by law, and the new Czech penal code of 1961 decriminalized male homosexuality by establishing the age of consent at 18 years. In Estonia male homosexual sex was prohibited by law till 1992. After Estonia regained independence, male homosexuality was legalized, and the age of consent for male homosexual intercourse was fixed at 16. In Finland the age of consent is 16 since 1998. In Hungary, in 2002 the Hungarian Constitutional Court established the age of consent for everyone at 14. In Latvia, in 2001, the law equalized the age of consent setting it for everyone at 16. In Lithuania, in 2004, the age of consent for male homosexuals was set at 14. In Serbia the age of consent is 14 for male homosexuals and 14 for heterosexuals. In Spain the age of consent is 13. The legislative tendencies are the same in Cyprus, Slovakia, Slovenia, Sweden, and Great Britain.

So, the short review of legal systems of the European countries suggests that the tendency of the last decade was taking measures aimed at decriminalization of pedophilia and lowering the age of consent for male homosexual acts to 13–18 years in various European countries.

The scientific investigations which present to the reader the causes of pedophilia of various types, classifications of this phenomenon, and the psychological portrait of a pedophile, deserve our attention.

The opinions of some American psychologists, who "set the tone" to the investigation of the phenomenon of pedophilia, are contradictory and not comprehensible. For example, in the works of some foreign scholars pedophilia is presented as a disease or paraphilia [6–11], which should be cured; or changes in development of the brain [12–13]; or there expressed an opinion that "if having sex with a pubertal boy is acceptable, then having fantasies about it is, probably, acceptable, too. A

pedophile's thoughts are not vicious unless they imply no care for or hostility towards a child's well-being" [14].

Our preliminary research regarding this ethically complicated issue also includes studying the works of the Russian authors, which can be found in free access.

Among the leading Russian researchers of pedophilia we can name A. O. Bukhanovskiy. The scholar notes that "... a person, who engages in sexual relationships with minors, might well be a successful and great worker, outwardly problem-free. Actually, he is very often a vulnerable and self-conscious person. He finds it hard to create informal relationships with other people. At the same time, he experiences no problems in creating formal ones at work, as he easily learns the rules of these relations. That is why, one cannot easily recognize pedophiles in such people, and their colleagues always get surprised: he was always an absolutely normal person" [15].

The description of the personalities of the subjects of investigation of pedophilia was published by a physician-psychiatrist, the head of the faculty of training of personnel of the "Medical Diamond International" company, Ariel Stav, in his investigation "The psychological peculiarities of a personality with an inclination to pedophilia". The author of the article came to the following conclusions: the subjects exhibit closedness, inner conflict, lack of self-confidence, disbelief in the fact that other people may respect them, lack of self-appreciation and self-acceptance, lack of self-respect and sympathy for themselves; they experience difficulties in prediction of life events and situations, in prediction of the course of time and time allocation, difficulties in social-psychological adaptation. Their characteristic features are dependency on other people, lack of social activity and self-confidence, indecisiveness, need for other people's guidance; egoism, suspiciousness, inclination to submission; expression of physical and verbal aggression; inclination to feel guilty; anxiety as a stable personality trait determining their behavior and expressed in constant expectation of a vague threat, self-doubt and having doubts about the world around" [16].

In their research D. A. Goncharov and V. V. Agafonov presented the investigation of the Clarke Institute of Psychiatry in Canada, in which the 3 gradations of a mental disorder of pedophilia had been defined:

- sexual attraction towards prepubertal children;
- hebephilia, i. e. sexual attraction towards pubertal teens of 12–14;
- ephebophilia — sexual attraction towards postpubertal teens and adolescents over 14.

But, in the opinion of most experts, the main thing in pedophilia, regardless of its types, is sexual attraction

towards children [17, p. 197; 18, p. 166; 19].

The authors make a psychological portrait of a pedophile — this is “an immature person, emotionally unhealthy, fearful, cowardly, and timid. As a rule, this is a weak person, but at the same time, he shows signs of stubbornness combined with excessive self pity. He often leads a secretive life, but this does not mean that he cannot take an active part in social activities or have a certain position in society. His marriage ... is not that for love, that’s why ... he abuses relationships with minors, his own children or somebody else’s” [20].

In these descriptions of pedophiles one may see some similar traits of character. These are lack of self-respect, inability to create informal relationships with grown-ups, closedness, and stubbornness.

Thus, today we have such a phenomenon in society, which has colossal consequences. Its causes were not disclosed yet, it has not been studied thoroughly.

The modern science studying a human has been recently enriched with new methodologies. Emerged in the 21-th century, Yuri Burlan’s System Vector Psychology has been developed and for the first time in the world scientific practice it suggests the explanation of the phenomenon of pedophilia and a full picture of the causes and effects of pedophilic tendencies. We can find a number of facts in favour of a new system methodology in several modern research works.

As System Vector Psychology defines, each member of the social group has a certain set of psychic properties, actualization of which ensured an individual’s survival, survival of the group and of all humans as a species. In System Vector Psychology the set of natural properties is called a vector. There are eight vectors.

One of the vectors is the anal one (the properties of an individual with an accentuated anal erogenous zone were partly depicted in S. Freud’s investigation work “Character and Anal Eroticism”. People with this vector, i. e. people with particular properties — “... are neat in their habits, careful with money, stubborn, and at the same time, confused, untidy, inclined to anger and vindictiveness [21]. And further Freud specifies that “... only part of them (emerging at these spots of stimulation) are made use of in sexual life, all the rest take a different direction, other than that of providing sexual satisfaction, and are used for other purposes: sublimating — this is the right word to name this process” [ib]. Thus, S. Freud was the first to write about the correlation between an erogenous zone and some traits of character. As Yuri Burlan’s System Vector Psychology defines, there are 8 erogenous zones, each of which determines the set of properties a person has, these

properties are easy to recognize for those who attained the systemic knowledge. In the paradigm of System Vector Psychology in the 21-th century there has appeared an opportunity of the formed dimensional differentiation of each of the 8 vectors at the level of individual psychic and at the level of social interaction. Thus, people with the anal vector are diligent, loyal and careful, they find it difficult to take action, start doing something, but if they start doing something, then they carry it through and search for faults in the process, they are straightforward, strive for sharing everything only equally, fixation on the first experience is their characteristic, they possess rigid type of psychic, that is why they show firmness, stubbornness, adherence to principles, they have big sexual potential. For a person with the anal vector his relationship with his mother is of great importance. It is this relationship what determines the entire life scenario of this person. Such person likes everything to be in order — everything should lie in its place, such people strive for putting everything in order. They have a desire for gathering information, that is why they like reading, studying, possess phenomenal memory. Because of the given properties in a state of development and realization they are professionals in certain spheres — teachers, scholars.

These are exactly people with the anal vector, in terms of Yuri Burlan’s System Vector Psychology, who may have sexual attraction towards children under the influence of certain deviations in the course of development and under unfavourable influence of the environment. People with the anal vector in a state of underdevelopment and (or) in an unrealized state are potential bearers of a desire for having sexual relationships with children or adolescents who did not come of age of sexual maturation yet [22].

Like T.A. Dovgan’ and V.B. Ochirova in their investigation work “The use of Yuri Burlan’s System Vector Psychology in Criminalistics on the example of investigation of violent crimes of a sexually based type” write: “... a desire for satisfying the sexual hunger through engaging in sexual intercourse or other actions of a sexual nature towards children, indecent assault of adolescents, who did not come of age of maturation yet, could potentially arise only in males with exclusively the anal vector in a state of underdevelopment and (or) in an unrealized state” [23].

Men with the anal vector have a powerful undifferentiated libido, which makes possible the realization of the generic role, part of which is passing on the accumulated knowledge to the new generation [24]. Alongside with sexual attraction towards a woman (for the sake of reproduction), attraction towards teen

boys was given to them originally and was restricted with prohibition on homosexual relationships, having an anal person to sublimate this attraction into teaching the new generation. In a primitive society these conditions were fulfilled, and at the same time, as it is shown in various anthropological researches, the ritual of initiation of teen boys was accompanied by social intercourse with educators. Thus, education and upbringing of teen boys implied an emotional tie and sexual intercourse with a grown-up and often accompanied their initiation, i. e. it was a sign of maturation of a child. The described situations and states were exclusively part of life in a primitive society, i. e. at that time, when human culture was not developed enough to considerably restrict natural inclinations of people. Homosexual intercourse with adolescents was relatively restricted and was temporary, the taboo being violated only during the time of initiation. In all other cases such relationships were under a taboo. Thus, that part of libido in the anal vector was sublimated and further directed into the education, i. e. passing on the experience of cognition of the environment, of war, traditions and norms, and crafts to the new generation.

However, the world has been evolving and complicating, putting pressure on people and making them adapt the properties given to them by nature to the new landscape, to the changes in the environment.

Absence of sexual and social realization, namely, the consequences of the mistakes made in development of an anal child, his inability to create social relationships with children of the same age, realize himself in such a group of children, leads him to take a wrong model of social realization, when he becomes an adolescent. In a more mature age sexual frustrations are added to social disadaptation.

Yuri Burlan's System Vector Psychology proposes a thesis about the causes of pedophilia, which defines, that as a result of an anal man's disadaptation to the environment, he has sexual attraction towards teen boys. Normally this attraction towards boys is sublimated and expressed in a need for educating the new generation. In this case it is completely directed into passing of the knowledge and experience to the new generation.

When an undeveloped and not actualized person with the anal vector is frustrated, it may cause increase of the number of the first symptoms of pedophilic tendencies expressed in form of insult with using particular lexicon, containing the word expressions describing an act of defecation, both in oral and written speech. These symptoms are now can be observed all over the Russian Internet. And though not everyone who leaves insulting messages in the Russian Internet are

actually pedophiles, all pedophiles were going through this stage of using particular lexicon. At first a person may not realize his desire but makes efforts to relieve any discomfort through expressing discontent and some kind of aggression towards other people, for example, through constant and obsessive discussing the related topics as if verbalizing his concealed sexual attraction (e. g. the issues of homosexuality and pedophilia).

Further growing number of frustrations and their accumulation leads an anal person to the interest in children pornography. Professor A. O. Bukhanovskiy notes this stage, too. The scholar says that "... the unquestionable influence of certain kind of video filming, pictures and videos was proved. We find the relation between the disorder and pornography which the Internet is overfilled with today. It could be compared to a fishing net with big and small meshes which is thrown in society. And in this net, like fish, people with predisposition towards pedophilia get caught. Regular viewing the pictures accompanies erotization, and in somebody's memory they may be imprinted so firmly that later they develop an addiction [15]. Let us notice, that the Russian scholar's authoritative opinion is contrary to those of the American investigators who think that "... having fantasies about it is, probably, acceptable, too", meaning by this, that a pedophile's viewing of websites with photo and video materials with the corresponding content is a socially desirable act — which is a completely erroneous, not systemic assertion.

Thus, the further increasing desire will be more expressed in outward aggression. Alongside with using particular lexicon, behaving in a sadistic way and humiliating other people, a frustrated anal person will seek ways to diminish his psychological tension through watching pictures, viewing websites and videos with pornographic content.

Understanding the phenomenon of pedophilia in Yuri Burlan's System Vector Psychology also extends to the assertion that the action itself is preceded by a period of longtime hesitation and doubts, i. e. the period of being burdened with abnormal sexual attraction.

Besides that, Y. Burlan states that one must differentiate pedophilic actions with a teenager boy of 12–13 and a girl of both prepubertal age and pubertal age. As seen from the information given above, pedophilia is in fact being legalized in the world. In the age of 13–14 (this is the age of consent in many countries: Spain, South Korea, Japan, Argentina, Austria, Germany and others) there takes place deep physiological and psychical restructuring of the

organism. This restructuring is accompanied by the sense of maturity, but the child is unable to provide adult behavior, his own security, and full actualization. In this age he only tries to use his developed properties and to build relationships. This is the age when critical perception of reality is not yet developed, self-feeling is contradictory and insufficiently integral. This age is characterized by commission of unmotivated acts.

As already mentioned above, Yury Burlan's System Vector Psychology differentiates actions of a pedophile towards a teenager boy and towards a girl of prepubertal age and a teenager girl. Sexual attraction to a prepubertal girl is placed under social and natural taboo. System Vector Psychology states that when sexual attraction towards a boy faces inability to realize such attraction there takes place replacement with the image of a girl resembling a boy. When the image of a teenager boy is replaced with the image of a girl, attraction violates the ancient taboo on use of those sexually immature for giving a birth. The humankind has preserved this taboo as a guarantee of survival. Besides this, system vector paradigm makes a note that indecent assaults towards teenagers of the age of between approximately 11 and 15 are normally committed by a criminal having the visual vector additionally to the anal one.

Visual vector in Yury Burlan's System Vector Psychology is characterized by a need of permanent connection with the outer world, establishment of emotional connections with other people and the surrounding. Possessing the most powerful emotional range, people with the visual vector are emotional, changeable in mood, responsive, have a fine appreciation of others' mood, have well-developed imagination. Namely anal-visual combination of vectors is typical for a pedophile, whose actions are directed onto a teenager boy. This pedophile preliminary commits lecherous actions seducing the teenager, after which the former

commits the sexual contact as if it was "on mutual consent" [23].

Only a criminal having the anal vector (without combination with the visual vector) commits the crime against a minor girl of the age of 5–7 due to his incapability to seduce a teenager boy and because namely in the age of 5–7 there takes place the period of the first atavistic sexual maturity of a girl when the concentration of pheromones changes and this attracts the pedophile.

Today it gives rise to concern, the multiple calls to lower the age of consent in Russia, which is set at 16 years for today. If the age of consent in Russia is lowered, the level of pedophilia will increase by times, due to the fact that ultimate social restrictions for people with perversions and frustrations will be lifted.

Conclusions. Thus, we can define for today that, in the first place, the phenomenon of pedophilia acquires mass character but due to the insufficient state of knowledge and contrariety of theories old methods of detection of pedophilic inclinations and their correction are inefficient. In the second place, there exist new approaches that systemically explain the phenomenon being studied, as well as allow to efficiently introduce the early prevention of pedophilic inclinations. Besides that, differentiation based on the eight vectors gives a precise instrument to experts in the field of criminal investigation for detection of a pedophile criminal. Yury Burlan's System Vector Psychology for the first time has discovered the concept of pedophilia and the causes of a certain type of individuals starting to have pedophilic inclinations, and allows to specify indicators of behavior of a pedophile. Disregarding of new approaches in such ethically complicated task as detection of pedophilic inclinations will only lead to escalating tensions in society and to increasing children's vulnerability.

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Psychological peculiarities of Internet communication (based on the Internet blogs articles)

Abstract: The article describes a psychological aspect of the analysis of computer-mediated communication, articles and comments of Internet blogs. Based on the analysis, the author emphasizes specific features for the given communication type.

Keywords: Internet blog, Internet addiction, blogosphere, emoticon.

Becoming an integral part of real life, internet environment is not only an important source of information, but also a way of communication between people. If earlier the main means of communication on the Internet was electronic mail, modern virtual world offers users various forms of communication, the choice of which depends on a pursued goal. Internet blog or a virtual diary takes a special place among such forms.

The idea of a blog lies in the fact that any user registered in the program can write messages in their diary, leave comments to the posts of other bloggers as well as reply to the comments of other users. Also, the blog can be used as a source of information and a means of socialization, which presupposes new friends and communication with them. The specified parameters made this service popular among Internet users, which, in turn, attracted the attention of researchers.

Out of all directions of the research of specific features of Internet communication through virtual diaries, a psychological aspect of the course of such process stirs up considerable interest. We attempted to point out a range of such peculiarities on the basis of our research that was an observation of two experimental groups of bloggers, each of which consisted of fifteen users recently (with regard to the commencement of the experiment) registered with the Russian version of Livejournal.com — «Zhivoy Zhurnal». The first group included the blogs of anonymously registered people and the second group consisted of Internet diaries of real people. The observation lasted for 11 months (from November, 2013 to August, 2014).

The topic of blogs varied. Blogs-contemplations related to, as a rule, latest political events prevailed in every group. Also, cultural news was actively discussed; there were Internet diaries dedicated to personal travels of an author. Two Internet diaries were an archive of author's essays on different topics.

A big freedom of expression was typical for the first group of anonymously registered bloggers. Communicants were categorical when expressing their position on this or that issue. Eleven out of fifteen people often used foul language. The reason is, in our opinion, an attempt to draw attention to their personality and be heard by others. It enables us to speak about such psychological peculiarities of anonymous communication, offered by blogosphere, as self-liberation and irresponsible behavior. Essentially, such behavior is a peculiar way of fighting with complexes through living a «parallel life», which gives an opportunity to compensate for personal failures in real life. Or, it can be an attempt to try on

someone else's mask and live someone else's life. Due to this peculiarity some researchers compare Internet communication in the whole and blog communication in particular with a phenomenon of carnivalization by M. M. Bakhtin, which represents a medieval carnival «as a second life of people». Just as during carnival performances in the Middle Age, abolition of hierarchic relations between people in modern virtual world creates a special type of communication that is impossible in everyday life, which doesn't acknowledge any distance between free and usual norms of behavior and decency of communication that has a certain form of speech [1].

The group consisting of fifteen real people was, in the whole, presented by people with a certain level of education, cultural background and quite developed language abilities. We concluded it on the basis of analysis of articles in the blogs of these authors.

However, after five months of our experiment, three bloggers stopped contributing to their Internet diaries and four users gradually reduced the activity of their diaries. We believe that the main reason of this phenomenon is an ambiguous nature of an Internet blog. Unlike a paper diary, where people usually write their most sacred thoughts for themselves exclusively, electronic diary is created in order to express one's convictions and ideas and justify one's position on certain issues in front of unfamiliar people, who are often and mostly strangers to the author. In this respect, bloggers who fail to get frequent readers around themselves lose interest in this activity. Herewith, it is about popularity of a diary and not about the selection of an appropriate number of the like-minded. It is confirmed by the fact that three political blogs earned a high rating only due to sharp criticism in the comments to the political position unpopular at the given period.

This ambiguous nature of an electronic diary lies in the sincerity of the author on the one side, and open orientation to being read and discussed by unfamiliar people on the other side; it defines another psychological peculiarity of blog communication — «a desire to write beautifully» [2, 105]. In this case, spontaneity and natural aspect of expressing a thought typical for a paper diary starts competing with a certain stylistic editing required for the author to impress the audience. Analyzing texts of articles and comments in blogs of anonymous bloggers, one cannot but notice a big number of mistakes (grammar and punctuation) and misprints, absence of upper case etc. All this, of course, can be referred to conscious deviations from the norm typical for the genre of Internet communication. However, compared to this group of tested people, these phenomena occurred less

often in the blogs of real people.

Due to the fact that communication in Internet diaries is of conceptually verbal nature, in spite of the typed form of a message, the ability to render emotional component requires a separate attention. In this case, phonetic-graphic means of text formation comes to the fore, which fixes the peculiarities of pronunciation and intonation and graphic means of text formation, which renders emotions through graphic objects, smiles offered by the program. Expressing positive or negative emotions, emoticons (smiles) compensate for the absence of visual contact between communicants and serve as addition to verbal elements of the text, participating in construction of integrity of the idea of a statement. It should be noted that the reason of appearance of graphic symbols was the appearance of «on-screen» form of texts created with the help of a keyboard typing on the screen [5, 129–132].

Thus, analyzing texts of articles and comments of both groups, we took into account their phonetic-graphic and graphic formation. In our case, both groups of users actively used both types of graphic components to make their statements more expressive in both positive and negative direction. However, it was mainly seen in the group of anonymous users. In our opinion, it is related to the fact that the initial goal of anonymous bloggers was to draw attention of the surrounding virtual audience to the texts of their comments or their page.

Another psychological peculiarity that stands out in blog communication lies in the voluntarily nature of communication with other users. The author of an Internet diary can switch to direct communication with any user or stop this communication at any moment by ignoring or deleting a comment. In our groups this feature was often observed in the blogs on politics and in blogs, the authors of which posted their literature pieces. In every diary there were comments under the author's text, which exclusively supported the position of the diary's author. Such organization has an effect on readers, because there is a false impression that the author is right due to the support of virtual public. Same can be said about the diaries where authors published their literature works. Exclusively positive or neutral reviews of readers were observed. In contrast with Internet diaries of the given topic, the examples of other bloggers presented a balance of both positive and negative opinions.

Expression of positive and negative emotions through communication in Internet blogs inevitably leads us to the conclusion about psycho-therapeutic function of an online diary. A desire to speak out and find support from the readers with similar experience was the goal of most articles of the officially registered bloggers. Herewith, the topic of diaries here did not have particular meaning. The given psychological feature was almost absent in the anonymous diaries. Their articles were not less emotionally colored; however, this emotionality did not have a purpose to share feelings and concerns with readers. Rather, there was intent to provoke an emotional response from a reader. This tendency was clearly expressed in the diaries on politics by anonymous bloggers.

In the whole, observing thirty users of Internet blogs for nine months, we concluded that keeping of an electronic diary is a unique, typical for virtual environment only, combination of the diary keeping itself (regular posting of text information on a page) and communication (comments of unfamiliar articles and response to the comments of an own blog). Keeping an Internet blog presupposes the dedication of a big amount of time, replacing traditional form of human communication with a virtual model with typical psychological peculiarities of communication, self-expression and self-presentation.

Anonymity of communication in blogs provides wide opportunities for self-presentation of a person, allowing the construction of a new identity, becoming somebody one wants to become and creating a desired impression. Thus, communication in blogosphere can be considered as not an inter-personal communication, but as communication of virtual images created by real people.

Emotional openness of communication, which is clearly observed in comments to blog articles, search for new contacts in this environment, desire to be able to draw attention to oneself at any cost and be heard compensate for emotional poverty of life of a contemporary man surrounded by loneliness and a big number of stressful situations. In this regard, a parallel life in virtual world becomes a norm of existence for most people, causing different mental disorders such as Internet addiction, which, in turn, certifies about the need to study the problem of psychological peculiarities of the given process in detail.

