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Section 1. Biology

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Environmentally sound technologies for growing soybeans

Abstract: The comprehensive study confirm that the use of resource-saving technologies of cultivation of soy-based optimal scheme of crop rotation in crop rotation crop rotation, the use of techniques to minimize tillage, application of environmentally sound herbicides enhances productivity agrophytocenosis soybean with the rational use of all resources.

Keywords: soybean, agroecosystem, agrophytocenosis, agriculture, safe technology.

The main task of modern agricultural science is to ensure sustainable production of high-quality organic products, maximum usage natural energy potential of the agrarian ecological system, preservation and reproduction of the natural resource base of the agricultural sector, the exclusion and minimizing the negative impact of the process of agricultural production on the environment. Search and development of environmentally sound technologies for crop production are particularly relevant as they comply with the principles of environmental management. And currently in agricultural production as a priority put forward implementation of resource of environmentally sound technologies of cultivation of agricultural crops. These include technologies with minimal, zero tillage with application of elements of intensive technology of herbicides. The use of these elements in cropping allows to significantly reducing energy consumption per unit of production. Take into account that used the correct intensive technologies should fit into the biogeochemical cycling of resources and create sustainable agrophytocenoses. At the same time control over the technology parameters crop reveals hidden forms of violations of the stability and fast enough to maintain the stability of agro-ecosystems.

Today, the transition to sustainable agricultural growth identified two global trends in agriculture. The first involves the development of agriculture of all countries in the world through the use of environmentally friendly alternative agricultural technologies, rational distribution of productive forces, providing expanded reproduction of biological resources and their savings. Second — solving problems of industrial relations and the reform of the country's agro-industrial complex. But at present poorly understood ecological, economic and technological nature and causes of adverse events in agricultural production. Therefore, the modern scientific approach

should be based on the system method as a precondition for the successful development of agriculture. More K. A. Timiri-azev noted that unilateral hobby any idea, point of view, never can bring more harm than in agriculture [3].

At the present stage of agricultural production the Republic of Kazakhstan, holding leading positions in the grain market, actively ramping up production of promising oil crops, one of which is soy [4; 5]. Soybeans — most technological plant, from which produce more than 20,000 food products of different purposes, and is a source of cheap vegetable oil and protein feed. Soy proteins to amino acids at the level of quality beef of the highest category, and for medical and wellness characteristics they have no equal. The cost price of soy protein raw material is 27 times cheaper than animal protein production. Soybean is one of the most popular crops in agriculture, because of its biological features — provide up to 75 % their need and the need to follow her in the rotation crops in nitrogen nutrition [3; 5].

In Kazakhstan, the most favorable natural and climatic zone for the cultivation of this crop is the south-eastern region and in recent years there is a trend of increasing crop areas from 32 thousand hectares in 2008 to 54 thousand hectares in 2010. But with yields of this valuable crop on average in recent years has made — 11–12 hundredweight/ha at low grain quality indicators, although optimal performance nutrient status of soils that culture provides the grain yield of 30–35 hundredweigh/ha with a high fat content and protein. In recent years, due to the changed economic conditions changed and the zonal approach to technology, systems of agriculture.

Therefore, new technologies aimed at improving the productivity of crops, production of ecologically pure production and soil conservation, and taking into account the latest achievements of modern science. The comprehensive

study confirm that the application resource technology soybean cultivation on the basis of the optimal scheme of crop rotation in crop rotation crop rotation, the use of techniques to minimize tillage, application of environmentally sound herbicides enhances productivity agrophytocenosis soybean with the rational use of all resources. Minimizing tillage and herbicide use has a significant impact on the phytosanitary condition of crops, stabilizing the ecological condition agrophytocenosis, while the share of the cultural component is increased from 46.0 to 65.2–68.7%, the number of weeds is reduced to 21.9–31.8 units/m², which corresponds to the economic threshold. Soybean yields increased from 21.8 hundredweight/ha to 32.1 hundredweight/ha, the production cost is reduced from 3.7 to 2.8 thousand tg/hundredweight. Cultivation of soybeans in the developed technology provides a net income in the range of 28.2 thousand tenge per hectare and increased profitability to 56.1%. Soybean universal culture has great versatility, nutritional, medicinal, fodder, technical and agronomic importance. In world agriculture soybeans, due to its remarkable properties, is widespread. The seeds of this culture are 35–42% high quality amino acid composition of the protein, 17–24% oil and 30% carbohydrates. Of the vitamins contained in soybean seeds: B1 — 11–17 mg/kg; B2 — 2.1–2.7; B3 — 13–16; B6 — 4–9; PP — 22–34; P — 1000–1600; K — 1.5–2.5; C — 100–200 mg/kg, and others [4; 5; 6].

Soybean oil semidrying (Iodine Number 107–137) — are used for food and industrial purposes. It is dominated by unsaturated fatty acids — oleic, C₁₇H₃₃COOH₁₇ (25%), linoleic, C₁₇H₃₁COOH (43–59%) and linolenic acid, C₁₇H₂₉COOH (7–10%); saturated acids such as stearic, C₁₇H₃₅COOH, palmitic C₁₅H₃₁COOH and other — little, about 15%.

Digestibility and nutritionally it is close to sunflower oil and little inferior cows. In soybean oil many nutrients — phosphatides, carotenoids, vitamin content of a number higher than in seeds [4; 5; 6].

Soybean oil is also used in soap and paint industries. Protein Soy isolates used in the textile, fragrance, pharmaceutical, paper industry and for other industrial purposes [6]. Much protein and oil in such a successful combination with other nutrients cannot accumulate during the growing season or per plant.

In addition to oil, the main food produced from soybeans, are: soy milk, tofu, okara, textured soy protein (TSP),

soy isolates and others [2]. From soybean seeds produced products for the manufacture of several sorts of different products. In world practice, soybean grain is mainly used for processing into oil and meal and cake — as a valuable addition to the high-protein feed. The food industry is widely used defatted soy flour for making bread, cereals and confectionery. High dietary value of soybean products. Unlike meat soy contains cholesterol and saturated fatty acids which lead to heart disease, cancer and osteoporosis. It is noticed that soy is effective in reducing blood cholesterol, improves the glucose content in it for diabetes, strengthens bones, prevents the development of heart disease and blood vessels, reduces the risk of kidney stones and liver [4; 5]. In soy contains very rare omega 3 needed for brain development in infants, reduces the risk of heart disease and cancer. It is full of anticarcinogenic substances that prevent and stop the development of cancer [6].

Depending on the application of fertilizers and crop rotation crop rotation precursors in bulk density topsoil ranges from 1.16 g/cm³ (after winter wheat) to 1.24 g/cm³ (after the rape) and 1.33 g/cm³ (at cultivation soybeans stretch). Volume weight of the soil before sowing depends on the main processing system, and after sowing of inter-row tillage. In the year of our study bulk density ranged between 1.16 g/cm³ and 1.33 g/cm³, only, only, depending on the predecessor.

And, depending on the effect of fertilizers significant abnormalities are observed. It should be noted that the position of soybeans in the rotation has a significant effect on the bulk density of the soil, thereby improving crop rotation agrophysical factors of soil fertility. This technology provides improvement of agri-environmental indicators of the agrophytocenosis. Improves the structural soil; increases the amount of water-resistant macro aggregates from 51.6% to 71.7% in comparison with permanent crops 1.5 times; creates a favorable water regime, the impact on soil working elements of agricultural machines and implements reduced by 2.0 times or more as compared to the conventional technology of cultivation.

Depending on the application of certain technologies of cultivation of a culture topsoil gets quality with a distinct agrophysical, physical and mechanical properties. These properties, in some cases, differ sharply from those who had the soil before applying the studied agrarian method. One of the main indicators is the bulk density of the soil.

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Section 2. Geography

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Peculiarities of the economic-geographical study of small areas (as an example of Republic of Uzbekistan)

Abstract: The article briefly reviewed a schem and a program of economic and geographical research in rural districts of the Republic of Uzbekistan. Emphasizes the scientific-practical significance of large-scale investigation.

Keywords: economo-geographical investigation, rural districts, rural areas, infrastructure, territory, demography, grouping.

An important feature of geographical investigation is that they may be in different scales. In this case scientific and practical importance of geographical investigations of different scales are different. Small-scale study of areas (of countries and major regions), mainly identifies their the most common features and has cognitive, generalizing character. As for the large-scale studies, they are more specific and stands out by their level of detail in analysis, evaluation and synthesis of the investigated subject, which allows to determine the appropriateness of the the area, compliance of territorial organization of production and settlement.

In addition to this, this method which is “essential”, selection of individual sites is representative for larger areas. Generalization and explanation of the phenomena in the field makes possible to judge on general economic and geographical situation of the country or of a relatively large region. This determines the capabilities of research conclusion from the particular to the general, from analysis to synthesis, which is important to methodological consideration [1].

In the Republic of Uzbekistan after obtaining independence a lot of attention is paid to socio-economic development of rural areas, to small businesses and entrepreneurship. In particular, in year 2009 was declared in the country as an “Year of development and welfare of the rural areas”, and in 2011 – the “Year of small business and entrepreneurship”. In order to implement these policy guidelines, the government of the country has developed on purpose complex government programs, the solution of which is designed for the medium term perspectives. Within the frame of these basic documents priority is given to accelerative development of rural areas, to building a modern industrial and social infrastructure, to improvement of their investmental climate and attractiveness.

In formation and development of industrial and social spheres essential positions plays rural administrative region (RAR), because it is at this level that everyday problems, life and living conditions of the population are emerged and

solved. These local, basic political-administrative units, as an objects of research on the socio-economic geography, have the following advantages and peculiarities:

- common natural conditions and natural resources;
- common hydrographic and irrigation networks;
- conformity of the historical and geographical development of the territory;
- economic specialization of territory;
- formation of points and lines of growth of municipal and regional importance;
- common industrial and social infrastructure;
- a unified system of settlement and common demographic situation;
- administrative functions as the subject of the implementation of regional policy of government;
- possibility of collection and processing of primary statistical information;
- comprehensive and systematic monitoring, prediction of socio-economic development, solving ecological and other problems.

In the recent days, in the republic registered 157 RAR, formation and quantitative dynamics of which have their own historical and organizational and legal characteristics (Fig. 1).

Conducted retrospective analysis indicates that the vast majority of rural administrative districts formed up to 1980 of the last century. Therefore, it can be confirmed that the current network of RAR formed in those years. In addition to this, it should be noted that more than 3/5 of rural areas, which existed up until 1990, then were restored to their former status. For example, in 1962, due to the reorganization of the system of administrative and territorial management, 45 RAR were aggregated and merged, but by 1980 they were reregistered as independent units in the geopolitical map of the country. In most recent years, such “geographical games” in the country are not observed, which indicates to the achievement of the relative stability of the administrative-territorial structure of the country [2].

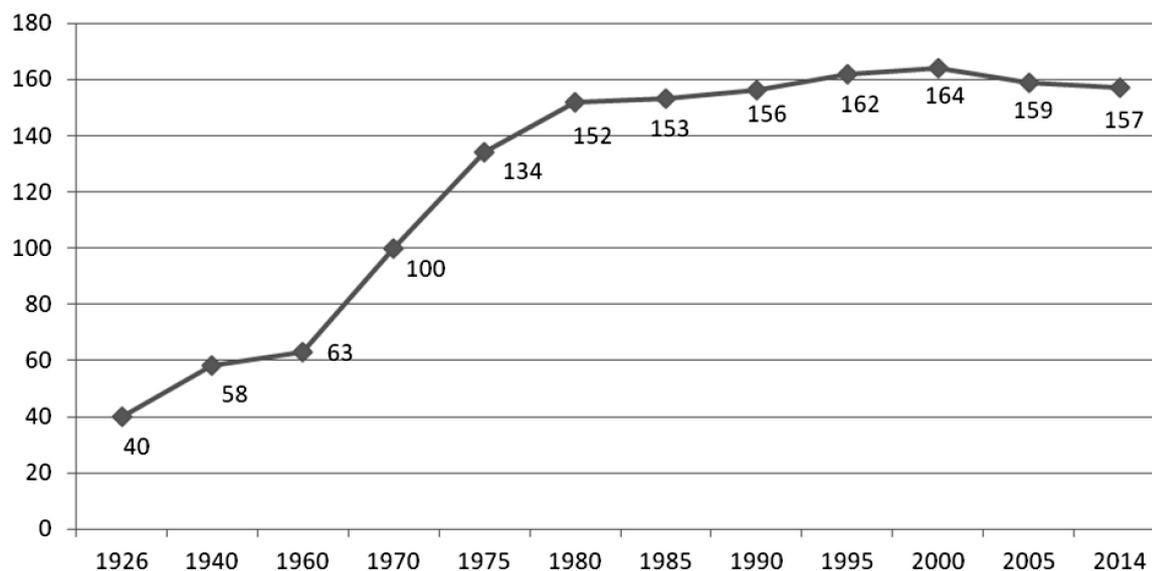


Fig. 1. Changes in the number of rural administrative districts of the Republic of Uzbekistan

In the economic-geographical research of RAR importance should be paid to the following features:

- Retrospective analysis of rural areas and their genetic classification in close connection with the general tendencies of socio-economic development of the country;
- grouping of RAR according to their geographical location, identification of central, peripheral, frontier and other areas;
- functional typology of rural areas, by major region-forming fields;
- evaluation of natural conditions and resources, grouping region based on the occupied area;
- study of the demographic situation of rural area, its urbanization, particularly of rural settlement, by taking into account the economic specialization of the regions;
- assessment of the production, transport and social infrastructure of the area;
- analysis of the economic complex of the region, its sectoral and territorial structure;
- scientifically justified identification of problems and determination of the priority important direction of socio-economic development of the territories, finding solution to environmental and other local issues.

This rough and preliminary scheme of economic and geographical research allows more widely and, at the same

time, deeply penetrate into the peculiarities of the RAR as basic administrative units of the country. For example, half of the RAR by its geopolitical position goes to the state border of Uzbekistan. In particular, one of the largest rural areas of the country Kungradsky – extent to 17% of the state border of Uzbekistan and 46% of the corresponding figure of the Republic of Karakalpakstan. If we add to this border of Muinak and Takhtakupyr regions, their total share makes almost half the country's borders. All this at the same time reflects the cross-border nature of the observed territory and the central geographic location of the Republic of Uzbekistan as a whole. The same spatial characteristics of RAR identified while grouping them by area and by their population. At the same time it points to the necessity of development of frontier areas, increase of integrational potential of not only these “small” areas, but also the country as a whole.

In the country the difference between the largest in area (Kungradskiy in Karakalpakstan – 76.0 thousand sq. km.) and the smallest (Bulakbashskiy in Andijan – 0.18 sq. km.) of rural areas is 422.2 times. As can be seen, the peculiar geographic factor is very huge, which indirectly indicates about the exceptional diversity of the country in natural conditions and opportunities for their economic development and settlement. In this case, on an RAR of the republic has an average of 2.8 thousand sq. km. area [3].

Table 1. – Grouping rural regions of the Republic of Uzbekistan based on the their area (on 01.01.2015)

Area, thousand sq. km.	The number of RAR	In percentage	Total area, thousand sq. km	In percentage of total
to 0.25	8	5.1	1.7	0.4
0.26–0.50	52	32.9	19.9	4.4
0.51–1.00	38	23.9	26.2	5.9
1.01–2.00	18	11.3	25.9	5.6
2.01–4.00	25	15.8	72.4	16.3
4.01–10.00	11	6.9	76.6	17.2
10.01 thous. more	5	3.1	224.2	50.1
Only	157	100.0	447.2	100.0

Note: The table was compiled by the State Statistics Committee of the Republic of Uzbekistan.

Table 2. – Grouping of RAR in Uzbekistan in terms of population (on 01.01.2015)

Population, thousand people	RAR		Population	
	Number	in %	thousand people	in %
Up to 50 thousand	13	8.3	507.9	2.3
50.1–100.0	33	21.0	2 419.6	11.1
100.1–150.0	44	28.0	5 576.3	25.5
150.1–200.0	46	29.3	8 065.4	36.9
200.1–250.0	13	8.3	2 811.2	12.8
250.1 thous. more	8	5.1	2 494.8	11.4
Only	157	100	21 875.2	100

Note: The table was compiled by the State Statistics Committee of Uzbekistan.

In spatial analysis revealed the following pattern: in desert regions with extensive conducting of economy rural areas are very large in size, but in old mastered oases they are very small. For example, Kungradsky, Uchkuduk, Tamdinsky and Muinak areas located mainly in desert regions, occupy a total of 203.0 thousand sq. km, or 45.2 % of the area of the republic of Uzbekistan. At the same time, as shown in Table 1, only 8 rural areas related to the smallest category (each with an area less than 0.25 thousand sq. km), but from the other side only 5 RAR occupy half of the country's total area.

Same picture is observed in the analysis of the RAR based on the demographic potential of the area (Table. 2). In this case, the range of fluctuations in the number of population is 27-fold relationship: in the most populated area — Urgut — home to 419.8 thousand people, and in the very sparsely populated — Karaulbazar — 13.6 thousand people. Among major demographic potential of RAR related Urgut, Zangiata,

Chirakchinsky, Denau, Shakhrisabz, where in each of which there are more than 300 thousand people.

In terms of geographical research, it is important to note that these municipal administrative entities geographically, territorially localized in densely populated areas, in the habitats of intensive irrigated agriculture, or in suburban areas — within large urban agglomerations in suburbanized areas. Thus, particularly in rural administrative areas adjacent to larger centers — Tashkent, Samarkand, Andijan and Namangan average population density reaches 800–900 people per 1 sq. km [4].

During the economic-geographical study of rural districts also identified their industrial specialization, analyzed the density of the transport network, the scope of services of the public transportation (on the theory of «central places» V. Kristallera), social and other infrastructure, investment climate. This in whole allows us to give a comprehensive description to the rural administrative region, also to identify current important issues and determine perspectives of their socio-economic development.

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Problems of studying and mapping paragenetic landscape complexes in Surkhandarya region

Abstract: In this paper we discuss problems of map-designing of paragenetic landscape complexes in Surkhandarya region, as well as the usage of principals and methods of map-designing and creation of landscape map legends developed by landscape specialists.

Keywords: geocomplex, map, taxonomic unit, mezoparagenetic, microparagenetic landscape complex, mountainous gully.

A number of scientific articles and monographic works devoted to studying problems of paragenetic landscapes have been published for the last few years. For example F. N. Milkov [3, 3–266], A. Yu. Reteyum [4, 17–20], A. A. Abdulkasimov [1, 5–13], K. A. Drozdov [2, 3–160], V. V. Kozin [5, 3–87], and others. As F. N. Milkov defines [3, 3–266] the paragenetic landscape complex is a geo-system which is inter-connected with neighbouring regional or typological complexes from originating point of view, where the elements and energy exchange takes place very actively. Therefore, when studying paragenetic landscape complexes and classifying them complexly, it is necessary to identify their morphological and paragenetical relationships.

N. A. Gvozdetskiy [6, 5–222] pointing out the existence of two types of regional complexes made up with landscape-typological and regional units, he also came to the conclusion that there is the third way of differentiating geographic area. This type of natural differentiating and natural geographic complexes is a wholesome functional system based on such principles as interconnection of natural processes, similarity from dynamic point of view, and generality of elements and energy exchange.

Paragenetic complexes occur in nature in various forms according to their size, and taxonomic colour. They include the systems connected with each other by the similarity of their origin, and historical formation, and even though geo-complexes which make up the biggest systems. In literature on geography, the system of taxonomic units including regional (continents, regions, zones, provinces, districts) and typological (landscape type, place type, urichisha type, fatsia type) have been worked out; they have been completely defined and scientifically grounded. But the system of taxonomic units of paragenetic complexes have not been completely studied and scientifically grounded. Therefore, it is theoretically and practically significant to study, differentiate in the field, limit, and map paragenetic landscape complexes, to work out their system of taxonomic units.

When studying the paragenetic landscape complexes, one must pay sufficient attention to the factors and sources of influencing their appearance, formation and development, and to the mechanisms that make them operate. The process of paragenetic landscape complex development, first of all, follows the laws of dynamics of the ever operating geo-complexes. Secondly, in continuous development and dynamic change of paragenetic complexes, the law of elements and energy exchange plays the most important role. Besides, there are also natural and anthropogenic forces that operate the process of paragenetic complexes development. They are tectogen, lithogen, climate, hydrodynamics, biogenic, and anthropogenic development sources.

Starting studying paragenetic complexes in landscaping can lead to the possibility of using the latest methodologies of researching dynamics of landscapes. The followings are supposed to be thoroughly researched while analysing paragenetic landscape: 1) the structure of paragenetic complexes;

2) the mechanism of the integration; 3) qualitative indicators of correlation; 4) dynamic development of paragenetic complexes. In his monographic work, V. V. Kozin [5, 3–87] «paragenetic landscape analysis of river valleys» systemized river valleys based on the ways of researching paragenetic complexes and identifying their structure. He used the following taxonomic units when systematizing and structuring them: group – series – raw – elementary paragenetic complex. In addition, V. V. Kozin [5, 3–87] divided paragenetic complexes into polydynamic, polygenetic, epigenetic, and other groups taking into account natural processes participating actively in their formation and development.

F. N. Milkov [3, 3–266], in his scientific researches devoted to working out general theory of paragenetic landscape complexes, paid a special attention to their following main peculiarities:

- 1) the territorial closeness of regional or typological complexes within paragenetic landscape complexes;
- 2) the existence of the metabolism of elements and energy forming up a system;
- 3) the existence of genetic similarity, that is generality.

The history of mapping landscape complexes is closely connected with the formation of the science about landscape and the history of the development of landscape science. First landscape maps appeared in Russia, A. G. Isachenko, F. N. Milkov, G. P. Miller, V. M. Chupaxin, N. A. Gvozdetskiy in Russia, and L. N. Babushkin, N. A. Kogay, A. A. Abdulkasimov, M. U. Umarov, S. A. Nishanov, Yu. Sultanov, V. A. Popov, A. A. Rafikov in Uzbekistan, and others worked on landscaping.

Using the experience of the above mentioned authors in mapping, we conducted the work of mapping paragenetic landscape complexes in Surkhandaryo valley. When making the map of the paragenetic landscape complex we followed the followings:

- Choosing the object of mapping paragenetic landscape complex, and identifying its scale on the map. Here, firstly it is important to know the type of the geographical complex to be depicted on the map, secondly, the scale and the purpose of using the map, thirdly taking into account characteristics and the dynamic variability of landscapes in the chosen object;

- When the identifying the geographic complexes which are depicted in the map practically by field researches, differentiating and limiting them, it is reasonable to take into account factors influencing their formation and development, along with type of soil, form of the relief, lithologic content of the mothering elements, and other indicators;

- To work out thoroughly the division of complexes to be depicted on the map of paragenetic complexes according to their dynamic correlation and connection of their origin. First of all, it is important to systemize and classify various taxonomic unit of paragenetic landscape complexes separated to be depicted in the map in the field or lab conditions. Systemized and classified paragenetic complexes will be the basics for creating the legend of maps. The essence and content of

paragenetic landscape complex maps must be reflected in the legend of the map;

- The is important to use bordered method of relief plastics when mapping paragenetic landscape complexes, as dynamic correlation between landscapes, it is easier seen in bordered method of relief plastics. L. M. Koritniy [8, 161–166], S. I. Zotov [7, 55–65], and others mentioned their opinion on this issue. In many cases waterways and rivers' water limits can serve as natural borderlines of paragenetic landscape complexes. Therefore, hydrographical type can be the developing factor of paragenetic landscape complexes, and from paragenetic point of view can be seen as the basis for mapping;

- It is necessary to make up the legend brightly reflecting the content and essence of paragenetic landscape complex maps and the geographic complexes depicted on them;

- During the years from 2001 till 2006, we conducted researches in Surkhandaryo mountainous area delay, and we collected much material on paragenetic landscape complexes; we identified paragenetic complexes that have multi coloured taxonomic units and made their map on the scale 1 : 50 000.

We have also used different cartographic methods in depicting curved geo-complexes on maps of paragenetic landscape complexes. For example, the methods of depicting paragenetic complexes using colourful background and bars. When separating and mapping paragenetic complexes in the area of the curve, we also used such a system of taxonomic units which includes macro-, mezzo-, micro-, and elementary paragenetic complexes, paragenetic faction, and paragenetic hole. Basing on this system of taxonomic units, we see that

Surkhandaryo curve is a mountainous curved mesonic paragenetic landscape complex with its structure. It is an inseparable part of Amudaryo mountain–plain valley paragenetic complex. As Amudaryo basin along with all basins of its horns, glaciers they come from, valleys and large delta, together they make up — a macro-paragenetic landscape complex.

The structure of Surkhandaryo mountainous-curved mezoparagenetic landscape complex is complicated. It consists of a number of multi-colour micro-paragenetic complexes it self. They are Karatog, Tupalang, Sangardak, Khujaipok, Sherobod valley, Amu-Surkhandaryo valley, Kattakum-Ulok-kirildi sandy areas, Sherabad-Sarikkamish and Kelf-Sherabad hills, Southern Surkhan, Uchkizil, Degrez water dumbs, and other microparagenetic landscape complexes.

Microparagenetic landscape complexes are also considered to be a complicated structure, just as mezo- and macro-paragenetic complexes. Each of the micro-paragenetic complex's structure consists of elementary paragenetic complexes with paragenetic characteristics. The example for this can be Jayronkhona, Kukaiti, Hovdog areas formed as a result of tectonic eruptions, ravines formed as a result of erosion and currents, and the system of dried away waterways. It should be pointed out that those mezzo-, macro-, and micro- paragenetic landscape complexes differ from those classified and mapped by A. A. Abulqosimov, from those hole defined by L. N. Babushkin, and N. A. Kogay (1974), from those landscape defined by Sh. Ergashev [9, 5–156] and those regions that were defined by V. M. Chertkin, with their essence, content, structure, and characteristics.

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Section 3. History and archeology

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February of 1917: the Cossacks' approach to resolving the agrarian issue (based on materials of the Don, the Kuban and the Terek)

Abstract: The article analyses peculiarities and specifics of land matters on the Don, the Kuban and the Terek after February of 1917, the Cossacks' position in agrarian issue. The authors show that by February of 1917 the system of the Cossacks' land use and agrarian relations in the region were in constant historical conservation being based on customs and traditions that developed over a long historical period. The Cossacks when developing and resolving the agrarian issue used traditional and historically formed system of Cossacks' land ownership and land use, the local authorities (Cossacks' self-regulating bodies), and the attitudes of the Cossacks were based on key principles of protection of the interests of their class of society. The authors believe that consideration of this problem should be linked to both the general tendencies of social, economic and political development and the peculiarities of development of each Cossacks' army.

Keywords: land ownership, land use, land issue, Cossacks, aboriginal peasants, non-Cossacks.

The agrarian issue even in modern Russia remains one of the most discussed social, economic and political problems. It includes a number of aspects, but what became the actual and unexpected aspect was the problem of allotment or return to the reviving Cossacks the land plots in the places of their constant living in case of complying with the interests of other categories of the population and the state in general.

It is interesting to note the approach of the Don, the Kuban and the Terek Cossacks to resolution of this problem after February of 1917. It was time of very active apprehension of the whole specter of social, political and economic issues by different parties, social, public and political forces, state and regional authorities. The agrarian issue was not an exception and worried representatives of all social layers of the region and, firstly, the Cossacks due to their special position [1].

By February of 1917 the system of the Cossacks' land use and agrarian relations in the region remained in the state of constant historical conservation based on customs and traditions developed over a long period of time.

At the beginning of the 20th century the territories of the Cossacks' armies witnessed substantial transformation the result of which was reconsideration of the status and roles of the Cossacks within the state. Reorganization involved almost all aspects of the Cossacks' armies' functioning and, first and foremost, the management, military service, land ownership and land use. The basis of the Cossacks' military service was lying in system of land ownership and land use in Cossacks'

regions that from the historical point of view developed in the 19th century. The Don and the Kuban regions traditionally were agrarian regions of the country while the situation in the Terek region was different in line with different situation in the North Caucasus as a whole. North Caucasus was agrarian region with multinational population. Dozens of mountain nations have preserved the throwback elements of patriarchal ancestral and feudal relations.

At the beginning of the 20th century the Don and North Caucasus became the districts of trade farming, lease of army lands, here appears antagonism between the Cossacks and non-Cossacks ("alien population" that appeared in the region after abolition of serfdom).

Non-Cossack population had fewer rights than the Cossacks who had properly executed documents both for farming and for functioning of their organization which facilitated the improvement of their status.

All these processes affected the development of agrarian relations and defined them thereafter.

Just before the February revolution the economic development of the Don and North Caucasus had its own peculiarities. The industrial complex was at the 9th place among 20 districts represented in the statistics. The key element of its economy was agriculture which defined main lines of regional industry. The economy of the region had agrarian and industrial character. In the grain regions there was more bread per capita than in any other place of Russia. Even among

the most developed agrarian districts of the country the bread fields of the Cossacks' regions were characterized by high rates of the grain production [2, 17].

Of course, the war years changed the agriculture although in general it has preserved its key characteristics. The mobilization diverted majority of men from creative labor. Especially this affected Cossacks' region as only the Don Cossacks supplied about 100 regiments, the Kuban Cossacks — about 90, the Terek Cossacks — 18. The arable lands decreased as well as the cattle stock [3, 43–44]. However the situation was not even within the region itself. The worst situation with agriculture during the war was on the Terek. North Ossetia, according to the agricultural census, the number of peasants without horses and land went from 30% in 1913 to 62.3% in 1917. The arable lands in different districts of the Terek region decreased by 34–44% [4, 69]. However the situation on the Don and in the North Caucasus was different as compared to other regions of Russia. The population of the region was sufficiently different from the people of other regions of Russia in terms of their living standards. Practically in all criteria it was in a better position than other regions of the country. That is why the process of social contradictions deepened in the region gradually. This situation generated grounds for a softer resolution of the most important issues including the agricultural one despite the peculiarities of the region (social and national) [5–7].

After deposition of the tsars the land issue became more acute especially in the Cossacks' regions where the relations of peasants and Cossacks were closely interlinked.

Throughout the whole history of the recent centuries the political development of the Don, the Kuban and the Terek had its own specific character different from that of the other parts of the empire: relatively high share of Cossacks population in the region served as a factor of social and political stability; social structure of town population corresponded to that of all-Russia, while the social structure of rural population had ethno-social peculiarities.

From the ethno-social perspective the population divided into Cossacks, aboriginal peasants and alien population. In the Don region the Cossacks comprised 38.6%, aboriginal peasants — 23.5%, alien population — 29%, others — 8.9%. In the Kuban region: 45.8%, 13.7%, 39%, 1.5%; in the Terek region: 20.0%, 53.1%, 24.6%, 2.1%. The most numerous groups in the region besides the Cossacks were alien population and aboriginal peasants. However the Cossacks played the key role (33% of population) or over 70% of all Russian Cossacks [8, 18–19]. The Cossacks were key landowners in the regions. They operated the lion's share of land: in the Don region — 82.5%, in the Kuban region — 92.9%, in the Terek region — 94.1% [9, 12–13].

Based on this it was necessary to resolve three groups of issues in the sphere of land relations: settle land relations between the Cossacks and the peasants caused by their different class status; resolve the group land issues within the Cossacks' class of society and the peasants' class; resolve land issues of inter-ethnic character.

Provisional Government when considering the land issue relied upon the specific character of the region and the fact that the Cossacks are the main class of society. However consideration of this problem has to be linked to both the general trends and peculiarities of internal political development of each Cossacks' army as the situation of each element of the region was different in social, political and economic character.

Resolving of the land issue on the Don had its peculiar character compared to other Cossacks' regions. Population of the Don was very uneven. The Cossacks comprised only 43% of the region's population. And even though the Cossacks did not have quality advantage over other layers of society, 4/5th of the whole land in the Province of the Don Cossack Host belonged to the Cossacks. Therefore 12–15 million of land dessiatina (measure of land = 10,900 sq. metres or 2.7 acres) was in the hands of the Cossacks [10]. Large share of this land bank was distributed among the Cossacks and the use of the other land — “army reserve” generated income used for operation of Cossacks' administration, educational establishments and other needs. The Don Cossacks had a lot of rights and privileges. The most important right of the Host was land ownership as it defined the form of the Cossacks' governance, their service and autonomy of the Host.

After February events the Provisional Government made “Address to the population of the Province of the Don Cossack Host” [11]. In fact this document formulated the government's position on the land issue in the Cossacks' regions. It noted that the land issue was complicated and intricate as the Cossacks population was increased relocated peasants one hundred and fifty years ago. After that began inflow of land owners, renters of yurt (Cossacks' smallest settlement unit) and army's lands. Substantial part of lands was transferred to non-Cossacks by the right of ownership. The land relations developed during dozens of years. New settlements appeared on yurt, army and landowners' lands. This indicated the complexity of the land issue of the Don and the thoroughness it required.

The Cossacks followed their land rights closely at all levels. Objectively the Cossacks' land ownership became an obstacle for resolution of land issue as its resolution was held back by closed character of the Cossacks' society. Therefore the land issue was most discussed at all levels and the Cossacks devised their own position regarding it.