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Crisis intervention for children and adolescents experienced a situation of disaster

Abstract: Good social practices for overcoming the consequences of disasters (natural disasters like earthquake, flood, thunder storm, etc. and crises caused by human acts such as manufacturing damage, poisoning with toxic substances, accident, fire, acts of terrorism, violence, war, conflicts, etc.) include psychological help and support as an inevitable part of the health care and immediate survival of the person. Throughout the last 15 years it has been established as one of the most rapidly developing branches of practical psychology. The aim of the report is to reveal the role and essence of psychological help and support in situations of disaster. The emphasis is on applying it to one of the most vulnerable groups — children and young people. The paper includes strategies of psychological influence in the conditions of a disastrous situation that are successful both in theory and in practice.

Keywords: psychological help and support, disaster, strategies for coping

Introduction

As an activity aimed at overcoming the consequences of the experience of disaster, crisis intervention is required in parallel with the activities of medical and rescue teams, volunteer corps of Red Cross and Red Crescent, specialized state structures to protect the population from disasters and catastrophes, complementing system of emergency care for victims. We use the terms more psychological help and support in situations of distress and psychosocial programs for early interventions in situations of disaster.

Yet there is no single theory or a specific model for psychological crisis intervention. On the basis of good social work practice and case studies in different countries it appears that it is necessary in the first minutes and hours after the traumatic event. [1; 3]

According Soloveychik\2002\it is a method of providing psychological assistance to a person located in a state of crisis. Ehly\1986\defines it as urgent, immediate first aid aimed at mental health. It is believed that psychological crisis intervention provides effective support to front line victims of various types of critical events and in particular the strong stressors that can lead to psychological trauma\Everly, Flanery and Michel,

2000\.. The main purpose of psychological intervention reorganization of human behavior, his feelings, actions and thoughts in a constructive plan. According to its sub — objectives are Soloveychik:

- stabilization or interruption of the growing distress as a result of the critical event;
- alleviate the acute symptoms of distress;
- restore adaptive functioning independently of man from before the tragedy;
- prevent further negative impact of trauma and referral to specialized professional help in necessary. [1; 5]

Tasks associated with the organization of time and space to conduct psychological work, creating an atmosphere of trust with an emphasis on interpersonal contact, providing social and emotional support. Object of work in providing psychological crisis intervention mental state of the person its current problems rather than the formation of his personality. This is one of the major differences between the psychological crisis intervention and psychotherapy.

Psychological help and support is increasingly necessary due to the nature of the experience. It combines theory and practice of successful patterns of behavior. The term received popularity among the International

Federation of Red Cross and Red Crescent through the creation of over 1993 years International Federation Reference Center for Psychological Support. It involves rapid emotional support based on sharing, giving, calm, ease and empathy of the tragic experiences of the survivors. The main task of psychological help and support is to reduce as rapidly as possible in the first minutes and hours parameters of experience mental states of panic, terror, fear, anxiety, guilt and doubts that cause atypical and irrational response to the situation and lead to disorganization of behavior. Then the tasks associated with the reduction of human responses to disaster, providing consultative, therapeutic and preventive care [7].

Exhibition

Major disaster and natural disaster in the world in recent years, bringing together efforts of specialists from different fields to deal with the consequences. Over the past twenty years and increased research on the impact of the disaster on the human psyche. This trend in applied psychology is happening of the need to create adequate psychosocial support programs for victims [2].

There is no single definition of disaster. From a psychological point of view, it can be defined as the occurrence of a traumatic event that violates the effective and adaptive behavior. There are many classifications of disasters. According to global trends, they are divided into two major groups: natural disaster and disaster caused by man.

Reactions to experience situations of disaster can occur immediately or days, weeks, even months later. They have individual specific and depend on the involvement of the child in the event of scope and magnitude of the problem, the severity of the traumatic experiences of the child's personality, the stage of cognitive development, the characteristics of his style of dealing, from past experience and mostly rendered his support in physical and mental level [4; 6].

In the literature in recent years, many authors point to a study of children's reactions to situations of disaster. Common is that they give information about the status of their physical, emotional, cognitive, behavioral and interpersonal aspects.

Psychology has different classifications of child development. Their knowledge is important because it enables the assessment of what effects are typical for their age, which is a natural response to experience and which are abnormal and require professional intervention specialist [8].

Reactions in situations of distress in early childhood:

- prolonged crying, screaming;

- refusal of food;
- wetting;
- sleep problems;
- tremors;
- fear associated with the onset of strong irritants\noise, light\;
- fear of strangers;
- fear of remaining alone;
- fear of the dark;
- fear of animals.

Reactions in situations of distress in adolescence:

- somatic and autonomic symptoms;
- disturbances in sleep and appetite;
- fear and anxiety, concern about the safety of themselves and their parents;
- depression;
- disorganization;
- accident-prone;
- poor concentration;
- retrospective recollection of is avoiding anything that recalls the tragedy;
- emotional numbness;
- aggressive behavioral;
- conflict;
- loss of sense of control and responsibility;
- loss of sense of individuality and identity;
- suicidal thoughts;
- substance abuse;
- a drop in success, running away from school;
- reduced self-esteem;
- loss of hope for the future.

Described reactions are considered normal, natural response are experiencing distress. Their knowledge is necessary in terms of prevention of pathological changes in the psyche of the child. Age specificity is needed especially in the choice of coping strategies after experiencing a traumatic event. This allows the differentiation of cases and the use of an individual approach in action to overcome the effects of the experience [7].

There are rules for coping strategies to address disaster. In children from an early age is necessary to maintain the system of child nutrition and sleep to meet its basic needs. It is better to avoid splitting with the mother for a long time. Possible temporary regression in the child's behavior. It is important to maintain a peaceful atmosphere in the presence of the child to talk about the event and the occasional short, simple words, examples are given in the form of game. [6, 8] Children need to be heard and encouraged. It is time for them to cope

with their fears. So you should enable the child to name the strongest feeling and emotions being experienced. Changes in behavior are expected. In their long detention can gently introduce restrictions. Sessions with the child undesirable. It is important to avoid and re-exposure to trauma through the media. Again the child should be assured that it is safe and that many people care for his safety. Adults should respect their fears and allow them time. Important explanation is that reactions to the disaster are normal. Adolescent will be possible to talk to each member of the family to spend more time with their friends, to engage in activities that feel good — sports, hobbies and more.

Conclusion

Guidelines for the application of psychological crisis intervention for children and adolescents in situations of distress associated with the establishment

of security and safety for children and adolescents meet their basic needs, providing good emotional support — expression of emotions and feelings using expressive techniques/verbal and non-verbal/. Assurance measures taken by the government and specialized services — police, fire, rescue teams, the Red Cross, Emergency medical care and other services that care for their safety. Manifestation of honesty to children about what happened by providing accurate information\she must be appropriate for their years as the tiny children can protect themselves because their cognitive knowledge is not enough to understand what is happening always\.. Children carry on themselves the fear and anxiety of adults in front of them so important demonstration peace.

Providing activities leading to reduction of psychological tension is key to mitigating the disaster.

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Section 8. Religious studies

Секция 8. Религиоведение

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«Esoteric knowledge» in the context of the Turkic worldview

Abstract: This article provides a conceptual analysis of the phenomenon of “knowledge” in the ancient Turkic language picture of the world.

Keywords: language picture of the world, the concept of “knowledge”, holistic knowledge, Turkic worldview, Tengriism.

The concept of “knowledge”, which has many ancestral categories in the ancient Turkic language, had an enormous influence on formation of mentality and worldview of the ancient Turks: an — (acknowledge, understand); es — (thought, reason); og — (mind, thought); oi-oyun (mind, thought); sab-sav (mind, intelligence); bilig (knowledge); bogu — (wisdom); saγ — (mind, intelligence); san — (think, acknowledge); saq — (think, consider); tetig — (smart, quick-witted); uq — (understand, acknowledge); us — (thinking).

The category of «mind», «reason», «ingenuity» occupies a special place in the ancient Turkic mentality. Creator — Tengri gives kagans a «mind», and only then puts them to rule over the Turkic people. Epithet «wise» even becomes one of the names, maybe even one of the titles of kagan and their advisers. «Bilga-Kagan», «bilga-beg», «bilga-khan», «bilga-taluj» etc. are met often as the title name with the component «bilga» — «omniscient», «wise» in the ancient Turkic sources [1, p.87].

The word «bilig» — one of the most ancient forms expressing the ancient Turkic concept of «knowledge», its etymology goes back to the original form of «bil.» In «The etymological dictionary of Turkic languages» edited by E. Sevortyan, it is noted that «all the basic lexical meaning of the verb bil — in the developed type are presented in the earliest written records.

The word «bilig» within the meaning of the thought process in the mind of a modern man, as in the ancient language, is still leading.

In Orkhon monuments «bilig» (wisdom) is presented as the supreme value of unity of the people, as a

spiritual and ethic rod of state: «When there was a blue sky at the top, and bottom — brown earth, between both of them having the sons of men. My ancestors sat down above the children of men! They were wise kagans, they were courageous kagans; and their clerks were wise, were courageous; and their children, and people were unanimous ... » [2, p.18].

Al-Farabi also puts the «wisdom» in the head of «Righteous City». «If there was ever going to happen so that the guide will have no wisdom — says Al-Farabi, — let them, and if it meets all other conditions, the righteous city inevitably perish» [3, p.50].

Thus, wisdom inherently is not specialized. Wisdom is universal being of mind and manner of its manifestation. Wisdom as a holistic knowledge of being is dysfunctional and unprofessional. In humans, there is no a higher title than «wise».

In turn, as demonstrated by sources and researches of Turkic knowledge, reading and writing, reading and writing based on the runic script was a commonplace for the Turkic population. Turkic elite believed that education is for their high dignity. In this context, one of the following Turfan songs attracts attention as follows:

Bilig bilih ya bħgim!
Bilig shnga hsh bulur,
Bilig bilghn ol hrkh
Bir kln tavlāt tush bolur.
Read the knowledge, my Beck!
Knowledge is fit to your face,
To the person with knowledge
Once comes happiness [4, p.93].

In the ancient consciousness «mind» — is a cosmic principle, the essence of being in general, whereas in the west, the mind forms the precondition of knowledge, and therefore the world as representation. Axiom of reasonableness of the world is the order of the cosmos, is the understanding that being is «knowable» that all in the world is «reasonable.»

The concept of reasonableness in the ancient mentality is multidimensional, combines «faith knowledge» and «life pragmatism». Reasonableness here performs as reasonably practicable (biliglik — practical wisdom) and as cognitive (bogubilig). «Knowledge», «mind», «wisdom» in the ontological key are defined as: regularity, correctness, order, lying in the ground of being.

Popular astronomy should be noted also as one of the most important elements of the ancient «knowledge», which became the first type of proto-scientific knowledge. Observations of cyclical phenomena of nature and frequency of weather events formed the basis of the national calendar «Mushel.» The basic principle of the national calendar was cyclical repetition: «Time of Mushel giving — and takes, taking, — returns. There is no end of time, there is no end of life. All united by the same rhythm: — life of the Cosmos, life of the Nature, life of a Man. People are born and die, and it is said about the dead «qaytys baldy» — «back», and people know that with a new circle of time they return again, but from that world to this « [5, p.2]. In the endless cycle, there is a special life behavior of a man, his high morality. Ancient society knew and believed that good or evil committed once, not only have direct effects chain, but also carry a different level of consequences — in the form of mandatory cyclical repetitions. It is a «sacred knowledge» has formed a special responsibility wise non-hastiness, endurance. So, maybe the folk calendar «Mushel» in Turkic view of the world is not just «knowledge» of time as a cyclical cycle, but philosophy with its ethics and aesthetics.

Interestingly, the practical knowledge, as well as sacred one, is vital to the Turkic tradition and the very desire for these types of knowledge precludes any motivation to develop theoretical knowledge.

Based on semantics «jas» («individual year») and «jil» («calendar year»), you can again see how the «concept of time» has appeared in the ancient Turkic language and that «practical knowledge» was not acquired by reasoning and evidence, but was revealed to consciousness itself, through observing the cycles of nature.

«Jas» (zhas) — the basis of the word is the concept of age. Traditional chronology by years of age, individ-

ual years of age are understood from now as defining a private individual situation and has several meanings 1) green, young (there was green grass); 2) Year (about age) «In this battle Cul tegin was 30 years» (otuz jasyňa).

«Jil» (zhyl) — a one-year measure of time, which corresponds only to the calendar year, definitely exactly and accurately adjusted astronomical calendar: 1) year (period of time) jılan jili — year of the snake MK; «Ten moons she wore (me) my mother» (AK 1.7); 2) life, existence (no matter how much good will live, not age) (QBN, p.267). This period from the concept of age year, year lived by the individual, to the standard year lived by the whole social group, clearly reflects logical thinking, therefore, specific development of logic and scientific thinking. Calendar year represented a decisive progress for the ancient Turks compared with the chronology of age years. Due to it, there was made the leap from the concept of time lived individually, to the concept of universal time.

Language picture of the world allows to identify the old Turkic system of major divisions of time, clearly stated in the ancient texts:

1) Kešin — the length of time in two months (DTC, p.302);

2) Öd — time; short period of time, hour (DTC, p.377);

3) Qolu — (measure of time equal to ten seconds) (TTVII, DTC p.454);

4) Kšan — the shortest period of time, a moment, an instant (DTC, p. 321).

Philosophical problem of immortality is closely related with the concept of time in the worldview of the ancient Turks. The soul is in everything, that it allows to connect everything with everything, that is most evident in the transitions into another world, while traveling of kams and ordinary mortals, as this is carried out their souls. Ability to communicate with the elements, mountains, trees, animals appears in a man only because of a kindred spirit, they are of the same nature. The subject of the soul, consciousness is information, knowledge. The world endowed with consciousness is literally packed with information, so it is not surprising that a gust of wind, and the flight of a bird, and a leave of tree give necessary knowledge for magical acts. This relation of everything with everything serves as a basis for fortune-telling practice, sorcery, magic, dream interpretation, etc. Siberian scientists, authors of the book “The traditional worldview of Turks of Southern Siberia” note that the elaboration of the theme of “soul” in the Turkic world is amazing, but the surprise is replaced by bewilderment

when one realizes that, with one Russian term lies a number of heterogeneous phenomena [6, p.161].

In tengrian “esoteric knowledge” the world tree or world mountain guides souls of the deceased to one or another part of the macrocosmic vertical. In religious ideas, it is from here a transition from one zone to another space, i. e. circulating of life. Death of someone living in the Upper world meets birth of someone in the Middle and death in the Middle — birth in the Lower. Hence the concept of death and fate does not have the properties of inevitability: you can change the fate by sacrifice and ritual, and the soul of the deceased can be reborn in the next generation of the family [7, p.22]. “Məngi» «Təñir», i. e. Tengri as a universal eternal Time constitutes involvement of a man and thus a man overcomes the horror of short as a moment of human life: «Time distributes Tengri, but somehow, all the sons of men are born in order to die» (DTC, p.130).

According to ancient legend («The Book of our father Korkut»), death is presented as a gift to the people, because in this world who is not dead, is not truly alive. Life has a meaning only if there is a death. Death is the birth in a new state. It is a natural extension of life, its apotheosis, and that's why the battle cry of the Turkic warriors in ancient times was the words: «Өlim zhok, Omir jas» — «There is no death, life is forever young» [8, p.42].

One of the features of Turkish culture, as well as all Eastern culture, is the translation of knowledge and wisdom of life associated with a sacral figure «sage-teacher.» Mahmud of Kashgar in his the «Dictionary» describes in detail the activities of servants of Tengrism.

«Tengrikanys» (supreme servants of Tengrism), the most educated in the sciences and religion, dealing with

knowledge of the world, «ialabashi» (conductors and performers of religious ideas) explain to the people the laws of religion, «tywyns» perform religious rites, dealing with issues of knowledge and practice, «camas» engage in charms («okysh»), treatment using charms, writing amulets «tumar yezish», deliver babies, conduct ceremonies of treatment. «Awliya» (holy men) have the wisdom and supercapabilities, dealing with witchcraft and sorcery, «bakhsi» possess psychic abilities, provide treatment, charms.

So, the mentality of the ancient Turks included practical, philosophical, esoteric and religious knowledge in their entirety. And there is constant enrichment of Tengrism spirituality as a holistic internal content deployment and inclusion in its orbit of new ideas. If we consider the ethical concepts of Tengrism, then there are dominate four starters, «Kut» (soul, force), «Bilig» (knowledge, wisdom), «Og» (reason), «Ar-Namys» (conscience), and excesses, even highly spiritual — as «beauty», «religion», «love» — not honored and subjected to ridicule, if passed a limit and began to «work for themselves.

Thus, if we turn to the problem of «knowledge», it should be noted that this concept has a fundamental value and gets its status as not a result of the logical design, justification, test, evidence, but based on faith, and that as such it (knowledge) receives not only the social significance, begins to function in the culture, but also acquires the divine essence and is included in various forms of spiritual activity. Faith is defined as the spiritual level of existence. Consequently, the knowledge as a spiritual experience as a whole, not only serves as a source of religious faith, but of spiritual culture with its moral and life values.

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9. АТC (DTC) – Ancient Turkic Vocabulary.
10. ACT – monument in honor of Kul Tegin; Turkic inscription in Orkhon-Yenisei script.
11. QBN – the oldest list of the Arabic script, Namangan option «Kutadgu bilig».

Section 9. Technical sciences

Секция 9. Технические науки

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Economic reasons of tillage quality

Abstract: The optimal values for tillage quality are proved to be highly dependent on harvest prices and inputs to obtain the required tillage quality, with an abstract model of the tillage quality being elaborated to establish the existing levels of optimal tillage quality that is highly dependent on harvest prices and the inputs to prepare the soil.

Keywords: tillage quality, harvest, inputs, economic effect, produce, profits, soil pulverization.

Since ancient times man has been tilling soil, applying different technologies and agricultural implements. The choice of the tillage system that should be used in a peculiar situation, implements and work tools that should be chosen for quality tillage depends on the purpose of soil cultivating. With the lack of foodstuffs the purpose is to obtain the maximum harvest. With the overstock of foodstuffs on the market, the economic factors of production on the cultivated area are of primary importance.

The term “tillage quality” in the modern agricultural science includes the given depth of soil tillage and its variants, soil pulverization, position of soil layers before and after tillage, the quality of soil turnover, stubble plowing and trash burial, stubble preservation on the field surface, mixing crop residues with the top soil layer, etc. [1]

To continue further analysis of this problem it's necessary to introduce the notion of some abstract indicator of soil tillage quality, taking into account only one of the above mentioned factors — soil pulverization. The statement that work to form soil pieces is proportional to the number of formed pieces (N) doesn't contradict to the laws of physics. Thus, on the area the sides of which are covered with the soil pieces (n), the number of pieces is

$$N = n^2.$$

The work to form the soil pieces on 1 unit of field area can be found by using the following formula

$$A = \lambda N = \lambda n^2 \quad (1),$$

where λ — the work needed to obtain 1 piece of soil (J/piece).

The same supposition can be made about the number of buried (non-buried) plants, depth of plowing, etc. The statement that cash costs for the implementation of operation (technology) are proportional to the work doesn't contradict to the laws of economics and physics. Each piece of soil (or any other quality parameter) makes its own contribution into crop capacity. Therefore, one can expect linear influence of the soil pieces number to crop capacity.

When introducing the generalized quality index — K , the above-mentioned suppositions can express the functional correlation of crop gathered from 1 hectare (Y) and cash costs for 1 hectare (C) depending on the value of the quality index K (i. e. the number of soil pieces on the sown area):

$$Y = \beta K \quad (2),$$

$$C = \alpha K^2 \quad (3),$$

where α and β are dimensionless indexes.

The existence of these two correlations determines the optimum parameter of tillage quality. At first it's necessary to choose (determine) the optimization criterion. Thus, the maximum profit (P) is the criterion of the tillage quality on 1 hectare of the sown area:

$$P = B - C \quad (4),$$

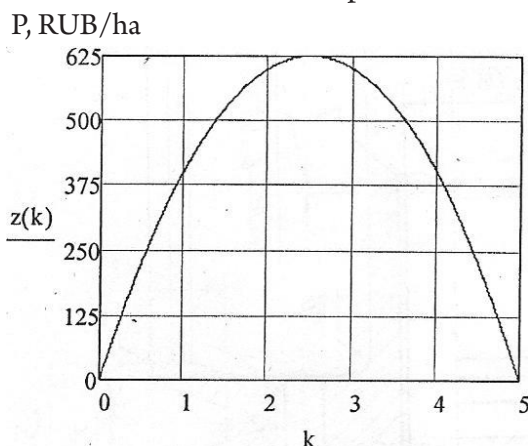
where $B = zY = z\beta K$ the gross cost of the harvest,
 z — the market price of a harvest unit (RUB/hwt, RUB/tn),

$C = \alpha K^2$, that stands for the soil tillage inputs (supposing the expenses in other technological operations being constant).

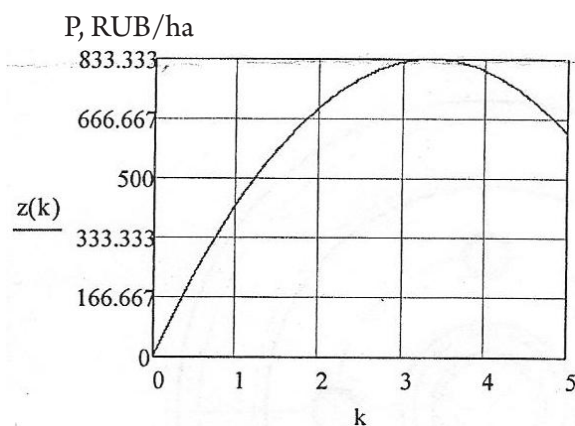
Thus,

$$P = z\beta K - \alpha K^2 \rightarrow \max (5).$$

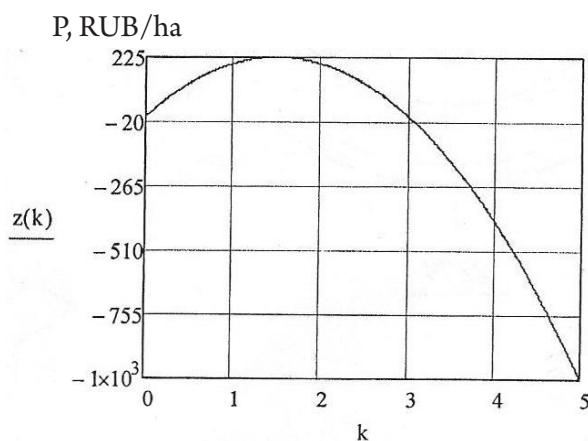
The diagram of the functional correlation $P = f(K)$ is given in Picture 1. The index K with which the profit gets its maximum rate, will be the optimum tillage quality (at given harvest prices in the above mentioned formulas of expenses and harvest from tillage quality).