No exception was All-Cossacks Congress (March of 1917) where over 800 delegates from all Cossacks armies were present. The address of the Terek Cossacks at the March congress contained the attitudes and expectations of the Cossacks: “Not a sliver of army's land shall be alienated without permission of the Army's Krug (supreme governing body of a Cossacks' army). All lands alienated from the Cossacks are to be returned to them according to the grounds to be set by Constituent Assembly” [12].

The Don, the Kuban and the Terek Cossacks have taken a special resolutions regarding the land issue: “Lands of Cossacks' army are its property, the army shall use them independently” [13].

During the congress it was highlighted that the Cossacks' lands comprised an indispensable army's property and all the private lands that were allotted out of them shall be returned subject to the principle of land alienation in favor of workers that was to be adopted by Constituent Assembly. The peasants would preserve the right to own the land plots they have received earlier [14].

The All-Cossacks Congress did not take the land disputed between the Cossacks and non-Cossacks but required its conservation hoping that the Constituent Assembly would finally resolve the issue.

The Provisional Government confirmed that the "Cossacks' rights to land the way they have historically developed were to remain unchanged. Non-Cossack population of the region was to be satisfied to the extent possible in the order to be chosen by Constituent Assembly" [15].

It was then that for the first time after the February events the position of all the Cossacks in the land issue was singled out. The Cossacks have acted in a very consolidated way. Resolution of Petrograd Congress later were used as the basis of the Cossacks activities and activities of their local bodies and served as a certain plan of actions for all the Cossacks.

During district meetings in Novocherkassk (April of 1917) the delegates of stanitsas of Cherkassk, Rostov and Taganrog districts have made a special resolution regarding the land issue [16].

At the Host Congress of the Don Cossacks (April of 1917) special provisions of land committee were devised. This document regulated land relations in the Don territory [17].

During the Cossacks' meetings in Rostov and Nakhichevan an address of the delegates to the Don Cossacks Council was made: "all the Cossacks' lands and arable lands both those of army and of stanitsas shall remain the property of the Cossacks. The lands of the state, monasteries shall be transferred to the army" [18].

The issue of preserving and strengthening of the land use was resolved by All-Russia Cossacks' Congress (June of 1917) in Petrograd. It has made a special resolution regarding the agrarian issue: "all lands of Cossacks' army, forests, water and arable lands with all the subsoils are a historical heritage of the Cossacks and are an indispensable property of each Cossacks' army. All the private lands allotted out of army territories through land grants and orders are to be returned into the ownership of each army" [19].

Therefore it is clear that even standard democratic claims of peasants having no or little land and residing in the regions were considered by the Cossacks as infringement of their land and their rights.

The disputes between the Cossacks and non-Cossack population in Cossacks' regions were primarily due to the desire of the latter to have land replotting. While in the Don land a Cossack has a land plot of 19.3 to 30 dessiatina, locally born (aboriginal) peasant — 6.5 dessiatina and an alien peasant — 1.3 dessiatina, in the Terek regions this gap was even more complicated due to national contradictions. Here a strip of land of a Cossack was from 8 to 23 dessiatina, of a Chechen person — 1.2 dessiatina, of a Kabardian and Ingush — 0.3 dessiatina, in mountainous Ossetia — 0.4 dessiatina [20, 18–19].

All the above indicated that resolving of land issue was not easy and it had a national aspect and aspect related to division into social classes.

After the February Revolution and change in the state system the resolutions of supreme representative and executive bodies of all the Cossacks' armies regarding the key internal political and internal army issues were in their majority similar which was due to similarity of fundamental aspects of the Cossacks' living and character of the acute problems of the period. However each Cossacks' army in the region despite common interests, objectives, goals and development outlooks had specific character and peculiar development that influenced the resolving of the most important political and social issues including the land issue. At the same time the specifics of each army affected the work of army's krugs, radas and congresses, local governing bodies. For the Kuban army the key question was regulating of land relations and inter-ethnic relations were of a second priority while in the Don army the relations between Cossacks and non-Cossacks classes of society had priority over other issues. In the Terek army the relations of Cossacks and non-Cossacks population were closely linked with inter-ethnic relations.

After February of 1917 all Cossacks relied on traditional and historically developed system of land ownership and land use and Cossacks' local bodies of self-governing in resolving the land issue. The attitudes of the Cossacks were based on key principles of protection of their social class interests.

The Cossacks in a very consolidated way tried to preserve and protect their specific system of land use. And all Cossacks' armies were unanimous in this regard despite their social, class, ethnical and national development peculiarities.

However at this stage the resolution of such an urgent issue as the land issue was still possible in a legal, peaceful way as the position of both the Cossacks and the peasants in methods of resolving the issue was similar. Constituent Assembly was to resolve it and high hopes were put on it. However further procrastination in this issue settlement and inconsistent actions of the Provisional Government made the situation more and more acute and tangled.

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Section 4. Mathematics

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The formula for the function $\pi(N)$ for the number of primes

Abstract: We analytically obtained the formula for the number of primes in the given range in the concept of two buffer zones. It goes into the empirical formula of Legendre in the limit, i. e., for the first time we gave its rationale. We've done the calculations and comparison with experiment.

Keywords: formula of distribution of Prime numbers, functions of Gauss and Legendre.

The question of the distribution of Prime numbers on the number line has a long history and to the present time is as follows. There are two empirical (adjustable) formulas for number of primes on the interval $[2; N]$: Legendre $\pi_L(N)$ and Gauss $\pi_G(N)$ which is given in all textbooks and problem books on number theory [1–3]:

$$\pi_L(N) = \frac{N}{\ln N - 1,08}; \quad \pi_G(N) = \int_2^N \frac{dx}{\ln x}. \quad (1)$$

In addition, there are exact analytical formula of the Riemann:

$$\pi_R(N) = 1 + \sum_{n=1}^{\infty} \frac{1}{n\zeta(n+1)} \cdot \frac{(\ln N)^n}{n!}, \quad (2)$$

where the summation is over all zeros of the Riemann function $\zeta(s)$. Formula (2) is almost impossible to use, as the non-trivial zeros of the Riemann function are complex numbers, hypothetically having the real part of s equal to $\text{Res} = 0.5$. They are considered by numerical methods. Thus in (2) is an infinite sum.

In the article of the first author Drushinin [4], exact formula number of primes on an arbitrary interval, which is more simpler than (2), was obtained. However, it also requires lengthy calculations.

In this article we proposed a simple approximate formula for $\pi_{DL}(N)$, obtained analytically from the theory of probability, and for large N this formula becomes $\pi_L(N)$. Thus for the first time we analytically substantiated Legendre formula. For very large $N \rightarrow \infty$ correctness $\pi_L(N)$ was proved Chebyshev [3].

Our conclusion $\pi_{DL}(N)$ based on the concept of two buffer zones on the sequence of Prime numbers. Let us number the primes in ascending order:

$\{p_1 = 2; p_2 = 3; p_3 = 5; p_4 = 7; p_5 = 11; \dots; p_{20} = 71; \dots\}$. The first buffer area $A(n) = [p_{n+1}; p_{n+1}^2 - 2]$ is segment numeric axis. If we remove all numbers are multiples of previous primes $2 \leq p \leq p_n$, then only prime numbers will on

the interval $A(n)$. For example, $n = 3$, $A(3) = [7; 23]$. On this segment prime numbers remain:

$$\{p_4 = 7; p_5 = 11; p_6 = 13; p_7 = 17; p_8 = 19; p_9 = 23\}.$$

The second buffer zone $B(n) = \left[1; \prod_{k=1}^n p_k\right]$ is interval, including (for $n \geq 2$) the first buffer area $A(n)$. A characteristic feature of the second buffer zone is that if we remove all the numbers are multiples of $2 \leq p \leq p_n$ and these primes, the second buffer zone $B(n)$ will remain the exact number of numbers, as simple, compound, namely, $C_n = \prod_{k=1}^n (p_k - 1)$. The number C_n is the famous Euler function on the number of coprime integers to the set $[p_1; \dots; p_n]$. For example, $B(3) = [1; 30]$ and the number of numbers relatively prime to $\{2; 3; 5\}$ on this segment equal to $C_3 = 1 \cdot 2 \cdot 4 = 8$. This number $\{1; 7; 11; 13; 17; 19; 23; 29\}$.

After that, we can find the probability of not remote on the interval $B(n)$ which is the number as the ratio of the number of favourable events to all possible events:

$$\omega_n = \frac{C_n}{\prod_{k=1}^n p_k} = \prod_{k=1}^n \frac{p_k - 1}{p_k} = \prod_{k=1}^n \left(1 - \frac{1}{p_k}\right). \quad (3)$$

The calculation of such works was engaged by Legendre and Chebyshev. They proposed the following formula:

$$\omega_n = \frac{\alpha_n}{\ln p_n}. \quad (4)$$

In (4) α_n slowly increases with n values from 0.49 to 0.561 in the limit $n \rightarrow \infty$. Our analysis of numerical calculations for ω_n showed that a more adequate ratio is:

$$\omega_n = \frac{\beta_n}{\ln p_n} \left[1 + \frac{\beta_n}{\ln p_n} + \left(\frac{\beta_n}{\ln p_n}\right)^2 + \left(\frac{\beta_n}{\ln p_n}\right)^3 + \dots \right] = \frac{\beta_n}{\ln p_n - \beta_n}. \quad (5)$$

Parameter β_n changes slower than α_n , and in the limit of large primes becomes slightly smaller than α_n .

The next step is to define a new function $\pi_{DL}(N)$. Let N lies in a first buffer zone i. e. $p_{n+1} \leq N \leq p_{n+1}^2 - 2$. Probabilistic

value on the interval $[p_{n+1}; N]$ are ΔN_n numbers that are not removed by the sieve of Eratosthenes, and lying in a first buffer zone, i. e. they are the next primes:

$$\Delta N_n = 1 + \frac{\beta_n}{\ln p_n - \beta_n} (N - p_{n+1}). \quad (6)$$

Since in considering there are already the first n «initial» primes then:

$$\pi_{DL}(N) = n + 1 + \frac{\beta_n}{\ln p_n - \beta_n} (N - p_{n+1}). \quad (7)$$

Analyze (7). When $N = p_{n+1}$ we have the correct number of primes $\pi_{DL}(p_{n+1}) = n + 1$. For large $N = p_{n+1}^2 - 2$, $N = p_{n+1}^2 - 2$, $N \approx p_n^2$, $p_n \approx \sqrt{N}$. Next, in (7) neglect $(n + 1)$, $\ln p_n = \ln \sqrt{N} = \ln N / 2$. Then (7) given that $\beta \approx 0.54$, is converted to the form:

$$\pi_{DL}(N) = \frac{2\beta_n N}{\ln(N) - 2\beta_n} \approx \frac{N}{\ln(N) - 1.08}. \quad (8)$$

In this case our formula is completely converted into Legendre formula (1), which very well describes the distribution of primes. So far we have not seen in the literature, the derivation of the Legendre formula, so it seems to us that we are first who logically substantiated it. The obtained function (7) is a recurrent formula. It allows you to consistently calculate the previous value of n with a predetermined value.

In table 1 there are comparative calculations for the three formulas. The data of (7) are not shown, since they almost coincide with the exact value of $\pi(N)$. It is seen that the approximate formulas (1) and (8) give very close values.

Table 1. – N – interval of numeric axis $[2; N]$; $\pi(N)$ is the exact value of the number of primes on the interval; $\pi_L(N)$ – calculate Legendre formula (1); $\pi_G(N)$ – calculate by the formula of Gauss (1); $\pi_{DL}(N)$ calculation formula the authors (8)

N	$\pi(N)$	$\pi_L(N)$	$\pi_G(N)$	$\pi_{DL}(N)$
1000	168	171.593	176.565	151.838
2000	303	306.706	313.765	282.055
3000	430	433.127	441.715	406.617
4000	550	554.474	564.32	525.791
5000	669	672.297	683.236	646.381
6000	783	787.452	799.37	755.117
7000	900	900.476	913.286	858.92
8000	1007	1011.74	1025.37	971.36
9000	1117	1121.5	1135.9	1091.66
10000	1229	1229.96	1245.09	1200.23
11000	1335	1337.28	1353.1	1295.03
12000	1438	1443.58	1460.05	1387.89
13000	1547	1548.96	1566.06	1491.96
14000	1652	1653.51	1671.21	1605.76
15000	1754	1757.3	1775.58	1720
16000	1862	1860.39	1879.22	1834.68
17000	1960	1962.83	1982.2	1934.42
18000	2064	2064.66	2084.56	2033.38
19000	2158	2165.93	2186.33	2128.33
20000	2262	2266.68	2287.57	2225.82
21000	2360	2366.92	2388.29	2335.37
22000	2464	2466.7	2488.54	2448.85
23000	2564	2566.03	2588.33	2524.94
24000	2668	2664.95	2687.68	2633.79
25000	2762	2763.46	2786.63	2729.21
26000	2860	2861.59	2885.19	2837.88
27000	2961	2959.36	2983.37	2928.69
28000	3055	3056.78	3081.2	3018.94
29000	3153	3153.87	3178.69	3126.94

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Section 5. Medical science

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Organization of care for patients with diabetic retinopathy in Uzbekistan

Abstract: The organization of medical care to patients with diabetes who have complications — diabetic retinopathy, in the Republic of Uzbekistan was studied.

Keywords: diabetic retinopathy, organization of specialized ophthalmologic help.

Relevance and purpose of the work. Diabetic retinopathy (DR) is a leading cause of blindness in people of working age in developed countries. It accounts 80–90 % of all disability due to diabetes mellitus (DM) [1, 10–14; 5, 35–37; 7, 13–15; 10, 354–356; 14, 1195–1200]. WHO experts predict that by 2025 the number of diabetics will exceed 300 million people. However, this forecast may be too “optimistic”. The number of registered patients with diabetes mellitus (DM) in 2000 was 11 % higher than the estimates of WHO experts [13, 1414–1431]. Rising incidence of diabetes has an impact on the level of disability, in patients with diabetes type 1, in 5 years after the onset of disease symptoms DR detected in 25 % of cases, in 10 years — nearly 60 %, and in 15 years — 80 % [10, 354–356]. According to the Wisconsin Epidemiologic Study of Diabetic Retinopathy (WESDR), proliferative retinopathy — the greatest threat to vision, was noted in approximately 50 % of patients with duration of diabetes type 1–20 years and more [4, 20–27]. In DM type 2, which is 90–95 % of all cases of the disease, due to the late diagnosis, signs of DR are revealed at the time of diagnosis of diabetes in 15–30 % of cases, in 10 years — 50–60 %, and in 30 years — in more than 90 % of patients. Proliferative processes observed in 2 % of patients with diabetes for less than 5 years, and 25 % of those with diabetes for 25 years or more [11, 1235–1241; 14, 1195–1200].

According to WESDR 60 % of adult diabetic patients (over 30 years) not treated with insulin, had retinopathy in 25 years, while 10 % — proliferative form. Among older patients receiving insulin diabetes due to severity of DM, over 80 % have retinopathy after 15 years of the disease and 10 % had a proliferative retinopathy. Over 20 % of patients were suffering from retinopathy at the moment of diagnosis of type 2 diabetes. Almost 100 % of patients with type 1 diabetes had retinopathy developed after 15 years from the onset of the disease, and about 25 % of patients

had proliferative DR. Since type 2 diabetes is much more common than type 1 diabetes, this form of the disease may be considered as the main cause of vision loss in patients aged 20 to 74 years [3, 4–5; 6, 80–81; 12, 642–652].

In Uzbekistan, according to Shagazatova B. H. (2004), one of the leading reasons that led to disability (after diabetes that caused more than 50 % disability), was diabetic retinopathy — 7.0 % [8, 41–50; 9, 3–5]. However, according to the data of the Executive Committee of the CIS, in our country, the number of diabetic patients in the last 10 years is increasing annually by 8 %. Currently there are more than 90,000 patients registered, however, considering the fact that at least 2 % of the population of Central Asia have diabetes, and the population of Uzbekistan is 27 million, the real number of patients with diabetes is at least 6 bigger times and according to forecasts is more than 500,000, and the number of persons with disabilities due to diabetic retinopathy — over 20,000.

It should be understood that if in other complications of diabetes there are at least some, even palliative therapies (such as neuropathic with CRF — replacement therapy in the form of hemodialysis, in diabetic foot — surgical aids et al.), in the loss of vision due to DR, there are no even symptomatic treatments. This makes prevention the only affordable and effective method of care for patients with diabetes. Considering the scale of the problem and the huge moral and economic damage to the person, family, society, the need becomes clear to study the situation and assess the adequacy of care provided to patients and ongoing prevention of DR, to develop and propose ways to prevent this terrible complication.

Material and methods. To study and evaluate the quality of care for patients with diabetic retinopathy was conducted a questionnaire survey of 711 physicians from 72 family health clinics in Tashkent city. Group of respondents were general practitioners (82.8 %), endocrinologists (9.6 %) and

ophthalmologists (7.6%). Professional experience ranged from 7 months to 42 years.

Also, we conducted a survey of 154 diabetic patients undergoing examinations or receiving treatment in hospitals of the city with a history of diabetic retinopathy. Among the respondents, 12.6% of patients were with type 1 diabetes and 87.4% of patients with type 2; 89 patients were residents of Tashkent city, the rest (65 patients) — Tashkent region and other regions of the republic.

Results. As the results of the survey show (see. Table 1), almost half of the general practitioners (43.5%) send the patients with newly diagnosed diabetes on eye examination, only when the patients have complaints. Whereas endocrinologists, as well as ophthalmologists (78.7% and 89.9% respectively) recommend to have eye examination immediately.

A similar situation exists with establishing regularity of examination of patients with diabetes. According to the majority of general practitioners DR patient is enough to be observed once a year (45.1%) or six months (35.1%), although the regularity should be determined directly by an ophthalmologist (66.1%) which is supported by endocrinologists (58.5%).

In cases when the patient already has complications of the eyes, in the opinion of the therapists responsibility lies with the patients themselves (78.2%), due to not referring to the directions of the physician. A somewhat different view of the problem from Specialists — endocrinologists and ophthalmologists, most of which are examining patients with diabetes in time, and consider not satisfactory work of primary care physicians — one of the causes of the late-treatment patients (almost half of the cases — 49.5%).

Table 1. – The results of the survey of physicians in family clinics in Tashkent

The studied issue	GPs	Endocrinologists	Ophthalmologists
In newly diagnosed diabetes, examination by an ophthalmologist is performed:			
• immediately	34.8%	78.7%	89.9%
• in case of complaints	43.5%	15.9%	9.6%
• during routine clinical examination	21.7%	5.4%	0.5%
What should be a regularity of examination in patients with diabetes:			
• annually	45.1%	17.7%	12.8%
• every 6 months	35.1%	23.8%	21.1%
• set by ophthalmologist	19.8%	58.5%	66.1%
When a patient is seeking care for a significant disorders of the visual organ it's a result of:			
• patient's lack of awareness	21.8%	43.3%	49.5%
• not referring to the directions of the physician	78.2%	56.7%	50.5%
What are the methods of treatment and prevention of DR that you recommend to patients?			
• medicamental	78.8%	45.4%	23.2%
• Laser Surgery	16.3%	45%	58.4%
• vitreoretinal surgery	4.9%	9.6%	18.4%

We also attempted to find out what are the doctor's ideas on treatment and prevention of diabetic retinopathy. As the results of the survey, family physicians still attach great importance to drug therapy (emoksipin, taufon et al.) — almost 80% of cases, preferring it to other forms of treatment. Somewhat different is the situation at the ophthalmologist, a significant number of patients on which are directed to the laser and vitreoretinal surgery (58.4 and 18.4% of cases). However, conservative treatment is also actively used by them, and at different stages of DR.

In a survey of patients with DR about 59% of the respondents are not aware of the necessity of regular eye exams, the possible complications of diabetes on the eyes as well as the need for preventive measures (many of the patients were residents of remote regions). About a third of respondents (29%) had the idea of diabetic retinopathy, but for various reasons did not follow the recommendations of doctors. Only 7 patients (mostly residents of the capital) were under the supervision

of an ophthalmologist and they underwent a laser photocoagulation of the retina.

Summarizing the above said is necessary to recognize the work of primary care as unsatisfactory, which is confirmed by the results of the survey, as well as the opinions of narrow specialists and patients: delayed examination of patients, their lack of awareness coupled with noncompliance to doctor's instructions leads to the early development of ocular complications of diabetes, and as a consequence to blindness and disability.

Despite the important role of ophthalmologists, facing the major challenges of diagnosis, treatment and prevention of DR depends on primary care, where long-term control over the course of diabetes, patient's condition and the dynamics of its complications is possible. Since diabetes mellitus is 80–85% in the structure of endocrine pathology [1, 8–78; 2, 248–265; 4, 128–133] treatment and monitoring of this group of patients abroad is carried out by general practitioners (GPs),

the institution of which is formed in our country. This allows bringing medical care closer to the population, to carry out treatment and preventive work with all family members, improve health literacy and by reducing the burden on medical specialists to conduct better monitoring of these patients.

Despite the fact that the DR remains the leading preventable cause of blindness in working-age adults, there are effective primary and secondary interventions, allowing to preserve vision [1, 8–78]:

- Identification of retinal lesions (screening) and subsequent dynamic observation of its condition (monitoring);
- Optimum compensation of carbohydrate and lipid metabolism, blood pressure control, normalization of renal function, etc.;
- Treatment of retinal lesions.

It is important to remember that even expressed diabetic changes in the eye fundus are asymptomatic: visual acuity remains good. The patient is unaware of them, if not regularly passes examinations by an ophthalmologist, or as long as he is not having permanent visual impairment. Therefore regular, routine monitoring of the eye in patients with diabetes is so important.

The frequency of examinations:

- The first examination: the patient should be examined by an eye doctor not later than 5 years after diagnosis of diabetes. In domestic conditions, given the insufficient level of compensation of the disease, it is advisable to carry out the first inspection no later than 1.5–2 years since diagnosis of diabetes;
- In the absence of diabetic retinopathy: at least once in 1–2 years;
- If there are signs of diabetic retinopathy: examination should be carried out not less than 1 time per year, and more

frequently if necessary, for example if there are signs of rapid progression of diabetic retinopathy with intercurrent diseases;

- A combination of diabetic retinopathy with pregnancy, hypertension, chronic renal failure, risk groups are formed, that require individual control over the development of this complication.

Thus, for effective monitoring of the patients with diabetes mellitus and its complications, it requires a coordinated work of GPs and nurses — diabetes instructors, together with a team of specialists (diabetologists, nutritionists, ophthalmologist, neurologist, nephrologists, and others).

Conclusions. Diabetes mellitus is one of the priority health and social problems. This is due to the widespread prevalence, chronic progressive course of the disease and the high disability of patients. Meanwhile, it is proved that almost all of the complications of diabetes (including those associated with the deterioration and complete loss of vision), the treatment of which is expensive and not always effective, can be prevented. One way of solving this problem — combined efforts of many specialists, and not least, on the issue of prevention of visual impairment. The relevance of physicians education, their acquaintance with modern methods of treating diabetes and prevention of its complications is evidenced by the adoption and implementation of numerous international and national projects on diabetes and blindness from it. Given the prospects of growth of diabetes, the scale of this work can be described as a colossal. On the other hand, it is necessary to expand the coverage of diabetic patients in the form of training schools of protection from the complications of diabetes. Attentive, sensitive attitude to their vision of these patients, the timely detection of early diabetic retinopathy by ophthalmologists at all levels, will help many patients to preserve their eyesight as long as possible.

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The possibilities of prolongation of pregnancy in women with leaking of amniotic fluid in the second and in the beginning of third trimester

Abstract: With the development of premature rupture of membranes in terms 28–30.5 weeks, prolongation of pregnancy more than 48 hours, held-Niemi prevention of RDS contributes to significant decrease in perinatal mental and postnatal lethality, and lengthening the latent period of more than 168 hours, significantly reduce child morbidity.

Keywords: Prolongation of pregnancy, amniotic fluid.

The main tasks of Obstetrics are creating optimal conditions for the woman function of maternity, maintaining her health and providing the birth of healthy offspring. On the background of low birth rate the perinatal mortality remains rather high and exceeds the 12 %, although it has a tendency to decrease over the last 10 years [1; 2].

The premature labor has special significance in the structure of perinatal morbidity and mortality are against the backdrop of premature rupture of membranes, which is one of the most frequent reasons for initiating of patrimonial activity in 34.9–56 % of all preterm births [3].

Studying of features of pregnancy in case of premature rupture of membranes and determination of optimal duration of anhydrous interval, methods of preventing of infectious complications, the timing and method of the delivery at various gestational periods will reduce the number unfavorable outcomes in this serious pathology [4, 5].

Taking into account the national particularities, the living conditions of our women (chronic anemia, endemicity, resulting in frequent thyroid disease, isthmus cervical insufficiency, congenital malformations of the uterus, stress, etc.) the primary goal of our study to highlight the major prognostic factors and the development of preventive measures for prolongation of incomplete pregnancy complicated by premature rupture of membranes in the second and in the beginning of third of trimesters [3].

Searching more information about the mechanisms of premature rupture of membranes allows developing drugs of pathogenetic action, which should help doctors around the world to cope with the problem of reducing the incidence of premature births [6].

Now the challenges of prolonging pregnancy for preterm rupture of membranes and determination of the optimal

duration of anhydrous interval poorly studied and were not worked out prognostic criteria of prolonging pregnancy.

The aim of our research was to determine the optimal duration of prolonging incomplete pregnancy complicated by premature rupture of membranes in terms of 22–34 weeks, as well as to reduce perinatal morbidity and mortality, and the number of infectious complications in pregnancy, parturients and puerperant.

Material and methods. The study is based on clinical and laboratory examination of 107 women surveyed patients and 40 healthy subjects of comparable age.

All patients were divided into 3 groups according to the duration of anhydrous interval:

- 1 group of 38 women with premature rupture of membranes, which will be conducted prolongation of pregnancy in conditions of dry period whose duration is 24 hours.
- group 2 — 39 women with premature rupture of membranes, which will be held of prolongation of pregnancy in conditions dry period, the duration of which is up to 72 hours.
- 3 group — 40 women with premature rupture of membranes, which will be held of prolongation of pregnancy in conditions dry period, the duration of which will be more than 72 hours.

Results and discussion. In the observed pregnancy was marked by a high incidence of chronic somatic diseases, despite the young average age (mean age 26.3 years). The most often met thyroid pathology, and how to consequence, disorders of lipid metabolism. This is due to the fact that the Andijan region is a zone where the low iodine content in drinking water. Less frequently detected chronic pyelonephritis and chronic hypertension.

In the majority of cases, women of all three groups were multiparous, and on average, each woman had three

pregnancies, which often ended in the same childbirth and abortion. A higher number of abortions in pregnant women is directly related to a large number of pregnancies. In the study group, nearly one in three pregnant had spontaneous abortions and the main group of pregnant women had three times more previous pregnancies which ended with premature labor.

Gynecological history was equally weighed down in pregnant women. Almost in every patient was found hyperandrogenism. From the inflammatory diseases of female genital organs high incidence of endometriosis in the main group of pregnant women is directly linked to a large number of pregnancies, spontaneous abortions and abortions.

Among sexually transmitted infections most often detected ureaplasmosis and gardnerelez lechenie, more rarely met mycoplasmosis and chlamydia, and in seven cases was found trichomoniasis. The incidence of viral infections (herpes simplex virus and cytomegalovirus) does not exceed 15 %. And in pregnant women of the main group three times more often were determined CMV infection, compared with patients in the control group.

The current of present pregnancy in early stage was complicated by the threat of miscarriage more than half of the surveyed women and each fifth had the starting abortion. Pathology of the placenta among the complications of pregnancy are fairly common and was represented by low placentation and with premature detachment the placenta in history.

For the prolongation of incomplete pregnancy complicated by premature rupture of membranes, all pregnant we spent antibacterial prophylaxis for five days of broad-spectrum drugs, because the appointment of semisynthetic penicillins, macrolides, and first-generation nitrofurans not effective due to the low sensitivity of microorganisms and increases the number of resistant microorganisms.

We found that the diagnosis of premature rupture of membranes at term 22–27.5 weeks should be possible to prolong pregnancy up to 168 hours or more, in compliance with the complex hygienic measures for significantly better perinatal and postnatal outcomes. With this tactics we have not observed increasing the incidence of infectious complications.

In the diagnosis of premature rupture of membranes at term 28–30.5 weeks, it is necessary to prolong the pregnancy at least 48 hours, for the prevention of RDS, that significantly reduces perinatal and postnatal mortality. The optimal duration of the latent period in the gestation, which allows reducing child morbidity, reached after 168 hours from the time of discharge of amniotic fluid without increasing the frequency of infectious complications.

In the diagnosis of premature rupture of membranes at term 31–33.5 weeks of pregnancy is necessary to prolong pregnancy more than 48 hours for the prevention of RDS fetus and subsequent careful childbirth within 7 days, because a further increase in dry period increases the risk of septic complications. In the presence in a pregnant breech presentation and the absence of data for the infectious process, it is possible prolongation of pregnancy within 48 hours conduct

of antimicrobial prophylaxis for the broad-spectrum drugs and subsequent childbirth by “Caesarean section”.

Maximum perinatal mortality observed in the development of premature birth in gestation from 22 to 28 weeks. In our study, antenatal fetus death occurred only in two cases, and, fetus died up to seven days of pregnancy prolongation. With the extension of dry period more than 168 hours we have not reveal increasing of frequency of fetal death, in premature rupture of membranes in terms 22–27.5 weeks. The frequency of intrapartum fetal death in pregnant women who received prolongation of pregnancy was 5 times lower than those who gave birth immediately. The group which managed to prolong pregnancy more than a week there is the biggest drop intrapartum mortality — 7 times. The highest percentage of early neonatal mortality rate was in the group where the duration of the dry period was less than 12 hours. Smaller than all died in the early neonatal period, only those newborns who were in a dry period of more than 7 days.

With prolongation of pregnancy complicated by premature rupture of membranes for more than 7 days, there is a fairly significant reduction in child mortality — 5 times. But the prolongation of pregnancy of less than 7 days the infant mortality rate is comparable with the group, which has not been the prolongation of pregnancy in general.

To sum to a common denominator all the mortality rates of fetuses and newborns in premature rupture of membranes, gestational 22–27.5 weeks, it should be possible to prolong the pregnancy at least 8 days because the only way to reduce the overall mortality rate from 83.3 to 19.2 %. With the development of premature births in the gestational age of 28 to 30.5 weeks, perinatal mortality is significantly reduced compared with the previous group. Fetal death in the gestation occurred in only one case, and with the continuation of pregnancy more than 7 days cases of fetal death were not. The frequency of intrapartum fetal death as not significant and does not depend on the applied tactics of pregnancy. When prolonging pregnancy over 48 hours, regardless of the duration of the further period of dry, there are no cases of early neonatal mortality compared with the group where the pregnancy is not prolonged. Therefore, the prolongation of incomplete pregnancy complicated by premature rupture of membranes occur a significant decrease in perinatal mortality from 15.6 to 6.0 %. When pregnancy prolongation for more than 7 days, the infant mortality rate decreased from 23 to 2.1 %, but with a further prolongation of pregnancy significant reduction of this indicator does not take place, despite the fact that at the maximum prolongation of pregnancy, child deaths was not observed at all. In our study, fetal death in terms 31–33.5 weeks, with prolongation of pregnancy was detected in only one case where duration of the dry period, when more than 7 days cases of fetal death were not.

With regard to intrapartum fetal death in pregnant women in the 31–33.5 weeks of gestation, childbirth complications is not met at all. Furthermore, when prolonging pregnancy for more than 2 days was significantly absent early

neonatal mortality, compared with the group where pregnancy is not prolonged. Therefore, the reductions of perinatal mortality in pregnant women with the conservative tactic of occur due to lower early neonatal mortality, and when prolongation of pregnancy more than 7 days, this figure is zero. In the groups in which were been prolonged pregnancies for more than 48 hours, child deaths were observed.

Prolonging pregnancies complicated by preterm premature rupture of membranes at term 22–33.5 week, the only

possible way to significantly reduce perinatal and postnatal morbidity and mortality, as well as improve the quality of life expectancy preterm infants.

Conclusion. With the development of premature rupture of membranes at term 28–33.5 weeks prolonging pregnancy over 48 hours to conduct the prevention of RDS contributes to a significant reduction in perinatal and postnatal mortality and a lengthening of the latent period more than 168 hours, significantly reduces the incidence of children.

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Epilepsy: Modern methods of treatment

Abstract: Epilepsy is one of the most common neurologic problems worldwide. There is an increase of epilepsy in the population. As the consequence of Epilepsy can have adverse effects on social and psychological well-being. It is urgent to study modern methods of treating epileptic patients.

Keywords: epilepsy, treatment, anticonvulsants, neurostimulation.

Epilepsy is one of the most common neurologic problems worldwide. About 1 % of people worldwide (65 million) have epilepsy, and nearly 80 % of cases occur in developing countries. Epilepsy becomes more common as people age and brain injury and pregnancy [2; 3; 4; 5; 6]. In the developed world, onset of new cases occurs most frequently in infants, in the developing world this is in children and young adults, due to differences in the frequency of the underlying causes. About 5–10 % of all people will have an unprovoked seizure by the age of 80, and the chance of experiencing a second seizure is between 40 and 50 %. In many areas of the world those with epilepsy either have their ability to drive restricted or disallowed, but most are able to return to driving after a period of time without seizures [1; 7; 8].

There is an increase of epilepsy in the population. As the consequence of Epilepsy can have adverse effects on social and psychological well-being. These effects may include

social isolation, stigmatization, or disability. They may result in lower educational achievement and worse employment outcomes. Learning difficulties are common in epilepsy.

Certain disorders occur more often in people with epilepsy and epileptic syndrome. These include: depression, anxiety disorders, and migraines. Attention-deficit hyperactivity disorder affects three to five times more children with epilepsy than children in the general population [3; 4]. Epilepsy has significant consequences on a child's behavioral, learning, and social development. Epilepsy is also common in those with autism. In this regard, it is urgent to study modern methods of treating epileptic patients [1].

Objective: To study modern methods of treatment of epilepsy.

Material and methods:

- The **incidence of epilepsy** looks at the number of new cases in a given year. It's often given in a ratio such as V out of 1,000 persons develops epilepsy each year.

- In U.S, the average incidence of epilepsy each year is estimated at 150,000 or 48 for every 100,000 people.
- The **prevalence of epilepsy** looks at the number of people with epilepsy at any given point in time. This includes people with new onset epilepsy as well as those who have had epilepsy for a number of years. This is usually given in a total number, such as “x million” people, but can also be given as a ratio.
- In U.S., the number of people with epilepsy, using prevalence numbers, ranges from 1.3 million to 2.8 million (or 5 to 8.4 for every 1,000 people)
- The incidence number also tells how many people in a certain group have epilepsy. For example, these numbers can show how often epilepsy occurs at different ages, in different ethnic groups, or in different regions.

Results: Epilepsy is one of the groups of long-term neurological disorders, characterized by epileptic seizures. These seizures are episodes that can vary from brief and nearly undetectable to long periods of vigorous shaking. In epilepsy, seizures tend to recur, and have no immediate underlying cause while seizures that occur due to a specific cause are not deemed to represent epilepsy. Epilepsy is characterized by a long-term risk of recurrent seizures. These seizures may present in several ways depending on the part of the brain involved and the person’s age.

Treatment: The mainstay treatment of epilepsy is anti-convulsants medications, possibly for the person’s entire life. The choice of anticonvulsant is based on seizure type and epilepsy syndrome. Carbamazepine, Atretol, Carbagen SR, Epitol, Mazepine, Tegretol, Tegrital, Teril, Timonil. Carbamazepine-XR, Carbatrol, Tegretol XR. Clobazam, Frisium, Onfi. Clonazepam, Eptiril, Klonopin, Rivotril. Diazepam, Diastat, Diazepam, Valium. Divalproex Sodium, Depacon, Depakote, Epival. Divalproex Sodium-ER, Depakote ER. Eslicarbazepine Acetate, Aptiom. Ethosuximide, Zarontin. Ezogabine, Potiga. Felbamate, Felbatol. Gabapentin, Neurontin. Lacosamide, Vimpat. Lamotrigine, Lamictal. Levetiracetam, Keppra. Levetiracetam XR, Keppra XR. Lorazepam, Ativan. Oxcarbazepine, Oxtellar, Oxtellar XR/Frileptal. Perampanel, Fycompa. Phenobarbital, Phenobarbital. Phenytoin, Dilantin, Epanutin, Phenytek. Pregabalin, Lyrica. Primidone, Mysoline. Rufinamide, Banzel, Inovelon. Tiagabine Hydrochloride, Gabitril. Topiramate, Topamax. Topiramate XR, Qudexy XR, Trokendi XR. Valproic Acid, Convulex, Depakene, Depakine, Orfiril, Valporal, Valprosid. Vigabatrin, Sabril. Zonisamide, Zonegran.

Used to Treat: Carbamazepine group used to treat Temporal Lobe Epilepsy, Complex Partial Seizures, Refractory Seizures, Secondarily Generalized Seizures, and Simple Partial Seizures.

Forms: Carbamazepine exists under different names, including Epitol and Atretol. It is generally available in three forms: Tablets: 200 mg. These should be swallowed whole, not chewed. Chewable tablets: 100 mg. These can be either swallowed whole or chewed. Suspension (liquid): 100 mg. per 5 ml.

Surgery: Surgery may be an option for people with focal seizures that remain a problem despite other treatments.

The goal of surgery is total control of seizures and this may be achieved in 60–70 % of cases. Common procedures include: cutting out the hippocampus via an anterior temporal lobe resection, removal of tumors, and removing parts of the neocortex. Some procedures such as a corpus callosotomy are attempted in an effort to decrease the number of seizures rather than cure the condition. Following surgery, medications may be slowly withdrawn in many cases.

- Neurostimulation may be another option in those who are not candidates for surgery. Three types have been shown to be effective in those who do not respond to medications: vagus nerve stimulation, anterior thalamic stimulation, and closed-loop responsive stimulation.

- Radio surgery or Open Surgery for Epilepsy (ROSE) Trial: A phase III study of Gamma Knife radiosurgery for mesial temporal sclerosis.

- SANTE (Stimulation of the Anterior Nucleus of the Thalamus for Epilepsy) Trial: This study uses deep brain stimulation to treat medically refractory epilepsy.

- A multi-center trial of progesterone therapy for women with epilepsy: This NIH-funded study is examining whether using progesterone as an adjunctive therapy is effective for women with medically refractory, localization-related epilepsy. Adult patients with medically refractory temporal lobe seizures may be candidates for an on-going NIH-sponsored clinical study to determine the efficacy of Gamma-Knife radio surgery. This procedure may provide a viable noninvasive alternative to surgery.

- “Epilepsy Phenome/Genome Project”: UCSF is the coordinating center for the national Epilepsy

Phenome/Genome Project, sponsored by the National Institutes of Health, which is aimed at collecting detailed phenotypic and genomic information on patients with idiopathic generalized epilepsy, localization-related epilepsy, infantile spasms, Lennox-Gastaut Syndrome, and certain types of malformations of cortical development. This information will help to identify multigenic determinants of the underlying epilepsy syndrome and pharmacoresponsiveness or pharmacoresistance.

Alternative medicine

Including acupuncture, psychological interventions, routine vitamins, and yoga, have no reliable evidence to support their use in epilepsy. The use of cannabis is not supported by the evidence. Melatonin is insufficiently supported by evidence.

Other

A ketogenic diet (high-fat, low-carbohydrate, adequate-protein) appears to decrease the number of seizures by half in about 30–40 % of children. About 10 % manage to stay on the diet for a few years, 30 % had constipation, and other adverse effects were common. Less radical diets were easier to tolerate and may be effective. It is unclear why this diet works. Exercise has been proposed as possibly useful for preventing seizures with some data to support this claim.

Conclusion: The main condition for the successful treatment of epilepsy is first remove primary cause and do

further treatment. Make people to aware of epilepsy, educate them to do first aid rather than being afraid. Epilepsy cannot usually be cured, but medication can control seizures effectively in about 70 % of cases. Of those with generalized seizure more than 80 % can be well controlled with medications while this is true in only 50 % of people with focal seizures. One predictor of long-term outcome is the number of seizures that occur in the first six months. Efforts to

reduce head injuries, provide good care around the time of birth, and reduce environmental parasites such as the pork tapeworm may be effective. Efforts in one part of Central America to decrease rates of pork tapeworm resulted in a 50 % decrease in new cases of epilepsy. Medications are not to be too expensive. Lack of knowledge about epilepsy among friends circle and colleagues. Lectures and videos need to show in schools, colleges and universities.

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Structure of road traffic injuries at residents of the industrial city

Abstract: We analyzed the number of road traffic injuries in 10 years, residents of the city of Stavropol including road accidents and the number of resident population from 2010 to 2012. Mortality rates were estimated with the accident. It was found that the annual numerical increase in victims of road traffic accidents, which provided medical assistance for emergency medical care, is due to the injury of the adult population. Among the victims were most of those aged 16 to 50 years old, mostly male, as the most active, efficient and have more active lives. Among children at risk for road traffic injuries were mostly children from 10 to 15 years. It is noted that the number of injuries is increasing every year, which is an economic loss for the state.

Keywords: road traffic injuries, deaths, affected.

The special place among the main reasons for death among young able-bodied population of the country is taken by the road and transport traumatism (RTT) which is referred to the heaviest types of traumatism, winning first place among the mortality reasons from mechanical damages and being one of the main reasons for an exit to disability of citizens of working-age [4; 5; 6; 7; 8; 11–13]. Lethality indicators at road accidents tend to annual growth [1–3; 10–13]. The death toll in a year in the road accidents (RA) across the Russian Federation by results of different authors at 5–10 times exceeds similar indicators in economically developed countries

of the world [1; 2; 3; 13]. In this regard studying of DTT in the large industrial city on the example of Stavropol with definition age — sexual structure of participants of the road and transport movement, and also an assessment of dynamics of traumatism at road accident is actual that allows to create reasonable approach in the organization and delivery of health care at road accident.

The purpose of the study. To study the frequency of damages of the residents of Stavropol who were injured in road accident and to define the age status of victims for improvement of methods of delivery of health care.

Materials and methods. We analyzed a condition of accident rate in Stavropol during the period from 2003 to 2012, with an assessment the following indicators: number of road accident, number of wounded, a death toll, and also age — sexual structure of victims. The comparative assessment of number of victims in road incidents and number of resident population of Stavropol was carried out.

Table 1. – Dynamics of change of number of victims in road accident and number of resident population of Stavropol

Years	Victims in road accident	Number of resident population of Stavropol	On 100 thousand population
2010	785	399 431	196.53 ± 3.2
2011	938	404 895	231.66 ± 2.9
2012	889	411 572	216.0 ± 3.5

Data of the conducted research testify that at the general increase of population on 12 141 persons the number of injured road accidents in three years increased in Stavropol for 8.8% that in general corresponds to the average indicator for investigated the period. It should be noted that distinction of indicators were reliable ($p < 0.01$) between years 2011–2010 and 2012–2010. The difference of indicators between 2012–2011 was doubtful ($p < 0.01$). Also it was noted that during this period lack of growth of traumatism concerning growth of population of the city was observed.

In three years the quantity of calls on Station of the fast medical care increased by 9 784 cases. Annually the share of calls to victims in road accident among all calls on SSMP makes 0.61%. The calculated indicators of a dynamic row testify to increase in number of victims in road accident since 2010 by 2012 with increase in rate of a gain from 2.4% to 9.5%. It should be noted that fact that despite increase in rate of a gain, value of 1% of a gain in 2012 tended to decrease and made 5.36%.

Among 785 adults who were injured for 2010 there were 662 persons (84.3%); children till 15 years — 123 persons that made 15.7% of all victims. As a rule, in DDT males suffer mainly. So in the analysis of cases of road accident of males made the 514th person (65.47%), female — 271 person (34.53%).

It should be noted that the main part of victims was aged from 18 till 50 years — 478 people (60.89%). This fact isn't casual since this age group is most active and with receiving the rights for driving by the vehicle, this category is most often involved in road accident. The children's trauma the most difficult and dangerous was presented by mainly age category from 10 to 16 years — 32 cases that made 4.08%.

In 2011 victims in road accident in Stavropol were made by 938 people, among which 825 adults (87.9% of total number of victims for this year). Children — 113 cases (12.1%). In 601 cases males, female — 337 people (35.91%) suffered. Most of victims was aged from 18 till 50 years — 569 people (60.66%), often children aged from 10 till 16 years — 39 people (4.15%) became participants of road accident.

The assessment of victims in 2012 allowed to note that the quantity of injuries increased and made 989 cases. Number of adult victims — 883 people (89.28%). A little the percent of injured children decreased. It was recorded —

Results and discussion. Results of researches are processed by methods of the statistical analysis and presented on schedules. The carried-out analysis of cases of road accident in Stavropol from 2010 to 2012 allowed to estimate dynamics of change of number of victims in road accident concerning a powered by powered by numbers of the population of Stavropol at this period. Results are presented in table 1.

106 (10.71%) cases of children's traumatism. Males this year were made by 679 people (68.65%), female — 310 (31.35%).

In 2012 the main group of victims was made by adults aged from 18 till 50 years – 658 people (66.3%), most often were traumatized children at the age of 10–16 years – 47 people (4.75%).

From 2003 to 2011 steadily increased and if in 2003 absolute total number of road accident made 327 cases, in 2010 this quantity made 400 cases. The same tendency was noted with traumatism cases in road accident. By us it was recorded that in 2003 the quantity of injuries made 368 cases, in 2010 this quantity already made 469 cases that for 27.4% of cases it is more relatively 2003.

The analysis of a lethality which is carried out earlier by authors at the combined and multiple injuries shows that the vast majority of victims perishes at a pre-hospital stage, but the percent of fatal cases on stationary a stage remains high.

The analysis which is carried out by us over the last 10 years allowed to note that the quantity of cases of the dead after road accident tends to decrease in indicators of mortality. So in 2003 the percent of fatal cases in office made 10.7%, the similar indicator in 2011 made 8.1%. It should be noted that the percentage ratio of the dead in road accident to number of all road accidents during this period didn't tend to growth on this indicator. This indicator allows to judge, that the quantity of cases with a deadly outcome has the predicted character.

By us it was noted that in 2005, the percentage ratio of the dead was much lower, concerning other periods. In 2005 was declared by a city administration of Stavropol year of “The safe movement” that allowed to reduce considerably quantity of cases of road accident and as a result of it to reduce accidents with a deadly outcome.

Conclusion. Thus, it is noted that the quantity of injuries annually increases in Stavropol that causes to the state significant economic damage. The annual numerical increase in victims in road accident to which medical care on SMP is provided, occurs at the expense of injuries of adult, able-bodied population. Among victims the main part was made by persons of age group from 16 to 50 years, mainly male, as the most active, efficient and having most active lifestyle. Among children teenagers from 10 to 15 years were group of risk on road and transport traumatism mainly.

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Combined craniofacial trauma and neuropsychiatric symptoms

Abstract: The results gave the opportunity to note a large number of patients with depressive symptoms in both groups relative to the control group. Along with the resulting combined trauma of the facial skeleton and brain injury manifestations of fatigue are similar in nature, it should be regarded as a single mechanism is not dependent on the location of the injury. The research has noted that craniofacial trauma launches mechanisms leading to psychopathological manifestations of varying severity, pointing to the failure mechanisms of adaptation after the injury in the form of increased levels of anxiety and fatigue in patients with craniofacial trauma.

Keywords: craniofacial trauma, fatigue, depression.

According to the publications of several authors [2; 4; 5; 6; 9] it is noted that during few decades in Russia and in the world there was a sharp jump in injuries among the population, where the number of damaged structures of the facial skull increased 2.4 times [5; 7; 11]. Trauma maxillofacial (TCHLO) is among the most frequent injuries. In this regard, TCHLO diagnosis with the presence of cerebral dysfunction remains an actual problem of emergency medicine [8–11]. Clinical examination of the victims, while damage to the facial skeleton and brain structures allows to make only a rough idea about the nature of brain disorders that often lead to asthenia patients to the lability of mood, and in some cases to the manifestations of depression [11].

The purpose of the study. Examine neuropsychiatric condition in the acute period in patients with craniofacial trauma for possible therapeutic correction of neuropsychiatric disorders.

Table 1. – The age affected the nature of suffering and the ISI

Character CHLT	The number of victims	age		
		18–30 years	31–40 years	41 and older
Patients with lesions or rather face zone (group 1)	37 (45.1 %)	23 (28.1 %)	12 (14.6 %)	2 (2.4 %)
Patients with damage to the midface (group 2)	45 (54.9 %)	29 (35.4 %)	14 (17.1 %)	2 (2.4 %)
Altogether	82 (100.0 %)	52 (63.4 %)	26 (31.7 %)	4 (4.9 %)

The possible hidden levels of anxiety, depression, fatigue in patients undergoing CHLT were examined [1; 3; 12]. In this connection, Hamilton scale and Beck was used. The criterion of severity of depression on the Hamilton scale was: mild depression — 14–17 points, moderate depression — 18–25 points, severe depression — more than 25 points. To estimate the rates of reduction in the mood, we used BDI. According to this scale diagnosis was considered established if the total score was more than 19. Additionally, the scale used (MFI-20), which allowed us to estimate a subjective assessment of fatigue in patients with CHLT. The score of points was its individual indicators points for each patient in the range from 4 to 20 points. Calculation of scoring points was based on five scales: general fatigue, physical fatigue, reduced activity, reduced motivation, mental fatigue. The highest score reflects the highest severity of fatigue. The amount more than 12 points according to at least one of the scales was the basis for the diagnosis of fatigue.

To determine the reactive and personal anxiety Spielberger Charles D's scale was used. It should be noted that most of the known measurement techniques make it possible to assess anxiety or personality or state of general anxiety. This survey is the only method that allows you to measure anxiety and differentiated as personal property, and as a state. So the sum is less than 30 points — is considered an indicator of low anxiety, 31–45 points — moderate anxiety, 46 points or more — an indicator of high anxiety. Statistical processing was carried out using parametric and nonparametric methods, using Student's credibility by using the software package «SPSS 21».

Results and discussion. The evaluation of patients with CHLT revealed the subjective and objective neurological

Materials and Methods. In the acute phase 82 patients with TCHLO were examined, which was combined with mild traumatic brain injury (concussion, brain contusion mild), and subsequently interpreted by us as a cranio-facial trauma (CHLT). Among the 37 patients were examined with traumatic facial bones upper face area (group 1) and 45 with damage to the midface (group 2). All patients underwent clinical and neurological examination by a standard technique. Additionally, we evaluated the complaint and the clinical manifestations of the autonomic nervous system. In all cases, x-ray examination was carried out of the skull bones, used for verification of CT and MRI. The average age of the surveyed was 27.1 ± 2.8 years old. The results were compared with the control group, which consisted of 20 healthy subjects matched for age and sex. Age affected is shown in Table 1.

symptoms. Patients imposes mostly complaints intense local pain in areas of the facial skeleton injury. It is often the dominant complaint in trauma. In addition, in 77 (90.6 %) cases, patients complained of headaches, 61 (71.8 %) cases of general weakness in 31 (36.5 %), dizziness in 22 (25.9 %) cases patients reported feeling nausea.

The objective neurological examination in both groups in 29 (34.1 %) cases revealed failure VII and XII cranial nerves. Pyramidal symptoms of interest were noted in 31 (36.5 %) patients and were characterized by the revival of tendon reflexes, pathological signs Iambic. In 27 (31.8 %) cases were identified koordinatornyh light violations in the form of intention tremor, mild ataxia.

In most cases in the acute period CHLT were marked autonomic manifestations as diffuse or distal hyperhidrosis akrogipotermii, labile blood pressure, palpitations, total heat, paresthesias in the extremities. Since autonomic dysfunction in patients of group 1 was detected in 31 (83.6 %) cases in group 2 in 39 (86.7 %) cases. The number of signs of autonomic dysfunction per patient averaged in group 1 — $3,5 \pm 0,5$ us.ed., in group 2 — $3,9 \pm 0,6$ us. ed. control group of $1,9 \pm 0,4$ us. ed. Graphically, this is shown in Figure 1.

As follows from the figure, the average number of accompanying symptoms of autonomic dysfunction in patients with 1st and 2nd groups was significantly ($p < 0.05$) higher relative to the control group. Importantly, the study of the autonomic nervous system (ANS) we identified supra-segmentar disorder differed polisistemny and high severity of autonomic dysfunction. Also, we have marked dissomnicheskie violations, who wore a different character on the duration and quality of sleep.

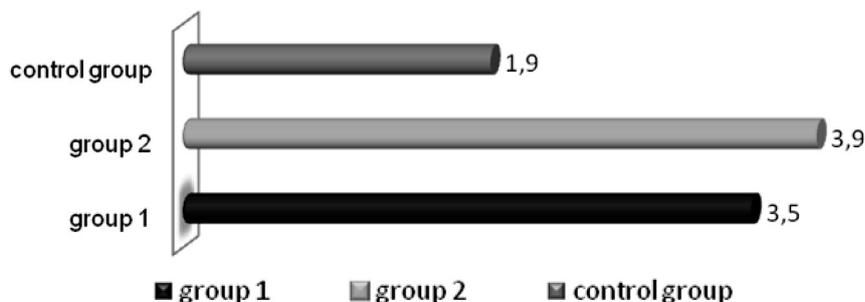


Fig. 1. Average number of accompanying symptoms of autonomic dysfunction in the acute period in patients with CHLT

In the study, we noted mental health problems with symptoms of fatigue, anxiety, mild depression. This fact gave rise to a more detailed study and analysis of data displays. Given these circumstances, we separately considered psychopathological syndrome, which had the character of neurotic, asthenic and neurotic states. These manifestations were observed in 62 (75.6%) patients after CHLT. In the formation of this syndrome, in our view, lies multifactorial processes occurring in the nervous system when CHLT but lead, in our opinion, is the presence of traumatic brain injury and stress. It should be recognized that the presence of stress factors in the acute period CHLT often helps smooth, both subjective

and objective neurological symptoms that greatly complicates diagnosis of cerebral dysfunction.

Showing signs of depression BDI were observed in 14 (50%) patients of group 1 and in 11 (32.4%) patients of group 2. The results allowed to note a significant increase depressive symptoms in both groups relative to the control group. The results are shown in Table 2.

This research allowed us to refine the level of depression BDI, where it was noted that in the 1st half of the group was set soft level. Indicators of the level of depression in the 2nd group were predominantly mild or rate level. The results were comparable to the control group. Graphically, this is shown in Figure 2.

Table 2. – Rates of depression in patients with CHLT with different localization and the control group (BDI)

Level of depression	Surveyed patients				The Monitoring Group	
	group 1 (n=28)	%	group 2 (n=34)	%	(n=25)	%
rate	10	35.7	18	52.9	21	84
mild	14	50	11	32.4	3	12
moderate	3	10.7	3	8.8	1	4
strong	1	3.6	2	5.9	–	–
maximum	–	–	–	–	–	–

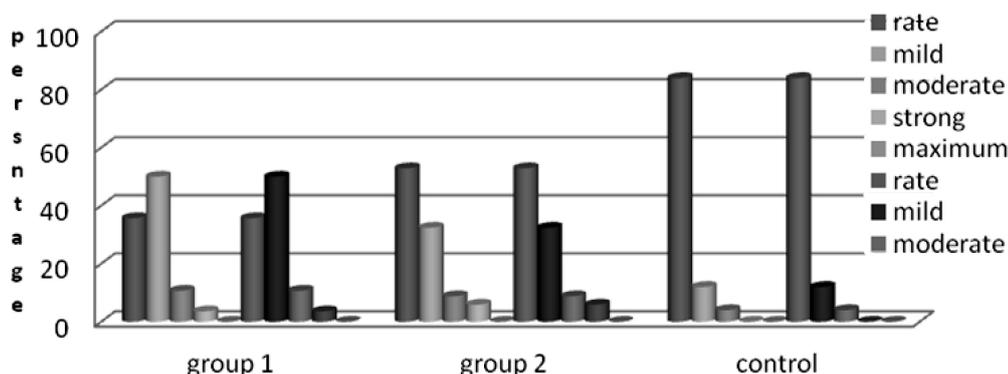


Fig. 2. Levels of depression BDI patients in the acute period CHLT different localization and the control group

We noted that 32 (43.4%) cases, patients in both groups subjectively noted a sense of anxiety, restlessness, thus attracted attention depression patients and between irritation when communicating. Level of personal and reactive anxiety was established taking into account the Spielberger's scale. The results in Table 3.

Low levels of anxiety in group 1 was observed in 53.6% of cases, in the 2nd group, the figure was 47.1% (control group 16%). It was noted that in both groups of patients

with CHLT traced mainly low level of personal anxiety relative to the control group. It should be noted that in the three cases had high level of personal anxiety. This result was established in 3 young women and more was associated with facial cosmetic defect after injury.

Another criterion of mental and physical condition of patients must be considered CHLT asthenic manifestations. Given that the majority of complaints were manifested in the form of lower total fononastroeniya, distraction, rapid

exhaustion in performing a number of tasks, reduced concentration, associated with mental stress, as well as lethargy and general weakness in this regard, we have carried out a study on the scale of the subjective assessment of fatigue (MFI-20). The results take into account the evaluation of the overall fatigue (OA); reduced activity (PA); decline in motivation (SM); physical fatigue (FA); mental fatigue (PA). The results are shown in Table 4.

Group 1 patients overall score averaged 31.8 ± 2.67 points. In the 2nd group it was 35.1 ± 2.22 points. Results for MFI-20

scale, as in the 1st and 2nd group revealed a high percentage of patients with CHLT who were identified asthenic manifestations.

Conclusion. The result of combined craniofacial trauma are cerebral symptoms with moderate neurological deficit. This study allowed to note that TCHLO launches mechanisms leading to psychopathological manifestations of varying severity in the form of higher levels of trait anxiety, fatigue and depression manifestations that in different groups were of similar character and did not depend on the location of the injury.

Table 3. – Indicators of the level of trait anxiety in the acute period in patients with CHLT different localization and control group

Level personal anxiety	Surveyed patients				The Monitoring Group	
	group 1 (n=28)	%	group 2 (n=34)	%	(n=25)	%
rate	7	25	11	32.4	20	80
lowest	15	53.6	16	47.1	4	16
moderate	5	17.9	5	14.6	1	4
high	1	3.5	2	5.9	0	0

Table 4. – Quantitative subjective evaluation indicators fatigue scale (MFI-20) in patients with CHLT various localization and control groups

Investigated parameters	Surveyed patients				The Monitoring Group	
	group 1 (n=28)	%	group 2 (n=34)	%	(n=25)	%
general asthenia	28	100	34	100	5	20
reduced activity	21	75	26	76.5	3	12
decline in motivation	19	67.9	24	70.6	1	4
physical fatigue	25	89.3	30	88.2	2	8
psychic asthenia	27	96.4	31	91.2	6	24

Note: Normally, the total number of points should not exceed 20–30.

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System of work with young specialist of nursing in the medical organization (on the example of State-financed health institution of the Samara region «Samara city clinical hospital № 1 named after N. I. Pirogov»)

Abstract: Features of work with young specialists of nurse business in a versatile hospital are considered. The special attention is paid to the mechanism of the mentoring playing huge role in adaptation and education of young specialists on a workplace.

Keywords: young specialist, mentoring, adaptation of the personnel.

The question of work in hospitals and other medical organizations of Samara and the Samara region of young specialists is raised at various levels. And meanwhile, still there is a problem how to involve certified specialists of nursing to work in structural subdivisions of the health care organizations and that is even more essential how to hold them at the workplaces. Especially during the adaptation period in the institutions of inpatient and outpatient type beginners are afraid not to cope with the functional duties, find lack of the knowledge, practical skills.

According to the Territorial body of Federal Service of State Statistics in the Samara region after the graduation from the medical schools and colleges about 90 % of the graduates

obtain employment at health institutions. But, in a year of work more than 80 % of young employees leave the medical organizations. Despite a big number of graduates of nursing secondary professional educational institutions to keep most of them in the profession is a very complex challenge.

In State-financed health institution of the Samara region «Samara city clinical hospital № 1 named after N. I. Pirogov», work with young specialists is put as follows. Involvement of future nurses in the multidisciplinary medical organization, which provides round the clock medical care to the population of the city and of the region, begins with a student's bench. «Samara city clinical hospital № 1 named after N. I. Pirogov» is the main clinical base for educational and work practice

for students of “Samara medical college named after N. Lyapina”. During the interning students are introduced to the medical departments of the hospital, with the duties of the medical attendants, a ward nurse and a treatment nurse. The chief nurse takes part in events such as “Open Day” which is annually organized for graduates in order to meet with future employers — representatives of health care organizations of the Samara region.

The school of “Mentoring” is organized in the hospital to get necessary professional skills and experience for young specialists and also to develop self-discipline and interest in results of work, to increase professional skills and competence level, to master standards of medical ethics and deontology. Work of this school is regulated by the order of the Chief Doctor № 329 from 11.07.2014 year «About the approval of Regulation on mentoring in “Samara city clinical hospital № 1 named after N. I. Pirogov”».

Mentoring is defined as work by training of a young specialist. The mentors who are appointed from the staff of “Samara city clinical hospital № 1 named after N. I. Pirogov” have high professional qualities (have the first or highest qualification grade), ability and readiness to share the skills with inexperienced colleagues, follow the standards and the rules of delivery of health care to the population, have communicative skills and are flexible in communication.

On the basis of the official report of the head of the structural subdivision, the agreement for working relationship between the mentor and the young specialist also the order on appointment of the mentor are prepared. Mentoring is provided for the period from 6 to 12 months and is realized by the method of individual training.

At the initial stage the mentor has to acquaint the beginner with working environment in the department, prepare a thematic study plan, assist in developing an individual plan of work for a young professional, and study his professional and moral qualities, the relation to work and staff and his personal characteristics.

Throughout the duration of the contract the mentor helps the young specialist with learning the profession and mastering in full knowledge and practical skills necessary for high-quality execution of functions by means of studying modern methods and working practices, transferring of the personal experience; also the mentor provides integration of a new employee in the workforce, involves him in public life of the organization; engages a mentee in performance of research and practice work. After the completion of the curriculum the mentor fills the character reference of a young specialist. Following the results of the activity the mentor carries out an assessment of overall performance of the beginner and prepares the report about mentoring.

In turn a young specialist is obliged to obtain necessary professional skills, to study and use in work the documents which regulate activity of the medical organization and structural subdivision and also by the chosen profession, monthly and after the term of mentoring to present a report

to the mentor about the realization of the individual work plan. 22 contracts of mentoring with young specialists have been made, that is 60 % of the number of newly employed in “Samara city clinical hospital № 1 named after N. I. Pirogov” from 01.01.2014 till 01.01.2015.

Development of mentoring in hospital promotes increase of theoretical training of nurses, improvement of practical skills and of the quality of nursing treatment and the status of profession, growth of corporate spirit in collective. This fact is confirmed in reducing the outflow of young specialists with secondary medical education from health care organizations: 2011 year — 4 people, 2012 year — 9 people, 2013 year — 3 people, 2014 year — 1 person.

For the purpose of improvement and maintenance of professional skill of the average medical personnel, adaptation of young specialists on workplaces, improvement of quality of medical care and care of patients in “Samara city clinical hospital № 1 named after N. I. Pirogov” by the order of the Chief Doctor № 288 from 11.11.2013 was organized the Educational and Methodical office. Educational and Methodical office has developed the folder of “Young specialist” containing necessary documentation for adaptation of the personnel on a workplace for the best acquaintance to the structure of health care organizations, its requirements and rules [1, 221].

In the folder of “Young specialist” the following documents are submitted: welcome speech of the Chief Doctor; historic reference about the hospital; the plan of work with young specialists; information about work of the labor union organization, about the financial support and the stimulating payments to experts; the order on mentoring; Ethical code of the nurse; data about work and cooperation with the Samara regional public organization of nurses; advice to beginners; a questionnaire of a young specialist and test tasks for the primary assessment of the knowledge.

From the moment of its formation the number of the young specialists, who were trained in Educational and Methodical office, was 85 % of the total number of newly employed in “Samara city clinical hospital № 1 named after N. I. Pirogov” in 2013–2014.

The work of the administration with young professionals can be mentioned as one of the most important management cycle which allows implementing a system approach as a principle of activity and contributes to the creation of an effective management system. In the process of employment the hospital management sets a monthly allowance to the salary of beginners and also uses other forms of material incentives, for example, due to marriage, birth of a child, enrollment a child in the first form, the acquisition of expensive drugs for treatment and other. There are also other forms of incentives for medical staff in “Samara city clinical hospital № 1 named after N. I. Pirogov” and they depend on motivational type of the employee.

Participation of young specialists in various public and cultural events plays an important role in adaptation of medical staff on workplaces. Inaugural ceremonies of new

employees with the presentation of souvenirs are organized on the International day of nurse. Annually, there are competitions of professional skill where a special nomination is allocated for this employee group.

In recent years the number of young specialists with secondary medical education in health care organizations significantly increased: 2011 year — 8 people, 2012 year —

19 people, 2013 year — 25 people, 2014 year— 39 people. The total number of employed nursing staff for these years was 91 workers.

Thus, the existing system of work with young specialists of nursing in health care organizations provides a positive trend of increasing the number of nursing staff in “Samara city clinical hospital № 1 named after N. I. Pirogov”.

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Evaluation of sperm DNA fragmentation in men with infertility in Kazakhstan

Abstract: As a result of the study the patients with male infertility had the DNA fragmentation index at the level of 40.0% in average regardless of the cause.

Keywords: male infertility, DNA fragmentation.

Background/Aim

DNA fragmentation level evaluation of spermatozooids of males with idiopathic infertility.