Pic. 1. Profits from 1 hectare of sown land depending on the tillage quality ($z = 250$ RUB/hwt, $\beta = 2$, $\alpha = 100$).



Pic. 2. Profits depending on the soil tillage quality ($z = 250$ RUB/hwt, $\beta = 2$, $\alpha = 75$).



Pic. 3. Profits depending on the soil tillage quality ($z = 125$ RUB/hwt, $\beta = 2$, $\alpha = 100$).

The diagrams (Pic. 1–3) prove the fact that the optimum parameters of tillage quality are very dependent on harvest prices and the expenses for the required tillage quality.

When the tillage expenses getting lower, the optimum parameter of tillage quality grows (Pic. 2); when prices for the grown crop getting lower, the optimum parameter

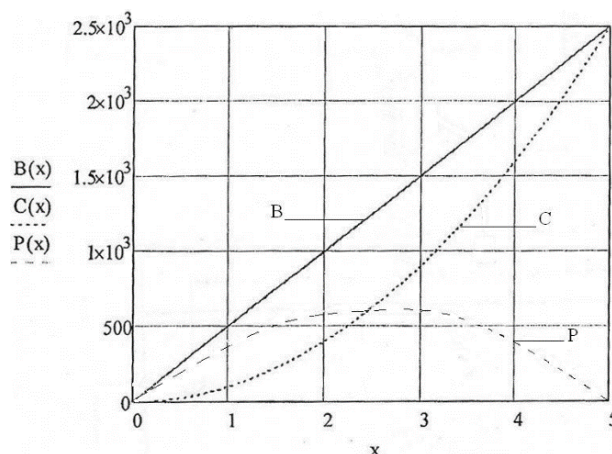
of tillage quality reduces (Pic. 3).

There aren't any necessary devices for measuring tillage quality, i.e. one can only visually assess tillage quality due to exact monitoring of climatic conditions of vegetation and thorough measurements of crop capacity.

The task of soil preparation in any tillage technology can be fulfilled with many types (kinds) of working devices, tools and tractive vehicles, and in future by the direct influence of various kinds of rays: heat, sound, microwave, etc. What technology should be chosen, what way of tillage will be applied? The reply is always evident: the priority will be given to such systems and

technologies, tools or devices which will provide the maximum profit on every hectare of sown land and such a device (system, technology) will get mass application. Only in this case agriculture will be able to survive and develop.

The given situation can be diagrammed in the following way (Pic. 4).



Pic. 4. Economic effect with different parameters of tillage quality, rouble/ha:

B — the grown output in terms of money (4);

C — the expenses for soil preparation in terms of money (3);

P — the profit with different parameters of tillage quality ($z = 250$ RUB/hwt, $\beta = 2$, $\alpha = 100$ (4)).

Thus, the following conclusion can be drawn: the abstract model of tillage quality allows to determine that there is always the optimum rate of soil tillage quality. The value of the tillage quality depends on harvest prices and expenses needed for soil preparation.

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Filtration soil in the one-dimensional motion of the fluid and the potential energy in the mole drainage

Abstract: Nowadays loosening layers of soil and making drainage peep-hole becoming important and actual problems in the agriculture of Uzbekistan. Because drainage-peep hole machines in soil layers and their scientific variants for local conditions were not come up with. Soil layers especially in high salty lands and creating mathematical models of throwing sub-soil water.

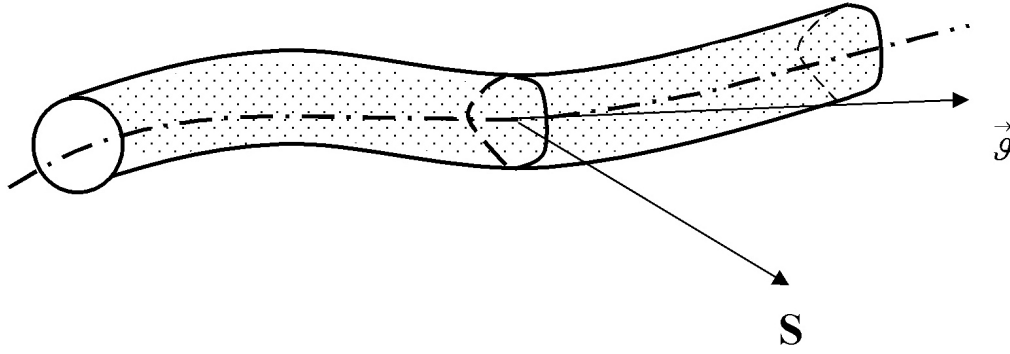
Keywords: Soil, drainage, saline lands, filtering soils, potential energy.

In one size trend the pressure is P potential function φ (if it has) is the function of only one

coordinate. The procedure of 2 part seeping liquid submits in the law of seeping lesson. This procedure

simplified differential equation of action, in other words it makes possibility to express it.

Imagine, porous or full crack condition, changeable flowing pipe is given, its (flowing pipe) diagonal cut is D



Pic. 1. Scheme of the flowing pipe in the condition of filtration.

$$\rho \vartheta = \frac{dM}{dF}, \quad (1)$$

$$\rho \vartheta = \frac{d\phi}{dl} \quad (6)$$

Using the law of the lesson speed module of seeping mass should be written as following

$$\left\| \rho \vec{g} \right\| = \frac{dM}{dF} \text{sign} M = \frac{k\rho}{\mu} \cdot \frac{dP}{dl} \cdot \text{sign} \frac{dP}{dl}. \quad (2)$$

In this ξ g n M ba s ξ g n $\frac{dP}{dl}$ formulations (2)

determine the equation sign. Mathematic signum formulation is written as following.

$$\text{sign} x = \begin{cases} +1 & x > 0 \\ 0 & x = 0 \\ -1 & x < 0 \end{cases}$$

$$\frac{k\rho}{\mu} dP = \frac{dM}{dF} dl \quad (3)$$

This (3) formulation can be used for none compressed or less compressed liquids. For compressed liquid compactness ρ and absolute stickiness pressure is changed in P. Changeable coefficient of the condition k or pressure with elastic feature of the condition depends on P. So in general pressure as length of the tend is changeable and it will be formulate with $k \frac{\rho}{\mu}$ pressure function

$$\phi = \int \frac{k\rho}{\mu} dP + C = \int \frac{dM}{dF} dl + C^1 \quad (4)$$

In this ϕ - potential function; C and C^1 — constant integral, (4) in formulation P pressure express the connection between line l coordinate. Using above (3) formulation (4) we should write as following.

$$d\phi = \frac{k\rho}{\mu} dP \quad (5)$$

Using founded formulas we write as following (5).

With potential function for one size trend this equation can express seeping law equation in free liquid. So, it can be learnt potential action of liquid in porous and crack condition on base of (6). So it can be conclude seeping mass speed is equal with gradient of potential function. These relations express general law of liquid mixture in potential action. We can count income flowing water mass if we equalize right

If we equalize (1) and (3) formulas' right sides given above and integrate the equation, so we can count mass of the flown water

$$M = \int_{\Sigma} \frac{d\phi}{dl} dF \quad (7)$$

In this Σ — surface flowing liquid. It is known from researches above, we should know for counting potential action of liquid $\phi(p)$ (6) and connection between P.

This connection in isometric procedure expresses the equation of liquid gas or their mixture in layer. This connection determined with the help of experiment. Determining liquid density, stickiness, conductness pressure of liquid P is considered the main problem. For that we can imagine condition of equation.

$$\frac{\rho(P)k(P)}{\mu(P)} = \zeta(P) \quad (8)$$

In this $\zeta(P)$ under integral function.

If liquid is one phase and conductness layer is one type, k multiple will be constant μ (number) will be unchangeable. We can write dynamic balance or action equation of Eyler as following

$$\varphi_x = -\frac{1}{\rho} \frac{\partial p}{\partial x} = \frac{d\vartheta_x}{dt}$$

$$\varphi_y = -\frac{1}{\rho} \frac{\partial p}{\partial y} = \frac{d\vartheta_y}{dt}$$

$$\varphi_z = -\frac{1}{\rho} \frac{\partial p}{\partial x} = \frac{d\vartheta_z}{dt}$$

$\varphi_x = \varphi_y = 0$ and $\varphi_z = -g$ We can bring following formula considering law, soil mass unit, speed cinematic energy and tensions.

$$\begin{aligned}\frac{d\vartheta_x}{dt} &= -\frac{1}{\rho} \frac{\partial p}{\partial x} + v \left(\frac{\partial^2 \vartheta_x}{\partial x^2} + \frac{\partial^2 \vartheta_x}{\partial y^2} + \frac{\partial^2 \vartheta_x}{\partial z^2} \right); \\ \frac{d\vartheta_y}{dt} &= -\frac{1}{\rho} \frac{\partial p}{\partial y} + v \left(\frac{\partial^2 \vartheta_y}{\partial x^2} + \frac{\partial^2 \vartheta_y}{\partial y^2} + \frac{\partial^2 \vartheta_y}{\partial z^2} \right); \\ \frac{d\vartheta_z}{dt} &= -g - \frac{1}{\rho} \frac{\partial p}{\partial x} + v \left(\frac{\partial^2 \vartheta_z}{\partial x^2} + \frac{\partial^2 \vartheta_z}{\partial y^2} + \frac{\partial^2 \vartheta_z}{\partial z^2} \right);\end{aligned}$$

We can learn permanent and nonpermanent actions in a condition with the help of limiting task. For learning constant action in porous condition the equation solution will be fair if we consider law of the lesson. E.N Jukovski use ideal liquid action equation for solving general deferential equation for ideal liquid. Eyler equation for ideal liquid.

$$\begin{aligned}\frac{d\vartheta_x}{dt} &= v_x \frac{\partial \vartheta_x}{\partial x} + \vartheta_y \frac{\partial \vartheta_x}{\partial y} + \vartheta_z \frac{\partial \vartheta_x}{\partial z} + \frac{\partial \vartheta_x}{\partial t} = X - \frac{1}{\rho} \frac{\partial P}{\partial x}; \\ \frac{d\vartheta_y}{dt} &= \vartheta_x \frac{\partial \vartheta_y}{\partial x} + \vartheta_y \frac{\partial \vartheta_y}{\partial y} + \vartheta_z \frac{\partial \vartheta_y}{\partial z} + \frac{\partial \vartheta_y}{\partial t} = Y - \frac{1}{\rho} \frac{\partial P}{\partial y}, \quad (9) \\ \frac{d\vartheta_z}{dt} &= \vartheta_x \frac{\partial \vartheta_z}{\partial x} + \vartheta_y \frac{\partial \vartheta_z}{\partial y} + \vartheta_z \frac{\partial \vartheta_z}{\partial z} + \frac{\partial \vartheta_z}{\partial t} = Z - \frac{1}{\rho} \frac{\partial P}{\partial z}.\end{aligned}$$

In this $\vartheta_x, \vartheta_y, \vartheta_z$ — liquid speck speed vector, arrow protection; X, Y, Z - are volumetric mean effect liquid mass, it is divided in 2 parts for seeping trend.

$$X = X_1 + X_2; \quad Y = Y_1 + Y_2, \quad Z = Z_1 + Z_2.$$

X_1, Y_1, Z_1 - arrow proection of out size means- x, y, z X_2, Y_2, Z_2 - arrow projection of size contrary means connected with liquid peep. Imagine $\vartheta_x, \vartheta_y, \vartheta_z$ -arrow proection of seeping, speed vector trend and if m-porous layers is unchangeable, we can take following equation.

$$\begin{aligned}\frac{1}{m} \frac{\partial \vartheta_x}{\partial t} + \frac{1}{m^2} \left(\vartheta_x \frac{\partial \vartheta_x}{\partial x} + \vartheta_y \frac{\partial \vartheta_x}{\partial y} + \vartheta_z \frac{\partial \vartheta_x}{\partial z} \right) &= -\frac{1}{\rho} \frac{\partial P}{\partial x} + X_1 + X_2; \\ \frac{1}{m} \frac{\partial \vartheta_y}{\partial t} + \frac{1}{m^2} \left(\vartheta_x \frac{\partial \vartheta_y}{\partial x} + \vartheta_y \frac{\partial \vartheta_y}{\partial y} + \vartheta_z \frac{\partial \vartheta_y}{\partial z} \right) &= -\frac{1}{\rho} \frac{\partial P}{\partial y} + Y_1 + Y_2, \quad (10) \\ \frac{1}{m} \frac{\partial \vartheta_z}{\partial t} + \frac{1}{m^2} \left(\vartheta_x \frac{\partial \vartheta_z}{\partial x} + \vartheta_y \frac{\partial \vartheta_z}{\partial y} + \vartheta_z \frac{\partial \vartheta_z}{\partial z} \right) &= -\frac{1}{\rho} \frac{\partial P}{\partial z} + Z_1 + Z_2.\end{aligned}$$

In general seeping speed is very small and we can throw the left side (10).

$$\begin{aligned}\frac{\partial P}{\partial x} - \rho X_1 - \rho X_2 &= 0; \\ \frac{\partial P}{\partial y} - \rho Y_1 - \rho Y_2 &= 0; \\ \frac{\partial P}{\partial z} - \rho Z_1 - \rho Z_2 &= 0.\end{aligned}$$

Size means X_2, Y_2, Z_2 and doing lesson law, if we take into consideration seeping speed right and against proportional concern the following equation.

$$\begin{aligned}\rho Y_2 &= -\frac{M}{K} \vartheta_y \\ \rho Z_2 &= -\frac{M}{K} \vartheta_z\end{aligned} \quad (11)$$

In this k-conductivity of porous condition; m-absolute stickiness of liquid. So we can express following equation liquid action of moist water in porous condition

$$\begin{aligned}\vartheta_x &= -\frac{K}{\mu} \left(\frac{\partial P}{\partial x} - \rho X_1 \right) \\ \vartheta_y &= -\frac{K}{\mu} \left(\frac{\partial P}{\partial y} - \rho Y_1 \right) \\ \vartheta_z &= -\frac{K}{\mu} \left(\frac{\partial P}{\partial z} - \rho Z_1 \right)\end{aligned} \quad (12)$$

Imagine if size means consist of weight means, so it can be following

$$(X=0; Y=0; Z=-g)$$

$$\begin{aligned}\vartheta_x &= -\frac{K}{\mu} \frac{\partial P}{\partial x}; \\ \vartheta_y &= -\frac{K}{\mu} \frac{\partial P}{\partial y}; \\ \vartheta_z &= -\frac{K}{\mu} \left(\frac{\partial P}{\partial z} + \gamma \right), \quad \gamma = \rho g.\end{aligned} \quad (13)$$

Imagine if weight means consis of potential means, so it is equal

$$\vec{F} = -\text{grad}U \quad (14)$$

$$\text{In this } \vec{F} = X_1 \vec{i} + Y_1 \vec{j} + Z_1 \vec{k}$$

$$X_1 = -\frac{\partial U}{\partial x}; \quad Y_1 = -\frac{\partial U}{\partial y}; \quad Z_1 = -\frac{\partial U}{\partial z}$$

If it canbe general conductivity, sticknes and pressure density function, so it can $K = K(p)$ $\mu = \mu(p)$, $\rho = \rho(p)$. We can write differential equation taking into consideration (10) and (14) given above as following.

$$\begin{aligned}\rho \vartheta_x &= -\left[\frac{K(p)\rho(p)}{\mu(p)} \frac{\partial P}{\partial x} + \frac{K(P)\rho^2(P)}{\mu(p)} \frac{\partial U}{\partial x} \right]; \\ \rho \vartheta_y &= -\left[\frac{K(p)\rho(p)}{\mu(p)} \frac{\partial P}{\partial y} + \frac{K(P)\rho^2(P)}{\mu(p)} \frac{\partial U}{\partial y} \right], \\ \rho \vartheta_z &= -\left[\frac{K(P)\rho(P)}{\mu(P)} \frac{\partial P}{\partial z} + \frac{K(P)\rho^2(P)}{\mu(P)} \frac{\partial U}{\partial z} \right].\end{aligned}$$

In this equitation we enter following

$$Q = Q(p) = \int \frac{K(p)\rho^2(p)}{\mu(p)} dp, \quad \varphi = \varphi(p) = \int \frac{K(p)\rho(p)}{\mu(p)} dp.$$

If we use this function in (14) equitation, it will be as following

$$\begin{aligned}\rho \vartheta_x &= -\frac{\partial \varphi}{\partial x} - \theta \frac{\partial U}{\partial x} \\ \rho \vartheta_y &= -\frac{\partial \varphi}{\partial y} - \theta \frac{\partial U}{\partial y} \\ \rho \vartheta_z &= -\frac{\partial \varphi}{\partial z} - \theta \frac{\partial U}{\partial z}\end{aligned}\quad (15)$$

Truly we write (14) integral in the following differential form.

$$d\varphi = \frac{K(P)\rho(P)}{\mu(P)} dP.$$

If we use full differential peculiarities, so it will be

$$\begin{aligned}d\varphi &= \frac{\partial \varphi}{\partial x} dx + \frac{\partial \varphi}{\partial y} dy + \frac{\partial \varphi}{\partial z} dz + \frac{\partial \varphi}{\partial t} dt = \\ &= \frac{K(P)S(P)}{\mu(P)} \left[\frac{\partial P}{\partial x} dx + \frac{\partial P}{\partial y} dy + \frac{\partial P}{\partial z} dz + \frac{\partial P}{\partial t} dt \right]\end{aligned}$$

From these expression (15), we can solve private property differential equation.

Keeping mass law for seeping trend. Keeping mass and weight law for seeping trend is written as [2]

$$G_1 - G_2 = \frac{\partial}{\partial t} \int_{(V)} m\rho dV \quad (16)$$

Formula will be as following

$$G(S, t) - G(S + dS, t) = \frac{\partial(m\rho)}{\partial t} f(S) dS$$

or

$$\begin{aligned}G(S, t) - \left[G(S, t) + \frac{\partial G}{\partial S} dS \right] &= -\frac{\partial G}{\partial S} dS = \\ \frac{\partial(m\rho)}{\partial t} f(S) dS - \frac{\partial G}{\partial S} &= \frac{\partial(m\rho)}{\partial t} f(S)\end{aligned}$$

That's to say we come to simple constantly equation.

If porous m depends on time, so

$$-\frac{\partial G}{\partial S} = m \frac{\partial \gamma}{\partial t} f(S) \quad (17)$$

Constant equation in coordinate formula will be as following

$$-\left[\frac{\partial(\gamma \vartheta_x)}{\partial x} + \frac{\partial(\gamma \vartheta_y)}{\partial y} + \frac{\partial(\gamma \vartheta_z)}{\partial z} \right] = \frac{\partial(\rho m)}{\partial t}$$

In this $\vartheta_x, \vartheta_y, \vartheta_z$ -arrow projection of speed vector y, x, z will be equal in $\gamma = \rho g$. If we think sub soil water flows plainly, radically in the side of drainage-peep (crack), seeping moist water's private property differential equation will be written as following

$$x_T^0 \left(\frac{\partial^2 \varphi^4}{\partial r^2} + \frac{1}{r} \frac{\partial \varphi^4}{\partial r} \right) = \frac{\partial \varphi}{\partial t}, \quad (18)$$

$$\text{In this } x_T^0 = \frac{K_T^0}{4\mu\beta_T^*}.$$

We can write (18) equation as following.

$$x_T^0 \frac{1}{r} \frac{\partial}{\partial r} \left(r \frac{\partial \varphi^4}{\partial r} \right) = \frac{\partial \varphi}{\partial t}. \quad (19)$$

Action differential equations for nonpermanent seeping trend were recommended by G.I Berenblatt, U.P. Jeltov and I.N. Konchina [2–3]. We look through the solving when well stop working. Imagine moist water filled crack by seeping on the side of crack and water distribute stationary pressure function till water stop flowing (for difermotional layers)

$\varphi = 1 - \beta(P_0 - P)$, in this

$$\varphi^4(r, 0) = \varphi_0^4 + \Omega \ln \frac{r}{r_k}, \quad (20)$$

$$\text{In this } \Omega = \frac{2\mu Q \beta}{\pi \theta K_T^0}.$$

Pressure spreading procedure is studied in two phase for solving matter. First phase moist water does not reach border of the crack. Second phase moist is the same with contour radius of crack. In the first phase pressure spreading procedure in the border will be as following

$$\begin{aligned}r \left(\frac{\partial \varphi^4}{\partial r} \right) \Big|_{r=l(t)} &= \Omega, \text{ or} \\ r \left(4\varphi^3 \frac{\partial \varphi}{\partial r} \right) \Big|_{r=l(t)} &= \Omega\end{aligned}\quad (21)$$

If drainage –peep stops working, in this we can put following requirement in its wall

$$\left(r \frac{\partial \varphi^4}{\partial r} \right) \Big|_{r=r_c \rightarrow 0} = \Omega$$

Solving matter is given in first part of this chapter private property differential equation should be contended.

$$\frac{\partial \varphi}{\partial t} = \chi_T^0 \frac{1}{r} \frac{\partial}{\partial r} \left(r \frac{\partial \varphi^4}{\partial r} \right) \quad (22)$$

If we do simple matters by using integral relations, the solution will be as following

$$\varphi_{c_0}^4 - \varphi_c^4 = \frac{5}{6} \Omega + \Omega \ln \frac{r_k}{3,65 \sqrt{\chi_T^0 t}} \quad (23)$$

After simple changing (23) we take following expression

$$\varphi_{c_0}^4 = \varphi_c^4 - A + \theta \lg t,$$

In this

$$\varphi_c^4 = \left[1 - \beta(P_{c_0} - P_c) \right]^4; \varphi_{c_0}^4 = 1(P_{c_0} = P_0 = P_k) \quad (24)$$

$$A = 2,3 \Omega \lg \frac{r_k}{\sqrt{\chi_T^0}} - 0,47 \Omega; \theta = 1,15 \Omega \quad (25)$$

Its graphic expresses line ($\lg t=0; t=1$) crossing ordinate line.

$$A = 2,3 \Omega \lg \frac{r_k}{\sqrt{\chi_1^0}} - 0,47 \quad (26)$$

This line is made by lg t corner tangent will be following:

$$tg\alpha \cdot 1,15\Omega = \frac{2,3\mu Q\beta}{\pi v K_T^0} \quad (27)$$

If tg α answer is known, K_T^0 may be found

$$K_T^0 = \frac{2,3\mu Q\beta}{\pi v tg\alpha} \quad (28)$$

It is to say that, equation given above should be solved with other way. So that we can look through solving plain matter of subsoil water trends in other works. After

deserving farms fields in vegetation watered period, it determined that water dynamic was reached from 25–45 to 60–100 sm opening drainage-peep in some places in spring before salty washing period will bring lessening sub-soil waters and ripen crop fields in time. So it lessnes salt in soil content and it brings high harvesting of agricultural crops. On base on general information given from field researches and dynamic degree of sub-soil water and wetness of soil we can come on conclusion that it is very important growing crops before agro technique time and do planting works in time.