Timeliness

Semen analysis is the main type of study to assess male infertility [1; 2]. When male infertility is treated the parameters of routine semen analysis can not always predict male fertility. Currently the specialists dealing with infertility are interested in genetic studies very much. On the one hand, this is due to a progressive increase in the proportion of male factor. Over the past 20 years it has changed from 30 to 50% and continues to grow. On the other hand, so-called idiopathic infertility [3] has a fairly large proportion (up to 30%) among the causes of male infertility. We need to carry out more detailed studies, such as DNA fragmentation of sperm nuclei and chromatin, impairment condensation, aneuploidy in sperm nuclei [4; 5] to diagnose and predict male fertility more effectively. The above methods are more important to evaluate sperm quality resulting in an increase of prognostic and diagnostic approaches than standard semen characteristics (concentration, motility and morphology) [6].

Sperm DNA fragmentation is increasingly recognized as an important cause of infertility and widely studied. Relationship between DNA damage and reduction of reproductive

functions contributed to the study of the sperm DNA integrity within the male fertility evaluation [7]. Sperm DNA integrity is necessary to transfer genetic information. Anomalies and damage in sperm nuclei chromatin can result in infertility. Such methods as SCD (sperm chromatin dispersion, TUNEL (Terminal deoxynucleotidyl transferase dUTP nick end labeling) are most commonly used to study sperm DNA integrity. Numerous studies using these methods to assess the integrity of sperm DNA revealed the presence of significant relationship between sperm DNA damage and pregnancy outcomes [8]. In addition, there are several scientific papers that investigated the correlation between clinical factors and sperm DNA damage. Among other modifiable lifestyle factors, smoking can result in deterioration in sperm quality and cause genetic damage [9; 10]. Some associations between the influence of alcohol to reduce male fertility are also shown in various studies [11]. Alcohol causes changes in the endocrine system regulating the hypothalamic-pituitary-testicular function and has direct toxic effect on the male reproductive gland [12–14].

TUNEL and SCD-test are used most of all among other tests to detect sperm DNA damage. The method is based on the principle of chromatin dispersion (SCD-test). Undamaged (fresh, frozen, thawed) sperm is immersed into an inert agarose gel on a prepared slide. Acid treatment denatures the DNA and

allows differentiating the fragmented sperm cells. Lysis solution dissolves proteins of the nucleus. The cells with normal DNA level have the DNA loops expanded resulting in fluorescence of DNA chromatin dispersion. The cells with damaged DNA have no or minimum fluorescence. It does not require to use sophisticated instrumentation and can be done with the help of light microscopes typically available in the laboratory [15; 16]. SCD-test is a simple, fast, accurate, and highly reproducible method for the analysis of sperm DNA fragmentation.

Herein we evaluated the level of sperm DNA fragmentation using the SCD-test in men with idiopathic infertility.

Materials And Methods

We examined 40 men diagnosed with infertility (the study group) and 10 apparently healthy fertile men (the control group) in the period from January 2014 to January 2015 examined in the Research Center of Urology named after B. U. Dzharbussynov. All patients signed the consent for voluntary participation in the research study.

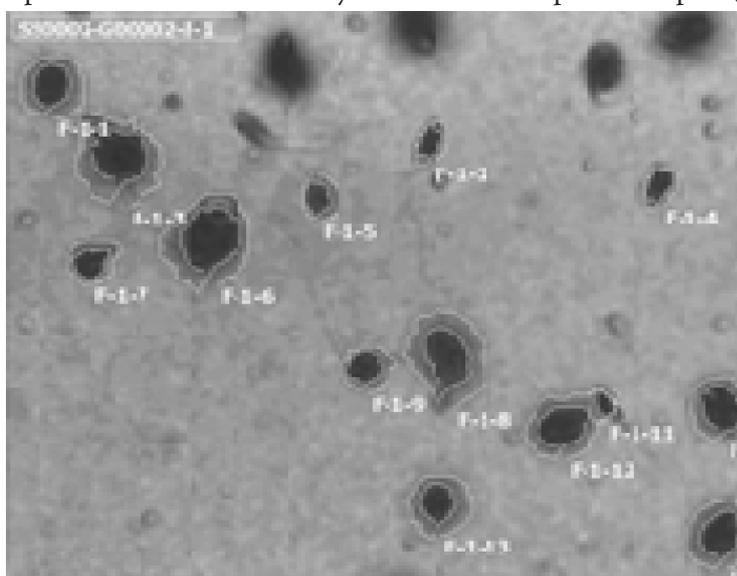


Fig. 1. Evaluation of sperm DNA fragmentation with use of DNA Fragmentation (Sperm Processor Pvt.Ltd, India) at $\times 100$ magnification: N-sperm without DNA fragmentation, F- sperm with DNA fragmentation

The method is based on chromatin dispersion around the nucleus, thereby making it possible to distinguish sperm with different degrees of fragmented DNA, and to calculate the DNA fragmentation index that should not naturally exceed 20.0%.

The samples were then visualized under a microscope at $\times 100$ magnification and treated using Spermprocessor, India. We examined at least 500 sperm cells to calculate the DNA fragmentation index.

Results of the study

In the study of semen characteristics dependence from the level of sperm DNA fragmentation among the patients who had sperm with fragmented DNK above the norm we found out that the patients with asthenozoospermia had DNA fragmentation index amounted 40.0 ± 2.15 , with oligozoospermia — 27.5 ± 2.31 , teratozoospermia — 32.5 ± 1.50 . The sperm count with fragmented DNA was 20.0 ± 2.87 in the control group of patients. The sperm count with damaged DNA was significantly ($p < 0.05$) higher in patients with

The age of the patients varied from 25 to 45 years, and was 33.06 ± 0.44 years in the study group and 32.30 ± 1.11 years in the control group in average ($p > 0.05$). We began the study with analyzes of sperm motility, concentration and morphology according to the Kruger strict criteria (WHO 2010). The evaluation of parameters, such as sperm motility, concentration and morphology, was performed with the use of the automatic program “Video-test sperm 3.2” produced by Video Test Ltd., St. Petersburg, Russia. To do it we put 10–20 μ l of liquefied semen into a Makler chamber, covered it with a glass and analyzed at $\times 20$ magnification. Sperm morphology was examined on the treated washed sperm stained with the Diff-Quick method. Asthenozoospermia and teratozoospermia were defined in the patients under the semen analysis results. Then we analyzed sperm DNA fragmentation with SCD (sperm chromatin dispersion, Spermprocessor, India) according to the manufacturer’s instructions using a fluorescent microscope Axioskop 40 (Figure 1).

low semen analysis results compared with the patients with normozoospermia. The results of the semen parameters and sperm DNA fragmentation study are shown in Table 1.

Table 1. – Results of semen parameters and level of sperm DNA fragmentation

Result of semen analysis	Sperm count with fragmented DNA
Oligozoospermia	$27.5 \pm 2.31^*$
Asthenozoospermia	$40.0 \pm 2.15^*$
Teratozoospermia	$32.5 \pm 1.50^*$
Normozoospermia	$20.0 \pm 2.87^*$

Note: * – $p < 0.001$

We compared the values of the DNA fragmentation index with the general sperm parameters, such as normal sperm morphology ($p < 0.001$), the total sperm count ($p = 0.02710$), progressive sperm motility ($p < 0.001$), active sperm motility ($p < 0.001$), total active sperm count ($p < 0.001$) and correlated them with the sperm index fragmentation.

Discussion

Herein we assessed sperm DNA fragmentation in the patients with male infertility. The average SDFI for the patients with asthenozoospermia was 40.0%, and it was more than 20% in all groups with patozoospermia, i. e. in 27 of 40 patients (67.5%). Currently, there is no sufficient evidence to recommend the sperm DNA fragmentation and use it in a routine analysis and treatment of infertile couples. However, sperm DNA damage is common in the sperm of infertile men. There are several methods to test the integrity of the sperm DNA [6]. SCDt has been developed and improved by Fernandez et al. [15; 16]. In the original report Fernandez et al. reported that the percentage of sperm with fragmented DNA in the fertile group was $16.3 \pm 6.0\%$, in the group with normozoospermia it was $27.3 \pm 11.7\%$, and in the group with oligoteratozoospermia it was $47.3 \pm 17.3\%$ [16]. Sivanarayana et al. in his works reported that the SDFI was as follows: $18.27 \pm 7.19\%$ in patients with normozoospermia, $27.56 \pm 9.96\%$ in patients with teratozoospermia, $36.06 \pm 11.56\%$ in patients

with asthenozoospermia, and $38.15 \pm 13.91\%$ in patients with oligoastenoteratozoospermia. Thus, in our study, the average SDFI was measured at the level of 40.0% that is consistent with the above data.

A significant negative correlation was established in particular between the proportion of morphologically normal sperm and DNA fragmentation [17]. Most studies have reported an inverse correlation between DNA fragmentation and sperm mobility, quality and concentration regardless of the age of the patients examined [17–25]. But at the same time more accurate and in-depth study of sperm in combination with semen analysis can play a significant role in the prevention, correction and treatment of patients with infertility [24; 25].

Conclusion

As a result of the study the patients with male infertility had the DNA fragmentation index at the level of 40.0% in average regardless of the cause. If we use 20.0% as the threshold value for infertility, then 27 of 40 (67.5%) patients in this study had an increase of sperm DNA fragmentation.

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Organization and performance of the territorial Disaster Medicine Service of the Department of Healthcare in Moscow

Abstract: The article considers the structure of the territorial Disaster Medicine Service (TDMS) of Moscow, the tasks of TDMS, results of the TDMS's activity for the last year, both in on-line operation and daily activity.

Keywords: emergency situation (ES), territorial disaster medicine service, the injured, liquidation of medical consequences.

Liquidation of medical consequences of emergency situations in Moscow is laid upon the territorial disaster medicine service (TDMS) of the Department of Healthcare and its lead agency Scientific-Research Center for Emergency Medical Services — the territorial disaster medicine center (TDMC).

The territorial disaster medicine service (TDMS) of the Department of Healthcare of Moscow established in 1991 is a functional union of efforts and funds of the city healthcare attracted for the purpose of liquidation of medical

consequences of emergency situations (ES) on the territory of the city. TDMS is one of the priority functional sub-systems of the Moscow system of prevention and liquidation of ES. The purpose of TDMS is the ensuring of effective and appropriate reaction of the Moscow healthcare service to crisis and emergency situations of different types and scale to satisfy the needs in emergency medical service.

The tasks of TDMS include:

– sustenance of constant readiness of the management bodies of establishments, sub-divisions and formations of the

TDMS for liquidation of medical and sanitary consequences of emergency situations during peace and war time;

- performance of complex measures on counteraction to terrorist attacks, including, the use of poisonous, biological (bacteriological) agents, and increase of safety of city medical institutions in accordance with administration documents of the Department of Healthcare and decisions of antiterrorist commission of the Department;
- enhancement of the readiness of sub-divisions of the disaster medicine service for liquidation of medical and sanitary consequences of realized terrorist attacks;
- timely and effective rendering of all types of medical service to those injured in an ES;
- reduction of psycho-neurological and emotional impact of disasters on the population involved in the emergency situation;
- participation in the ensuring (jointly with sanitary-epidemiological and communal services) of sanitary wellbeing in the zone of ES, prevention of the outbreak and spread of mass infectious illnesses;
- conduct of a forensic expertise of the deceased and a forensic medical examination of the injured;
- mpreservation of health of the TDMS staff during the period of liquidation of medical consequences of the ES;
- interaction with city and departmental federal agencies involved in the liquidation of the ES consequences;
- coordination of actions of the disaster medicine service and civil defense of the city's healthcare service during the conduct of scheduled events and in the conditions of an emergency rule;
- assessment of on-line medical and sanitary condition during a potential hazard on the territory of the city;
- reduction of risks and level of medical and sanitary consequences of the ES during peace time and hazards for the population in the conditions of war time;
- conduct of scientific-research and experimental-engineering works on the problems of «disaster medicine»: improvement of the organization, management and technologies of emergency medical service in the ES;
- conduct of complex measures on improvement and further development of the territorial service of disaster medicine.

The TDMS that currently operates in the city has a first-rate emergency medical service and a full-fledged chain of multi-speciality hospitals. Every hospital of the Service has a minimum supply level of drugs and a reserve of medical property that enables to ensure uninterrupted rendering of emergency medical service to the injured within 72 hours. Today, the Service is oriented to a possible number of on-time sanitary losses that doesn't exceed 18 thousand of the injured.

The Service functions in 3 modes: everyday activity, high alert and emergency situation.

The territorial disaster medicine center (TDMC) established in 1991 plays the most important role in the operation of the service; it performs the functions of the main office of the territorial disaster medicine service and is responsible for

the organization of all kinds of medical service in the ES. During the period of liquidation of medical consequences of the ES, all institutions of the service are in on-line subordination of the Center.

The TDMC performs its activity in two main directions:

- direct effective and practical work on the expected and realized events with a threat to life and health of people regulated by the respective administration documents and prompt managerial decisions;
- scheduled work that includes a complex of measures on the enhancement of readiness of the service for an ES.

The most important structural sub-division of the TDMC is its on-line service that consists of the following departments: operative information (dispatcher and emergency response brigades), operative control, operative communication, automated information systems as well as a warehouse of the on-line reserve of the medical property.

The operative information department ensures round the clock receipt, analysis and rendering of information about an ES or a threat of their appearance on the territory of the city in the dynamics through the channels of emergency notification; assessment of the formed condition according to the data of the on-site emergency response teams of the TDMC from the site; organization of all kinds of medical service. This department bears responsibility for collection of stage and full information about medical consequences of the ES and drawing of intermediate and final reports. During the period of work of the dispatcher service, the number of received and rendered messages increased from 8 000 during the first 15 years to 15 thousand in 2014.

A round the clock shift of the department consists of 3 dispatcher operators, senior doctor, 8 brigades of emergency response, one of which is a helicopter brigade. Currently, 10 helicopter pads at several traumatology centers of the first rate and at different sites of the Moscow ring road are put into operation. The arrival of a helicopter from its base to any destination point in Moscow is 11–15 minutes and the delivery of the injured to a hospital does not exceed 7 minutes, which has a special significance in the conditions of heavy road traffic. The number of flights of a medical helicopter increases annually. The number of flights doubled in the last ten years and reached 585 flights in 2014. In total, the medical helicopter team performed 6500 flights, 60 % of which were the calls for mass road accidents. Medical service was rendered to over 3000 injured, over 500 of which were children.

If required, the intensified brigades and mobile emergency rooms are formed on the basis of two specially equipped busses.

In 2014, the territorial disaster medicine service performed the following operative practical work in accordance with the above specified functions.

The service of TDMS was used in 7594 cases in total.

One of the tasks of the Service is medical provision of the events related to mass concentration of people, which, to a certain respect, refer to «risk events». In 2014, the share

of calls for medical provision of mass city events accounted for 15.6%. The percentage of calls with regard to admission of the ill and injured from other regions, assessment of the on-line medical condition and training (48.6%) continues to remain high. The calls for direct crisis and emergency situations accounted for 35.1%.

In 2014, fires took the first place in the structure of crisis and emergency situations and amounted to 32.1%; transport accidents as well as criminal, violence and anti-social actions, including the threats of explosions, realized explosions, detection of explosive devices, mass riots, application of fire and cold arms divided in approximately equal proportions (27.2%, 27.9% respectively) (Fig. 1).

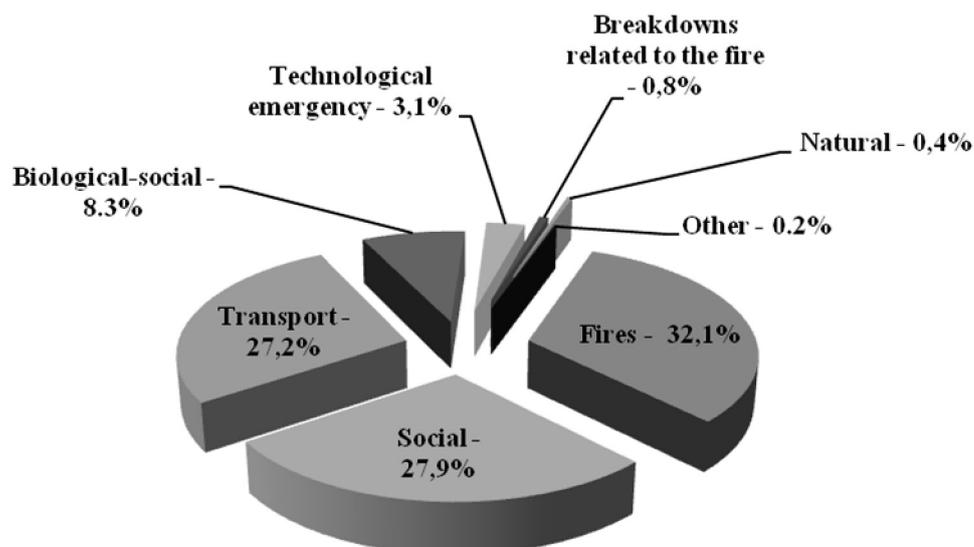


Fig. 1. Structure of crisis and emergency situations in 2014

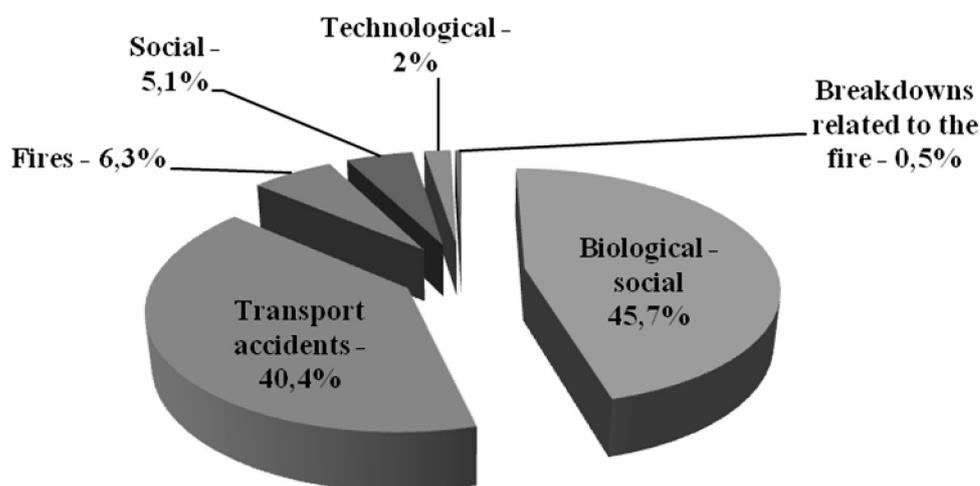


Fig. 2. Structure of the injured in crisis and emergency situations in 2014

Table 1. – The number of TDMC calls for risk events

TDMC sub-divisions	Years				
	2010	2011	2012	2013	2014
Emergency response brigades of TDMC	3073	3920	6721	7005	7297
TDMC busses	91	52	70	113	81
Medical helicopter brigade	494	567	530	570	585
Total	3658	4539	7312	7688	7963

Stationary stage of rendering medical service to the injured in the ES was ensured by multi-speciality city hospitals that had a plan-task for the admission of a mass flow of the injured. According to the data of TDMS hospitals, the biggest number of the injured with mechanical, thermal and chemical traumas were hospitalized to the TDMS traumatology centers of the first rate (81.0%).

It should be noted that out of all injured people sent for hospitalization, 33.0% were released home on the same day after they had been treated at the admission department; 63.7% were discharged with improvements after treatment; 22 people (3.3%) with a severe concomitant injury died at hospitals, whereas 15 of them were injured in a road accident.

As it was indicated above, a significant volume in the work of TDMS referred to medical provision of large-scale mass city events that are regarded as «risk events» and require a serious organizational development and implementation of considerable medical efforts. Apart from emergency medical service brigades and brigades of emergency response of the TDMC, doctor and nurse brigades (DNB) of ambulatory polyclinic establishments are constantly involved in the medical provision of mass events. Total 732 DNBs (530 for adults and 222 for children) were formed in 2014.

The major number of events that involve DNB is mass events of city and district level; herewith, the number of people who sought medical assistance in 2014 accounted for 2639.

In 96.4% of cases, doctor and nurse brigades were involved in the events with mass concentration of people up to 2 thousand. The participation of DNB in the events with the number of people from 2 to 10 thousand was 3.6%.

The activity of the city disaster medicine service is related to not only the liquidation of medical consequences of the ES and risk events, but also to the performance of the events as everyday activity, aimed at the sustenance of TDMS readiness to actions in the conditions of the ES.

In accordance with the approved plans, complex inspections of the readiness of medical organizations of the state healthcare system of Moscow to work in the ES conditions were performed. In the whole, the readiness of the management bodies and healthcare institutions is evaluated as «in compliance with the set requirements» and they are ready to perform tasks in the sphere of prevention and liquidation of emergency situations.

The educational and methodical work on TDMS staff training and enhancement of the readiness level of the subdivisions of the territorial disaster medicine service is conducted. During the year, 580 people, out of which 262 doctors, 84 people of nursing staff and 234 others passed an initial training and advancement with regard to prevention and liquidation of emergency and crisis situations, rendering of emergency service at federal and Moscow educational and methodical bases.

The medical staff of the A. S. Puchkov emergency and first-aid station of Moscow is trained annually on the program

«Rendering of emergency medical service during emergency situations» at the education department of the TDMC.

Moreover, the TDMC staff is given a field training on rendering first-aid medical service to school children, teachers and students of higher vocational institutions (up to one thousand people) and employees of the special battalion of the State inspection of road safety of the Main department of internal affairs in Moscow (over 800 people).

An important element of enhancement of readiness of the city healthcare system in the ES is the organization and conduct of trainings. Total 1300 trainings are conducted in medical organizations of the state healthcare system of Moscow.

The work on optimization of interaction of the disaster medicine service with emergency non-medical services of rapid response is performed.

The system of emergency notification and information interaction with all services involved in the work in the ES is worked out and corrected timely.

The disaster medicine service of the city performs a monthly monitoring of medical consequences of road-transport accidents on the territory of Moscow and the injured who suffered from external effects (fire, drowning, poisoning, suicide, natural disasters). Furthermore, the record of antidotes is kept at hospitals that set up beds for admission of the injured in case of a mass chemical exposure.

The automated information analytical system «Disaster Medicine of Moscow» (AIAS «Disaster Medicine of Moscow») applicable at the TDMC is under a constant development with consideration of modern requirements imposed on the activity of disaster medicine service by the federal and city authorities in order to make the applicable algorithms comply with organizational technologies determining the order of work of the disaster medicine service of Moscow. The functions of record keeping related to collection, registration, grouping and generalization of data, functions of formation of rapid and reporting information, functions of resource control as well as planning of resources and regulation of their use are laid on the AIAS.

Information provision is considerably determined by not only the presence of the information, but also by the system of notification and communication, optimization of which is also included in the TDMC functions. The department of the operative communication ensures round the clock uninterrupted work of the city and inter-departmental telephone connection with the TDMS institutions of the city, as well as operative radio channel and uninterrupted operative communication at the place of conduct of mass events and events on liquidation of medical consequences of the ES.

Thus, the city territorial disaster medicine service of the Department of Healthcare of Moscow and its head institution — territorial disaster medicine center, a unified effectively functioning system, perform the set tasks and prove their constant readiness to protect lives and health of the Moscow population during crisis situations in practice.

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MRI-guided laser interstitial thermal (ablation) therapy (MRgLITT)

Abstract: Epilepsy is an ancient disease which is also known as the “sacred disease”. During an epileptic seizure, the usual electrical activity in the brain becomes altered. About one-third of people with epilepsy will eventually develop refractory epilepsy, this means that medicines fail to work efficiently to control the seizures. If patient has refractory epilepsy, the type of seizures you have may affect the treatment. Seizures may be primary (generalised), this means they involve a lot of your brain tissue on both sides of your brain or they may be partial (focal) seizures, this means seizure activity starts in a smaller area of your brain and may later spread out to a wider area. The field of neurosurgery is constantly researching for new options for patients with refractory epilepsy. Some of the manipulations include VNS vagus nerve stimulation, hemispherectomy, Multiple Subpial Transection (MST), etc., One of the major breakthrough is a MRI-guided laser-induced thermal ablation for epilepsy.

Keywords: Refractory epilepsy, MRI, laser, thermal ablation.

Topicality: MRgLITT is a new technique which is used in many countries including Russia. It was originally approved by FDA (food and drug association of US) in 2010.

Aim: To determine the feasibility of placement of a stereotactic laser ablation catheter into a brain lesion with the use of MRI real-time, via a safe, accurate, efficient, and minimally invasive manner.

Method: Surgical approach to refractory epilepsy is a modern day concern, hence, MRI-guided laser interstitial thermal therapy (MRgLITT), a procedure for destroying affected tissue-using heat. To deliver this energy in a minimally invasive fashion, Placement of a small (1.6 mm., pencil lead size) fiber optic probes into target brain tissue requires only a 3.2 mm. diameter skull opening and has even been performed on awake patients using only local anesthetics. This small diameter fiber optic applicator is inserted into the lesion through a keyhole stereotactic procedure. The thermal energy induces damage to intracellular DNA and DNA-binding structures, ultimately leading to cell death. (This procedure is done very efficiently so that no harm is done to surrounding tissues). The ablation procedure is supervised by real-time MRI thermal mapping and confirmed by immediate post-ablation T1 or FLAIR MRI images which is why we can very well control and direct the area to be treated as there is colour changes instantly on the MRI

computer screens, it gives an opportunity to do a controlled manipulation. It is an exciting new minimally invasive technology with an emerging use for lesionectomy of a variety of epileptogenic foci (hypothalamic hamartomas, cortical dysplasia, cortical malformations, tubers) or as a disconnection tool allowing a new option of treatment without the hassles of an open surgery. Although highly promising, the long-term effects of laser ablation as a viable treatment option for neurological disorders have yet to be rigorously studied and quantified.

Results: This process of MRgLITT is a minimally invasive surgery which gives a wide opportunity to treat the patient without any major damage to the adjacent areas of brain. After this procedure the patient needs a time period of a few weeks to months to heal but the outcome is positive by now. The patients are discharged within 24–48 hours after the operation. There is almost no post-operative complications yet noted, no reoccurrence of seizure stated. After 2–13 month follow up in patients has shown good results.

Conclusion: MRI-guided laser interstitial thermal therapy has a significant potential to be a minimally invasive alternative to more conventional techniques to surgically treat medically refractory epilepsy in children. This latest technique gives a wide scope to all types of branches such as neurosurgery, pediatric neurosurgery and many more.

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The prophylactics of the epidural scar after discectomy at failed back surgery syndrome in lumbar osteochondrosis

Abstract: The proposed method of saving the yellow ligament in discectomy differs from existing ones with that, that in it performed the edge arcotomy of higher and lower archs with the help of Kerrison's instrument; the yellow ligament exempts from its attachment to the bone structures with the saving it to the lateral edge of the vertebra at the site of facet joints with the length of about 4 mm. yellow ligament is taken by the ligature, and after the disc removal returns to its original position and fixed to the surrounding tissues.

Keywords: failed back surgery syndrome, discectomy, preservation of yellow ligament, epidural scars.

The failed back surgery syndrome is a condition characterized by postoperative pain in the lower back and/or leg with a various degree of functional disability, which reduces the quality of life and labour activity of the patient.

Herniated discs are among the most frequent pathological substrates of this disease and are largely responsible for the development of the group compressive syndromes requiring surgical treatment. Observed in recent years, the increase in surgical activity the treatment of compression forms of lumbar osteochondrosis actively contributes to the development and improvement of operational methods [4, 190–192; 11, 262–263].

According to some authors, the incidence of epidural scars reaches 8–25 % among other reasons of unsatisfactory outcomes at a distant period of lumbar discectomy [3, 159; 6, 64–67; 14, 287–288]. Epidural scars in the postoperative period due to compression of neural structures contributes to chronic pain, is quite difficult to treat, leading to a significant percentage of disability of patients and serious economic losses [7, 26–32; 10, 89].

Mechanisms of excessive formation of connective tissue in the epidural space in response to the surgical trauma are still not completely investigated. Significantly it is not clear why under the same conditions in patients after surgery developed either are entirely absent epidural scars of varying severity.

It is early considered that fibrous tissue grows into the epidural space from the damaged disk. In the works of Laroc and Macnab the main cause of scars is the migration of fibroblasts, mostly from corrupted when accessed paraspinal muscles. Additional factors stimulating the development of scar adhesions may be products of blood disintegration, hence there is the need to put drainage after the operation. In the first 3 weeks in the surgery area is formed granulation,

and then fibrous tissue with the formation of epidural scar. Scar tissue “in the place of surgery in varying degrees, is developing three months later” [10, 89].

By 6 months, swelling in the epidural space completely replaced by scars, which may slightly decrease in volume in the first year after the operation. Not always the severity of epidural scars is “proportional” to pain syndrome that may be the result of the degree of compression of the spine of the scar adhesions periradicular and different capabilities of the applied x-ray diagnostic methods in the postoperative period.

A method is developed for predicting the severity of epidural scars by taking into consideration anthropometric, immunological and immunogenetic data that take into account about 20 different indicators. The disadvantage of using this method is that it allows for an uncertain prognosis [8, 68–73].

You can solve the problem intraoperatively. Intraoperative topical application of urokinase, mitomycin-C, tissue plasminogen activator, hyaluronic acid, corticosteroids, radiation therapy did not lead to the expected results [2, 507–513; 5, 68].

Some authors use a piece of hemostatic sponge on *dura mater* and the root at the end of operation that, in their opinion, improves the condition of patients in the postoperative period [9, 141]; It is noted the positive effect of the material “tachocomb” (Nycomed), having hemostatic and neuroprotective effect and easy to use [13, 167]. A method is developed for plastics of postoperative defect after microdiscectomy using dorsolumbar fascia [12, 32–34].

An important role in the prevention of scar adhesions plays an organ-saving surgery. Preservation of yellow ligament during discectomy reduces the formation of epidural and periradicular scar, as the yellow ligament in this case performs the function of the natural anatomic barrier attached to the *dura mater* [1, 5–13; 5, 68].

An important condition of all above techniques is the availability of a wide interarch space with the projection of the root base in this area.

Thus, one of the ways to improve the results of surgical treatment is the prevention of epidural scars through control over the process of formation of the connective tissue or by protecting the neurovascular structures.

The aim of our work is to improve the results of surgical treatment of herniated discs and preventing the formation of epidural scars with preservation of the yellow ligament.

Materials and methods

This method differs from the existing ones, with its simplicity and in it interlaminectomy with the help of bone-clippers is made. First processed the arch of the overlying vertebra with the use of bone-clippers of big size. By thinning of the bone structure the cutters are replaced at a smaller size for more economical resection of arches. In the process of above manipulations the yellow ligament is released from its attachment to the bone structures with preservation of its attachment to the lateral area of the facet joint, with the length of 4–5 mm. in the medial edge of the bow of the overlying vertebra. The yellow ligament is put aside on the ligature, and after removal of the herniated disc returns to its original position and fixed to the surrounding tissues by one or two stitches.

According to this method, we operated 24 patients under general endotracheal anesthesia with disc herniation L4-L5, L5-S1 of lumbar-sacral spine in the period on 2013 in the “Republican Scientific Center of Neurosurgery in the Department of Pathology of the spine and spinal cord”. The age of the patients varied from 21 to 70 years. The average age was 41,4 + 9,6. From observation were excluded cases of sacralization, lumbalization of vertebrae, spinal stenosis, extraforaminal disc herniation, subligament migration of hernias more than 4–5 mm. cranially and caudally, lateral (foraminal hernia), and patients with signs of instability in the lumbar-sacral spine. In the immediate postoperative period, all patients reported significant improvement, there were no complications.

Results and discussion

In the postoperative period, 18 patients underwent MRI control (including contrast) to assess the severity of the scar-adhesive changes in the surgical area after 6 months.

The intensity of pain before and after surgery was evaluated by the scale of VAS (visual analog scale).

During pre-surgical period the evaluation of patients' pain made in 4 patients 7 points, in 8 patients 8 points, in 6 patients 9 and in the remaining 10 points. Before discharge, pain assessment showed the following indications: in 11 patients 1 point, in 7 patients 2 points, in 5 patients 3 points and in 1 patient 4 points respectively.

To assess the neurological symptoms of the patients in our study was used the questionnaire NASS (consists of 17 criteria). Before surgery the evaluation of neurological symptoms in patients ranged from 76 to 95 points. Postoperatively, patients were assessed on the 2nd day after surgery, before discharge and after 6 months. In the preoperative period, the assessment of neurological symptoms patients included in 8 patients 76 points, in 9 patients 84 points, in 7 patients 95 points. Before discharge, pain assessment showed the following indicators: in 15 patients 28 points, in 6 patients 32 points, in 3 patients 36 points, respectively. The observation period for patients with preservation of the yellow ligament in postoperative period made 6 months.

Conclusion

1. This method enables direct visualization and manipulation on neural structures, disc herniation and enhances the conservation of the yellow ligament when performing a discectomy.
2. In this way remains the ligaments of the vertebral segment, contributes the reduction of symptoms of epidural and periradicular scars.
3. Perhaps a combination of the foregoing methods of preventing scar adhesions in particular the right combinations will affect the solution to the problem in general.