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Section 10. Philology and linguistics

Секция 10. Филология и лингвистика

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Melodic and temporal characteristics of different gender and age group of AAVE representatives

Abstract: The present research is dedicated to the prosodic characteristics of AAE, gender and age peculiarities of its speakers. AAVE has been at the center of a series of controversies, all of which are enlightened by evidence from phonology and phonetics. The present research is based on the speech of four Afro-American native speakers, of different sexes, age and professions to show the differences in melodic and temporal characteristics of their speech.

Keywords: Black English, African-American English, Standard American English, peculiarities, origin, melodic characteristics, speech.

The topic of Black English is very actual in terms of sociolinguistics and language interaction development, in racial relations and ethnic cultures. Black English is a social dialect of American English, originated and formed as a result of language interaction in the process of historical development. Black English is a term going back to 1969. It is used almost exclusively as the name for a dialect of American English spoken by many black Americans.

Black English is a variety of English, used in America and it is the subject of many controversies, the problem being that of whether considering it a language, a dialect or simply a slang talk. This language variety, also known as Ebonics, is nearly as old as Standard American English, but it has often been misinterpreted as defective, it has never been standardized and has always had lower status compared to Standard American English.

African American English (AAE), African American Vernacular English (AAVE), Ebonics (literally Black sounds) etc. has many names. Simply put it is the language spoken by most African Americans in the United States. (Peterson, 2006)

From the 1960's to the present, African American English has increasingly become also acceptable term for Black English, and the corresponding official name for the language variety used by African Americans is thus African American English or African American Vernacular English (AAVE).

The present research is actual as it deals with the prosodic peculiarities of Afro-American English, whose phonological status has not been investigated thoroughly, especially its intonation.

The object of investigation is melodic and temporal characteristics of Afro — American English.

The subject of the present research is gender and age peculiarities of AAE speakers.

The aim of the present research is to analyze melodic and temporal peculiarities of Black English. The main task of the work is to study how gender and age influence prosodic means of the speech.

Acoustic analysis is the main method of investigation.

The present research is based on the speech of four Afro-American native speakers; Akili Lee, Henry Louis Gates senior, Whoopi Goldberg and Temple Hemphill, taken from the American talk show and the documental film "The History of Afro-American Lives".

Black English Vernacular (BEV) as coined by William Labov in 1972 defines the variety of American English spoken by Black People. Its pronunciation is in some respects common to Southern American English, which is spoken by many African Americans in the United States and by many non-African American [5].

Ebonics is a recent and controversial neologism, coined by Robert L. Williams during a 1973 conference in St. Louis, Missouri, "Cognitive and Language

Development of the Black Child". It is a blend of *ebony* (a synonym for black that lacks its pejorative connotations) and *phonics* (pertaining to speech sounds) and by definition it refers specifically to an African-language-based Creole (from an earlier pidgin) that has been relexified by borrowing from English, resulting in what African Americans now speak in the United States [10].

There are three main suggestions for the origin of African American Vernacular English [9].

Historical discussions about the origin of AAE often start at the point at which African slaves were thrust into a linguistic situation in which they had to learn English. Some historical accounts of the development of AAE have taken the position that the distinctive patterns of AAE are those which also occur in Niger-Congo languages such as Kikongo, Mande and Kwa [8].

According to Bailey (2001) this is the "Ebonics" view, which also suggests that AAVE is a separate language.

The Creole-origin hypothesis for AAVE has received support of one kind or another from several studies. However, it has been strongly disputed by dialectologists, who affirm that many of the morphemes and morphosyntactic patterns associated with Creoles are well attested in British folk speech. There have been studies that claim that AAVE is a semi-Creole, suggesting that it did not undergo the full restructuring that result in Creole varieties.

Several facts could suggest the AAVE developed from a Creole. Such facts include the initial setting of South Carolina by colonists and slaves from Barbados and the importation of the first Georgia slaves from South Carolina.

Proponents of the Creolist view note that it is quite possible that slaves from Africa and those imported from the West Indies brought established creoles with them [8].

On the other hand, quantitative sociolinguists have focused on accounting for similarities between AAVE and white non-standard varieties of American English. While conceding that AAVE may have started as a Creole, Fasold and Labov argue that its present grammar is essentially English, the normal outcome of the decreolisation hypothesis. Labov states the following position as a consensus: the Black English vernacular is a subsystem of English with a distinct set of phonological and syntactic rules that are now aligned in many ways with rules of other dialects. It incorporates many features of southern phonology, morphology and syntax; blacks in turn have exerted influence on the dialects of the south where they have lived.

It shows evidence of derivation from an earlier Creole that was closer to the present-day Creoles of the Caribbean.

It has a highly developed aspect system, quite different from other dialects of English, which shows a continuing development of its semantic structure.

The reason why linguists have been unable to clearly specify the origin of the language is because not enough adequate data exists of black speech from the years of slavery [3]. However, scholars have been able to collect enough information to know that AAE has a strong connection to the Southern White Vernacular English (SWVE) [3]. They accept the decreolisation hypothesis, and also believe in the influence of AAE on the speech of whites who have interacted regularly with African-American, especially in the rural south, thus making possible both options.

Black English is complex, controversial, and only partly understood. Records of the early speech forms are sparse. It is unclear, how much influence black speech has had on the pronunciation of southern whites; according to some linguists, generation of close contact resulted in the families of the slaves owners picking up some of the speech habits of their servants, which gradually developed into the distinctive southern 'drawl'. Slave labor in the south gave birth to diverse linguistic norms; former indentured servants from all parts of the British Isles, who often became overseers on plantations, variously influenced the foundation of Black English. First the industrial revolution then the Civil War disrupted slavery and promoted African-American migration within the U. S., as result of which slave dialects were transplanted from Southern plantation to the factories of the North and Midwest. There was a widespread exodus to the industrial cities of the northern states, and black culture became known throughout the country for its music and dance.

Many historical events have had an effect on Black English. One of this was the early use of English-based pidgins and creoles among slave populations, as almost all Africans originally were brought to the United States as slaves. Pidgin is a variety of a language which developed for some practical purpose, such as trading, among groups of people who did not know each other's language. Creole is a pidgin which has become the first language of a social community. [7]

Black English was investigated in the USA by D. Crystal ("The Cambridge Encyclopedia of Language", English Language) [6], by C. Baugh and T. Cable ("History of the English Language") [4], in Russia by R. V. Reznic, T. S. Sookina, ("A History of The English Language") [1], by A. D. Schweitzer ("The Social Dif-

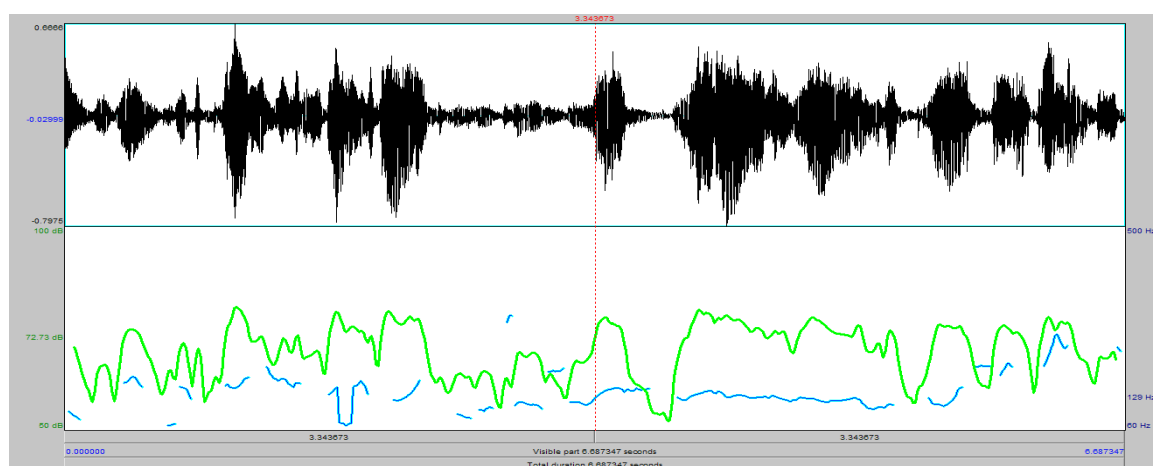
ferentiation of English in The USA.”) [2], but there are no monographic research of B. E. in our country.

The construct of AAE is complex and variable. AAE varies by the age, gender, region, and social class of the speaker. Most sociolinguistic studies do not examine every given feature of a dialect, and it is difficult to make cross study comparisons of feature use over space, time, and demographic group. [5]

The present research is based on gender and age peculiarities of the analyzed speakers: Akali Lee, mail, Henry Luoio Gates senior, mail, Woopi Goldberg, female and Temple Hemphill, female.

The analyzed spontaneous speech of the representatives of Afro-American English allows us to

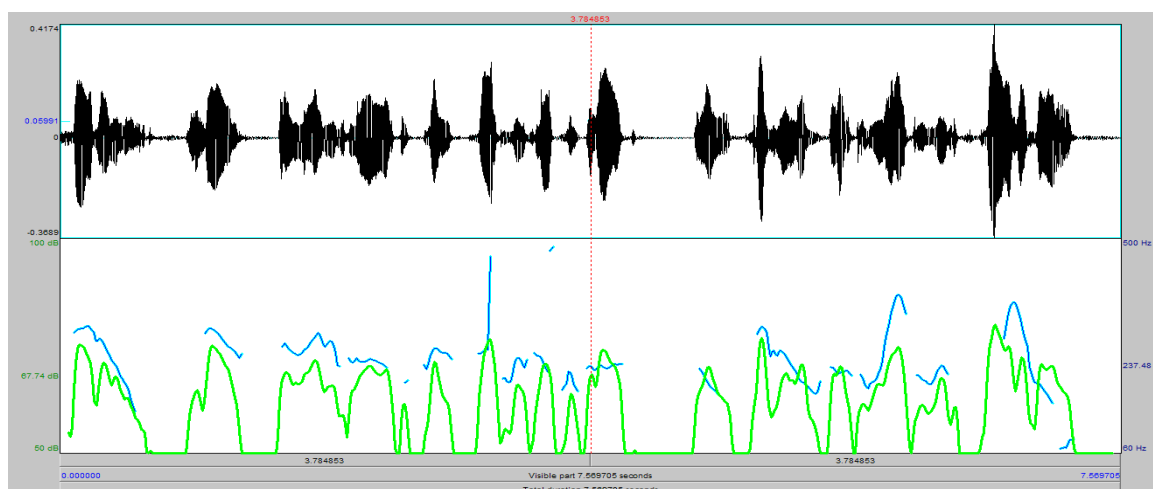
state that melodic characteristics of the female speech are quite similar. In the speech of middle aged female — Woopi Goldberg — Sliding Scale prevails thus making it rather emphatic (Oh, it is possible to find out who I am and w.. wha ... what I am? Oh, my goodness!). The tempo is rather fast. Acoustic analysis allowed us to state that average data of frequency is 165 Hz, which proves the fact that actor’s speech possesses so called “trained voice”, which is easier perceived by audience. There are a lot of syntagmatic pauses in her speech combined with pauses of hesitation. The length of pauses varies from short to rather long proving the fact that in spontaneous speech pauses of different length occur (pic. 1).



Picture 1.

The analyzed speech of the female — Temple Hepmhill — aged 41 differs in the melodic structure (... So I know he is not a black pr... he is not the black... h... president of black America, he is all of ...). Sliding Scale combined with High Falling terminal tone prevails, thus making her speech rather emphatic and emotional. The tempo is also rather fast, pauses of hesitation occur, which

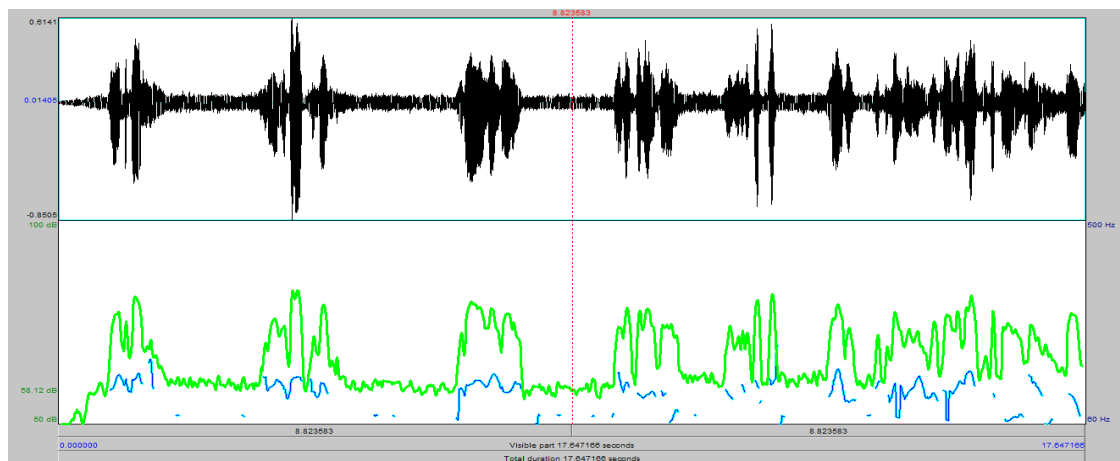
are mostly filled. The duration of pauses is between 100 to 500 mc, which points out the fact that the speaker is highly emotional and concentrated on the subject of the discussion. A high level of range and register variations appears in the speech of female informants. According to the data of the acoustic analysis the beginning of the phonation is accompanied by the extension of the voiced band (pic. 2).



Picture 2.

The speech of the male representatives of different age group shows quite opposite melodic and temporal characteristics to the female speech. The speech of the old aged male is not so emotional, rather monotonous where Low and Mid-Level Scales prevail (Rode the buses... sat on the back of the buses... we go all one day... I helped my wife on... and she stepped up... made her took a hold over and pulled her back and stepped in front of her). Low and High Fall are main

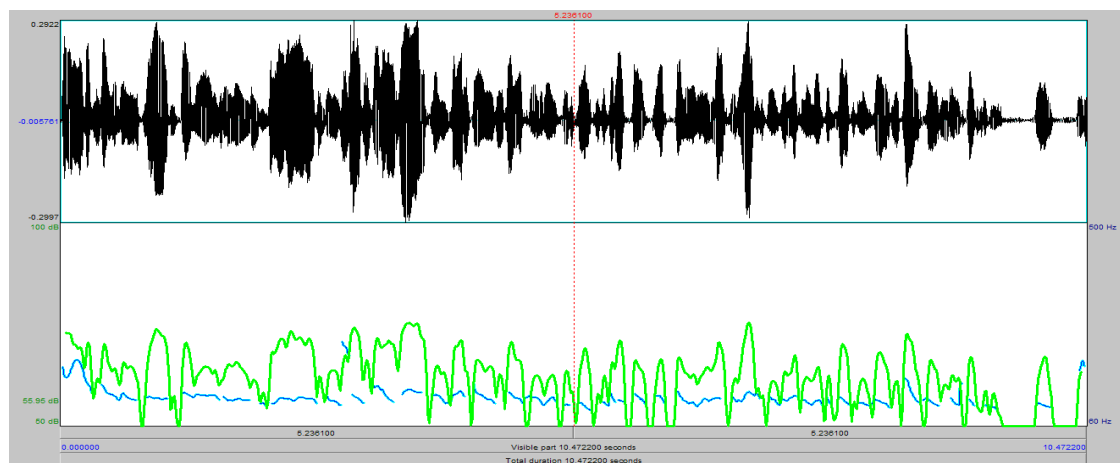
terminal tones; the voice range is narrow, thus proving the fact that the female speech is more emotional than male speech with the variety of emphatic Scales, terminal tones and wide range. The tempo is rather slow with the amount of breath pauses. The frequency rate of terminal/nuclear tones is from 60 to 108 cps. The emphasis is reached by means of successive volume ascension of the tone syllables (75–80 dB) (pic. 3).



Picture 3.

The tempo of Mr. Lee's speech, of a middle aged speaker, is rather fast in comparison with the previous speaker (Period of some of these jobs for rams is bill outs in such you know are investing still in infrastructure, but I think you ... you'd know we might in a lot ... looking at infrastructure very still, very simplistic manner). The range of pauses in the speech of the old aged speaker varies from long to very long

with the occurrence of pauses of hesitation. Interaction of the above mentioned prosodic characteristics conduces a certainty effect of foundation, while a middle aged male speaker tends to rather fast pronunciation with a short length of pauses. This speaker's speech sounds confident, which shows his willingness to affect the audience and urge his rectitude upon it (pic. 4).



Picture 4.

The conducted experiment made it possible to conclude that Afro-American speech is characterized by emphatic melodic characteristics in the female speech representatives of different age groups, fast tempo and short pauses which differs it from Standard American English, which is

characterized by neutral characteristics, both melodic and temporal with the prevalence of level Scale and Low Falling tone. Male representatives produce different speech characteristics, both in melodic and temporal structure, depending on their age and position in the society.

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Difficulties of using polysemous lexemes in modern English

Abstract: The authors consider the phenomena of ambiguity and polysemy in modern English language, analyze common mistakes in the use of some lexical units, and pay special attention to the difficulty of ambiguous words translation associated with the mentality and world view of different language speakers, which leads to misunderstanding.

Keywords: ambiguity, polysemy, lexical unit, ingrained casualism, lexical diversity, occasional synonyms.

Ambiguity and polysemy have become the most interesting phenomenon in modern English. They happen when a common and well-known lexical unit acquires a new and very different meaning that can overtake or eventually replace an old one.

A great number of scientific papers in linguistic theory is devoted to the difference between polysemy, ambiguity, and synonyms. According to Anna Zaliznyak's opinion, semantic theory has been developing greatly for the last three decades, and as a result of this ambiguity is not considered as a deviation from the norm, but as one of the most essential aspects of all significant linguistic units [4, 20].

Occasionally, phrases and clauses create ambiguity because their structure may be interpreted in more than

one way, leading to different meanings for the sentence as a whole. This ambiguity can be shown more distinctly in the following example. The lexical unit 'awesome' that initially meant 'impressive or very difficult and perhaps rather frightening' now is having the meaning that is completely different from the common one. Usage of this word in a new sense 'awe-inspiring', 'amazing', 'impressive', 'astonishing' seems really unexpected and makes non-native speakers get confused.

As these polysemous, 'deceptive' lexemes can be frequently met in English language, here the question arises: what is the reason of this multifaced lexical diversity? This problem is very thoroughly examined by the Russian linguist Anna Zaliznyak. In her opinion, gradual changes are constantly happening in the historical development

of every language in the field of phonetics, grammar, and lexical meaning. The specific character of these changes is different in various languages in particular epochs. The speed of these transformations is different too. No living language undergoes changes. Throughout the course of history, the outer form of the word changes greatly, and sometimes beyond recognition [7].

Due to the fact that English has always been renovating not only for new words appearing in the language, but already existing words change their meanings, that is why everlasting and ongoing process of norms and standards breaking in linguistic performance is taking place. In this connection some difficulties concerning word choice not only for language learners but for native speakers may occur.

As a result, there is an evident gap between an original meaning and a new one: what a speaker implies can vary from what the audience understands. Either this new sense will be fresh and expressive, or rasp and throw into confusion. It is sometimes difficult even in your own language to find words that are precise enough to get your exact message across to others.

Some words are confused because they are soundlikes, and even native speakers can mix them up, even though they mean very different things.

Many of the potential pitfalls in English can be found even in mass media. Sometimes we can hear or read of a journalist accusing authorities or a foreign head of state of '*flaunting* resolutions or laws'. If we look up the verb 'to flaunt' in a dictionary, we shall see that it has the following meanings: 'to show off', 'to display oneself or one's possessions arrogantly' [2, 224]. People often say: 'If you've got it, *flaunt* it'. This phrase implies the following contexts. Firstly, if you have a lot of money, you spend it in a way that leaves no one in any doubt that you are very wealthy or you have a great deal of money, because all your actions seem to say, 'Look how rich I am'. Secondly, if you have a good body, you wear clothes that reveal it, rather than hide it; so you dress in a way that says, 'Look how attractive I am!' Following to this logic we should translate the journalists' expressions as 'Look at these wonderful resolutions or conventions!' Obviously, there has been some mistake here. What journalists really mean is that the authorities or foreign leaders *flout* resolutions, laws. To prove this, we take into the consideration the next phrase 'to *flout* the law', in which the verb 'to flout' means 'to show contempt and lack of respect for it by ignoring it and behaving as you like' [3, 492]. The above mentioned explanation shows that foreign leaders or authorities simply disregard

resolutions or laws, acting as if they have never been passed.

This 'wrong' meaning of the verb 'to flaunt' becomes so popular among native speakers that sooner or later dictionaries will certainly have to include it as an alternative. True meaning of this lexical unit is reducing and it is the erosion meaning that is taken into the dictionary.

This is far from being a new phenomenon. Here is one more example of so-called misuse of the word. The verb 'aggravate' from the Latin firstly meant 'make heavier', that is 'make worse', 'exaggerate', 'intensify' and it's related to grave, gravity, and grieve [2, 11]. So, for the majority of people it simply means 'to make something that is already bad even worse or more severe' [3, 24]. 'The famine, initially caused by draught, *has been aggravated* by the civil war'. [1, 8].

In the 17th century this verb was first recorded as a synonym for 'exasperate', that is, 'irritate', 'annoy'. Since that time 'aggravate' has been used in its extended meaning, though many linguists vigorously opposed that usage, saying the verb's sense should be limited to 'make worse', 'exacerbate' [9].

The usage of the verb in a new sense apparently began spreading into print and attracting notice, in the 19th century, because many British and American writers, especially novelists reproducing spoken language, used 'aggravate' to mean 'annoy'.

In the 20th century linguists came to the conclusion that it's better not to denounce vulgar perversion and to endorse tolerance by using the verb in different meanings. The latest edition of the American Heritage Dictionary defends it in a usage note: 'Some people claim that 'aggravate' can only mean 'to make worse' and not 'to irritate'. They ignore not only an English sense in use since the 17th century, but also one of the original Latin ones' [6, 29].

It's no wonder that most English speaking usagists will certainly understand this verb in its extended sense in the following context: 'It's endless wait for luggage that *aggravate* me most about air travel' [9].

We should definitely remember that informal 'aggravate' meaning 'make worse' always has an inanimate object — you aggravate an injury or problem — while 'aggravate' meaning 'annoy' applies only to people or animals.

Moreover, 'aggravate' in 'worsen' sense is still the dominant one in print. At the same time 'aggravate' for 'annoy' is not suitable for formal writing and that is why it is called an 'ingrained casualism'. That poses a

larger question: How often do English mass media use this verb in a proper way?

Recently there has been an article in the New York Times, where this verb had been used in the following context: 'Mr Obama *aggravated* powerful players in Congress and the unions that helped elect him, then moved to assuage them' [9]. In this context we can see the violation of this lexical unit usage, as the 'Word for Word' book says, 'aggravate' means 'make worse', 'not anger or irritate' [1, 8]. At the same time it is unreasonable to deny that 'aggravate' has a meaning that every dictionary records. In case with the American president we speak about morals. That's why it wouldn't be unreasonable for the Times to rule that in a news story, the president of the United States shouldn't be described as '*aggravating*' members of Congress. As one Web commenter said: 'This is plainly a mistake' [9].

The next group of words that are often mixed up by English speakers is 'historic' and 'historical'. Oxford Advanced Learner's Dictionary explains the difference between these words. According to this dictionary, 'historic' is usually used to describe something that is so important that it is likely to be remembered. 'Today is a *historic* occasion for our country' [3, 615]. 'Historical', meanwhile, usually describes something that is connected with the past or with the study of history, something that really happened in the past. 'I have been doing some *historical* research' [3, 615].

The following context clearly demonstrates intentional or accidental confusion of these lexemes in different word combinations, thus allowing both words the chance of being variously used to describe one of Hingham's oldest buildings of the 17th century as the 'historic building', 'historic resource' surely to be important in history, and as the 'historical structure' connected with the past. '*Historic* Hingham building to move 11/2 miles ... The building was most recently owned by John Richardson, who had a knack for collecting the *historical*, and dedicated much of his life to research into the small South Shore community. Before the town preservationist was thoughtful enough to put demolition delay bylaw into town, this wouldn't be happening. The house would have been demolished, historic resource would be gone ... Yet the delay is only for six month, and historical advocates have been working to move the *historic* structure by the end of June' [10].

It should be taken into consideration that lexemes 'historic' and 'historical' have extended their meanings with the help of occasional synonyms in this context. This kind of synonyms is used as the complement of one another in logical and emotional sense allowing

the journalist to fully outline the problem of the unique building preservation: *historical* building — unique building — the oldest building; *historic* building — treasured home.

Recently linguists everywhere have had great sadness or disappointment about the widespread misuse of the word 'literally'. Originally, this lexical unit had only one fundamental meaning 'in a literal or strict sense, as opposed to a non-literal or exaggerated sense'. This explanation can be illustrated by an example in the 'Word for word' book: 'I asked him to work on the project night and day, but unfortunately he took it *literally*' [1, 124]. Stewart Clark points out that it is considered substandard by some to use 'literally' in formal English as an intensifier, proving his point with the example: 'our staff are working themselves to death', not '... *literally* working themselves to death' [1, 124].

The reality is that he was right, as recently it has become in vogue to use 'literally' for emphasis in precisely the non-literal sense, as in 'We were *literally* killing ourselves laughing'. This lexical unit has wrongly got one more meaning 'figuratively, in a metaphorical sense' which is more and more frequently used by modern native speakers. As Boston University psycholinguist Jean Berko Gleason said; 'My impression is that many people don't have any idea of what 'literally' means — or used to mean. So they say things like 'he was *literally* insane with jealousy'. If in response you asked them if this person had been institutionalized, they'd look at you as if you were the crazy one' [8].

Unfortunately, it turns out that this informal and completely incorrect use of lexeme 'literally' has been added to some established dictionaries with the label 'informal'. For example, Oxford Learner's Dictionary of Current English added the informal usage of the word as 'used to emphasize a word or phrase that is being used in a figurative way' [3, 751]. Oxford Dictionaries, however, also noted that 'in recent years an extended use of 'literally' has become very common, where 'literally' is used deliberately in non-literal contexts, for added effect, as in 'they bought the car and *literally* ran it into the ground' [8]. However, even though this word is widely and actively used, its intentional overuse can result in unpredictable humorous effect that is unacceptable in a formal style.

Semantic shifts and appearance of new lexical units are noticeable in modern English in different spheres of public life: spoken language, youth language, mass media language. Once appeared, they are sneaking into advertising, business, social and political life.

It's not a secret that performance of polysemous words mainly depends on social and professional speaker's mentality, on his educational level, ethnic background, and age. Moreover, social, cultural, ethnic, and psychological factors should be taken into account because they also make great influence on the appearance of lexical ambiguity. That's why it's very crucial to know not only the language itself, but its culture, so that one could understand and translate perfectly. Which lexical units are used by the native speakers mostly depend on their language, and hence, their world perception.

No doubt, innovations in any languages reflect not only pure linguistic changes, but everything that is going on in all spheres of public life, that helps new words formation.

Decoding of foreign culture is the most difficult process, because a non-native speaker can face the problem of finding a suitable contextual meaning of a polysemous word. This choice can be hard enough while communicating with a representative of an alien

culture, as there might not be neither cultural nor linguistic equivalents for a number of different notions and expressions.

Especially it's really significant in case of newly formed lexical units' interpretation, which requires cultural knowledge of at least two languages — native and foreign. This fact is perfectly proved by a Russian linguist Aleksey Shmelev. The idea that different languages have diverse world conceptualization is self-evident in modern semantics. Because of this, the concept of speech culture modification is necessary: it should be dynamic and comprise the notion of logical changes of language conceptualization of the world and interrelations between social, cultural, and language processes [5, 58].

In conclusion, it should be mentioned that usage of any language innovation mostly depends on a specific stylistic context. The misuse of English lexemes can result in miscommunication and even confused situations. So, one should be very attentive socializing with native speakers.

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Grammatical metaphor in the language of Olga Arefieva's poetry

Abstract: This article is devoted to the study of grammatical phenomena of transposition in the works of Olga Arefieva, who is a representative of Russian postmodernism literature. Grammatical metaphor is one of the character features of Arefieva's idiosyle, a bright devise of expressiveness, imagery.

Keywords: poetry of Russian postmodernism, grammatical metaphor, morphological transposition, the author's idiosyncrasy.

Russian postmodernism is a peculiar branch of literature, the branch that in all the senses may be understood as an experiment. The poetry of Russian postmodernism cannot be considered being complete in its development, nowadays it is still on the stage of formation. The innovations of the poetry of the end of the XX — of the beginning of the XXI centuries are “absurdity”, “alogism”, “nonsense”, “paradox”, they fully reflect the chaotic character of the consciousness of a modern person. The mentality of people changes and that is surely brightly reflected in their speech and the language itself. The Russian Literature and especially poetry of postmodernism is characterized by the linguistic game and the linguistic experiment.

As Shendels E.I. notices, “... the grammatical metaphor has some common features with the lexical one” [2, 51], but this two phenomena are not the same. The grammatical metaphor is the usage of one grammatical form instead of the other one and the result of such substitution is a collision of the prior meaning of the grammatical form with an atypical environment. In consequence the “conflict situation” arises and promotes the appearance of different stylistic effects.

Shendels E.I. believes that every grammatical category can become the metaphor basis and get some stylistic value. In this article we will try to analyze the phenomenon of grammatical metaphor as a characteristic feature of Olga Arefieva's idiosyncrasy.

The grammatical metaphor is not a less bright stylistic device in comparison with the lexical one. It is an important indicator of the individuality of the author's style and manner [1, 68]. Speaking about O. Arefieva's works we should mention the variety of genres: poems, words, prose and others. In O. Arefieva's works we can hear the motives of medieval ballads, echoes of baroque, blues intonations. Very often in some lyrics you can hear the strokes of words about the inevitability of the end, about sorrow, sadness that leave a light feeling of resentment on your soul.

Arefieva's poetry is bright and original from the point of view of choosing language means of different levels. You can often see her uncovered experiments with words, forms, contents and others. She presents a specific vision of the world: she describes it as a spherical chess-board on which you can see people, houses, animals and other things in the role of pieces. Her character feature is different conception of life and death, different sense of time and

space. Time lacks linearity, all the time we come across the confusion of the past, future and present. In one and the same moment we face events from different times and I future we can see something that has already happened. Time in her poetry becomes something more material and at the same moment inconceivable and eluding.

*Когда-нибудь придет сегодня,
Тогда надену я тетрадь,
Начищу голос новогодний
И буду ярко умирать.*

(O. Arefieva. Novogodnee)

The result of such uncommon approach to the language is a wide prevalence of grammatical metaphor in her works. More often you may come across transportable forms of such categories as tense, number, aspect and etc.

*Когда мы будем были,
Наши глаза будут смотрели,
Наши песни будут звучали,
Наши руки будут обнимали.*

(O. Arefieva. Kogda my budem byli)

From our point of view this metaphor should be considered a bipolar one. Under this term we have in mind a specific feature of a grammatical metaphor; the form in an atypical environment can be perceived ambiguous [4, 162]. On the one hand, we observe the author's usage of the verb in the past tense with the meaning of the future one, that means the actualization of the action considered as a fact of reality at the very moment of speech about this fact, event or condition. On the other hand, we can speak about the adding of some new meanings to the verb such as attribute and processuality. Thus grammatical metaphor helps us to interpret the future action as an already done one, as an already changed condition of a subject. At the same time this transposition causes the accumulation of the semantics of the processual attribute like the verb form “смотрели”: “Наши глаза будут смотрящими”.

The grammatical metaphor connected with the transposition in the category of tense or temporality carries out a text-forming function in O. Arefieva's poetry:

*У меня два имени — Нет и Да,
У меня два времени — Здесь и Всегда,
Я иду по воде, потому что во мне
Завтра был лёд, а вчера будет снег.*

(O. Arefieva. Tolko ne plachte)

In this very example the situation is just like in the previous text. Here we shall use such term as ‘temporal-

ity'. The temporality of the text is a textual time. Time and space are universal features of any material thing, they are obligatory characteristics of the world of events. The text is just like reflection, it defines the fragment of reality. The starting point is some imagined "now" that becomes the basis for moving forward and building the time perspective of the text. "Tomorrow", "yesterday", "in future", "during the war" and seasons (autumn, winter and etc.) are the language means, words and word combinations that transfer the meaning of time. Now let's turn to our example. "Завтра был лёд" can be considered the usage of the past tense form of the verb in the meaning of the future one that stated by the outlet of temporality "завтра". «Вчера будет снег» contains the future tense form of the verb, used in the meaning of the past one. Such a language game is a character feature of Olga Arefieva's creativity and can be counted the feature of her idiostyle.

Мы нет или нас есть?

Ответ заставляет ждать –

Кто-то захочет есть,

А хлеб его вырвет тать.

Нас есть или мы нет?

С тех пор продолжается спор –

Люди смотрят на свет,

А глаза их ворует вор.

Сегодня был ветер, а завтра был снег,

Сегодня был вечер, а завтра нас нет,

Сегодня нас есть, а завтра мы нет.

(О. Arefieva. My net ili nas est'?)

Except an interesting language game with pronouns here we observe an unusual similar with the previous example usage of the time context. "Завтра был снег" is a combining of the future tense marker "завтра" with the verb "был" in the past tense. The comparison of time forms in parallel constructions "Сегодня был ветер, а завтра был снег" is of great importance. In the first part of the line we can see the idea of a faded metaphor when the past tense forms are used in the meaning of the present ones; in the second part it seems obvious that the author uses "был" the past tense form of the verb in the meaning of the future tense. Here there is an actualization of the action considered to be the fact of reality at the moment of speech about this action, fact or condition. Thus the grammatical metaphor helps us to take the action in future as an already committed fact, as an

already changed condition of the subject. Also we can see here the transposition in the meaning of pronouns "нас есть", "мы нет". In this case we speak about the transposition in the sphere of case forms and case meanings. We can see that in present "сегодня нас есть" the pronoun "мы" is used in the form of genitive case and it lacks the meaning of a subject bearing in this context the role of an object only. In the author's conception "мы" exists in present just as an object without any chance to become a doer of the action, a subject. In the word combination "... а завтра мы нет" the author on the contrary uses nominative case with the subject meaning instead of the genitive case and here it sounds like nevertheless there is no us, we are a subject, an active doer of the action.

We can enumerate one more bright experiment in the poetry and prose of Olga Arefieva, that is the transposition in the category of number, for example: "Зеркало невидимо задрожало, в нем понемногу начали меняться облики, будто маска за маской. Все они были она." The whole second sentence can be taken as a metaphor. Describing the personages of her book Arefieva unites them by the idea that each of them is she. Here we observe a transposition in the category of number. It should be noticed that in many linguists' opinion there are no "brave" metaphors in grammar because the transposition is available only within a paradigm, within its borders [5]. The multitude "Все они были" is defined by the singular "она". In the context of the work the pronoun that traditionally denotes a singular person or a subject gets the idea of plurality or combining of many subjects and objects in it. This transposition is also strengthened by the context. This example is interesting for us because this type of grammatical metaphor has a growing tendency for a wider spreading in modern literature.

Idiostyle is a complex notion that includes a great number of features and components. The author's idiostyle is based on the peculiarities of his/her world description manner and way of presenting his/her ideas on the paper. Speaking about works of Olga Arefieva we can surely claim that grammatical metaphor is one of the brightest features of her idiostyle. Arefieva breaks, ruins the structure of reality and intensifies this idea by breaking the language structure. She plays and in this game she can freely change words' meanings, meanings of parts of speech, of phraseological units and she uses absolutely unique, occasional collocations.

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Ethnography of communication: some aspects of ethno-semantics and ethno-pragmatics

Abstract: The paper touches upon some topical problems of the Ethnography of Communication, in particular, those of ethno-semantics and ethno-pragmatics. The author argues that cultural competence in a foreign language requires from the non-native speaker a complex cognitive infrastructure, including a number of culturally specific frames and themes. It is shown how differently some of those cultural themes are conceptualized by the speakers of English and Russian.

Key words: ethnography of communication, ethno-semantics, ethno-pragmatics, cultural themes, frames, cultural appropriateness of an utterance.

It is a well-known fact that the role of the cultural dimension in foreign language education has been radically reassessed in the post structuralist era of the 90s. As a consequence, in modern Foreign Language pedagogy language is seen as social practice and the non-native speaker needs to learn how language functions in society. This pedagogical ideology assigns a much more salient and significant role to culture. In fact, the current pedagogical trend is dominated by **ethno-methodology** and requires that culture becomes the very core of language teaching, so that proficiency in a foreign language is defined as “what learners can *do* with language, rather than what they *know* about it” [8, 181]. More than that, recognition of a dialectical unity of language and culture inspires many Foreign Language Teaching professionals to look for methods and ways of developing not only a culturally competent learner but also what E. Kramsch calls “**a cross-cultural personality**” [6]. Put simply, it means that foreign language students must be alerted to **what one may say to whom, when, and how** in a foreign language. This kind

of competence also implies being knowledgeable about the communicative styles of the people in the target culture and the speech manners and behavior acceptable or unacceptable in certain situations, as well as awareness of the **appropriateness/inappropriateness** of an utterance in L2 ethno-cultural environment.

The specific area of linguistics that focuses on those problems is known as **Ethnography of Communication** [4; 9] and is aimed at alerting the foreign language learner to distinguishing between culturally true and culturally false utterances.

An illustrative example of cross-cultural miscommunication which may result from such inappropriateness could be the notorious Russian “aggressive hospitality” with the hosts energetic cajoling, urging and persuading the guests to eat and drink more than is good for them. The effect is predictable: your Western visitors will almost certainly feel resentful, may take offence, regarding your behavior as imposition.

Ethnography of Communication also alerts FL learners to various aspects of ethnopr pragmatics, such as

acceptable or tabu topics for conversation. For example, it would be useful to learners of English to know that people in the English speaking cultures avoid talking about religion and politics when in company — these are sensitive topics. An American may be free to shout about his/her religious or political views in public — at meetings, in the media, etc., but a well-bred person would never allow himself/herself to do so in informal sociable chat: these topics are considered controversial and therefore fraught with conflict, which would be quite acceptable in a professional situation or political debate but not at a party or an informal get-together. Instead, people prefer to indulge in “small talk” — taking turns, exchanging rather short comments or remarks, never interrupting each other, never monopolizing attention or focusing on themselves. “Small talk” is sometimes compared with a game of tennis: listening to your interlocutors, you move your head this way and that way all the time, so that your neck starts to ache. Again this is in sharp contrast with most Slavic, Latin, Jewish, and Arabic people many of whom love to talk “big” and eloquence in those cultures is a socially approved virtue.

As distinct from the Anglo-Saxon cultures, in countries like Russia, Ukraine or Israel politics and religion are quite acceptable, even preferred topics for informal interaction. For many people in those cultures heated discussions, passionate arguments over controversial issues may be said to be a favorite national pastime.

Talking about personal health is not usually regarded favourably in the Anglo-Saxon cultures. In this, they differ from some Slavic ones, in which it is quite acceptable for people to share details about their pains, aches and complaints.

The amount of information exchanged in conversation is also culturally significant: in some cultures people tend to exchange *factual* information, analyze “facts and figures”; in others the accent is on “*the emotional*”, people there are better at expressing and discussing feeling and moods. American is traditionally known to be a “factual” culture. Most people there resent what they call “emotional appeals” and pressure, have no respect for mood swings, emotional outbursts and soul-baring either in professional or interpersonal relationships and situations. From an early age they are taught to “look for the facts” and “weigh the evidence”; they are interested in “what” the other person says and not in how he feels.

Other problems Ethnography of Communication deals with are those of Ethnosemantics. Awareness

of the nuances of cultural meanings requires from the foreign language speaker a high degree of the so-called **cognitive, or conceptual competence** (CC), i. e. “feeling at home in the target culture’s contexts of thought and knowledge” [2, 89]. The key point of this cognitive aspect of ethnography of communication is the claim that our speech behavior does not only reveal our wants, views, attitudes and emotions, but also how they all are organized in our heads, how we encode the world, how we store information about it in our memory, how we prioritize — sort out primary and secondary information, how we make decisions about a future course of actions. In other words, speech behavior requires an extensive mental infrastructure.

It appears that our thinking, as well as knowledge, has a complex, elaborate cognitive infrastructure whose discrete components include the so-called **frames, or scripts, or nodes**. These in the prototypical definition by W. Dressler [3, 90] are “global patterns of common sense knowledge about some cultural concept”. According to E. Goffman [5, 128], “frames are mental representations, models or schemata of the principles by which situations are defined and sustained by experiences”. They are scripts, algorithms or programs, along whose lines we speak and act. All this is leading to the recognition of the fact that CC in a foreign language covers the communicator’s ability not only to use appropriate L2 structures but also think within the framework of L2 conceptual system, or “framing-patterning” [7].

Such culturally marked frames are often encoded in folk sayings, proverbs, mottoes and recurrent expressions, because they reflect the mentality of a nation and are often depositories of folk wisdom and morality. An in-depth study was done (J. Shamayeva [1]) of the conceptual infrastructure of a cognitive model of “joy” in American English, which yielded some interesting insights into the American cultural values. It appears that **joy** is predominantly conceptualized by Americans as material rewards for the efforts made to achieve goals. The analysis highlights the pragmatic “enterprising” nature of the American national character and the American ethno-semantic personality as distinctly action and achievement oriented.