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Liver fibrosis of patients with chronic viral hepatitis B+C

Abstract: The article deals with the problem of combined chronic viral hepatitis B and C. The paper presents the results of clinical and laboratory studies of patients with chronic viral hepatitis B+C. The author analyzes the results of liver elastomers in patients with chronic viral hepatitis B+C.

Keywords: liver fibrosis, liver cirrhosis.

At the present stage viral hepatitis remains one of the most important problems of infectious pathology and cause great damage for public health and economic development of our country. In the structure of hepatitis B viral hepatitis with parenteral transmission mechanism, namely, viral hepatitis B and C occupy a leading position.

Today there is no common theory of the pathogenesis of chronic viral hepatitis. Processes such as chronic inflammation, including the inflammatory repair as a mandatory component and the process of tissue repair in response to liver damage are opposed unreasonably. Some researchers have linked the progress of chronic viral hepatitis with the development of an immune inflammation; other authors consider the formation of liver cirrhosis as the result of stroma repair breach and the hepatocytes in the portal tracts and hepatic parenchyma damaged areas [1–4].

In the base of pathogenesis of inflammatory and fibrotic changes in the liver in chronic hepatitis B and C, leading to poor outcomes for these infections there are complex interactions between the virus and the host immune system, and any damage of the liver tissue under these infections is immune-mediated. However, most modern scholars focus on the study of the immune response specific mechanisms in the immunopathogenesis of chronic viral liver disease, which naturally appears as insufficient studied the role of the innate immune factors and has the actual aspect of the problem decision at all [4; 5].

Chronic viral hepatitis B often develops in patients with progressive course of acute hepatitis B, combined with discordantly

high replicative activity of HBV, and rarely with primary chronicity of HBV-infection. The chronic form of viral hepatitis in its turn may cause the changing of liver tissue to fibrotic, liver cirrhosis, and also hepatocellular carcinoma of liver [6–8].

In comparison with other viral pathogens of serum hepatitis, HCV has the highest chronic potential. Patients with hepatitis C, especially chronic ones and chronic latent patients of HCV, are the source of infection. Chronic hepatitis C is accompanied by a progressive increase in liver fibrosis that the outcome of the disease leads to cirrhosis — not reversible changes in liver at high risk of fatal complications, including primary liver cancer. Most patients with biochemical signs of chronic hepatitis C have a favorable course — mild or moderate inflammatory activity in the liver tissue and minimal fibrosis [9–11].

The main differences in the course of chronic hepatitis B and chronic hepatitis C are determined by the interaction of virus and the human immune system in the initial stages of hepatitis virus infection.

The main way of progression of chronic diffuse liver disease — is the development of successive stages of liver fibrosis with eventually formation of cirrhosis and liver cancer, which mainly determines bad life prognosis and short survival date of this patient category [1].

According to the results of morphological studies of the liver we can diagnose hepatitis of different stages of activity and on the basis of assessment of such factors as the severity of inflammation and fibrosis. The rate of liver fibrosis depends on the activity of the inflammatory process in the liver [12].

Liver fibrosis at an early stage is a protective reaction of the body, which is directed to maintaining the structure of the affected organ. The regeneration of the cells and the absorption of excess collagen tissue activate in this moment. However, due to chronic liver damage, these processes get broken, whereby the rate of tissue increasing exceeds the rate of its destruction. As a result liver architectonics gets disrupted [13].

Starting point for the beginning of liver fibrosis is damaged hepatocytes, and then stellate cells start getting activated. Activation indicates the beginning of the early stage of liver fibrosis. Fundamentally, the ability of noninvasive diagnosis of timely identification of the liver fibrosis early stages, which allow to assign the treatment quickly, and to prevent further progression of fibrosis, is important [14; 15].

Until today, the only way to assess liver fibrosis was to use the “gold standard” diagnosis of fibrosis — liver biopsy. However it is not always possible to use this invasive, expensive method with a high risk of complications. These disadvantages limit the phased conduction of liver biopsies to control the reaction to antiviral or anti-fibrotic therapy. This limits the biopsy, forcing to perform non-invasive diagnostic procedures [16; 17].

In recent years, methods of non-invasive diagnosis of liver fibrosis have been widely used. The benefits of modern methods of non-invasive diagnosis to liver biopsy include: simplicity, absence of contraindications, high diagnostic accuracy in various stages of liver fibrosis, the ability to assess the dynamics of fibrosis, usability screening method for patients at risk, and the use in the outpatient setting [18–20].

In chronic hepatitis B and C prognosis of illness and tactics of the patients are highly dependent on the severity of fibrotic process in the liver, which has an impact on the timing of antiviral therapy and dose of drugs; it is a criteria for the effectiveness of drug therapy; it determines the risk of adverse outcomes [7; 20].

The high prevalence of parenteral hepatitis B and C, the steady increase in the incidence of these infections, the tendency to poor outcomes of disease (cirrhosis, hepatocellular carcinoma) make this problem very relevant.

Aim of research: to study the clinical course in patients with chronic viral hepatitis B+C and assess the degree of liver fibrosis.

Materials and methods of research

We performed clinical and laboratory studies in 43 patients with chronic viral hepatitis B+C. The average age of the patients was 41 years.

It was found that among the examined patients by gender, males were more than females. Thus, among the total number of 43 individuals with chronic viral hepatitis B+C, were 31 men (72.1%), women — 12 (27.9%).

The diagnosis of chronic viral hepatitis B+C was verified after a detailed study of patient complaints, medical history, taking into account the epidemiological history, medical history, objective data.

The diagnosis of chronic hepatitis B+C was established based on determining the serum of patients with HBsAg, anti-HCV ELISA and detection of DNA, RNA in plasma by PCR.

All patients underwent clinical examination, biochemical blood analysis with determination of total bilirubin and its fractions, alanine aminotransferase (ALT), aspartate aminotransferase (AST). It was determined all patients had a viral load.

The degree of liver fibrosis was measured with Fibrosan apparatus on a scale METAVIR.

Analysis of laboratory data showed that chronic viral hepatitis B+C was accompanied by 21 (48.8%) patients cholestatic, in 19 (44.2%) — mesenchymal-inflammatory, and in 31 (72.1%) — cytolytic syndrome, with this transaminase activity in 23 (74.2%) patients had increased by 2 times in 8 (25.8%) — 3 times (Table 1).

Table 1. – Laboratorial syndromes in patients with chronic viral hepatitis B+C

Laboratorial syndrome	N	%
Cholestatic syndrome	21	48.8
Mesenchymal-inflammatory syndrome	19	44.2
Cytolytic syndrome	31	72.1

11 (25.6%) patients with chronic viral hepatitis B+C complained for a loss of appetite during the clinical examination. However, the most typical complaints were asthenic character (unmotivated weakness, fatigue). So, weakness troubled 27 (62.8%) patients, 8 (18.6%) patients noted fatigue. 17 (39.5%) patients had non-persistent joint pain. In this case, 21 (48.8%) patients revealed a small icterus of sclera and skin. 32 patients (74.4%) had recurrent pain and heaviness in the right upper quadrant. The proportion of patients with hepatomegaly and splenomegaly was 28 (65.1%) and 9 (20.9%). It should be noted that several clinical manifestations of the disease at the same time were noted in patients (Table 2).

Table 2. – Results of clinical examination in patients with chronic viral hepatitis B+C

Clinical manifestations	N	%
Decreased appetite	11	25.6
General weakness	27	62.8
Fatigue	8	18.6
Arthralgia	17	39.5
Icterus of sclera and skin	21	48.8
Pain and heaviness in the right upper quadrant	32	74.4
Hepatomegaly	28	65.1
Splenomegaly	9	20.9

Note: – one patient had several clinical manifestations of the disease simultaneously.

According the elastomers of the liver in patients with chronic viral hepatitis B+C there were no signs of fibrosis (F0) in 4 patients (9.3%), minimal fibrosis (F1) with stellate expansion of portal tracts without septa formation was observed in 7 patients (16.3%), moderate fibrosis (F2) with the expansion of portal tracts with a single port-portal septa in 6 patients (14%), fibrosis (F3) with numerous porto-central septa in 17 patients (39.5%), cirrhosis (F4) in 9 patients (20.9%) (Table 3).

Table 3. – Results of liver elastomers in patients with chronic viral hepatitis B+C

Liver fibrosis on a scale METAVIR	N	%
F0	4	9.3
F1	7	16.3
F2	6	14
F3	17	39.5
F4	9	20.9
Total	43	100

Analysis of the results of liver elastomers in patients with chronic viral hepatitis B+C showed that the proportion of patients with advanced fibrosis (F3, F4) was 60.5 %.

Thus, the study of the peculiarities of chronic viral hepatitis B+C showed that patients did not have bright symptoms of hepatitis and a moderate level of activity of the infectious process was observed. However, patients with chronic viral hepatitis infected with two viruses B and C at the same time have a greater risk of severe fibrosis and cirrhosis.

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Microcirculatory disorders and hemostasis allergic vasculitis

Abstract: While the examination of condition of platelet-vascular haemostasis within patients with allergic vasculitis there was stated that there is prevail the condition of hypercirculation, the basic pathogenetic fact of which is considerable decrease of anticoagulant properties, reduction in thrombin time and within the majority of patients there was observed the depression of fibrinolytic system. There also occurs massive thrombosing of microcirculation and serous impregnation of vessel wall and perivascular tissue under the influence of circulating immune complexes.

Keywords: allergic vasculitis, immunoglobulin A, haemostasis, microcirculation.

The basis of pathological manifestations of allergic vasculitis is Microcirculation — a functional process that underlies the provision of tissue metabolism. Without adequate microcirculation non-normal homeostasis can be maintained in any organ. On the other hand, the microcirculatory level is an arena for the development of preclinical forms of pathological processes. These provisions exist witness of the importance of the study of microcirculation is not only theoretical but also practical position with an inflammatory reaction of skin vessels and arterioles in violation of the structure and function of the endothelium of blood vessels. Pathological manifestations of allergic vasculitis is based on inflammatory reaction of arterioles and vessels of the skin with an abnormality of structure and function of endothelium of blood vessels.

Allergic vasculitis is very varied by its origin (aetiology of them is unknown, predisposing factors and provoking moments are numerous), but they combine with generality of pathogenetic mechanisms, the base of which consists of immune-pathogenetic changes, which are connected with the allergic reactions of immediate and slow type [1]. The reason of allergization of organism while this can be such infavourable factors as: hyperinsolation, penetrating radiation, industrial dust, long focal infection, side effect of drugs etc [1; 2; 3].

Within the majority of patients while the examination of blood there are revealed the abnormalities, which testify to the presence of inflammation: increase of ESR, the level of fibrinogen, the content of α_2 -globulins, the C-reactive protein, but there are absent the specific changes while the haemorrhagic vasculitis. Skin rash in the form of small haemorrhages with the histopathologic feature of vasculitis of vessels of skin microvasculature are character for the allergic vasculitis [1; 4; 5; 6; 7]. This research is dedicated to the examination of system of haemostasis while the haemorrhagic vasculitides.

Material and methods of research. The research of haemostasis was based on clinically-laboratory examination of 226 sick people with vasculitis and 20 practically healthy people of comparable age.

The definition of fibrinolytic activity of euglobulin clot by Kowarzik, Buluck

The principle of method is based on the deposition in the acid environment and low temperature of euglobulin fraction,

which contains factors of blood coagulation and fibrinolysis. The method is based on works of Milston, Macfarlane and Biggs, which have showed that plasminogen is the main component of euglobulin fraction. Received sediment of euglobulin dissolves, fibrinogen transforms into fibrin. Time from the moment of clot formation till its dissolution expresses the fibrinolytic activity of examined blood.

The definition of aggregation activity of platelets

The aggregation of platelets was defined with the classical method of Bom (1963), on the optical aggregometer «Chromolog» (USA). Tests of venous blood from the ulnar vein were taken to the plastic test tubes, the blood was stabilized with 3,8 % solution of sodium citrate in relation blood- anticoagulant 9:1.

The definition of antiaggregation activity of vessel wall

Equipment and reactives. 3.8 % solution of sodium citrate, adenosine diphosphoric acid (ADP), plastic syringes or covered with silicone with the capacity of 5, 10 ml., tonometer for measuring of arterial pressure, apparatus for measuring the aggregation of platelets, test tubes, pipettes with the capacity of 0.1; 0.2; 1 ml., centrifuge with cooling.

The index of antiaggregation activity of vessel wall is defined by the formula: aggregation of platelets in plasma, which is poor with platelets and received before the vein stagnation/aggregation of platelets in plasma, which is poor with the platelets and received after the vein stagnation.

Received results and their discussing

We have carried out the definition of level of circulating immune complexes within 226 patients with allergic vasculitis. This research was carried out from the supposition, that within sick people with allergic vasculitis, there occurs massive thrombosing of microcirculation and serous impregnation of vessel wall and perivascular tissue under the influence of circulating immune complexes. We have revealed; hat while the allergic vasculitis there is increased the value of immunoglobulin A (exceeds normal showings 2.5–3 times), which prevails in the composition of immune complexes and revealed in the type of granule while the microscopy of biopsy material of skin and kidneys.

The reason of forming of immune complexes can be the infection. Taking of medicines, change of protein composition

of plasma. The structural changes of vessel wall and abnormality of collagen synthesis lead to the contact stimulation of platelets and provoke micro-thrombosing. The localization and evidence of clinical revelations is defined by zone and massiveness of vessel lesions.

Telangiectatic haemorrhages are pathogenetically connected with inferiority or structural change of connecting tissue, decrease of collagen content in the vessel wall, which lead to the focal thinning of the walls of microvessels and widening of their lumens, and inferiority of local haemostasis in connection with unsufficiency of subendothelium.

At the pathogenesis of hemorrhagic diathesis while the paraproteinemia the main role is played by increased content of protein in plasma, sharp increase of blood viscosity, slow-down of blood flow, thrombogenesis, stasis and damage of small vessels. Besides, «wrapping» of platelets with muff of protein leads to their functional inferiority.

Within 226 patients with allergic vasculitis (100 of patients of 1 group and 126 patients of 2 group) while the admission there were examined some indicators of haemostasis, particularly ADP-induced aggregation of platelets (AAS), fibrinolytic activity of euglobulin clot (FAEC), the factor of Willebrand (fW), antiaggregational activity of vessel wall (AAVW).

The quantitative definition of content of the factor of Willebrand in plasma. Its level while the allergic vasculitis naturally increases 2.5 times, and the degree of increase corresponds the severity and prevalence of lesions of microvessels, especially if we take into consideration that endothelium is the only place of factor Willebrand synthesis.

At the sharp phase of allergic vasculitis there is revealed the considerable worsening of all the indicators of haemostasis and, first of all of endothelial dependent.

Within patients with allergic vasculitis there were revealed considerable changes of studied indicators. The level of ADP of induces aggregation of platelets in the group was increased till 3.47 ± 0.10 micromole/ADP and in the second group till 4.80 ± 0.14 micromole/ADP. Therefore, the level of aggregation of platelets in the group to 27.7 % above the showings of group ($P < 0.001$) and to 54.2 % above the facts of control group ($P < 0.001$). In the control group the level of AAS in average was 2.20 ± 0.10 %. The maximal aggregation activity of platelets was noticed in the group of patients with more severe course of stroke.

The research of AAVW within patients with allergic vasculitis in the most sharp period of disease has revealed its decrease within sick people of 1 group till 0.96 ± 0.03 c. e.

The lowest AAVW was noticed in 2 group, which was in average 0.71 ± 0.05 c. e. In the control group AAVW was 1.25 ± 0.04 c. e. AAVW in 2 group to 26.0 % lower than the showings of 1 group ($P < 0.001$) and to 43.2 % lower than the level of the control group ($P < 0.001$).

Within patients of 1 group the FAEC was in average depressed till 184.5 ± 1.2 min. and within patients of 2 group till 219.7 ± 1.6 min. Thereby, within patients of 2 group there is defined the depressing of fibrinolytic activity 19.1 %, than within patients of 1 group ($P < 0.001$) and to 51.5 % lower the level of control group ($P < 0.001$). The level of «AEC» in the control group in average was 45.0 ± 1.8 min.

Thereby within patients with allergic asculitis there is observed the high content of Willebrand factor at the background of lowered antiaggregational activity of endothelial wall and decreased fibrinolytic activity of blood, and also there is revealed the increase of showings of platelets aggregation. It testifies to the direct connection of endothelial dysfunction and abnormalities of haemostasis, what is one of the basic factors of appearance of allergic vasculitis.

Thereby, it should be taken into consideration that examined abnormalities of haemostasis, strengthening of thrombogenic activity and decrease of fibrinolytic activity of blood, can exist rather long time latently, will be rather long compensated by the thrombogenic potential of vessel system. Their realization requires some push, particularly AH, which leads to the disbalance of thrombocyte-endothelial interactions, and the longer disease is the more rough the abnormality of haemostasis and more heavy the course and outcome of allergic vasculitis.

In the haemostasiogramm there prevails the condition of hyper coagulation, the main pathogenic fact of which is considerable lowering of anticoagulant behavior, shortening of thrombine time.

Besides, there are observed initial signs of coagulopathy, to which there testifies the hypercirculation- at the first phase of time shortening of blood coagulation by Li – White.

Conclusion

1. Within patients with allergic vasculitis, there occurs the massive thrombosing of microcirculation and serous impregnation of vessel wall and perivascular tissue under the influence of circulating immune complexes.

2. The research of condition of haemostasis within patients with allergic vasculitis showed, that there observed the depression of fibrinolytic system: low percent of spontaneous fibrinolysis, and also considerable increase of density of blood clot.

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Section 6. Pedagogy

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Innovative approaches to the process of organization and content of Ukrainian language extracurricular work at profile schools of Ukraine

Abstract: The article is devoted to the modern approach to organization of Ukrainian language extracurricular work in profile philological classes of Ukrainian schools. The analysis of psychological and pedagogical aspects of interaction and basic innovative forms of Ukrainian language extracurricular work in profile philological classes is carried out. Research methodology includes the use of theoretical and practical research methods. The conclusion about the urgency of the problem within a context of a strategy on modernization of education and prognosis of future research.

Keywords: Ukrainian language extracurricular work, profile philological classes, content of extracurricular work, principles, methods, forms of extracurricular work, innovative forms of Ukrainian language extracurricular work.

Requirements to quality of language teaching at schools are increasing in today's information society. One of the priorities in achieving the quality of school education at profile philological classes of Ukraine is well organized extracurricular work that is a powerful potential of formation of communicative competence of senior students, future students of university. Therefore, it is necessary to find new models and approaches to teaching Ukrainian language in profile philological classes.

Focusing educational policy of Ukraine on creating optimal conditions for the improvement of school profilization, increase of requirements to teaching in profile philological classes, actualize the challenge of finding innovative approaches to organization and content of extracurricular work as an important factor in teaching Ukrainian language.

According to the Common European Framework of Reference for languages learning should be based on the needs, motivation, characteristics and resources of students i. e. individual approach is preferred. Such principle of learning is quite evident in extracurricular work to provide additional resource advanced study in profile classes [1, 24].

Statements set out in the Laws of Ukraine "On Education", "On General Secondary Education", State Standard and complete secondary education, Concept of profile education at high school, National Education Development Doctrine and in requirements of regulations of ministry of education of Ukraine, International Organization for Cooperation and Education Development, Common European Framework of Reference for Languages are very important for scientific research.

Ukrainian language extracurricular work at high school philological classes forms the cognitive process of the subject, helps students to reveal the beauty and richness of the

Ukrainian language and its role in formation of the personality and state development. The need to find new forms of organization of Ukrainian language extracurricular work in profile philological classes actualizes use of museum pedagogy's means in the educational process of school that encourages students to master the language and gives teacher an opportunity to extend the knowledge of students gained in the classroom. Many senior students acquire necessary abilities and skills including use of reference lexicographical publications, museum findings, carrying out information retrieval, speaking to an audience, organizing contests, parties, presentations, performing and protecting educational and research projects etc.

The task of extracurricular work in profile education is to broaden and improve linguistic knowledge acquired in the classroom, to improve practical skills of students; to develop initiative, independence, creativity, interest to the subject using innovative approaches.

Scientific study of sources from different disciplines shows that the problem of extracurricular work is considered in various aspects: philosophical and psychological. Ways of improving the methods of Ukrainian language extracurricular work are examined by researchers (L. Grigoryan, I. M. Lopushynskyy, I. Marunych, G. Peredriy) and linguivists (A. Bogush, M. Vashulenko, L. Sexton, A. Goroshkina, V. A. Melnychayko, Mordovtsev N., S. Karaman, Karaman A., A. Belyaev, A. Khoroshkovska, K. Wagtail, Shelekhova G., H. Golub, T. Donchenko, W. Road, N. Wild, S. Dubovik, G. Shvets, M. Pentylyuk, L. Macko, A. Kucheruk, S. Jaworski, B. Melnychayko, W. Jawor, V. Morhun, V. Shelekhova etc.).

Among the first to underline the importance of role of extracurricular work within learning Ukrainian is a Ukrainian scientist I. Ohiyenko [2, 11–15].

The first manuals of famous scientists and methodologists (A. Belyaev, S. Kanyuka, V. Masalsky, M. Pavlovich, L. Symonenkovoyi, S. Chavdarova) highlight main issues of grammar, spelling, punctuation, types of lessons, their structure and methods of teaching. In addition, attention is drawn to extracurricular work as a basic factor in the rise of the general language culture of students. The researchers focus on close interaction of work in the classroom and extracurricular work. In particular, interesting lessons constructed and conducted properly encourage students to advanced language learning. There are many questions in the classroom that require further processing — there is a unit which is used by the teacher to start extracurricular work (e.g. a language circle) [3, 347–348].

Accepting this idea we focus on the interrelation of school and extracurricular work. Properly organized lesson from the point of view of methodology involves the use of language material extracurricular activities. Well-organized class work contributes to effective mastering program material, effects linguistic, intellectual, moral and ethical development of the individual. Many scientists determine the interrelation of work in the classroom and extracurricular work in thematic plan of subjects indicating a direct and partial connection with the subject of the lesson.

The issue of extracurricular work at schools of a new type is fundamentally developed in the writings of S. O. Karaman who defines Ukrainian language extracurricular work as being an important part of the educational process related to school language course and it is a continuation of work held in the classroom. The scientist defines the main objectives of extracurricular work:

- enrichment, extension and improvement of knowledge and skills acquired in the classroom;
- integration of information obtained from other subjects (History, Literature, Geography, Music etc.) into the word;
- improvement of knowledge about certain linguistic phenomena;
- consolidation of obtained spelling and punctuation skills on the bases of more complex linguistic material;
- development of creativity, aesthetic, independence;
- education of love to native language, respect to the people of the state, other national cultures.

In addition, S. Karaman emphasizes the lack of a unified program for extracurricular work allowing the teacher to plan lessons based on the conditions and opportunities of a high school and taking into account psychological and pedagogical features of learning, talent in philology of high school students and age capabilities [4, 45–47].

According to linguodidactist A. Kucheruk at the present stage of development of native language education extracurricular work is to meet the basic requirements: voluntarism, interest for language, communicative approach, implementation of interdisciplinary connections, priority of language and aesthetic material, focusing on patriotic, moral and aesthetic education. A researcher notes: “The level of interest to the subject of the student should be taken into account” [5, 166–167].

This study is focused on the philological direction (profile — Ukrainian language and literature). Teaching Ukrainian Language in profile philological classes is directly aimed at solving main problems: conscious attitude to Ukrainian Language as intellectual, spiritual, moral and cultural value; to know and use it in all spheres of public life; to develop creative, intellectual abilities; willingness to choose professional humanitarian education; to improve knowledge of the language; to study linguistics and papers of prominent domestic linguists; to master the rules of verbal behavior; to obtain communication skills [6].

Modern linguodidactics determines Ukrainian language extracurricular work as targeted profile language classes with students which takes place outside the classroom. The content of these lessons is beyond the program and comprises extra information about language [7, 102–103].

In our study Ukrainian language extracurricular work in profile education is identified as special purposeful component of profile language education which is held after classes and provides connection with the system of lessons. It is important to take into account age and individual senior pupils and their level of development allowing quite complex language material.

It is necessary to stress that the content of extracurricular work in profile philological classes can comprise more scientific knowledge about language, history of Ukrainian language and culture of speech. Extracurricular classes should be formed on studying Ukrainian language, historical, cultural, ethnopedagogical and museum basis.

Analysis of psycho-pedagogical and methodological literature encourages the conclusion that there is no uniform methodological approach to the concept of the learning process of the Ukrainian language in extracurricular activities defined with components of forms, methods, techniques and tools.

Taking into account main didactic and methodological principles of teaching Ukrainian, scientific research, we can determine basic principles of extracurricular work organization in profile philological classes: *the principle of individualization of learning; scientific content; use of visual methods; activity and consciousness; regularity and consistency; emotionality; creativity; democratization and humanization; interdisciplinary connections; selectivity; interrelation of work in the classroom and extracurricular work; scientific extension; practical orientation; professional orientation; voluntarism; cultural and communicative orientation.*

Analysis and review of the following sources allow to determine the fact that all principles are interrelated, complement each other and form a coherent set of principles for extracurricular work in profile school. The principles are the foundation of extracurricular work and determine its content, type of organization, process, methods. Traditionally there was a system of classification of forms of extracurricular work according to quantitative composition, frequency of conducting, way of presentation of linguistic material. Each type has a number of methods and techniques.

According to the quantity the students are divided into *individual, group and mass forms* (G. L. Arkushyn, G. V. Hryban,

G. R. Peredriy etc.). In scientific sources we find considering individual forms as one of the most effective ones [8, 966].

A teacher assists individually: he studies with students speech rate, pronunciation of Ukrainian sounds, word stress, intonation and conducting other training. The teacher draws attention to the following individual tasks: to reproduce radio announcement or television report, to describe a certain event, to review the film. Researchers believe that the "individual forms of extracurricular work are an integral part of the organizational structure of extracurricular work and preparatory stage for the other, more complex forms — group and mass" [9, 17].

Group forms provide limited number and common interests of students. The most common forms are *group circles of native language*. A lot of literature is devoted to organizational methodology of such groups. Researchers prefer circle work due to a clear and thoughtful plan, systematic implementation, permanent number and active cooperation of students.

Linguistic scientific societies can be distinguished among the key group forms which may include not only students but also teachers of literature, university lecturers. Societies organize exhibitions of student research papers, conferences, reports, essays, reviews, annotations, articles, discussions, conducting of books of abstracts, dictionaries etc. [5, 181].

According to modern metodologists *mass form* is "the choice of the most important means of extracurricular activities of the teacher". Language groups can serve as a kind of training for mass events, consolidation of experience, a report, means of propaganda, method of involving students into the conscious language acquisition. Mass forms include enroll days and weeks of Ukrainian language, competitions, festivals, holidays, conferences, meetings, quizzes, interviews. They periodically involve a large number of students who gather occasionally. Efficiency of mass events depends on a well-planned preparatory work

focused on the development of the Ukrainian language, improving the communication skills of students. Mass forms are often held outside school, region or even country (communication with diaspora's members of the USA, Canada, Moldova, Russia). We agree with the idea that these forms can be combined and pass each other on the basis of the interrelation, creating a common system of Ukrainian language *out-of-school activities*. Each *form* has a number of *types* that differ according to purpose of the method, the amount of material, the nature of participation of students in work. The success of extracurricular activities is to use a variety of methods and techniques that are full of originality, novelty [9, 28–29].

Using various forms of extracurricular work in profile classes is focused on interaction of the teacher and students, activation of creative and cognitive activity, independence of senior students, strengthening guidance of extracurricular work on educational component, interconnection of learning and education, practical orientation, responsibility for the work result, activation of speech activity.

In terms of profile education foundation of analysis of learning methods Ukrainian language extracurricular activities should be considered as *a way of interaction of the teacher and students, complete collective activity based on the goal*. Profile learning provides practical orientation of language education at high school, therefore it is expedient to use traditional methods and techniques of learning in an integrated system and innovative ones as well.

Thus, organization of teaching Ukrainian language in profile classes requires creation of a new system of out-of-school activities on a scientific basis as opposed to the traditional one held sporadically and inconsistently. In terms of profile education formation of communicative skills depends on purposeful retrieval of innovative approaches to improving organization of extracurricular work.

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Moral and spiritual upbringing in the orthodox cultural activities

Abstract: In this study we investigate the spiritual and moral up-brining of teenagers and youth in modern Russian society. Globalization, collapse of communist ideology caused to the crisis of social, personal and spiritual identity turning to apocalyptical views of youth, growth of destructive social forms of activity, opposition between generations, religion views, the ethno social conflicts, commitment of spontaneous and organized crime. This essentially undermines the modern youth as social, intellectual and spiritual resource of development of Russian ethnos in the global village.

Keywords: Experimental Program of Spiritual and Moral Up-bringing; integration of ideas of orthodox and socio-cultural pedagogic; Model of Spiritual and Moral Up-bringing; Orthodox Protective Socio-Cultural Activities, pilgrimage; Technology of Eco-cultural Socialization.

Considerable resources of spiritual and moral education contain in the Orthodox Protective Socio-Cultural Activities, such as pilgrimage or orthodox pilgrim tourism, allowing to realize the purpose and problems of education under condition of pedagogically reasonable integration of ideas of orthodox and socio-cultural pedagogics in the sphere of spiritual and moral up-bringing; development of the theory and it's methodological and technological bases. This type of socio-cultural activity gives new, socially focused prospect defining purpose of moral and spiritual upbringing, urged to order interference of people and the ethno-social environment, to create a personal experience of international communication, respect for cultures and traditions of various nationalities, to develop moral ideals, love for the Homeland, ecological culture. Appeal to a cultural heritage of Russia shows that Orthodoxy can be considered as one of the options for solving problems of current critical situation. It always played large role in life of the Russian society, well influencing moral shape of the person. The changes which have occurred in modern society, allow to speak openly about religion, made it possible to re-introduce people with orthodox values. The category "spiritual and moral education" is widely used and included into the thesaurus of the modern domestic pedagogical theory and practice, is reflected in program documents of education both on federal, and on regional levels. Thus, modern approaches to spiritual moral education to some extent consider need of interaction with orthodox tradition. At the Russian schools there was a new course — "Bases of the Orthodox culture" which is urged to show to children vision of the main questions of life from the point of view of Orthodoxy, to acquaint them with system of moral values.

Theoretical and methodological basis of research at philosophical level: the spiritual and personal approach considering moral development of the personality as complete set of spheres of development (Berdyayev, 2002; Ilyin, 1998; Zenkovsky, 1997; Lossky, 2003; Solovyyov, 1989; Homyakov, 1997). At general scientific level: psychological, pedagogical and social approaches of spiritual and moral identification of the personality in the course of its education (Azarov,

1994; Amonashvili, 2001; Bratus, 1977; Zenkovsky, 2000; Solovtsova, 2005; Ushinsky, 1974); problems of spiritual development of the personality (Ilyin, 2007; Maslov, 2006 etc.). Concept of spiritual components of moral upbringing as an ethno-cultural heritage (Baklanova, 1994; Lagusev, 2000; Serikov, 1994; Christov, 2003). Development and realization of the technologies of socio-cultural science was introduced by (Brizhatova, 1999; Genova, 2008; Hilko, 2008; Kiselyova, 1995; Kozhevnikova, 2009; Lebedeva, 2003; Novatorov, 2001; Strelzov, 1979; Surtayev, 2000; Zharkov, 1989).

The practical importance of research is that theoretical provisions and conclusions find application in educational process of multilevel system of spiritual and moral education of youth, in practice of pilgrim tourism. The experimental pilgrim program in Priirtyshje is developed and tested. Results of experimental work are used in establishments of additional education programs for travel companies, pilgrim service of a diocese, Sunday schools and Kirill and Mefodiy Omska's school. The scientific and practical importance of scientific development for the Omsk region is expressed in the experimental socio-cultural program of spiritual and moral education of youth in orthodox pilgrim tourism of the Omsk region.

If as criteria of spiritual and moral culture to consider existence of spiritual vision, altruism, richness of spiritual experience, spiritual and moral consciousness, there is a possibility of socio-cultural impact on development of the sphere of feelings, perception and moral installations of participants at which interest to the inner world wakens, spiritual belief become stronger, internal resources reveal. For the formation of spiritual and moral culture of youth and teenagers to become possible, we test the following research hypotheses:

Step 1: Fundamental elements of created Model of Spiritual and Moral Up-bringing in Eco-cultural Socialization represents system of problems of spiritual and moral education by means of principles of orthodox and secular pedagogic, system of the organizations and establishments, the technologies of spiritual and moral education including forms, methods, means, and also stages of pilgrim activity.

Step 2: The Technology of Spiritual and Moral Up-bringing in Eco-cultural Socialization is a part of the ethno-focused technologies of socio-cultural activity science. Being at the same time a part of secular and orthodox education, it includes ethno-cultural, recreational, spiritual, ecological, and regional components.

Step 3: The realization of the Experimental Program of Spiritual and Moral Up-bringing in Eco-cultural Socialization provides familiarizing of youth with orthodox culture, spiritual experience of the person, develops the socio-cultural environment of communication and system of relationship in the social environment of the region (church, cultural and educational institutions).