The research also contains some comparative observations as to the Russian version of this model. To the speakers of those languages the concept of joy is often associated with grief and tears («со слезами на глазах»): *смех сквозь слезы* (*laughter through tears*); *смейся, смейся — как бы потом плакать не пришлось* (*laugh while you can — you may want to cry soon*); *слезы радо-*

сти (tears of joy); тихая радость (quiet joy); любишь кататься, люби и саночки возить (if you like to sledge — learn to enjoy dragging the sledge uphill); не было счастья, так несчастье помогло (where there was no happiness, unhappiness helped); «где смех, там и грех. (where there is laughter, there is sin). These and similar proverbs contain a culturally indoctrinated moral: laughter may not be sinful in itself, but it surely provokes sin.

The notion of cognitive/conceptual competence is being intensely developed by the American social linguist A. Wierzbicka who argues [10; 11] that our speech behavior (both in L1 and L2) is regulated by what she calls “cultural scripts” or “cultural themes” existing at the level of national sub-consciousness and ethno-psychology. Cultural themes are certain stable concepts that dominate in the psychology of the people who share a common linguo-culture. Cultural themes are also indicative of a culture’s norms, values and priorities. They are “culturally shared ideas”, key cultural concepts, views and attitudes historically developed and traditionally important in the life of the given cultural entity. A nationally specific system of such scripts/themes constitutes, according to this scholar, an unwritten subconscious “cultural grammar of speech”, whose rules are imperative for all the members of the given speech community. Examples of cultural scripts/themes are: male dominance (Middle Eastern and Oriental cultures); cult of authority developed in many collectivist cultures, e.g. the Russian «Начальник всегда прав» (the boss is always right); «Я начальник — ты дурак, ты начальник — я дурак» (I am the boss — you are a fool, you are the boss — I am a fool); «Прав тот, у кого больше прав» (He is right who has more power).

In M. Danesi’s [2] view, CC also means the speaker’s capacity to use L2 specific metaphorization mechanisms (hence — also the term *metaphoric competence*). Cultural themes apparently provide the needed vocabulary which is then extensively used metaphorically in different contexts. For the people in the US, according to A. Wierzbicka, one of the most popular and culturally marked themes is “**food**”. Because food takes such a prominent place in the lives of Americans, they make a wide metaphoric use of culinary terms: *she is a cupcake, the icing of the cake, you look good enough to eat; you’re my sweetie, sugar pie, honey, we’re in the same soup, to swallow an insult, not my cup of tea, to stew in one’s own juice, to eat out of one’s hand, etc.*

But even more prominent cultural concepts in the American culture are “**Time**” and “**Money**”. Actually, they seem to be two facets of one and the same thing.

It is a well-known fact that Americans value time and punctuality, are obsessed with deadlines and schedules. The American catch phrase “Time is money” is proverbial, indicating a busy culture that puts a high priority on financial gains and uses money as an important gauge against which other virtues are measured. Money is the major cult, “*Money makes the world go round*”. All the following examples have been taken from works of fiction and real-life conversations: “*I wouldn’t put my money on this method, I don’t think it’ll pay feedback wise; John’s first suggestion — that’s where my money is*”, “*My money is not on his plan*”, “*It sounds like a very marketable idea*”; “*My check-book is not on him*”; “*I cannot say for money what he sees in this girl*”; *You look like a thousand/million dollars*; you “**buy**” an argument, you “**sell**” a theory. Speakers of English **pay**: *a visit, a compliment, respect, homage, attention, consideration, an arm and leg for something, lip-service to smb/smith., court to smb., they expect a pay-off for their efforts*. Every day you hear or read utterances like: “*It doesn’t pay to argue with your teacher*; *It is a million-dollar question*; *It feels like payback*”, etc.

Very heavy with cultural message is the concept “**wealth**”. In the US? For example, a rich man is a virtuous, “good” person, a lazy one — a sinner, “white trash”. It is the rich ones that are respected as bearers of high moral values, Americans have been taught for generations that riches is God’s reward to you for your hard work. This seems to be in sharp contrast with the Russian/Ukrainian conceptualization of “wealth” — cf.: «*Не в деньгах счастье*» (money does not bring happiness); «*не имей сто рублей, а имей сто друзей*» (you do not need a hundred roubles, if you have a hundred friends)...; «*бедность — не порок*» (poverty is no sin); «*бедный гол как сокол — поет и веселится*» (a poor man is naked and broke, but is singing merrily), etc. In the Russian cultural tradition poverty is regarded as a virtue — you are respected for being poor, you are thought to be highly moral and saintly, victimized by the “bad rich guys”.

A very powerful cultural theme for the speakers of Russian is “**Fate**”/“**Doom**”, which is predominantly conceptualized from the point of view of the individual’s helplessness and insignificance in the face of it. This is reflected in numerous proverbs and sayings: *чему быть — того не миновать* (one cannot avoid what is bound to happen); *куда кривая выведет* (you cannot know where the curvy line of your life will take you); *как карта ляжет* (you are not to know what cards you will be issued); *будь что будет* (come what may); *что суждено, то сбывается* (everything that is bound to happen, will happen); *человек предполагает, а Бог располагает* (man makes plans,

God makes decisions); *все под Богом ходим* (*everything is God's will*); *Бог дал, Бог взял* (*God gives, God takes away*); *как бы веревочке ни виться, все равно конец найдется* (*no matter how the rope twists and knots, it will come to an end*), etc.

To most Americans of utmost importance is the theme of “**Work**”, it is one of the major cultural concepts. Sayings like “*We live to work*”, “*It's an early bird that catches a worm*” point to a culture, that values initiative, diligence, and reflect the “get-up-and-go” American spirit — compare with the Russian: «*Работа не волк, в лес не убежит*» (*work is not a wolf — it won't run away into the woods*); «*Работа дураков любит*» (*work loves fools*); «*Ты, работа, нас не бойся, мы тебя не тронем*» (*work, don't you be afraid, we are not going to touch you*), etc.

To sum up: both frame patterns and cultural themes reflect the traditional values and the priorities people of different cultures set for themselves, which makes ethnography of speech a fascinating field of linguistic and exploration. Lack of cognitive competence in this area accounts for a great number of communication failures and breakdowns in cross-cultural interaction. Being highly ritualized and culturally shaped, those fragments of our world view, of our national picture of the world, usually require maximum cognitive restructuring, reorganization and adaptation when a person is transplanted from one linguo-culture to another, and for that reason alone, they certainly deserve a special attention from second language teaching and cultural studies professionals.

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Section 11. Philosophy

Секция 11. Философия

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The main ideas of V. A. Shmakov's pneumatology

Abstract: The main objective of this article is to introduce European thinkers to the deepest ideas of the esoteric philosopher V. A. Shmakov who is not very well-known not only in Europe but also in Russia. In this paper we made an attempt to present a brief review of the main ideas of pneumatology — the doctrine about the laws of the Spirit formation.

Keywords: Pneumatology, mysticism, mind, will, V. A. Shmakov.

It is possible to assume that the absolute majority of European thinkers, probably, do not know not only the content of the works created by the Russian philosopher Vladimir Alexeevich Shmakov but also his name in general. However, he was the brightest thinker, one of the most profound, mysterious and esoteric philosophers of Russia in the first third of the 20th century, who possessed tremendous erudition and who knew many different European and ancient languages. Shmakov's works are saturated with great spiritual energy, intellectual intuition and erudition of the highest level. The main task of the given article is to introduce European scientists to the basic ideas of this unusual Russian philosopher.

In view of the events that have befallen Russia just in the first third of the 20th century, we know very a little about V. A. Shmakov's life and work (thankfully, with the exception of his philosophical works, almost all of which have been preserved till our time). However, some information about his life and work is still familiar to us as well.

Vladimir Shmakov was born in Moscow, approximately in the 1880-ies (according to a version suggested by one of the researchers of his life the year of his birth was 1887; however, by this moment we have not found any official evidence confirming that date). He was the son of A. S. Shmakov, a well-known lawyer and publicist, who was also a public figure of the right direction.

By education V. A. Shmakov was a railway engineer. Most part of his life, V. A. Shmakov was occupied with developing the system of esoteric philosophy. He was able to gather around himself a lot of talented representatives of different philosophical trends, — mainly the mystical ones.

Under the pressure of well-known circumstances which arouse in Russia after 1917, — and especially in the fall of 1922, — he emigrated abroad together with his family. At first he moved to Germany and then — to Czechoslovakia. However, soon after that he moved to Argentina (or, according to another version, to Switzerland). V. A. Shmakov died in October 1929 because of a stroke.

Generally speaking, during his rather short life, V. A. Shmakov managed to write and publish only two major works: «The Sacred Book of Thoth. Great Arcana Tarot» (Moscow, 1916) and «Fundamentals of Pneumatology» (Moscow, 1922). It was only after more than 70 years when his works were published again, — first in Kiev, Ukraine and later in Russia. In addition, he wrote (but not polished them as he did it with his previous two major works) another important work entitled «The Law of Synergia and the Doctrine of the Dual Hierarchy of Monads and Sets». It was first published in Kiev in 1994 [See. 10; 11; 12]. There is also a supposition that V. A. Shmakov managed to write or make an outline of another major work — «The Basic Laws of the Architectonics of the World. Unity — a

Biner, Turner and Quaternion». However, until now the text of this work has been never detected. However, there is an evidence showing that the basic ideas of this work were presented by him in the German philosophical journals in German, which were published in Germany before 1916.

Despite the fact that all available V.A. Shmakov's works were repeatedly published during last twenty years, until nowadays his philosophical concept has not been widely studied. In Russia, there are only a few researchers investigating the system of philosophy developed by V.A. Shmakov. They have published a series of articles dedicated to the basic ideas of V.A. Shmakov's philosophy [1–9]. No monographs dedicated to V.A. Shmakov's philosophy are available by now. Probably, it is not surprising, as the study of V.A. Shmakov's philosophical views requires very serious preliminary training and preparation in the area of philosophy as well as undertaking long-term effort in general.

In V.A. Shmakov's philosophy, first of all, two basic ideas can attract our attention. One of them is the idea of pneumatology, or the so-called theoretical mechanics of the spirit formation in which he tried to make a synthesis of philosophy, religion, archaic mythological and poetic knowledge and the idea of the Law of Sinergia. The subject of pneumatology is both transcendent and immanent (that is empirical) reality. Pneumatology itself includes statics, or the doctrine of the three basic pneumatological categories — will, spirit and mind, and kinematics (V.A. Shmakov's terminology is sometimes clearly affected by his engineering and technical education), which is the doctrine of the dialectic nature of the processes that take place both in human consciousness and in its interactions with the world surrounding people.

In the given article we are going to consider the basic ideas of V.A. Shmakov's pneumatology.

Pneumatology is the doctrine about the ontological nature of the formation of monads; in other words, the task of pneumatology is to reveal the ontological nature of becoming reality. The pneumatological process is the essence, carrier and mechanism of life. It is in this process where the essence of any creativity is expressed.

The pneumatological process is not only noumenal or just phenomenal, but it includes both of these components in their organic and dialectic pairing. The pneumatological dialectic process is not a metaphysical cycle of successive emanations and not a chain of logical deployment of the primary concepts but the speculative

nature of organic life [11, 123].

The general formula of cosmic dialectic process is as follows: primordial unity (thesis), contrasting with multiplicity (antithesis), creates a set of hierarchies and, opening in them, restores unity, — that is asserts its specificity [11, 122]. In other words, it is the creative pairing of active potentially specific subjectivity and passive potentially discrete objectivity leading to the birth of an actual specific subject-object. This is the introduction of spirit into matter and the elevation of its hierarchical potential to the spiritual world.

Mystery, mind and will — these are the three pneumatological categories that have organic modes spirit manifested in our phenomenal world. In accordance with the principle of biner or binary these three basic categories unfold in two subsystems of pneumatological categories: the transzendent system in which “the potentiality of transzendent pneumatological categories is the lack of awareness in their deep interconnection and community life with the plastic flow” [11, 535] and the inherent system, which is a kind of quasi-independent system of pneumatological categories. For the existence to be relevant, it needs to become modified and reveal itself in all three of these categories [11, 96].

Mystic is the natural phenomenon creating an organic unity of the cosmos. It is the essence and content of any being. The category of mystic is disclosed in the given consciousness in such a degree that it can be imbued with a sense of cosmic being. In the category of mystic all the stages of perceiving sinergia of the cosmos are connected with each other; at the same time, there happens merging with the noumenal and phenomenal in the category of mystic as well. The direct sense of reality and the feeling of substantiality of being as well as penetrating into the nature of “Ding an sich” are realized in mystic [11, 86]. In the category of mystic the actual consciousness perceives the inner content of all forms of being [11, 94]. The idea of love is a dynamic expression of the nature of mystic [11, 214].

The category of mystic has a centering nature, while the category of reason is peripheral. As a thesis biner (mystic — mind) mystic itself does not undergo any changes, but it is creatively revealed in the evolutionary ascending number of its modes with the help of the mind controlling one's actions [11, 107]. Mystic and mind function in polar-opposite directions. If in case of the unilateral action of the mind special identity of the given monad is approved and the characteristics of personality and its essence are objectified, when dealing with the unilateral action of the human mind in the category of

mystic "... all distinctions and objectification which were earlier made by the mind disappear. The Infinite and Timeless entirely dissolve in themselves an individual world, which becomes tiny and pathetic then. Man merges with the pulsed cosmic Being, and the last thing that the fading mind still may catch is a sense of ineffable bliss" [11, 280].

Mystic is the basis of the idea of unity, while the mind is the basis of the idea of plurality. As an example of the sense of unity and integrity mystic immediately perceives the movement as a continuous phenomenon, while the mind regarded as the separating and multiple beginning perceives the whole as a combination of different components [11, 155].

From the ontological point of view, the mind is an actor creating the hierarchical perspective of space, claiming the subjective identity and shape of every single being; it "... is a source and implementer of the differentiation of the content of the absolute being and returned organization of the multiplicity of its modes in the form of integrated sinergia [11, 86–87]. From the pneumatological point of view, the reason is the actual initiation of consciousness to the cosmic hierarchy, creative distribution of the content of being according to the steps of various private hierarchies and articulation of the global sinergia. "It is in the categories of reason where the process of hierarchical self-consciousness of the actual consciousness with respect to both the noumenal and the phenomenal is taking place" [11, 87].

From the ontological point of view, "the will is the creative discovery of substance, primarily causing cosmos into being, and specifically accomplishing the cosmic dialectical process" [11, 87]. The will is the source and engine for life.

From the pneumatological point of view, "the category of the will is disclosed in the mind of every concrete creature insofar, as it implements in itself a kind of cosmic attraction to self-consciousness in creativity" [11, 88]. "The will is the area of specific detection of the spirit in the creative differentiation of the modes of being and their creative organization in sinergia [11, 88]. The will is revealed through the ontological biner Mystic — Mind. The will is the external identity of the spirit. People control their will to the same extent to which they realize their own spirit [See 12, 76].

V. A. Shmakov's pneumatology describes and reveals two global crises of cosmogony very deeply.

The first crisis is connected with the hierarchization of pneumatological categories: "In the tranzscendent dialectic process of being there is accomplished pairing and mutual co-subordination of the poles of the major biner: unity — multiplicity; hence a potentially concrete idea of the hierarchical structure appears in terms of being. This is the act of potential inclusion of the idea of otherness by being, making it the central point of the idea of its periphery" [11, 149].

In the second crisis the hierarchical system of pneumatological categories includes the synthetic category of sequence: "This is an act of the actual inclusion of otherness by being as a prospective discovery of its speculative concreteness, transferring the subjectivity of monads from the center to the periphery, from the genetic unity into multiplicity and, as a result of the process, returning back to the unity, — but this time already to the synthetic unity" [11, 150].

Thus, even in these brief notes we can see the depth and scale of thinking and intellectual vision shown by V. A. Shmakov. Some traces of Hegel's philosophy can be clearly seen here, including the dialectical approach to the categories of consciousness and the analysis of the triad nature of the processes taking place in the world and in the mind. At the same time, it is possible to find here a serious attempt to reach a higher level of synthesis than it was shown by the great German philosopher. True philosophy means thinking clairvoyance, or mystical thinking. In such philosophy, the mind becomes a form of spiritually meaningful intuition.

It is also necessary to mention here quite noticeable influence of the ideas of A. Schopenhauer and V. Solovyov on the concept of V. A. Shmakov. V. A. Shmakov's philosophy is also close to the ideas of existentialism, as in his concept being has a pronounced existential nature. In general, the cosmogonic method of V. A. Shmakov's philosophy is very close to the philosophy of Russian cosmism. Philosophical anthropology also plays a significant role in V. A. Shmakov's philosophy. Therefore, in his concept man is considered a complex, contradictory and binary-ternary creature; he is both the creation and the creator at the same time.

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The law of sinergia

Abstract: The main objective of this article is to acquaint European thinkers with the deepest ideas of Russian esoteric philosopher V. A. Shmakov who is little-known not only in Europe but also in Russia. In this paper we give a brief analysis of the law of sinergia, which is the key notion of V. A. Shmakov's conception. It opens new horizons in our understanding of universal evolution and involution processes.

Keywords: sinergia, evolution, involution, V. Shmakov.

Vladimir Alexeevich Shmakov was the brightest and one of the most proficient Russian philosophers who is not well-known not only to European but also Russian thinkers as well. There are many reasons for that. One of them is connected with different epoch-making events which took place in Russia in the first third of the 20th century; the other reason for that is the fact that on the whole V. A. Shmakov is a really esoteric philosopher. Even professional philosophers faced many difficulties when trying to master his ideas and conceptions, especially at the time when totalitarianism dominated in Russia in the Soviet period of its history.

Vladimir Shmakov was born in Moscow approximately in the 1880-ies (according to a version

suggested by one of the researchers of his life the year of his birth was 1887; however, by this moment we have not found any official evidence confirming that date). He was the son of A. S. Shmakov, a well-known lawyer and publicist, who was also a public figure of the right direction.

By education V. A. Shmakov was a railway engineer. Most part of his life, V. A. Shmakov was occupied with developing the system of esoteric philosophy. He was able to gather around himself a lot of talented representatives of different philosophical trends, — mainly the mystical ones.

Under the pressure of well-known circumstances which arouse in Russia after 1917, — and especially in

the fall of 1922, — he emigrated abroad together with his family. At first he moved to Germany and then — to Czechoslovakia. However, soon after that he moved to Argentina (or, according to another version, to Switzerland). V.A. Shmakov died in October 1929 because of a stroke.

Generally speaking, during his rather short life, V.A. Shmakov managed to write and publish only two major works: “The Sacred Book of Thoth. Great Arcana Tarot” (M., 1916) and “Fundamentals of Pneumatology” (M., 1922). It was only after more than 70 years when his works were published again, — first in Kiev, Ukraine and later in Russia [13; 14; 15]. In addition, he wrote (but not polished them as he did it with his previous two major works) another important work entitled “The Law of Synergia and the Doctrine of the Dual Hierarchy of Monads and Sets”. It was first published in Kiev in 1994 [See. 10; 11; 12]. There is also a supposition that V.A. Shmakov managed to write or make an outline of another major work — “The Basic Laws of the Architectonics of the World. Unity — a Biner, Turner and Quaternion”. However, until now the text of this work has been never detected. Nevertheless, there is an evidence showing that the basic ideas of this work were presented by him in the German philosophical journals in German, which were published in Germany before 1916.

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The law of synergia is the basic law of Being and the supreme principle of the existence of our consciousness. The dialectic of the unity of the Spirit and the general hierarchy of being find their reflection in synergia.

1. What is synergia? Synergia (from the Greek word meaning “co-ruling”). For the first time this term was introduced by Saint-Yves d’Alveydre (1842–1909). Synergia is the opposite of anarchy which means some hierarchical law of the existence of the perfect organism of mankind.

Synergia is a becoming prototype of the Cosmos. Each consciousness is part of the global Synergia. The whole of world being is synergia. The world of noumen, — that is the intelligible world, — is the holistic synergia, or the perfect disclosure of the Absolute. However, “... it is the prototype of synergia but not the implemented synergia, or the synergia of the cosmos” [13, 35]. The real synergia is the nature of the true structure of the cosmos, in which all parts of the hierarchy are always organically paired in all over the hierarchical space.

Synergia in itself is Sophia, which “is not a substance, not a form of the subsistence of Reality and not a specific variant of creation but a stage of the transcendent dialectic process, the idea of the disclosure of Being in general” [14, 106]. Sofia (Vidya in Indian philosophy, Hohma and Daat in Kabala) is a potential form of synergia.

Sophia, or Wisdom is the principle of femininity, it is the content of the divine knowledge, mother of everything that exists outside the God [10, 9]. The Basic property of Sofia is staying in itself, its internal self-assertion [15, 368]. Sofia is a bearer of the eternal creative divine plan, the ideal prototype of the world [12, XII]. Sofia is a kind of smart discipline-in-itself, a clever implementation taking place before the transition to the differentiation of the materiality of the world [9, 432]. Sofia is a global and over-world mind, but it is given from that side which faces the world and hence is a system of creative ideas representing the principles of possible otherness in general, or their purely semantic picture [9, 482].

Thus, Sofia is not the fourth hypostasis of Divinity (as V.S. Solovyov considered); but it is also not part of the created world either. “It is a pure reflection of the eternal light and a spotless mirror of the power of God and the image of his goodness” (Book Wise. Solomon. VII, 24–27) [14, 106]. In other words, Sofia is the inner consciousness of the Divine. Sophia already existed when there was still nothing. Sofia was before nonbeing. Such a state of Sofia is above any word and is unspeakable

[15, 69–70].

2. The Law of Sinergia. The law of sinergia is the basic law of the world, it is its very essence, purpose and mechanism of the whole being. “The world is the organic whole”, — it is the simplest expression of the law of sinergia. The implementation of creativity and affirmation of the law of sinergia are inherently adequate ideas.

The law of sinergia includes two binary law (i. e. the laws that are in binary relations): the law of the hierarchical structure as the antithesis of biner, which reveals the content of the thesis of its biner, and the law of unity. In other words, the law of sinergia is revealed in antinomy (i. e. in the vertical biner or in the biner of the first kind) where the thesis is the idea of unity, and the antithesis is the idea of hierarchy [13, 150].

Each higher level of the hierarchy with respect to the lower stages is the source of the elements of unity, — or, in other words, each higher level of the hierarchy becomes the conductor of the elements of unity [14, 451]. The highest and the lowest levels of some part of the hierarchy are a biner of first kind (i. e. a vertical biner) where the highest level is the thesis of this biner, and the lowest level is the antithesis [14, 457]. In addition, during the creative evolutionary process the thesis of the given biner is disclosed and the evolution of its antithesis takes place in any part of the hierarchy. The thesis of this biner is a kind of some fixed set of monads and combination of noumen categories, while the antithesis is the dynamic actual consciousness and a certain set of categorical kinetic agents [14, 458].

The higher level of the hierarchy a specific person reaches in his/her development, the greater advantage he/she has, the deeper and the more diversely he/she is connected with other forms of the existence of the cosmos. The Universal finds a wide and deep expression in such a person, and gradually it is more and more adequately recreated in him/her. It is also necessary to take into account that the vertical hierarchy “is built according to the law of the qualitative increase in the nature of the integral discovery of reality”, while “the horizontal hierarchy is based on the law of the quantitative increase in the content of its active forms of articulation” [14, 470].

The law of sinergia is the law of the hierarchical structure of the cosmos. The cosmos is a kind of unity, of the whole; so we can say that the cosmos is an organism. As the cosmos is an organism, its individual parts are located in accordance with the law of the increase of different type, i. e. in accordance with the law of hierarchy.

As a specific empirical phenomenon the Cosmos is a form of the objectivization of the plastic flow which is constantly present [14, 562]. As a hierarchical system, the cosmos is constructed in accordance with the two conjugated principles: on the one hand, the principle of the qualitative increase in the level of dignity and, on the other hand, the principle of the increase in the level of the freedom of the individual, which is presented in harmony with the previous principle. The higher level a person reaches, the deeper qualitative perspective his/her nature has, the greater opportunities he/she has, the greater number of the laws of being he knows and performs [14, 580]. Nevertheless, one should always remember that the Cosmos is formed on the base of the infinite number of parallel plans, which human beings, while they remain just human beings, albeit a very high level of dignity, would never master in their unity and integrity. “The plans of the cosmos are both finite and infinite; they are separated from each other and mutually co-exist; they are specific in their singularity and yet they are immanent towards the Universal” [14, 644]. The cosmos is a contradictory and antinomian unity of continuity and discontinuity. The cosmos appears from antinomies (i. e. from biners), it is disclosed in antinomies and is based on antinomies. Therefore, being, or the existence of life is a tragedy, it is an infinitely increasing tragic process [13, 179]. Nevertheless, “in the cosmic evolution only disharmonious formations are destroyed, only imaginary values and false syntheses die; on the contrary, all organic formations, real wealth and real syntheses just continuously develop and brighten, passing from one level of the hierarchy to another” [13, 265].

Life of the Cosmos proceeds as a form of the continued implementation of the content of unity in its multiplicity and harmonization of multiplicity in unity. In the cosmos there are always present two parallel hierarchies: the hierarchy of unity and the hierarchy of multiplicities [13, 45]. These are human beings who combine these two hierarchies, so they are the axis of the cosmos.

Any organism is a natural symbol of the law of sinergia, an objective form of the concretization of its speculative sense. However, it is in a human being where the law of sinergia is most adequately recreated and implemented, “because with its unity it penetrates into all stages of all hierarchies and then reunites them again in their synthetic unity” [14, 316]. The transition of cosmic sinergia to the stage of evolutionary actualization occurs only after the birth of specific subjects exploring the

world, namely after the transfer of subjectivity from the Absolute unity to the perspective of the dual hierarchy of monads and multiplicities, or to individual parts of sinergia [14, 99] [14, 198].

Understanding the law of sinergia is the ultimate goal of the whole human evolution in terms of the mind. To comprehend the law of sinergia is not only to understand all holistic content of the basis of the mind but also to comprehensively apprehend the intelligible image of the Universe [13, 14]. The law of sinergia is a kind of imperative, coming into our consciousness from outside.

Man explores the lowest level of sinergia (i. e. the physical world) on the base of the categories of matter, form and energy.

At the same time, people explore the highest level of sinergia (i. e. the noumen world) with the help of the pneumatological categories of the will, mystic and mind. Achieving unity in this process of exploring the world

gives human beings wisdom — a kind of positive sinergia content, in which subjective sinergia is closely and dually associated with objective sinergia. For advancing to the level of positive sinergia man should, on the one hand, achieve the unity with the whole set of individual units; on the other hand, it is necessary for him to achieve the unity with their top and synthetically superset unity.

The above-mentioned reflections and ideas let us come to many important conclusions and recommendations. However, the limited space of this paper does not allow us to do it to the necessary extent. Therefore, we will just note that in the light of different events and processes taking place in Russia in the 21st century, the centralization of power and the spread of centralized bureaucratic systems are in contradiction to the law of sinergia and prevent the process of sinergia ascending, — that is they become a form of violating the law of sinergia, with all the ensuing consequences and results.

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The philosophical and psychological issues of the problem of suicide

Abstract: The evolution of philosophical and psychological understanding of suicide is represented in the article. It is substantiated the right to death according to philosophical issues of suicide.

Keywords: suicide, committal of suicide, suicidology, stoic, existential, situation, right to death.

It is quite easy but hardly right to concern that committal of suicide can be the result of mental illness only. Suicide should be considered as involved in the complex of psychological, social, biological, cultural and environmental factors.

Some kind of resume to the all of these factors is philosophical discovering of suicide. The attitude to suicide in society greatly depends from cultural experience (for medieval and not only medieval Japan the suicide through seppuku has been understood as the action of dignity, but not like tragedy) and even from the level of evolution of civil society (in the questions of euthanasia). That is why it could not be the only one explanation of the problem of suicide. The most valuable are the philosophical and psychological approaches to understanding of this problem. The visions of philosophers and psychologists differ from each other for a first sight, but how essential this difference is?

The aim of the article is to investigate the difference between philosophical and psychological points of view in understanding of suicide and to find the heuristic sense in both of them.

The effectuation becomes possible through the involving into analysis of the problem of suicide two types of philosophical discourses. First of all it is the history of philosophy discourse in which different kinds of outlooks represent the types of approaches to the problem of suicide. Here we should represent the consistent patterns in the Antique (Socrates, Plato, Seneca), Medieval (Patristic, Scholar philosophers and Catholic mystics: Augustine, Aquinas, St. Hildegard of Bingen, St. Francis of Assisi and others), the period of Enlightenment (D. Hume, Voltaire, J.-J. Rousseau) and modern (A. Camus, K. Jaspers, J.-P. Sartre, J. Deles) attitudes according to the investigating question.

The second type of discourse is connected with the issues of philosophical suicidology (the scientific study of suicide). Among the scientists, who had explored this approach are both foreign and domestic researches: S. Avanesov, M. Battin, N. Burton, M. Cholbi,

P. Edwards, A. Mohovikov, T. Kashtanova, A. Kornetov, E. Shelelov, E. Tolstoles and others.

Among the scientists who had researched the psychological issues of suicide are the classic psychologists, like S. Freud, W. Shtekel and modern researchers: K. Erdineeva, N. Maksymova, L. Malcinski, Y. Polischuk, V. Philipova, G. Starshenbaum. Of course the major role here belongs to suicidology of American thanatologist E. Shneidman.

The philosophical understanding of the problem of suicide greatly depends from religiosity or non-religiosity of philosophical paradigm which had characterized the concrete historical epoch. We are not really sure what exactly Socrates had been thinking about suicide, but we can concern some opinion according to Plato's works. The suicide is unacceptable from position metempsychosis, because the person by killing himself or herself ruins all the order of life, all future appearances of one's soul. Socrates in some way agreed with this Pythagorean conception, for him suicide did not seem the right way. But his belief in evilness of suicide does not look very strong — he prefers to commit suicide by the verdict of the Court of Athens, than to escape as he was advised. For Ancient Greeks and Roman Philosophy the death is not a big deal. From that point of view philosophy is actually the art of dying. A good life matters. If your life was good, you should not be afraid of death. For Socrates the contempt to avoid of death meant the betrayal of his study and of all way of his own life. Plato lived through the loss of his teacher, but later (in "The Laws") he had agreed that in some ways suicide is acceptable especially when it serves for common (civic) good. Roman Stoic Philosophy has proposed the whole apology of suicide. The great role in this process belongs to Seneca. He argued that in some circumstances the most ugly and disgusting way to kill one's self has more dignity than to stay alive [1]. The slavery seemed to Seneca quite serious reason for suicide. Greek and Romans were sure that slave is person who had frightened at the war. Someone who was to rabbit-hearted to die at the fight, and to coward to commit suicide for avoiding the slavery. Ancient philoso-

phers did not divide personal and social, it was impossible to them to say and to do different things. That's why suicide was the method helped to stay clear with his study — to die, but not to betray. At the case of Seneca this rule fully worked. He preferred to cut his veins, but be honest in his life.

The ancient society was religious, but it had characterized with relative freedom in the choice of gods. From the one hand Socrates was blamed for telling about the signs of new gods, but this accusation was so strong together with accusation in spoiling the youth. The state had priority status in person's life. If the state thought that citizen had been pernicious to it, it become enough to commit suicide. If the person realized that he or she became a bad citizen, she could decide to kill oneself.

This situation had radically changed in the Middle Ages. The social life of the human being had started to apprehend like less important than life of spirit. The top priority belonged not to the virtue of being the good citizen, but to the virtue of being the good Christian.

In religious Christian society the suicide was inappropriate and *sinful*. The last one term means that person is no more empowered to determine something according the length of own life and must work hard on the sense of life. It is often argued that forbidding of suicide in Christian philosophy is connected with the commandment "Thou shalt not kill" and has its background in the prescription not to ruin the order of God. But the Medieval understanding of self-murder has strong ontological basis. In Medieval Christian philosophy the statement of Christ's embodiment and sacrifice had bring the idea about the part of sanctity in human being. This idea flourished especially in the mysticism of High Middle Ages — trying to commit suicide, human being is attempted on the part of God in himself or herself. Another important reason which forbids to person even daring to think about taking one's own life is the sin of anxiety. The thoughts about suicide are the evidence of doubt in the power of mightiness of God. So there is no logic way to support the admissibility of suicide for religious conscience which is oriented on future immaterial life. Even free will, which is substantiated by Augustine and Tomas Aquinas as major part of the ethics and ontology could not understand as an argument for voluntary decisions. The true free will reveals only when person do the right choice. But when someone is doing something wrong or sinning he is neglecting with the gift of free will.

The change of philosophical paradigm together with substantiating of native law in the period of Enlightenment had bring the indulgency to person's possibility to decide

something about the time of own life. The great ideologist of the right for suicide was David Hume, who desired to prove that person has right for suicide committal, which depends from native liberty of human being [2]. Hume had found the opportunity to support the suicide without objection the power of God in the world. The Hume's position is quite close to agnosticism: "There is no being, which possesses any power or faculty that it receives not from its creator; nor is there any one, which, by ever so irregular an action, can encroach upon the plan of his providence, or disorder the universe... When the horror of pain prevails over the love of life: When a voluntary action anticipates the effect of blind causes; it is only in consequence of those powers and principles, which he has implanted in his creatures. Divine providence is still inviolate, and placed far beyond the reach of human injuries..." [2]. Hume was absolutely sure that nobody had refused from life, at the time it was worth keeping. When for some reasons life become burden, suicide could be connected with our duty to ourselves. An "enlightenment mind" of Hume in this speculation brings us as close as possible to the one of the main modern philosophical questions formulated by Camus: "There is but one truly serious philosophical problem and that is suicide. Judging whether life is or is not worth living amounts to answering the fundamental question of philosophy. All the rest — whether or not the world has three dimensions, whether the mind has nine or twelve categories — comes afterwards. These are games; one must first answer" [3]. If there is no sense and supernatural being, why person should live and suffer from absurd? Camus has no absolute answer like none from existential philosophers. He decides the problem of suicide like initially personal problem — there less sense life has the more it is worth living. Suicide is not a logical answer for meaningless of life, but only escape from comprehension of absurd. Suicide committal is confession that being could not be understood anymore. The real answer is metaphysical rebel against absurd. The beautiful essay of Camus is quite tricky — he says that it is braver to live, but not insist that to prefer suicide is inappropriate. Nevertheless Camus analyses suicidal situation connected with outlook ideals and personal disasters with some cold consciousness, irrespectively to personal problems which could provoke the idea of suicide. Actually he only persist that suicide for the reason of meaningless of life is ridiculous.

The attempt to understand correlation between philosophical and psychological issues of suicide could be done through the experience of Karl Jaspers. His opinion about suicide had radically changed in different periods of life. Like psychologist in his early works Jaspers investigates

suicide as psychiatric symptom of illness and his attitude to it is negative [4].

K. Jaspers was not alone in such sureness — in psychology the prevalent explanation of suicide before the second half of XX century was psychopathological conception. According to it suicide comprehends as the autoaggressive action of mentally diseased person [5, 305]. Wilhelm Shtekel from the position of psychodynamic approach explains appearance of suicide because of depression and anger directed by person for herself or himself. The background of suicide is desire to kill someone or desire of someone's death. The psychoanalytical version of Sigmund Freud is fit in with this approach. A lot of people learn to direct their "instinct of death" — "Tanatos" against the others, not against themselves, but those who disposed to suicide, blinded with anger, turns this instinct for themselves. Therefore suicide is extreme expression of self-hate.

In our times psychodynamic approach in explanation of suicide has more historical than theoretical value. It is accepted now understand suicide through the conception of non-pathological suicidal dangerous situational reactions. The main idea is that often mentally healthy people commit suicides in condition of *normal* psychological reaction on extraordinary circumstances or events [5, 305]. The psychological issues of suicide could be resumed in the point that circumstances were stronger than person. But there are scientists who doubt in possibility of exclusively psychological interpretation of suicide. Y. Polischuk is among them. He concerns that removal of phenomenological data from analysis of suicide leads to substitution of psychopathological phenomena and assessments with psychological. Y. Polischuk emphasizes that mental condition of suicidal persons in the pre-suicidal and in the period of committing suicide has lack in description. The reason of that is in absence of phenomenological, psychological and clinical analysis of the person's pre-suicidal status. The question about pathological or non-pathological nature of psychological forms of one's person disadaptation depends from reasonability and comprehensive keeping of self-control and adequacy concerning outward influences. The psychological suicidal situational reactions according to Polischuk are reactions with rational background — reaction for incurable disease, reaction of self-punishment for committal crime and some others. Meanwhile the scientists K. Erdineeva and V. Philipova insist that the reason for suicide is the loss of the meaning of life together with inadequate reaction for failure in love, marriage, hurting one's pride especially in the situation of men-

tal instability [5, 306]. Thus every person is exposed to the risk of suicide in every period of life. But conclusion to the almost all types of psychological explanations of the problem of suicide is the point that committal suicide is the mistake, the result of mental "evil" (disease), or the result of "rational evil": desire to hasten unescapable death from incurable disease or to suppress the remorse.

Jaspers had overcome such prejudice thanks to existential philosophy. Suicide is a quite logical answer to border situation, which has in its background fear and depression; it is "a temptation in the situation of anxiety" [6], but not disease, he had decided later. We must admit that Jaspers actually had come to conclusion of modern philosophical suicidology (for example philosophy of suicide by S. Avanesov) — suicide could not be describe by empirical methods, for that reasons scientists, who tries to find explanation of suicide in statistical patterns deal only with social sensation of suicide, but have nothing to say about self-murder. From that point of view for Jaspers suicide will always has some mystery, like every person in some way is hidden from us. Suicide is an action which free from all other actions, it's a strong answer for pressure and every kind of power, which try to dominate on person; the possibility of suicide makes person free.

For support of such Jaspers' position we should admit that a lot of psychologists who understood self-murder as disease had rejected themselves by committing suicide in pure reflection like Shtekel or in unbearable pain from cancer like Freud. They simply couldn't stand anymore. Let us remember Shneidman's conception of *psychache* (terrible psychological pain) as main reason of suicide for explanation of these deaths.

In modern suicidology philosophical and psychological issues of suicide a closer than it seems, psychologists ask: what could we do to prevent decision to kill oneself, meanwhile philosophers ask: should we force person to live against his or her will? The history of philosophical understanding the problem of suicide brings us to the statement in which the right to death is the sequel of right to life. If the decision to die is not the result of mental disease or alcohol disorder, and continuation of life bring to person only new psychological and physical suffering who will dare to judge? There is always a personal existential situation, which is open for individual human being much more than for his or her therapist. If humankind insist that every person has right to live with dignity, than we should suppose the right to die with dignity.

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Section 12. Economics and management

Секция 12. Экономика и управление

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Entropy principle of regional investment allocation as a mechanism of urban planning activities regulation within the framework of ecological building safety

Abstract: The article tells about investment allocation problem from the point of view of ecological building safety. It describes the current situation and stresses out the ineffectiveness of current urban planning safety regulation mechanisms. The article underlines the special role of entropy approach to urban development and investment activities and defines some ways of ecological building safety problems solution.

Key words: ecological building safety, entropy, negentropy, investment, urban planning, environmental protection problem, urbanization.

It's obvious that urban development activities have an impact on ecosystems and scientific research in this field has been carried out for a long time all over the world. For example, methods for achieving environmentally optimal compromise between anthropogenic systems of different levels and natural environment are investigated within the bounds of urban development ecology. Environmental legislation is constantly improving.

Reliability level of the ecosystem is mainly determined by its stability which is defined as the ability of the ecosystem to resist the influence of external, mostly technology-related, destabilizing factors, as well as the ability to exercise independent or forced recovery. Stability, as well as the emergence, diversity and non-equilibrium state is a system-wide feature, and depends on its internal interactions energy. Lack of the desired organizational level (negentropy), which is necessary to counter different threats, inevitably causes death of the ecosystem [4].

According to the equilibrium principle, any natural system with a stream of energy which is passing through it is always evolving towards a steady-state condition. Homeostasis is carried out automatically by means of feedback mechanisms. Natural equilibrium means that the ecosystem is able to maintain its steady-state condition and some parameters unchanged, despite the impact of environmental factors [3]. However, unfortunately, there are no anti-entropy technologies in modern civilization. Everything that is created by the humanity in the era of "techno", influences the environment negatively and sooner or later goes to wreck. Environmental achievements are generally much exaggerated and have a local character. Entropy emissions of modern settlements and industrial zones in the environment nullify the negentropic potential of natural development mechanisms and these mechanisms are inevitably degrading at the ever-increasing speed.

We are firmly convinced that the solution of the environmental protection problem within the current economic paradigm and the conception of metropolitan urbanization, which is arising out of it, is fundamentally impossible. In fact, the growth of the dynamics of abandoned, degradation and desertified lands is going on to be depressing [1]. Dividing the reasons of this phenomenon into “natural” and “man-made” is a major systemic error, which leads to the creation of models that are inadequate to reality. In our opinion it should be assumed that all “natural” self-regulation mechanisms initially have no entropy and the nature of their energy source remains an open question to science. And the modern anthropic (more exactly *tehno- anthropogenic*) civilizational factor is the only main fundamental issue, which provokes the accelerating growth of entropy in the environment. Catastrophic results of this growth many people mistakenly take for the so-called “naturally occurring risk factors”.

Unfortunately, it should be noted that the environmental legislation of modern developed countries (including the activities that are carried out within the framework of this legislation!) as a part of their general legal system is a-priori ineffective. It is a well-known fact that the Roman-Germanic (which modern Russian legal system is included with), and the Anglo-American legal systems are based on a common foundation of Christian values, liberal democracy, recognition of the so called “Rights” of Man and the extreme individualism. That’s why the “western” world countries legal systems are products and the recipients of the “evolution” of individually oriented Roman law and essentially do not imply parity coexistence of civilization and Nature. Contraposition between Man and Nature, dominant position of humans in relation to Nature, positioning of humans as the pinnacle of creation have very deep roots in the modern (western) world-view doctrine, which has in fact predetermined the shape of the 21st century techno-civilization. Involving Russia into the biblical project of economic globalization virtually destroyed the remnants of the positive potential of the Russian authentic legal system, that is determined not so much by formal technical and legal characteristics but by profound social, cultural, public vital principles of the Slavic peoples, whose sovereign system of life has always been in deep harmony with nature and based on Higher Law, Tradition and Conscience. That is why it is necessary to understand that inefficiency of environmental standards of the Russian Federation, which has turned

to be a proverbial, is caused only by the external control purposes and is imposed upon Russia by its geopolitical rivals. However, there is no information about it in the textbooks on environmental law, ecology and environment protection [3]. Regulatory legal mechanics for the environment protection does not work because it cannot work within a framework of the existing conditions. There is the well-known way out of this situation — it is decolonization of Russia, its going out of control from the West influence. Today, this process has sharply accelerated and the eco-building field needs to search for new mechanisms of safety levels regulation, focused on the creation of work and life conditions, in that inappropriate damage to society and the environment would be impossible. And it is not because of fear to be punished for some actions, but because of deep moral impossibility to act out otherwise.

In urban planning ecology a lot of methods of projecting and operations support of intraurban ecological systems are considered [3, 6, 8]. Despite there is some success here, in general, such an approach, in our opinion, is wrong and deadlock. Intraurban ecosystems are strongly reduced and, in fact, they are artificial objects. Their own homeostasis maintaining mechanisms are very weak or moreover are not available. Because these systems are reduced or sometimes primitive they cannot provide for themselves even necessary influx of negentropy. These systems are desperate people’s attempts to improve the situation and bring into the hostile to Life, urbanized techno-environment some elements of the nature harmony. Without constant and expensive care such urban quasi-ecosystems are doomed to a quick death. Urban planning ecology is trying to resolve the issues of “scientifically optimized” implantation of irrelevant elements of natural ecosystems into the techno-urban environment by creating artificial mechanisms in order to ensure their bearable existence. In our opinion, these tasks no more meet the strict requirements of environmental reality.