In the course of research the complex of methods was used: the interpretative — the analysis and conceptual synthesis of the ideas reflected in philosophical, theological, psychological and pedagogical literature; hermeneutical method (interpretation, understanding), retrospective analysis; the theoretical: system, historical analysis; modeling. Also empirical methods were applied: studying and synthesis of pedagogical experience; experimental work; method of expert poll; questioning and interviewing; analysis of practical pilgrim activities; pedagogical supervision, comparisons, diagnostic methods (testing, rating), quantitative methods of processing of results of skilled and experimental work, the analysis of pedagogical and socio-cultural experience.

Research was carried out in 2005–2010 and included three stages.

At the first stage (2005–2007) on the basis of studying and the critical analysis of scientific and pedagogical, philosophical and theological literature on problems of religious tourism, pilgrimage and spiritual education, experience of the organization in educational institutions of different type the main approaches to understanding and practical implementation of spiritual education were revealed. At this stage the conceptual plan of research was developed, its methodological and theoretical bases, the conceptual device and empirical base are defined. Search work was conducted on the basis of Orthodox Sunday schools of Omsk, the travel companies which are engaged in religious tourism, pilgrim service by Omsk Tarskay diocese, children's orthodox camp. At this point the Model of Spiritual and Moral Upbringing in Eco-cultural Socialization was developed.

The second stage (2007–2008) was connected with identification of dynamic characteristics and regularities of orthodox pedagogic as method of spiritual education and with development on this basis of The Technology of Spiritual and Moral Upbringing in Eco-cultural Socialization in the course of national orthodox culture. Besides, the Experimental Program of Spiritual and Moral Up-bringing in Eco-cultural Socialization the "Pilgrim expeditions on shrines of Priirtyshje", which made basis of author's technology of spiritual and moral upbringing was developed. This stage was devoted to detailed development, approbation and implementation. As a result, the complete concept of method of spiritual and moral

upbringing on the basis of integration of ideas of orthodox pedagogic and socio-cultural activity was developed.

The third stage (2008–2010) was devoted to summarizing of results of research, specification of separate characteristics of pilgrimage as method of spiritual education. The Experimental Program of Spiritual and Moral Up-bringing in Eco-cultural Socialization was carried out. For the purpose of its approbation and implementation consultation of researchers was carried out, whose activity is connected with problems of spiritual and moral education. Publishing of research materials and consultation of experts teachers concerning the organization of spiritual education were conducted.

The experimental program provides familiarizing of youth with orthodox culture, spiritual experience of the person, develops the socio-cultural environment of communication and system of relationship in the social environment of the region (church, cultural and educational institutions).

System of spiritual and moral education in the course of orthodox pilgrim tourism offers as justification of eco-cultural educational technology inclusion in its structure system of the organizations and establishments (socially-cultural establishments, additional education and the orthodox organizations).

The eco-cultural orthodox and educational technology of spiritual and moral education of teenagers and youth means of orthodox pilgrimage includes ethno-cultural, recreational, spiritual and ecological, national and regional components, promotion of the orthodox art, corresponding to activities, and also forms, methods, means and pedagogical situations.

Experimental work showed that spiritual and moral education by means of orthodox pilgrimage well influences development of the sphere of feelings, perception and moral installations of participants of the project. Experiment awakens interest to the inner world, strengthens belief, disclosures internal resources of the person. Results of the Tests for identification of level of a spiritual and moral basis of the personality showed high level. The Experimental group activity was taken at the recreation camp for children and youth named after Gastello (in village Chernoluchye of the Omsk region, Russia), together with temple of the Saint Archangel Michael.

The Control group was in the recreation camp "Renaissance" in the Sargatsky area which on structure of participants, the program of orthodox activity, level of initial preparation and character of organizational structure was identical to the Experimental.

We may conclude that eco-cultural orthodox and educational activity as a part of the socio-cultural sphere brings together recreational, historical, confessional objects as possibility of formation of the new space and possessing great educational potential. Results of the realization of the concept of spiritual and moral education in practice of additional education testify that a research hypothesis is being proved. Important result of the carried-out research is the conclusion

about need and possibility of integration of ideas and practical cooperation of orthodox and socio-cultural pedagogic in the sphere of spiritual and moral education. The concept of

spiritual and moral education presented in the research can be realized both in secular establishments of additional education, and in confessional educational institutions.

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The formation of future economists' competitiveness in the process of professional training

Abstract: The article deals with the problem of forming the competitiveness of future economists. The authors present their own definition of the concept "competitiveness of a future economist" on the basis of acmeological, competency building and culturological approaches. Forming the competitiveness is realized through using the technology of project activity both in educational activity and in extracurricular activity of future economists in the process of professional training.

Keywords: the competitiveness of future economists, acmeological approach, competency building approach, culturological approach, modern education technologies, the technology of project activity.

The problem of formation of future experts' competitiveness is stated by the Government of the Russian Federation as one of the most urgent challenges which the system of higher education face in the period of the ongoing modernization of education. The reality of the present time is the relationship of the labour market and education. The implementation of competence-based educational standards should provide the high quality of modern education and the formation of necessary competencies, the willingness and ability of future economists to use gained knowledge in their professional activity in order to be competitive on the labour market.

Under a market economy the competitiveness of an individual is an important professional characteristic. Nowadays it attracts the attention of many researchers from various fields of science. Being a purely economic category at first, the term "competitiveness" has already found its place in the categorial apparatus of pedagogy and psychology.

Having analyzed the psychological, pedagogical and economic literature we have come to conclusion that some aspects dealing with the formation of the future economists' competitiveness aren't developed sufficiently. These aspects are: 1) the lack of integration of acmeological, competency building and culturological approaches as the methodological basis; 2) the investigations of many authors are limited by only one discipline and they underestimate interdisciplinary connections in the process of students' educational and extracurricular activities; 3) ignoring the formation of common cultural and professional competencies (CC) and (PC), which is the main requirement of the Federal State Educational Standard of the Higher Professional Education; 4) not using the technology of project activity in order to develop the functions of organization-management activities; 5) the absence of the concept "the competitiveness of a future economist".

While determining this concept we paid attention to the peculiarities connected with the intermediate position of a graduate, who should possess CC and PC as the basis of his professionalism. And at the same time we took into account the influence

of the labour market and the specific employer on a graduate.

The concept "the competitiveness of a future economist" is developed on the basis of integrating the following methodological approaches: 1) the idea of the competency building approach about ability and readiness for the professional activity as a result of taking possession of CC and PC; 2) the idea of the culturological approach about the axiological and activity functions of culture, which provide the formation of the value system and the development of creativity as the competitiveness constituents; 3) the idea of the acmeological approach that a future economist achieves "acme" of his professional development, the indicators of which being "successfulness", "efficiency", "being in demand on the labour market", "high-quality products". We consider the competitiveness of a future economist to be an integrative, professional and personal quality, reflecting his ability and readiness for successful professional activity (calculation and economic activity — performing computations of economic and socioeconomic indicators, developing economic parts of enterprises plans; analytical — collecting and analyzing information; scientific-research — taking part in developing project decisions in the field of professional activity; organizational and administrative — the rational administration of economy, production and social development of enterprises), the basis of which consists of CC and PC supposing the existence of informational, communicative, project, analytical, evaluation and reflexive, axiological abilities providing the demand for a graduate on the labour market.

According to the the Federal State Educational Standard of the Higher Professional Education for the direction of education 080100 "Economics", the purpose of the basic educational program for the Bachelor's degree course is to train competent professionals considering the needs and requirements of society, to develop a creative and socially active person and his professional culture by forming CC and PC. Professional activities of a bachelor in economics include: 1) calculation and economic; 2) analytical and scientific-research; 3) organizational and administrative; 4) pedagogic activities.

The analysis of the basic educational program has shown that there are 1512 hours (42 credits) for studying the humanitarian, social and economic cycle of sciences. The same number of hours is given for studying the subjects of the mathematics and science cycle. And there are 4680 hours (130 credits) for the professional cycle. This allows us to conclude that the time given for studying the humanitarian, social and economic cycle of sciences isn't enough for forming the CC of future economists. From our point of view, the best way out of this situation is to establish interdisciplinary relations in the process of educational and extracurricular project activities of future economists in the "Business Club", which increases the efficiency of professional training of students by combining theoretical, practical and research activities of students in the whole pedagogic process.

The fundamentals of educational and extracurricular activities of students-economists are: 1) the unity of purposes, objectives and the content of economic education; 2) providing interdisciplinary connections between the disciplines of professional cycle: "Microeconomics", "Macroeconomics", "History of Economic Thought", "Management", "The World Economy and International Economic Relations", "Organization of business", the discipline of the humanitarian, social and economic cycle "Foreign Language", and extracurricular activity of the "Business Club" with the functioning study group "Business English for Economists"; 3) the use of interactive methods and forms, modern educational technologies, among which the main role is given to the technology of project activity used for working out interdisciplinary projects in order to form the competitiveness of future economists.

Considering the interdisciplinary connections results in: 1) deeper understanding of value and essence of the profession "an economist" and defining the aim of a student's professional development; 2) getting known with the problematics of the science and being able to plan the scientific search of decisions; 3) making conditions for self-realization and self-development of a person; 4) the integration of the content of studied sciences in order to define the common sphere of meanings, the problematics of economic activity.

The technological basis of formation of future economists' competitiveness is presented by the technology of project activity, information and communications technologies, group work, web-quest and portfolio. In our opinion, the main role belongs to the technology of project activity, which allows to stimulate students' taking part in working out interdisciplinary projects, that are aimed at modelling of their professional activity.

Using the principles of group work (positive interdependency, simultaneous interaction, teaching the skills of group work, individual estimation, systematic process of reflexion) allows students to adapt to humanitarian style of interrelation with social partners in the terms of competition. Portfolio helps students to estimate and develop their potential abilities for achieving "the tops" in their professional activity. Information and communications technologies promote mastering the skills of computer work as a means of manag-

ing information, developing the abilities of competent work with information in global computer nets, which is necessary for a modern competitive person.

Our experiment has been made with the bachelors in economics of the Vyatka State Agricultural Academy. It included the organization of students' working out interdisciplinary projects with the use of the complex of modern pedagogic technologies (group work, web-quest, portfolio) with the main role of the technology of project activity. Teaching bachelors to work out projects began at their first year while studying the discipline "Foreign Language" by means of stimulating students to take part in working out interdisciplinary information and role projects. The teaching was continued in the process of students' extracurricular activity in the "Business Club", where they worked out practical projects, and in the study group "Business English for Economists". The future economists have worked out 20 group interdisciplinary projects and 3 individual interdisciplinary educational projects at the discipline "Foreign Language". The students' role projects "Our Firm" were completed and added by economic sections and economic concepts during the students' work at the "Business Club". It promoted future economists' possessing the complex of CC and PC as the basis of their professionalism.

The peculiarity of the students' project activity in the "Business Club" is its scientific-research and practical orientation. During working out their projects future economists communicated with different specialist and experts and took an active part in conferences and contents. The students taking part in the "Business Club" have worked out 16 scientific-research and practical projects; in the in the study group "Business English for Economists" they worked out 5 group projects and 3 individual scientific-research projects. The worked out projects were presented at different contents and conferences of different levels: International Team Contest of Business-projects "Business Project Contest", International Contest "Unity in Diversity: Russia and the English-speaking World", International Conference "Language in the Sphere of Professional Communication"; Russia-wide Contest of the Youth Authorial Projects "My Country Is My Russia", Russia-wide Intellectual Game "A Newcomer in Farming"; Town Contest "Business Idea", which is held annually at the Agricultural Academy, and Academic Contest of Students' Project Works in Foreign Languages. A lot of projects have been awarded by different diplomas.

Studying the students' analytical lists and their portfolio allows us to make conclusion that the majority of students liked to take part in project activity. During the project activity the future economists were able to learn: to work in a group (33.7%), to find necessary information, to choose the main information and systematize it (20.4%), to work out a project (16.7%). 10.8% of students acquired the skills of planning, defining the goals and objectives of the activity, 9.2% of students — the skills of analyzing, and 9.2% of students — the skills of presenting the project results and making up presentations.

36% of project activity participants liked to display their creative work and to work out new ideas; 22.5% of students

liked to make investigations and inquiries; 20.5 % liked to display their independence while working out projects; 13 % liked to work in groups; 8 % — to make up presentations of their activity results and present them to the public. During

the process of self-study the majority of project activity participants (81.5 %) made conclusion that taking part in project activity helped them to become successful students, which is one of the indicators of the competitiveness.

Section 7. Political science

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Some aspects of improving the socio-political participation of women in the state and public administration in Uzbekistan

Abstract: The present article analyses some aspects and facts concerning the activity of women in the years of independency. Furthermore, the author states that the socio-political participation of women in the state and public administration in Uzbekistan has been activating. Besides, according to the point of view of the researcher in the country there are implemented comprehensive measures in the field of social and legal support for women, maternal and child health, occupational, physical, spiritual and moral development of women, and improving their social and political activity.

Keywords: activity of women, liberalization and democratization of the public administration, the socio-political participation of women, state and public administration, dependent activity, Human Rights, women's NGOs, local councils of people's deputies, the Women's Committee of Uzbekistan, the Republican Charitable Fund "Mahalla" Republican.

Increased interest in the study of problems of social activity of women is due to an increase in the place and role of man in the modern conditions of the reform and democratization of society. As the researchers note, any transformation is the result of social, political, labor, during which a person is not only the main purpose of social development, and lasting value. All this is impossible without taking into account the role of women.

In deciding whether activation women often face special challenges in all countries of the world. The process of updating the state and public administration, democratization and modernization of the country in all spheres of life, the development of a diversified commodity economy based on market relations with the active role of the state create favorable socio-economic conditions for a more complete manifestation of the social status of women, their capacities and interests. However, given other circumstances, socially active women appear contradictory, there are serious problems with the passivity of a large part of the female population and it's overcoming.

At the present stage of development of democratic values should be promptly stimulate the activity of the various segments of the population, including women. On the other, the negative realities of a market economy "isolated" man in casual "everyday life", everyday affairs and concerns. There is a contradiction between the need for society in the initiative, entrepreneurship, empowerment of women and passivity, inertia, conformism certain part of the female population.

Therefore, one of the main objectives of the society, as the researchers note, is to find the best ways to motivate activity, awakening energy initiatives women use various incentives shaping their sustained interest in social activities.

In terms of science phenomenon actively explore and investigate the philosophers of different epochs, since ancient

times. For all the diversity of opinions about public relations eminent thinkers, Plato, Aristotle, F. Bacon, Montesquieu, Hegel, Weber, S. Freud, Fromm et al. indicates activity as an indispensable condition for the existence of man and society.

Currently, over all disciplines of science worth following tasks:

- Identify some trends in the development of social activity of women in the context of liberalization and democratization of the public administration and social reform;
- Implementation of systems analysis processes of involvement of women in political life as one of the manifestations of their social activity;
- Disclosure causes, factors reducing women's social activity;
- A systematic study of factors and incentives motivate participation of women in modern society;
- Stimulating and comprehensive support of women's NGOs from the state and the second sector and others.

In 2010, Dmitry Medvedev congratulates the organizers and participants opened in St. Petersburg International Summit of Women Leaders of economics and politics stressed the need to do everything possible to improve women's social activity. He said that he considered the disclosure of their creative and intellectual potential of one of the conditions for a stable and efficient development of any country. "Can you imagine the public, academic, business organizations in many countries? In addition, its spectacular success — proving the important role played by women in the modern world, the economy, politics and culture".

To study the problems of social participation of women in all countries of the world operate research centers that conduct social research. For example, the All-Russian Council of

Local Authorities in 2008 conducted research to determine the types of activity of citizens. In the study, the authors shared social activity depending on its purpose, several types.

a) A dependent activity — complaints and petitions aimed at to others (government, business, etc.) solved the problems of residents, including those for which the government does not respond. Shifting.

b) The protest activity — arises from a desire to residents oppose the actions and plans of the authorities, almost without thinking about alternative plans. This activity develops in the form of pickets, rallies, collective complaints; road closures agreed Boycott Street, neighborhoods, protest voting in the elections.

c) Fictitiously-demonstrative activity. If you are using people as extras for the sale of advertising or political projects independent activity is simulated through hired and paid activists, as well as publications in the media and other methods.

d) Constructive Activity — initiative, attempts to correct actions of the authorities and businesses to create more favorable living conditions of the territory. Partnerships and public authorities.

What types of activity was not, in its entire manifestations important role played by women. Each state has developed its own model of improvement of social and political participation of women. For example, in Uzbekistan has developed a national model of development, which is called the “Uzbek model”. Its uniqueness is that it was try to calculate national identity and values, mentality, religion, age-old traditions and spiritual culture of the Uzbek people and others.

From the first days of independence in Uzbekistan were identified as priorities the task of increasing status, spiritual and intellectual potential of women, ensuring their legitimate rights and interests, promote their health, protection of the family, motherhood and childhood.

Extensive work to implement these tasks today is already yielding tangible results. Women make a worthy contribution to the foundation of our future, to build a civil society where the main priority is the people’s right to live in a free, equal for all thriving and prosperous country. Government agencies and community organizations conducted considerable work to ensure their full participation in the political, social and economic life of the country. The country implemented comprehensive measures to protect the rights and interests of women, their spiritual and intellectual growth, a healthy family. However, special attention is paid to improving the political and legal culture of women.

As the experts in Uzbekistan implemented comprehensive measures in the field of social and legal support for women, maternal and child health, occupational, physical, spiritual and moral development of women, and improving their social and political activity. Formed national legislation in the sphere of rights and interests of women, relevant principles and norms of international law. Adopted more than 80 laws and other legal acts constituting the legal basis for

the participation of women in socio-political, socio-economic and cultural life of the country.

For example, the Decree of President of the Republic of Uzbekistan “On measures to enhance the role of women in state and social construction of the Republic of Uzbekistan”, “On additional measures to support the activities of the Women’s Committee of Uzbekistan”, ratified the Convention on the Elimination of All Forms of Discrimination against Women, and others.

Today the total number of people working in all areas and sectors of the economy of the country, about 50 percent are women, including 28.3 percent — in industry, 37 per cent — in agriculture, 74 per cent — in science, education and culture, 75 percent — in health care.

In prosperity and stable development of the country’s special contribution made by women in the implementation of the National Programmer for Training and recognized in the world of the State program “Soglom bola”, about two thousand women manage farms. For the efficient and exemplary career, 13 women received the highest awards of our state — the title of “Uzbekistan Kahramoni.” 182 — Zulfiya State Prize.

It must be emphasized those in recent years, the role and socio-political activity of women in the state and public construction in Uzbekistan. The results of the 2009 elections to the representative bodies of state power of 33 women elected to the Legislative Chamber of the Parliament and 16 women — members of the Senate of Oliy Majlis of Uzbekistan. Increasing numbers of women — members of political parties. Thus, the total number of members of the political party of women in the Movement of Entrepreneurs and Businessmen — Liberal Democratic Party 38.2 %, the People’s Democratic Party of Uzbekistan — 41 %, the Social Democratic Party “Adolat” — 50 % of the Democratic Party “Milly Tiklanish” — 46.5 %.

Carried out continuous and systematic work to attract women and girls to physical culture and sports. The total number of women and girls involved in sports has reached more than 1.9 million. People, of which 680.4 thousand. Exercise regularly and participate in competitions. In secondary schools, vocational colleges, universities, sports clubs and societies work as teachers of physical education, coaches and instructors in various sports 8 000 725 women.

In the rise of social activity are actively involved organizations such as the Ministry of Justice of the Republic, police, prosecutors, regional representatives of the Commissioner of the Oliy Majlis for Human Rights, women’s NGOs, local councils of people’s deputies, the Women’s Committee of Uzbekistan, the Republican Charitable Fund “Mahalla” Republican propaganda center of spiritual and social movement of youth of Uzbekistan “Camelot”, Commerce and Industry of Uzbekistan, nongovernmental organizations, civil society and the media, and others.

In 2010, in the direction to improve the legal knowledge of the population, its political and legal culture also saw an increase compared to 2009 by 3 %. In this direction in 2010 implemented 16 projects, accounting for 15 % of the total number of implemented projects for this year.

At the end is worth noting that the success of large-scale reforms in all spheres of public life largely depends on the level of legal awareness and legal culture of the population, especially women. Socio-political activity of personality, level of legal culture, true citizenship is essential factors to achieve its goals. The issues related to the phased implementation of the

rights and responsibilities of citizens in civil society organizations and by this — increase political culture and social activity of people, especially women. The assigned us the task of creating a strong state and society should be reflected in such processes, which play an important role effective interaction of state bodies and civil society institutions.

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The attitude of Germany and Great Britain towards the Ukraine's accession to the European Union

Abstract: The article deals with the comparison of German and British approaches to the prospect of Ukraine's EU membership. The attitude of both states towards the idea of further EU enlargement is analyzed.

Keywords: Germany, Great Britain, Ukraine, European Union, enlargement, Russia.

Introduction

Back in 1998, President Leonid Kuchma was the first to express Ukraine's intentions of becoming a full member of the European Union. Since then, every Ukrainian government has stated its support for Ukraine's European choice. Even under the regime of former President Yanukovich, that was the most pro-Russian in the whole history of independent Ukraine, the government did not immediately abandon the way towards European Union, despite considerable pressure from Russia. The population of Ukraine mostly supported the idea of European future for their country, as for many of them EU was a symbol of prosperity, democracy and civil society. Refusal of Yanukovich to sign an European Union Association Agreement at the summit in Vilnius in November 2013 became a catalyst of social discontent, which led to mass protests against corrupt and undemocratic regime and, eventually, to Yanukovich's escape abroad.

The new Ukrainian government announced, that "there is no alternative for the European choice for Ukraine". A European Union Association Agreement was signed in two stages — on 21 March 2014 the political provisions, and

on 27 June of the same year — the economic part. While presenting his "Strategy of reforms 2020", the newly elected President Poroshenko said, that the ultimate goal of reforms is to achieve a level of the state development, that will let Ukraine apply for EU membership in 2020.

However, even if reforms in Ukraine are implemented fast enough to meet EU requirements, the final decision will still depend on the point of view of the EU member states, which is today far from unanimous. Some countries (especially Poland and the Baltic states) support the aspirations of Ukraine, because they believe that the European Union should more actively resist Russian imperial ambitions, others (like Greece or Spain), think that Ukraine's accession will destroy the whole system of economic relations within the Union and lead to a reallocation of budget payments not in their favor. Yet, in this situation the decision of the "leading" member states will be the determinative one. The main aim of this work is to study the position of Great Britain and Germany on the matter. The views of these states are not always the same both on the issue of EU enlargement on the whole and of Ukraine's accession, in particular,

and that will determine, whether or not they will support Ukraine on its way.

The attitudes of Germany and the UK towards the EU enlargement process are often dominated by fundamental contradictions. The reason is that both countries perceive European integration differently and see opposite tasks for themselves in the process. Germany has always stood for the expansion of the political component of integration and strengthening of supranational institutions — for it is through them it can spread out its influence on other EU countries. Britain, that joined the European Communities later and therefore could not take a leadership position on the continent, believes that the main purpose of integration is the removal of any barriers to economic cooperation between the Member States and, ultimately, the creation of the Common Market [5]. As for the political integration, United Kingdom considers it to be the method of transforming the EU countries into Franco-German vassals.

Both countries supported the EU eastern enlargement in 2004, although they had different reasons for that. Germany expected to receive a lot of dividends from new members. The majority of them either had a direct border with Germany, or were separated from it by just one country, and the access to new tremendous markets would bring her the main advantages within the Union. In addition, after the expansion the eastern border of Germany would no more be the eastern border of the European Union. Stable and more or less homogeneous environment certainly met the interests of German security [9]. Finally, the enlargement would have the positive effect on the political role of Germany in the EU. The majority of candidates belonged to the so-called “Mitteleuropa” — the territory, that Germany considered to be its sphere of influence for centuries and that actually disappeared after the World War II and the creation of “Eastern Europe” out of the Soviet camp states. After the “return of newly-made democracies to Europe”, as the project was pompously presented, Germany could finally have back its status of a leading European country. At last there was an opportunity to restore balance in the Franco-German tandem — for decades Germany had to accept the role of the EU treasurer, while France took over the functions of a political leader. None of «Mitteleuropa» states had such close ties to France as to Germany, and the latter could count on their support in making decisions.

Britain had no such close relations with new member states, but was also interested in EU enlargement. First of all, the accession of 10 new countries would increase movement of goods, capital, services and labor within the union, and that would contribute to the development of the Common Market [5]. Secondly, enlargement met British vision of the regional security. From the UK point of view, the more countries are united by ideas of democracy, rule of law and respect for human rights, the lower is the risk of occurrence of various cross-border threats on their territory, including extremist and terrorist groups. Due to the integration processes armed conflicts within the EU are almost unthinkable. Finally, every

increasing of the number of member states would reduce the impact of the “Brussels bureaucracy” (and the union of France and Germany) and extend the possibility of individual members to defend their interests.

“Great EU enlargement” went off quite successfully and benefited both for Germany and the UK. However, its consequences were different for the two countries, especially for the further formation of their foreign policy priorities. Even before the actual accession of Bulgaria and Romania German politicians stressed the necessity of the “pause” in the process of enlargement many times, although at that time at least another three countries had a candidate status, and even more stated their intention to apply. It turned out that enlargement poses a threat to the German vision of the Union, as the accession of new members changed the architecture of the Union dramatically. The alliance of 6 countries could become a highly integrated quasi-state, but it proved to be much more difficult with 28 members, that are actually not united neither by territorial proximity, nor by level of economic development, foreign policy priorities, language or culture. One has only to recall the “letter of eight”, that split Europe into opponents and supporters of the US Iraq invasion in 2003, to understand, that the new union is too fragmented to have a single political line and one leader [4]. If the enlargement process continues, there is a risk of complete disintegration of the EU due to the unwillingness of some members to agree on the general decisions, no matter how balanced they may seem.

In contrast, similar developments correspond to the British interests. Since UK is unable to become a leader of the European Union, it became the biggest enemy of the entire idea of sole leadership within the EU and the strengthening of supranational institutions. One should not forget, that the United Kingdom insisted on the inclusion of the subsidiarity principle into the Maastricht Treaty in 1992, giving local authorities the right to appeal to supranational institutions only when they could not do without that. Increasing the number of members, as noted above, will contribute to strengthening of individual states, not the European Commission or the European Parliament. Britain would even pay for the future expansions less than Germany, because its contribution to the EU budget is incommensurate. Therefore it is not surprising, that members of the British government have repeatedly stated, that their country “remains an active supporter of Turkish membership” and that “the UK's position is clear — «No» for planned pause after Croatia” [3]. At the same time, Britain continues to insist on the necessity of adherence of all the candidates to the Copenhagen criteria, that are the primary terms of accession to the EU.

It should be noted, that these differences in the standpoints of the two states are mainly related to political elites, while the majority of population both of UK and Germany have the same point of view, as they do not support the idea of further enlargement. Germans and Britons fear, that migrants from the new member states will take their jobs, and that they will have to pay out of their pockets for the unbalanced

economic policies of individual member states. However, while the German government mainly tries to correspond to the will of their citizens on the matter, the British policymakers sometimes frankly ignore public opinion, as it happened in 2004, when Britain along with Ireland and Sweden were the only EU states, that did not restrict access of labor from the new member states to their markets. After a storm of critics Tony Blair's government had to make some last-minute changes to the immigration policy, but all of the requirements of the people were still not satisfied [1, 78–80].

It is obvious that the attitude of Germany and the United Kingdom to the prospects of Ukraine's accession to the European Union will be primarily determined by its success on the path of reforms. But there is another factor, that can affect the position of both countries. That is Russian policy in the region, and the will (or the lack of one) of key EU players to take into account its interests while building relations with Ukraine.

After the fall of the Soviet Union Germany became probably the biggest Russian partner in Europe. According to Germany, it was impossible to create an effective system of European security without Russia, that's why it was essential to help it to provide democratic reforms and to facilitate the creation of competitive Russian economy [8]. Over the past twenty years strong ties emerged between the two states in all possible spheres — from political cooperation to international educational exchange programs. Economical and energy cooperation play a significant role as well — today Russia provides more than a third of Germany's needs in energy resources, and Germany is Russia's third largest trade partner in the world [10]. Even when it became clear, that democratic reforms in Russia reached a deadlock, Germany did not slow down relationship with the country.

On the other hand, Britain does not depend on oil and gas fields in Siberia, and the share of both countries in each other's trade structure has never been more than 3–4 percent. Even the financial ties between the two countries are not as close as it may seem — Russian investment to Britain makes up about 0.5 % of total investments to the country from Europe, while the rate of British investment to Russia is less than one percent [12; 13]. Also, there are no traditions of friendly political relations — for centuries Russian-British relations have been strained at best, and hostile at worst, and the only thing that could unite their efforts was the presence of a common enemy, as it happened during the both world wars. This means that Britain, unlike Germany, is not inclined to consider the views of Russia in its foreign policy.

The involvement of Ukraine into the European integration structures contradicts the national interests of Russia, that tries to bring together as many post-Soviet countries under its control as possible. In order to keep Ukraine in its political orbit, Russia has deployed all possible methods, up to the direct military invasion. At the same time Russia does not stop putting pressure upon Western states to make them believe, that Ukraine is the state with fascist parties in power, where civil rights and freedoms are neglected. Yet the effect is

quite the opposite — even an ally like Germany does not take the idea of historical justification of Putin's behavior seriously. The annexation of Crimea was certainly the turning point, as it was a gross violation of the rules, that European states have been creating together since the end of World War II, and that were fixed in the Helsinki Final Act in 1975. Since then, no state has allowed itself to capture and attach the territory of another state to their own. By taking Crimea Russia turned into a threat to peace and stability in Europe — and Germany had to react to that, in particular, consistently maintaining pressure sanctions on Russia.

However, that does not mean that Russian-German relations are undermined completely. For Germany, Russia is still not only a trading partner, but also a key player in the region, too important to ignore while shaping European policy. That is why German authorities have stressed many times, that they are ready for the dialogue with the Kremlin on the issue of conflict resolution in the Donbas. If Germany is able to make Russia to return to the certain status quo, that existed at the beginning of last year, it is possible that they will be allies once again.

Therefore the German support for Ukraine's accession to the European Union seems to be very unlikely. This symbolic step would bring major changes to the existing regional system of international relations. The possible Russian reaction is unknown, but it can seriously affect Russian-German relations, and certainly not for the better. Of course, the situation can change, especially if Russia's foreign policy becomes more and more unpredictable, Russia loses status of a partner in the eyes of Germany, and Ukraine, on the contrary, gains it through successful reforms [11; 59]. However, it is hardly possible in the short term, and it is not surprising, that in an interview to Spiegel Online on November 23, 2014 German Foreign Minister Frank-Walter Steinmeier said, that Ukraine's accession to the EU is unlikely to take place even in the long run. According to minister, “the improvement of the economic and political situation in the country is the project of the next few generations” [6].

The London reaction to the Moscow actions was much more tough. During the Ukrainian crisis the British government was the only one among governments of leading European states, which has repeatedly stated that Russia is a threat to European security [7; 28]. Right after the annexation of the Crimea foreign secretary William Hague claimed that “this situation is the biggest crisis of the 21st century” and called on NATO allies to firmly demonstrate their willingness to fight back. Since then UK has been a consistent advocate of the introduction and expansion of sanctions against Russia, both personal and against entire sectors of its economy. It was as well a British idea to disconnect Russia from the SWIFT international banking system, which may completely crash the already weakened Russian economy. Moreover, Britain does not limit itself to economic pressures only — on the 24 February, David Cameron announced British infantry training mission to Ukraine, within which British troops will train soldiers fighting Russian separatists, and stressed, that “the Russian

president could turn against the Baltic states or Moldova if he is not reined in now" [2].

Great Britain considers promoting the development of security and democracy within the European Union to be one of the important aspects of the organization. Russian foreign policy is a threat to Union, therefore it is necessary to take all necessary measures to strengthen the EU. United Kingdom is not afraid of Russia's reaction to changes in the regional geopolitical situation and of the deterioration of bilateral relations, and is not as sensitive to its energy and economic dimension, as the majority of countries of continental Europe. That is why Britain is more likely to support further EU enlargement caused by accession of countries, that Russia regards as direct sphere of influence, including Ukraine, than Germany.

Conclusion

Today Germany and Great Britain are the key players in the European Union, they are the states, that have an influence on the future of the Union and all aspects of its existence. The Ukrainian crisis has become a challenge for the Union, and none of the members can now distance itself from the situation, since one way or another, its development will affect the future of the continent.

Of course, while there is a war in the Donbas region, the European future of Ukraine can not be discussed. However, if Ukraine's territorial integrity is soon restored, and the state does not only overcome the negative consequences of the war, but also achieves significant growth in economic performance and social standards, the question of its accession to the EU may be on agenda in a few years.

Taking into account the present state of affairs, one can conclude that the UK is more likely to support Ukraine on its path, than Germany. First of all, the UK is a greater supporter of the idea of consistent European Union enlargement, than Germany. Germany has always advocated political integration of the EU member states and strengthening of supranational institutions (in that it would certainly play a leading role). It will be extremely difficult to achieve the goal, if the number of members of the EU keeps increasing. At the same time, for Britain the ultimate goal of Europe's consolidation is the development

of economic integration and the creation of the Common Market, and the new members would be beneficial for that purpose (of course, if they meet predetermined criteria).

Secondly, although both countries have to take into account the Russian factor in their policy towards Ukraine, it plays a different role for each of them. Germany has stable relationship with Russia, especially in trade and energy sector. Despite the fact that the German-Russian relations deteriorated sharply after the annexation of the Crimea and the war in Donbas, Germany does not want to burn the bridges completely, hoping to return Russian foreign policy on a predictable path through sanctions. If Germany supports Ukraine on its way to the EU, it risks to ruin relations with Russia, and Ukraine will give it no alternative (at least, for the next few years). Britain risks much less, because it has no close economic ties with Russia, having mutual historical hostility instead. United Kingdom regards European Union as another chance to unite the efforts of member states against Russian aggression, and considers it necessary to enhance Union's attention to the "frontier states". However, this does not mean special favor to Ukraine — that applies as well to Moldova and Georgia, countries that have announced their orientation towards democratic reforms and are under the greatest threat of Russian invasion.

So, what should be the behavior of Ukraine in this situation? Studies show that the support both of the EU elites and the population for any country's accession depends on how high its level of economic development and social well-being is, how successfully they meet EU democratic standards and on the intensity of their relationship with current members (greatest support, about 80%, is traditionally shown towards accession of Norway, Switzerland and Iceland, although they do not express such intentions) [13; 14]. That is why Ukraine should now actively carry out internal reforms, deepen relations with individual European countries and build a reputation of a reliable and predictable partner. If it succeeds, no one will have to convince the leading EU about the need for Ukraine's accession to the EU, as they will be interested in the process themselves and approve it, despite the opposition of foreign players, primarily Russia.

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Section 8. Regional studies and socio-economic geography

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Rural tourism in the south of Russia

Abstract: Introduction of elements of tourism activities will enable primarily to increase sales volumes rural households through the sale of tourist arrivals. Tourist activity in the modern village could be, and include visits to farmsteads in the program of tours, or organizing day trips from nearby resort areas of the province.

Keywords: agro-tourism, farmhouse, rural tourism, recreation, nature management, Krasnodar region, tourist and recreational complex.

One of the directions of recreational activity in the world is agro-tourism or rural tourism. The main peculiarity of development of the Russian market of agro-tourism is the fact that it develops practically without centralized management. At the moment, the issues of legal provisions of this kind of business activity, economic issues and the issues of financial support of the process, i. e. the systems of crediting and tax benefits etc. have not been developed, are not solved. The development of rural tourism is genetically related to rural area.

As it is known, the term “rural area” is based on the very characteristics that distinguish this territory from urban area, such as: the size of inhabited settlements, consistency rate of settlements, dominating industries, population density, labor structure, population’s life style, its mentality and traditions etc. Thus, rural area can be defined as a territorial system that corresponds to certain numeric criteria of population displacement (established at a national level) and is distinguished by predominant development of agriculture as the main sphere of population’s labor as well as by spread of rural life style.

With regard to landscape, the rural area is characterized by dominating agricultural landscapes. Rural tourism is an independent kind of tourism based on special forms of leisure activities (for instance, taking care of domestic animals, tasting dishes of local cuisine, walks and picnics in rural area) and motivation of improvement of tourist trips (acquainting oneself with rural area and rural life style). The kinds of tourism directly related to rural area may include: recreational, active, cognitive and ecologically consumer-oriented, gastronomic tourism, ethnographic tourism, activities at farmhouses and fruit and vegetable gardens etc.

The most economically profitable kind of rural tourism should combine the elements of several above listed items.

In this case, it will not just be a visit to large agricultural enterprises by tourists, which is also possible but cannot be a concurrent source of income, but a visit to farmhouses and rural households. A household is a group of people residing in one premises or its part that jointly provide food and all life necessities, i. e. partly or fully combining or spending their means. These people can be relatives or be in a relationship arising from marriage, or not be relatives, or both [3; 4].

The implementation of the elements of tourist activity will enable to increase the volumes of realization of products of rural farmhouses at the expense of sales to arriving tourists. Today, three groups of farmhouses almost equal in terms of size, where different attitude to small commodity production is observed, can be distinguished in the rural area. One of them, comprising the first group, refuses the production of agricultural products. It happens due to total incapability (one should remember that 20–25 % of rural households consist of singles or elderly married couples) or due to the reason of prosperity and ability to buy food in the market (5 %) [1].

Also, this group includes households located in the suburbs of big cities, where the availability of labor market dominates the availability of sales market. The second group of households is rather oriented to natural consumption than market when it comes to product manufacture. In such families, a wage is the main, and most importantly, stable and growing source of income. It is typical for territories that are promising from the point of development of large agricultural goods producers who use hired labor widely (Krasnodar region, Belgorod region etc.). The third group consists of households that strengthen their orientation to the market and small commodity production. In this households, the relative share of income from sales of household products accounts for steady 50% or more. In the territorial scale, such

households are inclined to local markets of small and mid-size towns (district centers). The examples are Labinsk and the village of Kuschevskaya in Krasnodar region, Shadrinsk in Kurgan region etc [1].

The households of all these groups could include the elements of tourist activity in their business. It is especially relevant for the households of the first and second groups. Tourist activity in the conditions of a modern village could include a visit to household in the program of excursion tours or organization of one-day excursions from nearby resort districts of the region. Organization of weekend tours with a short-time accommodation of tourists is also possible. The idea of organization and conduct of events on the territories of rural households (weddings, parties, corporate events) would be relevant. Everything listed above should be combined with tasting of local products, realization of souvenirs and consumer-oriented goods.

Rural tourism in modern conditions can combine the elements of recreational, active, cognitive, consumer-oriented, gastronomic and ethnographic tourism. However, organization of tourist activity in the conditions of households is presently limited with a number of problems: absence of a good infrastructure; poverty; passive nature and economic incompetence of rural population; lack of cultural level; loss of traditions and handicraft skills; lack of opportunities for teaching handicrafts and development of own business to people; insufficient involvement of all interested parties in the process of agro-tourism; lack of a unified information base and ground for experience exchange etc.

The main goal of organization and development of agricultural tourism is the increase of life standards for rural population at the expense of organization of new jobs, increase of prestige of rural living, development of general infrastructure in villages — roads, transport, water and gas supply, trade etc., as well as increase of investment attractiveness of a village. The development of tourist activity in the conditions of rural area plays an important role from the socio-economic point of view.

The importance of rural tourism lies in the following points:

- recreation of city dwellers in rural area, obtaining knowledge about traditional folk culture;
- movement of financial means from cities to rural areas;
- creation of alternative sources of labor for rural population;
- increase of the level of economic profitability for rural population;
- reduction of the process of migration of rural dwellers to cities;
- formation of sales markets for agricultural products and items of folk craft;
- development of infrastructure on the rural territories;
- preservation of natural and cultural resources of the territory;
- reduction of social tension in the rural area.

At the same time, one should keep it in mind that agro-tourism is not a highly profitable business and the main goal of rural tourism is to improve the life standards of rural population.

The development of agro-tourism should stimulate local economy by way of formation of small economic turnovers of local resources. It can be achieved by initiating inter-industrial cooperation, when local products and services are used in the production of a tourist product. Today, there are plenty of issues on organization of activity in the sphere of agro-tourism and one of them is: how to organize the accounting of such activity appropriately. Krasnodar region is more attractive for the development of agro-tourism than other regions of Russia due to its agro-climatic resources and well-developed transport system [2].

But, at present, the development of agro-tourism in the region lags behind the all-Russia one. From the position of the state, it is reasonable to define the priorities of agro-tourism development concentrating on the most valuable resources of the country and emphasizing the so-called points of growth. It is important to study market situation from all sides and reveal the opportunities and risks that this kind of business may face.

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Regional economy: problems of stimulation of foreign investments

Abstract: Modern Russia takes a quite humble place in the world in respect of import of capital. It is primarily associated with the fact of absence of a favorable investment climate, which is determined by political stability, legal guarantees for foreign investors, developed institutional and market infrastructure, tax benefits for foreign investors etc.

Keywords: region, investments, subjects of the Russian Federation.

The total volume of accumulated foreign investments in the economy of Russia accounted for 29.3 billion dollars at the beginning of 2000 [1, 122]. Upon this indicator, Russia took approximately the 25th place in the world giving place to leading industrially developed countries and separate new industrial states. Less than 1 % of total volume of direct foreign investments in the world accounted for Russia.

During the period of economic reforms, industrial structure of foreign capital investments that reflects priority spheres of application of foreign capital in Russia changed significantly. The spheres included: currency and financial sphere, fuel and energy complex, food industry, which over a half of all investments accounted for at the beginning of 2000.

From the beginning of 90s, the center of influence of management of socio-economic processes was consistently shifting from federal to regional level. The tendency of regions' authority expansion also covered the sphere of cooperation with foreign investors.

The volume of attraction of foreign investment in different regions of Russia depends on the condition of investment climate, consistency in market reform performance, level of development of economic potential, dynamics of reformation of production and financial infrastructure, efficiency of use of natural and labor resources.

The conditions of entrepreneurship and investment are in a certain correlation with socio-economic condition of the regions. However, these correlations are of interest, primarily, from the methodical point of view. In the conditions of the quick change of internal and external conjuncture, they cannot be stable. It refers to the ones whose indicators are close to mean (approximately 30–40 regions of the Russian Federation).

The indicators of investment climate in the regions and contradiction of their interests enable to define that the worst investment climate (and extremely unfavorable conditions) are observed in 30–35 subjects of the Russian Federation. Several types of regions can be distinguished upon the combination of socio-economic conditions:

- North Caucasus republics with a high density of population, which lag behind significantly in respect of development level;

- remote underdeveloped and underpopulated regions with economic monoculture in the North, Siberia and Far East (Magadan, Sakhalin, the Republic of Altay, Tyva etc.);

- agricultural regions of the European center and Volga region with a high share of Military Industrial Complex in the industry (Pskov and Tambov regions, the Republics of Chuvashia, Mordovia etc.). Given economic difference of these regions, they are united by inability to produce sufficient volumes of competitive goods. Weak participation in external economic relations, low income of the population, considerable unemployment (4–10 % according to official data) are typical for them [2, 71].

Another belt of entrepreneurial and investment activity is formed by approximately 20–25 subjects of the Russian Federation with relatively and limitedly favorable conditions. Three types of regions can be distinguished among them:

- with a large export potential, but relatively small population — up to 1.5 million people (Khanty-Mansiisk autonomous district, Murmansk and Lipetsk regions, the Republics of Sakha, Khakassia etc.);
- with a large export potential, diverse farm business (Samara, Sverdlovsk and Omsk regions, the Republics of Tatarstan and Bashkortostan, Krasnoyarsk region etc.);
- the largest cities of Russia — Moscow and Saint-Petersburg. Apart from relatively favorable social indicators, the revival of investment sphere at the expense of own and external capital investments is typical for them.

Unlike Russian investors, foreign investors find Moscow, Ryazan, Vladimir, Volgograd, Voronezh, Saratov and Kemerovo regions more attractive. In the east, the potential centers of investment activity can primarily be Novosibirsk, Altay, Krasnoyarsk and Khabarovsk regions. Finally, Leningrad and Kaliningrad regions and Saint-Petersburg have a more favorable investment climate in the north-west.

General economic stability in the country manifested in the changes of investment activity in different federal districts showed a necessity for a more detailed and concrete research of economic situation in every region where the investments are planned. Federal differences in the adherence to the federal legislation and roles of administration of the subjects of the

federation in the formation of regional investment environment are known. Thus, the alliance of differently regulated regions in one federal district, mechanical summing of their volume economic indicators exclude natural characteristics of regional development and cause structural statistical distortions.

Such distortions can be explained by the peculiarities of the national statistics. However, the investor unburdened with the “compulsory nature” of choice should evaluate the general environment that his property will function in. This circumstance forces them to use a certain procedure of choice of a place for capital investment. It starts with an evaluation of the level of risk of the country and a sector of economy, and ends with a concrete territory, local business subject and a separate project. Herewith, investment attractiveness of a federal district can be useful, which should be completed with an analysis of investment history of the region, city or district. Investment history of the given territory reveals the main tendencies of its attractiveness for the capital. Considered indicators characterize the combined action of many factors, i. e. it accumulates a system effect, because, as a rule, the investment process presupposes not a one-time but extended in time investment of financial resources [3, 58].

Russia is a country of extreme inter-regional economic, social and political contrasts that every potential investor, given the sufficient information, can find a region with satisfactory or, at least, bearable investment conditions. Division of regions upon the rating of investment potential shows that the most contribution to its formation is made by the factors accumulated in the process of a long-standing economic activity: infrastructure-wise development of the territory, innovation potential and intellectual potential of the population. It's no coincidence that apart from generally accepted economic leaders like Sverdlovsk, Samara, Moscow, Kemerovo, Nizhniy Novgorod regions, the Republic of Tatarstan, Moscow and Saint-Petersburg etc., the first twenty regions include not so economically powerful, but quite “developed” regions of Central Russia such as Belgorod, Vladimir, Voronezh, Ryazan and Tula regions.

What factors play a positive role in the attraction of foreign investments?

Particularly, they are:

- 1) rich and comparatively inexpensive natural resources (oil, gas, coal, diamonds, poly-metals, forests etc.);
- 2) immense internal market;
- 3) personnel with high level of education, capable of quick understanding of new technologies in production and management;
- 4) relative cheapness of qualified labor;
- 5) absence of serious competition from the side of Russian producers;
- 6) performed process of privatization and an opportunity for foreign investors to participate in it [4, 36–42].

One of the most important factors of attraction of foreign capital is a favorable legal environment, stable legislation base ensuring the conditions of maximum effective protection of investors' interests.

Modern legal base for foreign investments in Russia is composed of laws, Decrees of the President of the Russian Federation. There is also a range of Government decrees and concrete departmental instructions. According to their nature, these documents can be divided into two groups.

The first group is basis laws of Russia (Constitution of the Russian Federation; Civil Code; Customs Code etc.) ensuring the transition of the country from communist regime with a command economy to democracy and market economy. Some of them were passed in 1990–1991.

The second group is documents directly related to foreign investments. The main document is the Law about foreign investments in the RSFSR as of July 4, 1991.

General stabilizing base for investment climate in Russia is the fact that for several years Russia has had positive position of the external trade balance. Russia's joining the article VIII of the Charter of the International Monetary fund contributes to a civilized conduct of international settlements, which increases the attractiveness of investments.

A significant change of the situation in the next years is problematic. Herewith, the creation of a favorable climate will have a favorable effect on both the inflow of foreign investments and the volume of national investments.

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Characteristics of agriculture in Uzbekistan in the years of independence

Abstract: Agriculture plays an important role in the national economy of the Uzbekistan Republic. The article analyzes the main changes and reforms undertaken since independence. Particular attention is paid to the development of farming enterprises, structural changes in the crop area, land reclamation.

Keywords: agriculture, agricultural products, farm and farmer facilities, cotton, grain, land reclamation, reforms.

Deep reforms were implemented in the Uzbekistan agriculture after the country gained its independence. This period can be characterized as a stage of intensive agriculture development. At that time agricultural products were the main source of foreign exchange resources. They were vital for the country food and became the main area of equipment and technology import. Special attention was paid to the grain production. The goal was to achieve self-sufficiency, and this task was carried out by limiting the monopoly of cotton. For example, from 1990 to 2013, the size of cultivated areas increased from 433.2 thousand acres to 1 610.7 thousand acres, or almost 4 times. The productivity of land increased from 12.8 to 44.1 hwt/ha (Fig. 1). The harvest gross increased from 553.5 thousand tons to 6 545.3 thousand tons. The size of cultivated areas was increased with re-cultivated land and areas irrigated for cotton. Moreover, a higher productivity was achieved. In 1993–2013 the amount of land planted with cotton was reduced from 1 721.0 thousand hectares to 1 342.5 thousand hectares. Thereby the raw cotton production decreased from 4 646.3 thousand tons to 3 442.3 thousand tons.

In the studied years you can easily observe the expansion of cultivated land with land for food. Reduction of land

for cotton was much less. At that time, with the exception of pasture for cattle from the agricultural lands, reducing acreage for feed grains in irrigated lands created a number of problems in the animal husbandry. In 1991 the agricultural sector owned 92 % of the pastures; the total pasture area decreased by 40 % due to the extremely haphazard livestock production and reduce of pasture fertility reduce without its recreating [1].

One part of unsuitable pastures was included in the category of reserved lands, and the other became forest fund. Country livestock has about 13 million hectares of grazing land, most of which are located on the territory of the Karakalpakstan Republic, as well as Bukhara, Kashkadarya and Navoi regions, where there is the bulk of grown cattle (sheep).

The Tashkent, Navoi and Khorezm regions lead in livestock productivity in the country. When it comes to gross figures, Samarkand, Khorezm, Kashkadarya, Bukhara become leaders in the meat production of meat. Samarkand, Khorezm, Kashkadarya take the first place in milk production. Cities like Tashkent, Samarkand, Khorezm and Andijan are leaders in the egg production. Kashkadarya, Samarkand, Navoi, Bukhara and Djizzak are leading in the production of wool [2].

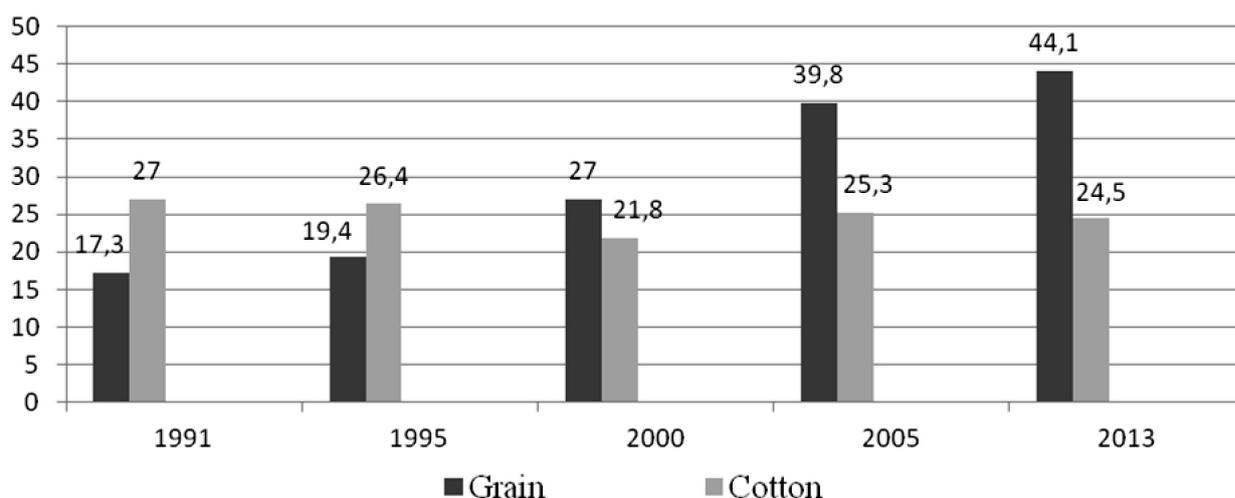


Fig. 1. Cotton and grain yield in 1991–2013 in the Republic of Uzbekistan (hwt/ha). The graph is based on data from the State Statistics Committee of the Uzbekistan Republic

As a result of measures taken in the process of agrarian reform in the village a new economic structure was created. This structure met all requirements of a market economy and necessary changes occurred in the agricultural production. This is

explained by the formation of farms. Support for farmers from the state and improvement of their activities coordination were organically related to the implementation of promising agricultural policy. In particular, the President of the Uzbekistan

Republic has stated in the decree “On the Concept of development of farms in 2004–2006” from October 27, 2003 that all-round farms development in the future has been identified as prioritized for reforms in agriculture [3].

Based on resolutions № 243 and 543 of the Cabinet of Ministers, 17 farms identified as unpromising. As an experiment, they were completely eliminated, and 1 022 farms were created instead. The experiment started giving positive results from the beginning. Despite the lack of water that year, the average yield in the newly formed farms increased by 9 hwt. At the same time studies show the effectiveness of the material use was also high.

The Cabinet of Ministers in 2000 adopted a number of resolutions under which in 2001 instead of 52 unpromising farms 3428 new ones were created. In 2002 they created 3 099 farms on the basis of 83. In 2003, 177 old farms were replaced by 11 383 new ones. As a result, by the beginning of 2003, the number of farms was 71 406, with total land area reached 1 591.7 thousand acres (approximately 22.3 hectares per farm).

Proper attention to the farms formation during the transition to the economy with market relations expressed the basic content of the agrarian reforms. The creation of farms was carried out gradually and consistently. However, with deeper analysis it reveals that, despite the measures taken, there are

still a number of urgent problems that need to be solved. For example, there were problems identified such as inefficient use of land by some farmers, chronic instability of financial and economic conditions, inadequate supply of material and technical resources, soil and climatic conditions of different areas in the allocation of land, the neglect of issues such as density and employment, as well as inappropriate land division in accordance with the specialization of farms (growing cotton and grain, horticulture and viticulture, vegetable and melon growing, animal husbandry, etc.).

Decree of the President of the Uzbekistan Republic “On measures to optimize land area of farms” from 6 October 2008 was adopted in order to find a solution to such problems [3]. During the optimization process in order to ensure the realization of this document, the number of farms was reduced from 215.776 to 71.7 thousands, i. e. 66 % as of 2013. These farms operate at 5345.8 thousand hectares and employ over 1.3 million people. The land area per farm has expanded from an average of 27.4 to 81.7 hectares. In 2013, 35.0 % of the agricultural production gross in the country accounted for farms. Wherein, 99.1 % of cotton and 85.0 % of grain are produced by farmers [4]. In the years 2000–2013 the composition of cultivated land under economic categories has changed dramatically (Fig. 2). For example, if in 2000 the share of farmers came to 16.7 %, while in 2013 the figure was 84.6 %.

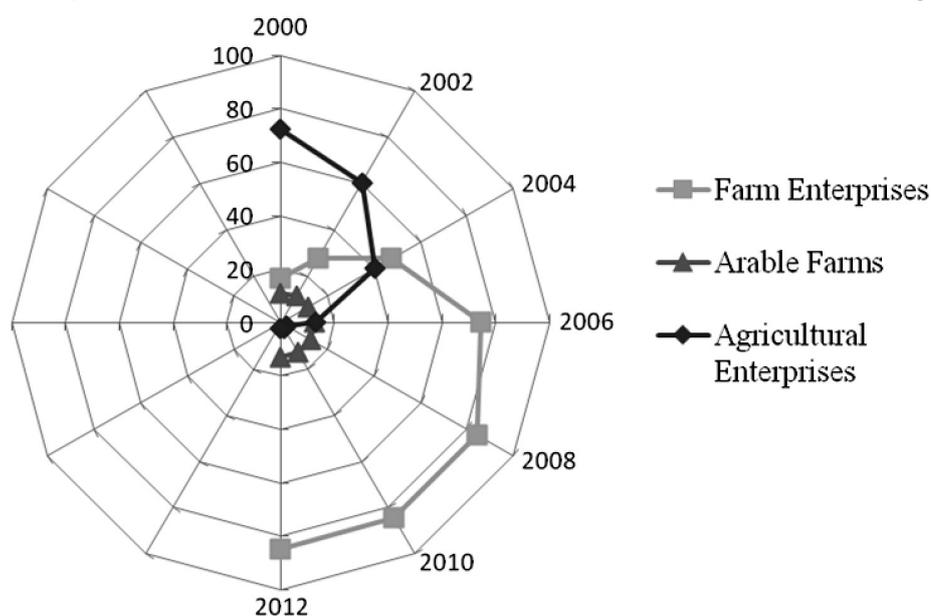


Fig. 2. Comparative share of cultivated area under economic categories in the Republic of Uzbekistan (2000–2012, in percentage). The graph is developed on the basis of the data from the State Statistics Committee of the Republic of Uzbekistan

As of 2013, more than 4.6 million of arable farms are operating in our country and 1 420.6 thousands of people are involved in this form of farm management. The share of arable farms in the gross output of agricultural commodities is increasing. For example, if in 2000 the share of arable farms in the gross output of agricultural commodities amounted to 47.5 %, in 2013 it amounted to 64.8 %.

In its turn, whereas in 2000 each arable farm accrued to 0.12 hectares of land, then due to increasing of the land

area, each farm currently has on average 0.24 hectares of land. In 2013, the total area of land allocated for arable farms amounted to 458 thousands of hectares, which made 13.1 percent of the total cultivated area in the country. Along with the positive changes, there are problems to be solved in the activities of farm enterprises and arable farms based on private property.

Generally, at the stage of the agriculture intensive development, the positive figures were achieved as a result of the optimal land and water usage, improvement of irrigated lands.

In the agro-economic system of the country, cotton production has a significant share leading Uzbekistan to be the fifth largest producer in the world and the third largest exporter of cotton.

In order to implement comprehensive measures for reconstruction, repair and rehabilitation of irrigation and reclamation systems (infrastructure), aimed at sustainable improvement of meliorated condition of irrigated lands, a State program designed for 2008–2012 was developed and gradually implemented. During the implementation of a specially developed program the meliorated condition of lands is gradually improving.

Only in 2010, the funds in the amount of 150 billion of soms were directed towards implementation of the projects for land improvement. It allowed to construct and reconstruct 724 km. of collector and drainage networks, 208 ameliorative wells. Over 14 thousand km of collector and drainage networks were repaired and restored, 335 units of modern ameliorative equipment were acquired. In 2010, the funds from international financial institutions amounting to more than 62 million dollars were raised and spent to reconstruction of irrigation and reclamation facilities in Kashkadarya, Bukhara, Navoi, Surkhandarya, Syrdarya, Jizzakh regions as well as in Central Fergana and the Republic of Karakalpakstan [6].

Through the implementation of such large-scale projects, the meliorated condition of irrigated lands has been improved, which in its turn serves as a basis for increasing crop productivity and income of farmers and arable farms.

Following the results of measures implementation for improvement of lands meliorated condition in 2010, the maintenance of groundwater at an optimum level for agricultural crops was achieved. Throughout the Republic, with respect to 2009, the area of relatively high and medium salt lands was reduced by 11.7 thousands of hectares; in the areas of ameliorative measures implementation only in 2009–2011 an increase in cotton yield by 1.6–2.5 dt/ha and lyme grass crops by 2.0–2.7 dt/ha could be observed.

In 2008–2012 throughout the country the meliorated condition of 1 500 thousands of hectares of irrigated lands was improved, the area of land with high groundwater level was reduced by 415 thousands of hectares or by just under 10 %, high and medium salt lands by 113 thousands of hectares or by 12 %. As a result, in 352. 1 hectares of 12 387 farms, where meliorated condition and water supply was improved, cotton yield increased by 2–3 dt/ha and lyme grass crops by 3–4 dt/ha.

Within the optimization of cotton cultivated areas the change in the composition of the cultivated areas due to the cultivated areas expansion allocated for lyme grass crops, vegetable and melon can be observed. For example, the cotton cultivated areas were partly reduced in Andijan, Kasansay, Chartak, Srednechirchik, Uzbek and Buvayda districts. Cotton sowing was completely denied in Asaka, Yangiyul and Jomboy districts.

Thereupon the freed irrigated lands in the area of over 30 thousands of hectares were used for cultivation of cereals, vegetables, potatoes, vegetable gardens and vineyards were created. As a result, in 2012–2014 while maintaining the cotton production level, cultivation of vegetables was increased by 16.3 %, melons by 16.6 % and fruit by 21 %. In 2012–2014 nearly 50 thousands of hectares of new vegetable gardens were created, including extensive gardens in the area of more than 14 thousands of hectares, vineyards in the area of 23 thousands of hectares; to create intensive orchards over 6 million of nurseries were brought from Poland, Serbia and other countries [5].

Thus, the undertaken studies suggest the presence of prospects for further agricultural development in the Republic. The particular importance of re-developed lands in the gross output of agricultural commodities in the region, improvement of mechanisms for efficient water and land usage requires measures that have a positive impact on the agricultural development in the economic modernization period.

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Section 9. Sociology

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Research of connection between mass audience and new media. Approaches to new model of mass communication measurement

Abstract: In this research the author examines changes to approaches of observation of mass communication. As a result of systemization of key theoretical models of communication, the author comes to conclusion of evolution of ideas about the process of mass communication measurement from linear to multisided and multiple.

Keywords: communication models, mass audience, measurement, media effect, new media, Internet.

Formation of the system of interaction of media and mass audience takes place from the moment of origin of television and radio till present time — appearance of phenomenon of Internet. Development of technical communication means, emersion of global network requires new conceptualization of communication as non-linear process. For a long time the perception of the concept of system of connection between audience and mass media was reduced to linear models of communication and measurement response as one of applicative aspects of estimation of communication effect. Bilateral and versatile process of mass communication is not so obvious.

G. Laswell's communication model [11, 37] — model of five questions: Who (communicator); Says what (message), Whom (receptient), In what channel or trough what medium this information has given to the audience, What is Effect (feedback), determined basic concept in the chain of "communication" and basic social functions of the system. At the same time "communicator-recipient-effect" model is too simple to describe many current communications, moreover in conditions of development of mass media and communication means. It presumes that communication happens as coordinated linear sequence of events, the assumption that no longer satisfies current technologically indirect informational environment.

Therefore we prefer **circular model of communication**. This model reflects the reaction of communicant to message of the source as a response. Particularly feedback makes communication a two way process (dialogue), allowing each side to correct its actions and aims.

If first linear models were primary aimed at research the accuracy of transmitted signals, which was accomplished by minimization of commercial noise in the channel, then in circular model main emphasis was made on message interpretation: each communication participant approaches decoding of transmitted message with his own criteria, which

leads to occurrence of semantical noise in communication process.

It is possible to minimize the consequences and make communication more effective (successful) only by means of response system.

Mathematician **Wilbur Schramm** [14, 8] believed that it is a big mistake to consider communication as a linear process that has beginning and the end. The researcher worked on development of **interactive** (or cyclic) **model**, solving a problem of noise reduction to facilitate information sharing at its best, and at the same time he was able to describe important conditions of connection between two elements, their interaction and mutual influence.

In reality the process of communication is infinite; to correct inaccuracy of linear models, it is necessary to emphasize cyclic pattern of communication, when participants (source and recipient) interchange occasionally.

Therefore Schramm interprets communication as two-way connection process, when information sender and recipient equally interact with each other, exchanging messages (signals).

Schramm's model demonstrates that when exchanging messages source and recipient shifting functions turn by turn, as a result communication turns into a dialogue. Model's authors had paid special attention to the problem of message interpretation.

Triangular **Newcomb's model** closely completes communication process with quality figures of information source, and turned up to be basic for appearance in XX century numerous studies on media impact.

The concept of feedback as a part of communication process was entered into theory by **De Fleur** [9], who completed his theoretical **communication model** circuit from source to aim with response feedback line. Response line repeated the way in opposite direction, including transformation message meaning under the influence of "noises".

With this action De Fleur illustrated his conclusion that information transmission efficiency along with increasing of the probability of correspondence between sent and received value had determined process of response (feedback) as measurable effect of communication.

By that time the practice of mass audience measurement has formed in Great Britain and US, in first place because of development such applicable tools as marketing, advertising, public relations, which introduced the “audience” definition. Measurement of response feedback from mass audience started with the appearance of such technical tool as radio and television.

First mass communication research looked like this: research was aimed at mass audience as an object, which generates response feedback during the process of television viewing or listening to the radio. Mass audience was perceived as heterogeneous object, which unilaterally receives signal from one complex technical source; at first respondent’s reaction was recorded in writing, and later automatically with means of special hardware technology facilities.

In middle of XX century socially or man-oriented systems: psychology, sociology, political science, cultural studies, anthropology, it have influenced the change of mass communication subject of research, emphasizing the study of the connection between audience and media.

Theoretical understanding of impact media on audience formed as close (self-contained) compared to the system of interpersonal or group communication. Problematicization of media influence on mass audience is nearly the most popular and examined trend in current mass communication development theory.

The object of media-influenced research in an infant state is media-content (including commercial advertising, news, entertainment programs, movies along with political performances) and processes prompting the audience from media side. Audience is considered as sum-total of different group of viewers (media production consumers).

Whereby study of connection between audience and media as part of influence conception of mass media acquire new features. At more early stage research targeted discovering and analyzing factors defining dependence of audience on type of content, at the later stage — close attention was paid to media-effects and media technologies. As explained by the authors of *Fundamentals of Media Effects* [4, 57] J. Bryant and S. Thompson describes key concepts of media influence, took Bandura’s social learning theory and emphasize in the range of key concepts of media influence “priming effect”, “cultivation theory”, “consumers and gratifications theory”, “diffusion of innovations” and “persuasive theory”.

“Priming effect” theory authors emphasize media messages as activators of mass audience. Separate memories, feelings are associated with new information and can affect human’s behavior in future. Communication behavior of the audience has task-oriented and reasonable character, laying emphasize in the theory of mass communication the concept of “active audience”.