The point must be raised in a completely different way. An organizational and economic mechanism of urban development activity regulation (in the entire range — from the rapid development up to the complete termination) based on the criterion of ecological building safety is required, which would provide public resources distribution between the two spheres:

- 1) establishment and maintenance of artificial human environment;

2) ensuring the system entirety and stability of natural ecosystems within the territory of ecological “parasitism” of an urban settlement, that would provide acceptable levels of associated risks — technical and environmental.

Today the simultaneous execution of requirements stated above is no longer possible, because the size of areas needed to preserve the stability of what city planners mistakenly referred to as “urban ecosystem” and the reproduction of its resources, should be at least 3 times larger than the city itself occupies. Therefore, it is obvious that without creating a new effective regulator megapolis urbanization will destroy the natural life environment. The regulator should be rigid and impartial, and its control actions should be unquestionably executable. Such a regulator will ensure the survival of mankind, but it will require the most decisive and drastic actions — up to a total transformation of the modern economical system.

Taking into consideration the mentioned features, ecosystems reliability assessment should be carried out inseparably and in conjunction with the other kinds of human activities assessment that are aimed at the transformation of the surrounding reality. First of all it is the urban development. The essence of the new regulatory mechanism, from the point of view of the authors, should be the establishment of per object (for elements of urban and ecological systems) and territorial negentropy quotas based on knowing its regulations, actual (those that will be tracked in the process of urban planning and economical activity) and threshold limit values [2]. The methods of negentropy estimation for urban and ecological systems should be identical. As the result, capital allocation should be based on information about spatial distribution of negentropy density.

Economic science toolkit that is used today to determine optimal investments allocation, was developed to achieve a single global goal within the framework of the current economic paradigm — the maximization of the total capital increase in its various forms: private, corporate, public, using GDP and NPV criteria etc.. There is also the so-called time optimization, which determines the order of the execution of different projects, but at the heart of this optimization there is still the minimization of financial losses. Today it is the mostly spread issue in practice. More sophisticated variants of investments allocation optimization are multi-criterion methods, and there is a number of mathematical calculation methods (linear, nonlinear and dynamic programming, etc.). However, in such complex problems with non-economic criteria of

efficiency, formalization, as a rule, appears to be useless, because the zone of optimum cannot be often localized and a large number of development indicators cannot be monetary evaluated, such indicators as lifetime, lethal level, crime level, morbidity rate, divorce rate, migration, labor conditions satisfaction, the number of suicides, intellectual development, suffering level ... etc.

The principle of local (individual, corporate, group) profitability and efficiency, which was dogmatized in the days of Adam Smith and which still exists and dominates in contemporary society, is principally not able to provide the so-called “sustainable development”, because it’s de facto reliably provides only the uncontrolled growth of entropy on a global basis.

In the 90s of 20th century John Nash proved the proposition that the classical approach to the competition when every man is for himself, is not optimal, and the strategies when everyone is trying to do better for himself by doing better for others are preferable. But it is purely the principle of social cooperation, not competition, for example according to M. Porter. In fact, Nash mathematically demonstrated a well-known from ancient times proposition — the idea that only the dominant of common good (in its final not value indicators) is able to compensate for the effect of entropy increase by outrunning growth of social organization.

Acceptable safety level of artificial habitat and of industrial activity, while ensuring system integrity and stability of natural ecosystems on the territory of natural environmental “parasitism” of an urban settlement, can be achieved only by means of entropy approach to system modeling [5,7], and by determination of growth rates alignment of maximum possible urban and environmental systems entropy and negentropy as the primary target of business processes management and of enterprises management that are the participants of different investment projects. Unified methodology for calculating these indicators allows to introduce new concepts “ecological building system” and “ecological building safety” into economical activity.

In connection with the above matter, in order to ensure an acceptable ecological building safety level of urban settlements areas of Russia we should use the urban planning regulation mechanism which is based on the principle of entropy allocation of regional investments. They should always be channeled in the systemic changes sphere in which entropy increase is larger than the negentropy increase. Resources volume, structure and destination should be enough to overcome the ascertained destructive tendency to the root.

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Measures to improve the efficiency of state regulation of investment activity of insurance companies in Ukraine

Abstract: The article defines the features of state regulation of investment activities of insurance companies in Ukraine. The study highlights the main problems and constraints of the domestic insurance market. The measures of improving the investment performance of insurers at the state level are proposed.

Keywords: investment activity of insurance companies, government regulation of investment activities of insurers, insurance reserves, the assets of insurance companies, the government control.

The need of state regulation of investment operations of insurers can be explained by the fact that insurance is a necessary element of social and market economy, and protect the interests of each insurer should the government that monitors compliance with the balance of interests of all market economy. Investment approach to insurance in Ukraine is still underdeveloped. However, the importance of the proper investing is becoming increasingly obvious to most domestic companies.

A significant contribution to the study of problems of formation and regulation of the insurance market, including the investment of insurance companies have made such scholars as V.D. Bazylevych, A.I. Baranovski, A.V. Vasilenko, O.A. Hamankova, S.S. Osadets,

A.A. Slyusarenko, V.M. Furman and others. The features of insurance asset management companies were brought up in papers of scientists such as S.V. Berezina, N.M. Nikulina, A.A. Suprun and N.V. Tkachenko.

In view of the possible manifestations of economic instability in the future, it is necessary to pay great attention to the development of the insurance market in Ukraine, especially in investment activity of insurers, because it is an effective recipient of risk and a mean of accumulation and allocation of financial resources.

In order to protect policyholders from the failure by the insurer of its obligations there is established state control over the investment activities. The role of investment activity of insurance companies, which is

due to a large concentration of capital, involves the need of state regulation of insurance companies in micro and macro-level.

In Ukraine the state Regulation of financial services markets up to November 2011, was performed by the State Commission for Regulation of Financial Services Markets of Ukraine, which was established in 11.12.2002 in accordance with the Decree of the President of Ukraine and in accordance with the Law of Ukraine “On Financial Services and State Regulation of Financial Services”, that was adopted in 12.07.2001. At present, the function of the regulator of the insurance market provides the National Commission for the State Regulation of Financial Services Markets, which was established in 23.11.2011 in accordance with the Decree of the President of Ukraine [7].

Restrictions on the maximum amount of each category of assets, quality requirements of such assets, and the requirement of the credit rating of certain categories of assets and/or banks and issuers of securities in which the funds of insurance reserves are placed, are established by the authorized institute (the National Commission for State regulation of Financial Services Markets of Ukraine) [2, 94].

Placement of insurance reserves is made in accordance with Article 31 of the Law of Ukraine “On Insurance”, which contains a list of assets for the relevant categories. The requirements regarding the placement of insurance reserves by insurance other than life insurance and insurance reserves for life insurance are established by different legal documents, and that is why there is some difference in total assets, which are represented the insurance reserves and their sizes of regulatory restrictions. The concept of “investment assets”, according to the Law of Ukraine “On Insurance”, includes: cash on the current account; bank deposits (deposits); currency investments; real estate; shares, bonds, mortgage certificates; securities that are issued by the government; right to claims to reinsurers; investments in the economy of Ukraine in the areas that are defined by the Cabinet of Ministers of Ukraine; bank metals; loans to the policyholders — individuals who have signed contracts of life insurance within the redemption amount at the moment of given credit and secured redemption amount; cash on hand in the cash balance volume limits which is established by the National Bank of Ukraine [3].

The regulation of investment activity of insurance organizations is based on:

- establishing principles of investment;

- determining the permitted assets taken to cover obligations and restrictions on them;

- establishing the structural relations of assets and reserves (thresholds values for the investments in certain assets);

- the regular reports on the composition and structure of the investment [4, 167].

Due to the legislative requirements, insurance companies must carry out its investment activity, first of all, ensuring the safety of assets and protect them from impairment due to the influence of inflation, which increases in Ukraine recently. The insurer has to be guided by providing the financial security of investments.

As of the 31.03.2014 the amount of the total assets of insurance companies amounted to 64 771.2 million. UAH, that on 4.3% higher to compared with the corresponding figure at the end of the first quarter of 2013 [6].

As of the 31.03.2014 the amount of assets that are allowed for submission of insurance reserves amounted to 36 516.4 million. UAH (2 336,3 million UAH more than on the same date in 2013) of which the amount of 14 672,5 million UAH is used to represent the insurance reserve funds [6].

In the structure of insurance reserves in Ukraine the bulk of the investment portfolio of insurers take bank deposits, shares and rights claims to insurers, and their share as of the 31.03.2014 in the amount is almost 70%. Taking into account the low profitability of this financial instrument, we can say that the low investment income is provided by placing available funds on deposits.

Portfolio of the asset allocation of insurer's needs an improvement, and the potential of the stock market is using less than 45% [7].

However, the main problem for insurers is the insufficient of liquidity of financial instruments for an effective policy of investing funds in connection with the appointment of an temporary administration in banks, in which are open deposits of insurers, and increasing the risk of default by the reinsurers-residents.

Investment activity demonstrates the insufficient feasibility of investment function of insurance, which manifests itself in the structural features and return on investments. It is caused by the internal factors, which include insufficient of resource base, high profitability of insurance operations, and external factors such as inflation, underdevelopment of domestic financial markets, and inadequate system of state regulation of the investment activity of insurance companies.

Government regulation of investment activity of insurance companies has been built in a hierarchical manner, be aimed at socio-economic development of society and the insurance market.

The analyses of tendencies of investment activity of insurance companies in Ukraine and practice of its state regulation has shown that at the present stage of development of the insurance market diversification of investments in the main areas must be provided by the state sufficient incentives that will balance the existing system of constraints. This will allow not only to stimulate investment activity of Ukrainian insurers, but also to ensure the growth of liquidity, safety and profitability of investment operations.

In Ukraine, the centralization of state regulation of investment activity of insurance companies in the placement of insurance reserves is quite high. It is advisable to place part of insurance reserves on the informal securities markets and give local communities the authority to independently establish standards of accommodation of reserves in sectors of economy according to their needs.

It is needed to expand the investment priorities of insurance companies at the through the government securities by:

- increasing their profitability, which should not have significant discrepancies in inflation expectations;
- ensuring the transparency of the government securities market;
- introduction of additional guarantees for the implementation of state obligations under its own securities during the debt restructuring [5, 9].

Another direction of stimulating the diversification of investments of insurance companies is to provide public financial support.

The national economy requires considerable investments in priority sectors, which are accompanied by investment risk, that forcing insurance companies to be sensitive to such assets during the placement of insurance reserves.

In order to strengthen the competitiveness of domestic insurance companies, sustainability and investment attractiveness of the insurance market in Ukraine, National Commission for State Regulation of Financial Services Markets plans to introduce the following measures:

1. Introduction of prudential supervision based on risk assessment and international standards of corporate governance.
2. Increasing the level of capitalization of insurance companies, the introduction of the principles

of insurance supervision in accordance with the standards of the International Association of Insurance Supervisors through the harmonization of legal acts on the regulation of insurance companies' activity to Directive 2009/138/EC "Solvency II", especially by establishing requirements for paying ability, reporting and information disclosure, management of insurance companies review powers of National Commission for State Regulation of Financial Services Markets by:

- development and adoption of the new Law of Ukraine "On Insurance";
- assessment of the insurer's assets at fair value;
- strengthening the role of actuaries in assessing the solvency of the insurer;
- introduction the system of risk-management for insurers.

3. Establishment the EU standards of risk classification in insurance;

4. Improving the procedure for licensing of insurers;

5. Ensuring the development of long term life insurance;

6. Increasing the level of consumer rights protection of insurance services (including appropriately control of the insurers obligations under concluded contracts of insurance and reinsurance);

7. Increased transparency of the insurance market, including through the introduction of reporting on international financial reporting standards (IFRS);

8. The introduction of stress testing;

9. Improvement of legal regulation of insurance intermediaries activity and independent experts on risk assessment and determine the amount of damages caused to the insured persons [7].

To concretize the offers of National Commission for State Regulation of Financial Services Markets, and to improve the quality of insurance services and increase the investment potential of insurers it can be offer the implementation of such legal, organizational and technical information activities:

- adapt the Ukrainian insurance market to the international requirements of financial regulation and supervision, carrying out active cooperation with European and international organizations;
- create the legal conditions for full implementation of investment and pension insurance;
- implement international standards of accounting and analytics of insurance companies;
- create a unified self-regulating organization, whose members should be all insurance companies

for protecting the rights of insurance consumers, and ensuring fair competition in the market;

- create a centralized database of fraud in the insurance market, of which will have access all policyholders, insurers etc.;

- ensure the formation of investment instruments to accommodate long-term insurance reserves through government guarantees;

- improve monitoring of insurers and strengthen control over compliance with requirements of insurance companies to ensure solvency, financial stability, net assets, share capital and persons with a significant share of insurers capital;

- develop a regulatory framework that enables a collaborative insurance companies and asset management companies in the asset management of insurance companies;

- develop and implement incentives for insurers to voluntarily adhere to its standards of transparency and increased requirements for solvency and implementation of international financial reporting standards;

- introduce a stimulating tax policy for the development of life insurance, long term life insurance, including investment, participating insurers in the private pension system, obligatory health insurance through

the use part of contributions of these types of insurance on the gross charges of legal persons and improving personal income tax [5, 10–11].

Implementation of these recommendations is to preserve and strengthen the medium-term financial potential of the insurance market of Ukraine, which, in turn, will create a favorable background for enhancing the investment activity of insurance companies during the post-crisis recovery.

Thus, the expansion of investment activity of insurance companies is important for the economy and also for specific insurance company. Because an effectively organized investment activity to a certain extent provides the quality of insurance services and determines market position of the insurer and financial resources that are accumulated in the form of insurance reserves, are a significant source of investment in the economy.

Therefore, the government should strive to develop the insurance sector and the expansion of investment activity of insurer, which will increase the strength of the mechanism of economic stabilization by insurance companies during the periods of economic instability. And the proposed measures of enhance the investment activity of insurance companies in modern management practices will improve their financial situation, and to ensure their financial security and development.

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Food security of Russia in the conditions of the WTO

Abstract: Development of the society is based on the existence of food resources. During the modern technogenic era, the mankind needs to find a compromise between growing needs for the food and limitation of resources. The agrarian policy of the Russian Federation has to be focused on the system management, including scientific, staffing and financial support, institutional modernization, the accounting of the global experience, and also super-compliance of the economic agents' rights.

Keywords: food resources, sustainable development, agrarian economy, the World Trade Organization.

Today the world community faces the numerous and interconnected problems, ranging from consequences of the lasting financial and economic crises to climate change and shortage of the food in certain regions of the world. The agrarian sector of economy directly and indirectly serves as a food source, and the income for the considerable part of the population of our planet, and the basis of sustainable development of national economies. However, in the world where nearly billion of inhabitants still suffer from hunger, poor groups of the population, especially in rural areas, are the most vulnerable to cumulative impact of those threats which are stated above.

In despite of the high rates of economic globalization and expansion of the World Trade Organization (WTO) role, indicators of production and consumption of food remain the lowest in many countries. The governments of the majority of the states still don't manage to use the experience, which is effectively available in the world and ensures food safety, growth of the income of villagers and a sustainable development. In the next decades the problem of shortage of the food will come out on top in the world. According to the UN data, population of the Earth in 2010 reached 6, 8 billion people, and by 2050 will exceed 10 billion people that is 4 times more than a critical threshold of stability of the biosphere. By estimates of the Food and Agricultural Organization UN (FAO), demand for food in the world by 2050 will increase twice, and growth of outputs of the food by 80% will be provided at the expense of strengthening of gross collecting grain [1].

The modern world economic relations and the accession of Russia to the WTO demand indicators of an assessment of food security of the country, the concept of its formation and the realization mechanism. In this regard, today the food security of the Russian Federation is one of the main directions of ensuring its national security, the factor of its statehood and sovereignty pro-

tection. It should be noted the most important role of Russia (as the owner of huge resource potential — the tenth part of world arable lands, a quarter of freshwater resources, etc.) in supplying and global food security. The Russian Federation is the largest country in terms of the territory and it is also included into the four of the countries having an arable land.

At the same time, from the objective point of view, it should be noted that more than a half of the territory of Russia are underproductive lands (the North of the European part of the country and the most part of Siberia and the Far East). More productive lands differ widely on degree of natural fertility that is connected, first of all, with a frigid climate and the long period of negative temperatures (the short vegetative period, spring frosts, etc.) that increases agricultural risks of production. However only the Russian Federation, having 86 hectares on 100 people of the population, possesses the production potential of required amount of high quality food resources.

Program documents of agricultural development in the Russian Federation (The State program of development of agriculture and regulation of the markets of agricultural production, raw materials and food for 2008–2012; State program of development of agriculture and regulation of the markets of agricultural production, raw materials and food for 2013–2020) provide for increasing, in the mid-term perspectives significantly, the share of Russia in the world balance of the food: grains, oil-bearing crops, sugar, fowl, pork [3]. However, the essential change in the agrarian policy, in the mechanism of distribution of financial resources and in the constructive justification of foreign economic activity is necessary for this purpose.

Sustainable development of strategically important branches of agriculture has to become the condition of the problem solution for ensuring food security, on the one hand, which means the increase in volumes

and specific weight of a domestic production in a total amount of commodity resources of the country, and on the other hand the formation of laws according to which the basic food has to be made within the country by forces of its own producers.

For domestic (Russian Federation) manufactures of products these standard parameters are an imperative, and their achievement has to be based on programs of development of separate branches with definition of terms, volumes and funding sources, directing the modernization of economy.

Measures of the state support of domestic producers, taken today, are based on the results of carried-out monitoring of the food security condition in the country and in the regions, including 335 indicators. The information system of food balances, created by the Ministry of Agriculture of the Russian Federation is the basis for an assessment of the food safety and domestic market conditions in the circumstances of participation of the country in the WTO. In Russia a certain reserve in achievement of threshold values for ensuring food safety of the main food products is created for the last years.

It should be noted, that essential progress in crops raising branch allowed the country not only to provide its own needs for grain, but also to enter the world market with this strategic resource. In 2009–2010 agricultural year grain export made 18,275 million tons from Russia, and in 2011–2012 by certain estimates more than 20 million tons will be taken out from Russia and sold abroad already. At the same time it is necessary to consider production of grain as the basis for the domestic animal husbandry development, moreover the Russian Federation is only near threshold values in this direction (meat: 2010–72,6%; milk: 2010–80%), characterizing food security of the country.

Efficiency of the grain farming in the Russian Federation is defined by territorial-economic branch division, caused more by climate and environmental conditions (at the expense of an interregional exchange becomes covered to 20–25% of requirement for food and fodder grain). The most important achievement of agrarian and industrial complex of Russia is the implementation of indicators of the Doctrine of food security on main types of plant growing production (in 2011 more than 94 million tons were gathered, the export potential of the country in supply of grain to the world market is restored).

Production of grain in the country is much higher than its consumption and such positive dynamics stimulates development of other directions of the production, ensuring food safety, such as animal husbandry, deep

processing of raw materials. That fact is important also that food security of the Russian Federation, in our opinion, it is necessary to consider as on nation-wide, and regional level as in the country there is, on the one hand, a big differentiation in the made range of products, and on the other hand, need of alignment of conditions and quality of life of the population of regions.

By separate estimates, the implementation of the program of agricultural development promoted the increase in production of cattle and bird on slaughter in live weight basis to 11 million tonnes by 2012. In 2011 the number of cattle increased to level of 2010 — by 100 thousand heads for the first time in the last 20 years in Russia.

It is possible to call dairy production one of three pillars on whom the food security of the countries all over the world including the Russian Federation leans. According to the official data of FAO, milk outputs increase in the world. In Russia in recent years production of milk was stabilized at the level of 32 million tonnes, however, thus, lagging behind growth rates of the population.

The Russian market of milk and dairy products isn't protected against the competition with import. And the offer lags behind the demand, which conducts to constant increase in import of milk. It is important to note, that in 2009 Russia reduced the import content of dairy products from 18,2% in 2008 to 16,8%. However, in the drought of 2010 in connection with the decrease in outputs of milk and the price advance, there was the growth of the import content (especially powdered milk) to 20%, which increased a gap between the actual and threshold value of food security on milk.

Positive shifts aren't observed by the types of dairy production. So the self-reliance structure production differs in heterogeneity in various segments of the dairy market. The highest share of self-reliance for Russian people is in the whole-milk production segment (drinking milk and drinking sour-milk products, including sour cream) where the big share of crude commodity milk (70%) is spent. Other 30% of crude milk is distributed between producers of cheese, oil, milk-powder and concentrated milk. It is obvious, that import compensates the deficiency in these markets.

The reduction of dairy herd number and low milk yields is the damper for the increase of dairy production in comparison with the worldwide average values. The solution of this problem is possible only through the mechanism of the state support (federal and regional level) of this branch, which is carried out today in the following directions:

— granting subsidy for acquisition of breeding and commodity cattle, the equipment and machines for livestock farms, and also the equipment and machines for the packer branch houses;

— granting subsidy for construction, reconstruction or modernization of livestock farms and for the packer branch houses;

— granting subsidy for construction of livestock farms infrastructure and for the packer branch houses.

The food security of the country is caused by an imperative demand of structural shifts of economy in the direction of domestic producers support for the purpose of ensuring internal requirements for food and for creation the decent social standard of living (basic production per capita).

The external processes have the direct impact on the development of agrarian branch in Russia, which ensures food safety. So, the protectionism of other

states in securing their markets limits possibilities of the Russian producers, and joining of Russia to the WTO can bring to that, as domestic market can appear under the threat of invasion of import goods. In these conditions, the state has to give support to domestic producers in the direction of stimulation the export of agricultural production, on which the level of food security has been gained. Among priorities also there has to be a creation of modern infrastructure for decrease in expenses at storage, transportation and realization of food products.

The agrarian policy of the state has to ensure purposefully the food safety of the country, on the basis of the system management, including scientific, staffing and financial support, institutional policy, the accounting of the world experience, and also the super-compliance of the rights of economic subjects, that is responsible for a sustainable development of the state.

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