Gerbner’s and Morgan’s “cultivation and mainstream theory” suggests that different cultures have different dominant complex of beliefs, opinions, values and habits, trying to draw “cultivation index” of evil world. However, the theory was not successful due to scientific critics it stepped out of theory concept and laid the basics for understanding opportunities (limits) of restrictions of media content on audience [10, 17–37].

Large part of “consumers and gratifications theories” is based on the idea of selective influence of media on audience and on concept of audience’s choice of specific structure of its consumption. Thus, Stephenson [17] concentrates on “subjective play” as on main factor of shaping media environment between audience and mass media. McQuail, Blumler and Brown [6] prove that rational choice and personal motives are crucial in media choice.

The “persuasive concepts” proved that stable relations between news agenda and its importance for the audience and processes of forming and changing and transformation of audience’s behavior under influence of changing attitudes. Thus, the Yale University academics [20], for example, proved that successful process of persuasion includes active attention, understanding and accepting of the message by the audience; message efficiency variables include information source trustworthiness, type of impact, order of argumentation, self-identification with specific social groups, certain personal characteristics.

Probability model comes from the fact that persuasion effect is determined by probability of reflection over persuasive message. During this process the opinion is formed (positive or negative), information rout («chain») determines the successfulness of source’s try to convince the receiver to adopt certain opinion.

According to academics of the Ohio State University [19, 369] the way to persuade the audience includes such media effects as mas-volume effect, simple reference points (markers) in the message itself and delayed action effect, which supposes the increase of persuasive effect as time goes.

Later studies of German scholars confirmed bilateral (two-way) connection between audience and media channels concept. Brosius H., Kepplinger H. [8, 893–901] came to conclusion that certain members of audience can influence media by setting the priority of news in mass media, and not vice versa. They also noticed that to set priority news and its importance for viewers non-linear models of communication are more appropriate.

Following aspects can be considered as “media effects”: persuasion effect, mass-volume effect and delayed action effect. McQuail [13, 2] also believed that all range of media effects research could be divided with the help of two coordinate axes. Sides of first axis are short term effects and long term effects, and other axis sides are intentional and unintentional effects. James Potter [21, 35–38] emphasized key parameters for “media effects”: time, timekeeping, scale, directional effect, the level of its display and other measurable parameters.

Science concepts of “media effects” more than any other draw near to description of Marshall McLuhan [12, 318–324], who understood communication as versatile process of connection of objects and media. From one hand communication influences human beings and society, and on other means of communication by only a fact of its existence, and at the same time undergoes various actions and produces new connections.

McLuhan times and media effects theories generated a discovery: human being (audience) can generate “media effects” itself.

Communication exists with condition that there is one actual value, general for members of communication. This perception of communication phenomenon has discovered the opportunity of emerging the new approaches to studies of connection between mass audience and mass media.

However life environment of this mass audience had changed radically in new era of information society [5]. The occurrence of Global Network had not changed fundamentally the “map” of measurement of connection between mass audience and media.

Traditional marketing approach to measurements of mass audience stayed the same after appearance of Internet. Thought Internet as specific technical system of data transfer has improved in time and space technical advantages of analyzing parameters of response feedback of audience, and exclusive technical potential of research as well.

Up-to-date American social scientists determine measurement of mass audience with the help of Internet it as macro-level method of audience perception, oriented simultaneously on description of mass media audience and on user, defining certain group [16, 45].

Internet research criteria of mass audience consist in several overlaying mass media. In data chains, received during studies of mass audience through Internet, researches can see what is popular and what is not, but they still have no idea of how and why consumers choose these parameters. At the same time if average performance user oriented data (for example time spent on page visit), can be easily received with the help of internet measurements, analyzes of user characteristics in relation to something, except from broad categories (like age and sex) are not widely widespread.

The occurrence of social networks had affected perception modifications about new types of connection in the network in the process of research of mass audience [2, 6–7]. Following scientists had studied network analyzes issues, its structural units and features G. Simmel, Durkheim, S. Neidell, P. Lazarsfeld, D. Moreno, A. Beivlas, and later — H. Levitt, D. Cartwright, F. Harary, D. Nouk, G. Kuklinski. Network analyze assumes that mass media products are the centers of the network, and intersections of different groups of audiences are the index of the connection between centers.

In this case connections between users (or group of users possessing certain attributes and connected with each other with different interactions, which in turn have different intensity of connections as part of communication act) in

the system of social network are measurable. Information is generated by different group of users in the process of communication and is gathered automatically.

Types of connections in social networks, compared to traditional methods of response feedback research, stated above in this paper, has diversified nature because of its multi-direction, which generates new connections and effects between users within its interaction and data exchange (posts, likes, tags, pictures) in social network.

Other important differential characteristic of network analyzes methods is measurements of diversified connections of users, including instant response (feedback) of users in real-time mode. For example message recipient in network can immediately react to message sender during communication or discussion (chat). At the same time network analysis cannot be viewed as part of the theory of mass communication, because traditional network includes interaction between users and media only indirectly.

To understand new types of connections in the process of mass communication on up-to-date stage of development we can use media innovations, which include elements of social network and mass audience connections.

For example as social television integrated functions of network communication, interactive television involves and interacts with audience with the help of active feedback in different forms with the help of different contact method (post, telephone, microphone, video camera, network).

Technical multiplatform decision allows viewers view content «on demand». Now tens of television entertainment and socio-political shows include elements of measurable responses feedback, voting for example.

New type of connection between audience and new types of media based on reduced light — weight data exchange between users groups in TV studio and remote locations.

And although the modern models of communication process as yet insufficiently use multiple potential of measurement connections between mass audience and media, new types of media greatly influence the character of communication studies, cleaning this field of many past assumptions, previous paradigms and methods [18, 213].

Dominant linear models of communicative effects make way for many-sides process of connections, which is based on interactive nature of new media now.

From now on communication phenomenon is possible between two and more (several) technological systems, solely because it is based on their generic unity. Mass communication exists with the condition that exists one actual (goal) meaning of the world and its simultaneous multi-reproduction in different points.

Its position required the new approach to research of mass communication process and measurement of connection between mass audience and media.

Conclusion:

1. New media determined the necessity of new approaches to measurement mass communication as non-linear

process. As a consequence development of new methods of measurement of connection between mass audience and media would consider many-sides and multiple.

2. The approach to research of connection between mass audience and media evolved along the axis from linear to multiple.

3. First methods of research of mass audience were based traditionally on measurement of responses feedback technical means.

4. Concepts of “media effects” draw near to the understanding of the process of communication as many-sided process of connection of audience and media.

5. Internet and social network analysis may be considered of research as example of the estimation for non-linear system of communication, where interconnections of users (or groups of users) between each other can automatically be measurable, and have a many-sides characters.

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Section 10. Agricultural sciences

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Treatment of lambs with contagious ecthyma of sheep

Abstract: Copper sulfate and kreoline have detrimental effect on the causative agent of contagious ecthyma in vitro. Copper sulfate solutions in the concentrations of 10 % and 15 % after a single application have an apparent therapeutic effect in lambs with contagious ecthyma of lips. Kreoline, as a therapeutic drug for virus dermatitis, turned out to be ineffective.

Keywords: contagious ecthyma, lambs, copper sulfate, kreoline, treatment.

Due to dissociation of federal and municipal veterinary services and difficulties in respect of timely and accurate veterinary statistics, one can form an impression about epizootic wellbeing with regard to certain infection diseases in Russia [1, 6].

Obtaining a proper breed and raising healthy young stock is one of the most important tasks of animal farming [2, 26]. To solve this task, timely and scientifically grounded performance of veterinary events aimed at disease control is required.

Contagious ecthyma occurs on the territory of Russia, particularly on the territory of the Siberian federal district [3, 49], Southern and North-Caucasian federal districts [4, 342–345], predominantly in the areas with dry climate [5, 85–88].

In the private sector, the animal owners do not want to perform specific prevention measures, thus, the major measures to fight a disease include general prevention events. Due to violations in their performance, therapeutic measures have to be taken as a result [6, 6–7].

Stationarity of a disease and steady problems at the farms with regard to this disease are explained by the peculiarities of sheep breeding [7, 55–58] and properties of a disease excitant [9, 58–59].

Economic damage caused to sheep farms is formed of the reduction of weight gain, fatness, growth and development retardation [8, 24] and, in separate cases, lethal outcome reaching 1.5–3 percent.

The struggle with them, especially at private part-time farms, is primarily based on the conduct of general prevention and therapeutic events in troubled flocks [10, 92–94]. However, it should be noted that many of therapeutic measures are effective only after preliminary removal of crusts and scald heads from the affected skin areas; repeated application of drugs is required for full recovery of ill lambs.

We tested the most available and cheapest drugs — kreoline and copper sulfate in water solutions in laboratory and production conditions.

In laboratory conditions, bioassay on lambs determined harmful effect on the virus of in vitro kreoline in three and five percent solutions and copper sulfate in 10 and 15 percent solutions.

Virus-containing suspension was made of crusts collected from lambs infected with contagious ecthyma on the base of the physiological solution of sodium chloride in correlation 1:10 in accordance with a method generally accepted in virus-related practice.

Prior to the application in the work, the virus-containing material was mixed in equal parts with solutions of copper sulfate and kreoline in the above indicated concentrations. It was maintained for 10 minutes under external temperature of 10 °C and then, four healthy lambs aged 5.5 months were infected with the mixture. The lambs were infected by way of rubbing the material in the wounded skin of the inner surface of thighs and on the chest behind the elbow joint. The virus-material mixed with the solutions of kreoline and copper sulfate was rubbed in on the right side and native material was rubbed in on the left side. The dose of virus material was 0.5 milliliters.

Changes in the infected areas in all lambs infected with virus-containing material mixed with the solutions of tested drugs were not observed within three weeks (observance period). Local vesicular-papulose process typical for contagious ecthyma developed in the areas of application of pure virus-containing material.

The results of the laboratory experiment enabled to conduct an experiment in in production conditions, in a flock with an acute outbreak of contagious ecthyma. 155 lambs out of 710 fell ill within 10 days. The disease went on severely. The skin of upper and lower lip of the ill lambs was affected fully. The lips were covered with rough crusts, which were difficult to separate from lower tissue. Some lambs were affected on the skin of nasal dorsum and chin.

The ill lambs were divided into five groups, two groups of 40 lambs and three groups of 25 lambs. Forty lambs were

treated with 10 % and other forty were treated with 15 % solution of copper sulfate; two groups of 25 lambs were treated with 3 % and 5 % of kreoline solution and 25 lambs were under control.

Crusts and scald heads were removed from the affected areas of the half of the lambs treated with copper sulfate; the exposed surface was then moisturized with solutions with the help of cotton tampons. The second half of the lambs was treated without removing the crusts. Herewith, a part of them (20 animals) were treated with tampons and 20 of them were treated by way of moisturizing the affected areas by forceful plunging of a head in a vessel with 10 % copper sulfate solution.

The affected areas in the lambs treated with kreoline were sprayed with solutions from medicinal bottles.

The dynamic of observations of lambs revealed the therapeutic effectiveness of copper sulfate solutions. In lambs treated with copper sulfate solutions with preliminary removal of crusts or without removal, the crusts exfoliated partly or fully on the forth-sixth day after single treatment. The full recovery took place on the 10th day.

In the lambs treated with kreoline solutions, the improvement was not observed within a week period. They all were repeatedly treated with 10 % copper sulfate solution.

Control lambs that were not treated recovered in 18–25 days. But, during the period of illness, they lost weight and got notably behind in growth.

Thus, high therapeutic effect of copper sulfate solutions in the concentration of 10 % during contagious ecthyma in lambs was established in production conditions. Kreoline solutions turned out to be ineffective for these purposes, although, in laboratory experiment, they had a harmful effect on the virus. It is obviously explained by the fact that kreoline destroys virus particles getting in contact with them in the suspended matter. In natural conditions, the virus is hidden under solid dry crusts, which kreoline cannot penetrate through. Another important circumstance is that contagious ecthyma is often complicated with secondary microflora, among which there are agents that are not sensitive to kreoline.

Copper sulfate in cauterized concentrations kills many kinds of the concurrent microflora as well as cells of healthy tissue surrounding dead tissue and contributes to its rejection. Furthermore, having a non-specific pathogenic effect of the tissue cells, it contributes to weakening of inflammatory process creating favorable conditions for keratoplastic processes.

Thus, copper sulfate in 10 % and 15 % solutions and kreoline in 3 % and 5 % solutions have a fatal effect on the agents of contagious ecthyma unprotected by protein-based medium (crusts) under 10 minute exposure under the temperature of 10 °C. Copper sulfate solutions in the concentrations of 10 % and 15 % after a single application have an apparent therapeutic effect in lambs with contagious ecthyma of lips. Kreoline, as a therapeutic drug for virus dermatitis, turned out to be ineffective.

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Influence of nanosilicas on seeds germination parameters and state of water in nanocomposites “ekostim” and partially dehydrated roots of wheat

Abstract: It is shown that nanosilica A-300 can stimulate the germination of wheat seeds like protective and stimulating mixtures based on methylated silica and mineral fertilizers. The state of water in partially dehydrated wheat roots at different stages of germination is investigated. It is found that the residual water in biomaterials is in the cluster state and is revealed as two signals with different values of the chemical shift in ^1H NMR spectra 5 and 1 ppm for strongly and weakly associated water, respectively. Nanosilica locating in the zone of germination significantly alter the concentrations of different forms of water. An assumption was made that bioactivity of nanosilica A-300 is due to the fact that it stabilizes weakly associated form of water.

Keywords: H NMR spectroscopy, strongly- and weakly bound water, water clusters, composite system, roots of wheat, trace elements, major elements.

Application of dust-like coatings, created on the basis of nanoparticles of silicas or their mixtures which actively influence water balance of germinative seeds and provide plants with local nutrition (the protective and stimulating mixtures — PSM), may become a promising direction of application of nanotechnologies for pre-treatment of seeds before sowing. Such protective pre-treatment can effectively solve the problems which arise in case of winter and early spring sowing for many types of crops [1–3]. Nanostructural forms of trace elements are being intensively sought at present time [4–6]. As the crystal nanostructures possess considerably bigger surface energy than the bulk ones, dissolution of them in soil moisture and transition to the germination zone may be performed with a significantly lower energy use.

At the Chuiko Institute of Surface Chemistry of NAS of Ukraine novel protective and stimulating compounds for pre-treatment of crop seeds before sowing, which provide an increase in germination capacity, decrease in number of affected seedlings and, eventually, increase in crop yield, were developed. They are nanocomposites, to the structure of which, if necessary, may be added a full range of essential major elements (nitrogen, phosphorus, potassium), trace elements (B, Mg, Mn, Zn, Cu, Mo, Co, etc.), crop protection agents, growth

stimulators, ameliorative agents, organic or microbiological fertilizers and adhesive-carriers [7].

The influence of silica nanoparticles on seed grain during early stages of germination has still not been fully investigated. In [8; 9] an assumption is made that nanoparticles may influence a state of water in the germination zone, and the method of low-temperature ^1H NMR spectroscopy is applied to demonstrate the capability of weakly associated water, whose molecules take part in formation of less than two hydrogen bonds for each molecule, to form at the interface of nanosilica particles or layers of PSM. A large amount of weakly associated water was found as well in a number of weakly hydrated biological objects, including seeds of wheat [8].

The purpose of this paper is to study the state of water bonded nanocomposites “Ecosim” and in roots of wheat during early stages of germination, and how it is influenced by the presence of particles of hydrophilic nanosilica or protective and stimulating mixtures, prepared on the basis of methylated (hydrophobic) silica and mineral fertilizers in a zone of contact between seeds and water medium.

Experimental part

A finely dispersed silica A-300 with a specific surface area of $300\text{ m}^2/\text{g}$, produced by **Kalush Test Experimental Plant**

(Ukraine) and synthesized by high temperature hydrolysis of SiCl_4 in a flame of an oxyhydrogen torch, was used. Methyl silica AM-1 (Kalush, Ukraine) is synthesized by treating aerosil A-300 with methylchlorosilane. PSM was produced by mechanochemical activation of methyl-aerosil AM-1 with a specific surface area of $300 \text{ m}^2/\text{g}$ in a ball mill in the presence of mixture (1:1:1) of potassic, phosphoric and nitric fertilizers.

Seeds of winter wheat (cultivar Kiyanka), which were couched in the Petri dishes at $(22-25)^\circ\text{C}$ in ordinary drinking water (control 1), in the same amount of water containing 1 wt % of finely dispersed silica (2), and pre-treated protective and stimulating mixtures (3), were investigated. On the bottom of cups there was a filter paper. Filter paper was moistened daily, i. e. seeds of wheat were constantly moist.

After three days of germination half of all seeds was taken, and calculation of germination energy was made for it; germination capacity, length and mass of roots and seedlings were estimated. On the eighth days the same observations were made for the rest of seedlings and roots.

The NMR spectra were recorded using a NMR spectrometer of high-resolution Varian Mercury (operating frequency 400 MHz). The 90° probe pulse with a duration of $3 \mu\text{s}$ was

used. The temperature was controlled by Bruker VT-1000 device with relative mean errors $\pm 1 \text{ K}$. The signal intensity was determined by measurement of area of peaks by using procedure of decomposition of signal into its constituents in the assumption of Gaussian shape of a signal and optimization of its zero line and phase with relative mean errors not lower than 5 % for well-resolved signals, and $\pm 10 \%$ for the overlapping signals. To prevent supercooling of water in the studied objects, the measurements of the concentration of unfrozen water were carried out on heating of samples preliminarily cooled to 210 K. Concentration of unfrozen water in samples was calculated by comparison of signal intensity of water in the sample, containing an unknown amount of water, with signal intensity of water, determined by thermogravimetric analysis. The initial humidity of root samples was 7 wt %. An NMR technique for measurements and determination of thermodynamic characteristics and radii of clusters of interfacial water is described in detail in [8].

Results and discussion

Values of biometric parameters of germinated seeds, which were grown under different conditions, are given in Table 1.

Table 1. – Biometric parameters of wheat germination in the presence of nanosilica A-300 and PSM in comparison with control

Parameter	Control	1 % SiO_2	PSM
Germination energy, %	67	75 (+8 %)	88 (+21 %)
Germination capacity, %	74	81 (+7 %)	95 (+21 %)
Seedling length, cm.	7.5	10,7 (+42 %)	11.3 (+50 %)
Wet weight of seedlings, g.	1.05	1.65 (+57 %)	1.66 (+58 %)
100 seedlings mass, g.	1.54	2.21 (+43 %)	1.9 (+23 %)
Root length, cm.	4.5	3.4 (-24 %)	8.4 (+86 %)
Wet weight of roots, g.	1.1	1.23 (+12 %)	2.0 (+82 %)
Amount of roots per plant, pcs.	2.6	3.7 (+42 %)	4.2 (+61 %)

As is clear from the Table, both nanomaterials may have a considerable stimulating influence on biometric parameters of germinated wheat. There is a significant increase of length and mass of seedlings, as well as amount of roots per plant. PSM has more influence on germination capacity and wet weight than the finely dispersed silica A-300 has. Thus, however, one should consider that PSM consists of the complex of mineral fertilizers, whose localization at the seed surface is provided by capsulation of them by the hydrophobic membrane consisting of particles of a methyl-silica, while A-300 may have a stimulating influence only due to the interaction of nanoparticles with biosystems of plant in a germination zone.

On the surface of most seed types there are hydrophobic areas which provide sensitivity to the hydrophobic component of product «Ekostim» (nanoparticles of methyl silica AM-1). Therefore hydrated powders «Ekostim» in the medium of low-polarity organic solvent may serve as a fine model of examination of interaction between particles of product «Ekostim» and water. For this purpose we chose deuteriochloroform, which in ^1H NMR spectra produces only small signal for the residual protons of CHCl_3 with chemical shift $\delta_{\text{H}} = 7.26 \text{ ppm}$.

Recorded at different temperatures ^1H NMR spectra of water in suspended in deuteriochloroform medium powder «Ekostim», which contains 12 wt % of water, are given in Figure 1. As is clear from Fig. 1, water is observed in the form of two signals (1 and 2) which have chemical shifts 5 and 1.2 ppm respectively. Density ratio of signals 1 and 2 is 2:1. According to the above-mentioned classification signal 1 relates to the protons of strongly associated water (SAW) regulated by hydrogen bonding network, and signal 2 — to weakly or non-associated water (WAW), in which the number of hydrogen bonds per one water molecule is less than unity.

Considering that salts which are present in product «Ekostim» possess significant hydrophilic characteristics, one may suppose that the signal of strongly associated water is determined by the water, adsorbed on the surface of salt microcrystals, distributed across the surface of hydrophobic silica nanoparticles. Dominating in spectra at low temperatures signal of weakly associated water may be related to the water on the phase boundary of product «Ekostim» and hydrophobic medium. The water on the boundary of product «Ekostim» and seed surface may possess the same characteristics.

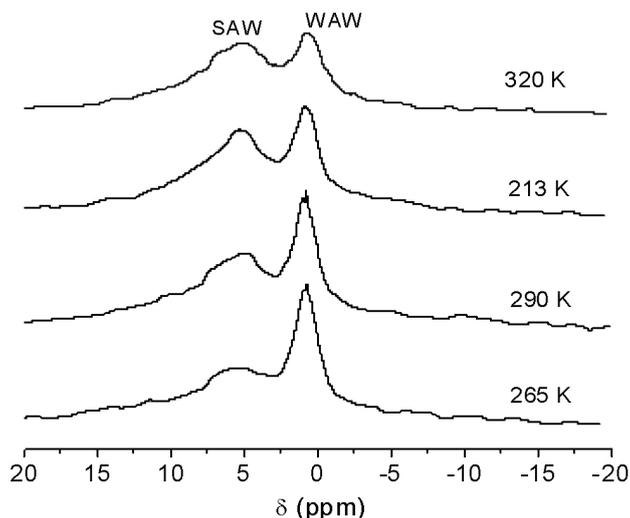


Fig. 1. Influence of temperature on the form of ^1H NMR spectra of water in suspension of the product «Ekostim», which contains 12 wt % of water, in deuteriochloroform medium

Thus the composition of the product «Ekostim» is quite complex (besides hydrophobic silica AM-1 it includes very soluble in water substances — urea, superphosphate and KCl) we chose one of the components, in particular urea — $(\text{NH}_2)_2\text{CO}$, to study water forms which may appear on the

phase boundary of nanodisperse hydrophobic-hydrophilic solid objects and low-polarity organic medium. In high-resolution spectra protons of NH_2 groups are recorded only in solutions, since in solid objects due to low molecular mobility the NMR signal is very wide [10].

Recorded at different temperatures ^1H NMR spectra of powders «Ekostim» which contain different amounts of water are given in Figure 2. Composites were received by mechano-chemical activation of methyl silica AM-1 and urea. Concentration ratio AM-1: $(\text{NH}_2)_2\text{CO}$ for all samples remained constant and was 1:4. The measurements were taken in low-polarity medium of deuteriochloroform.

In conditions of sample minimum humidity, which corresponds to its water saturation from air under normal conditions ($C_{\text{H}_2\text{O}} = 1 \text{ wt \%}$) several proton signals are recorded in deuteriochloroform medium (Fig. 2-a). Signals of chloroform and tetramethylsilane ($\delta_{\text{H}} = 7.26$ и 0 ppm , respectively) relate to dispersion medium. The dominating in spectra signal is the signal of WAW. It consists of two components, which differ in width and slightly differ in chemical shift. It may be assumed that narrower signal with weak intensity relates to water, dissolved in phase of liquid chloroform. Strongly associated water appears as well in the form of 2 signals, which may be related to signals of urea solution and water, adsorbed on interphase boundaries of heterogenous system.

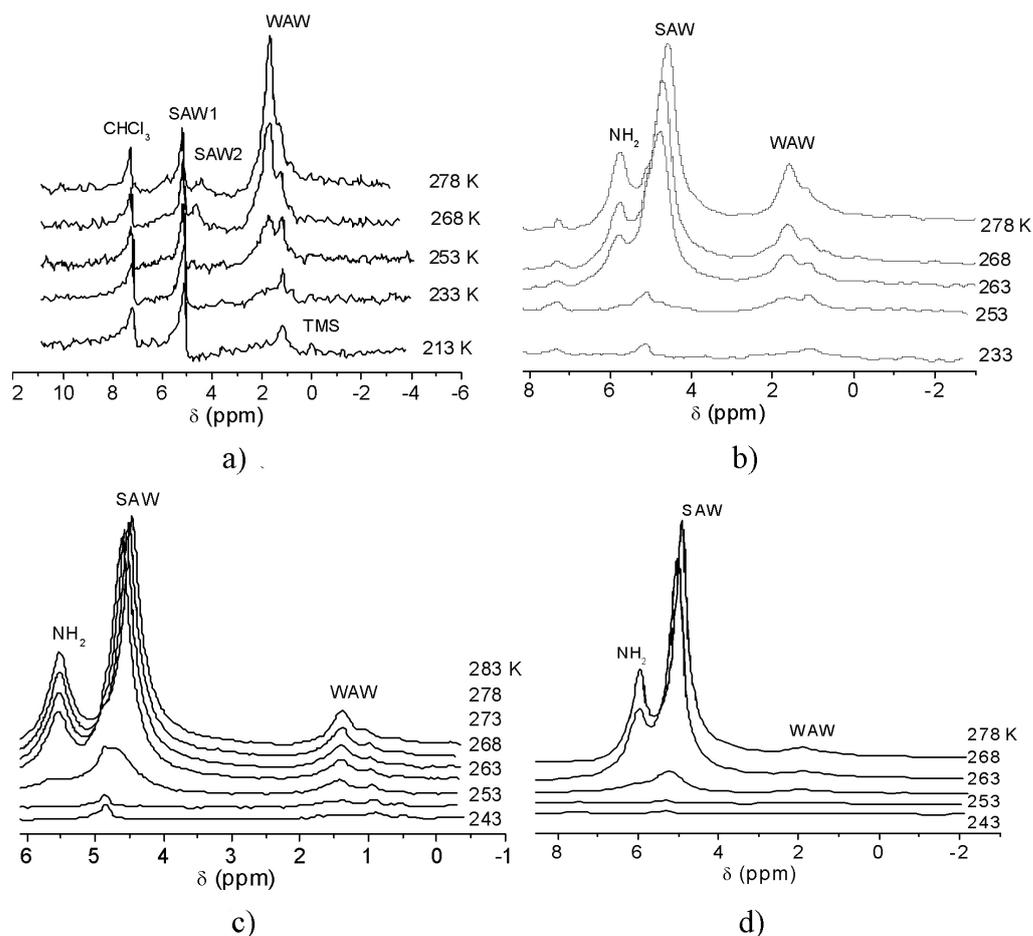


Fig. 2. Recorded at different temperatures ^1H NMR spectra of powders AM-1 adsorptively modified by urea in medium CDCl_3 under: a) — $C_{\text{H}_2\text{O}} = 1 \text{ wt \%}$; b) — $C_{\text{H}_2\text{O}} = 3.4 \text{ wt \%}$; c) — $C_{\text{H}_2\text{O}} = 11 \text{ wt \%}$; d) — $C_{\text{H}_2\text{O}} = 11 \text{ wt \%}$ after additional mechano-chemical activation in the presence of water

As the temperature decreases, the intensity of the signal of SAW2 decreases much greater, which gives reason to consider it as conditioned by less concentrated urea solution or integrated large water polyassociates [8].

As the concentration of water in sample increases, the amount of weakly associated water, related to the interphase boundary of nanocomposite and hydrophobic medium, decreases (Fig. 2b-d). In spectra the signal of NH_2 -groups with chemical shift $\delta_{\text{H}} = 5.6$ ppm appears. These data indicate that nearly all strongly associated water relates to liquid film of urea solution, forming on the surface of microcrystals of solid urea, which is a component of nanocomposite.

Recorded at different temperatures ^1H NMR spectra of water in partially dehydrated roots of the control sample of germinated wheat in air and in the low-polarity organic solvent — *deuteriochloroform* (CDCl_3) — are given in Figure 3. The deuterated analogue was used to prevent introduction of intensive signal of solvent protons in spectra. In air residual water is observed in spectra in the form of two stretching signals, whose chemical shifts are about 1 and 5 ppm.

According to the classification given in [8] they should be referred to weakly and strongly associated water (WAW and SAW respectively). The low-polarity medium leads to considerable decrease of the width of water signals, and SAW is recorded in the form of two signals — SAW_a и SAW_b , which differ in width and chemical shift. Thus the residual signal CH of protons of non-deuterated component of chloroform and CH_3 -groups of tetramethylsilane (TMS) added to chloroform as the standard are also observed in spectra. Considerable decrease of the width of signals in spectra should be referred to decrease in inhomogeneous broadening related to big difference between magnetic susceptibilities of air and biomaterial [10]. Signals of protons of glycan biopolymer chains, which form the basis of dehydrated roots, aren't observed in spectra considering very short (up to 10^{-6}) transverse relaxation time of protons in solids [10]. For other samples of roots (whose spectra aren't given) the spectra remained similar to those given in Figure 4 and changed only due to some redistribution of intensities of strong and weakly associated water signals.

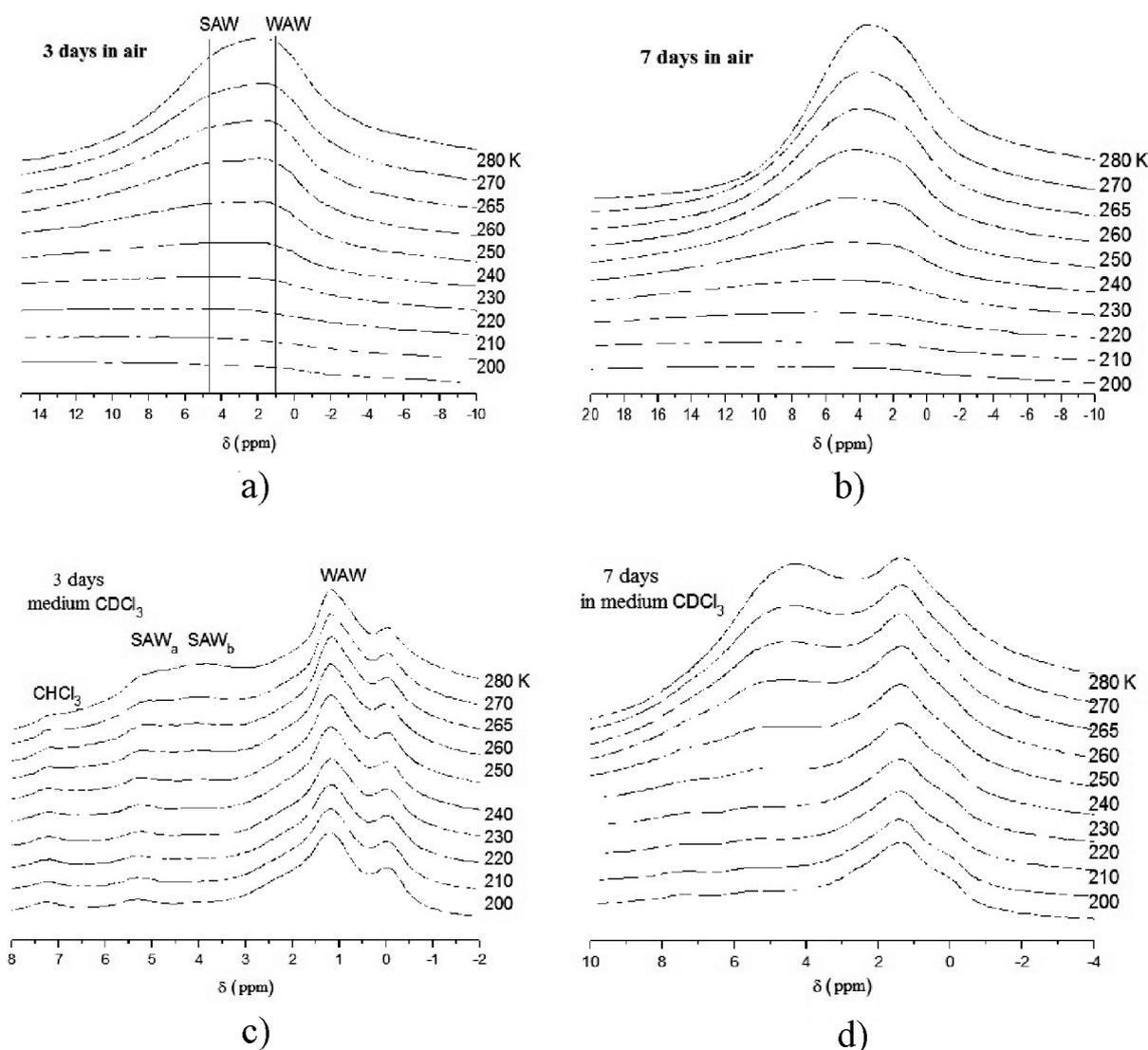


Fig. 3. Recorded at different temperatures ^1H NMR spectra of water in wheat roots at their humidity of 7 wt% in air (a, b) and in the medium of CDCl_3 (c, d) in case of germination of them within 3 (a, c) and 7 (b, d) days

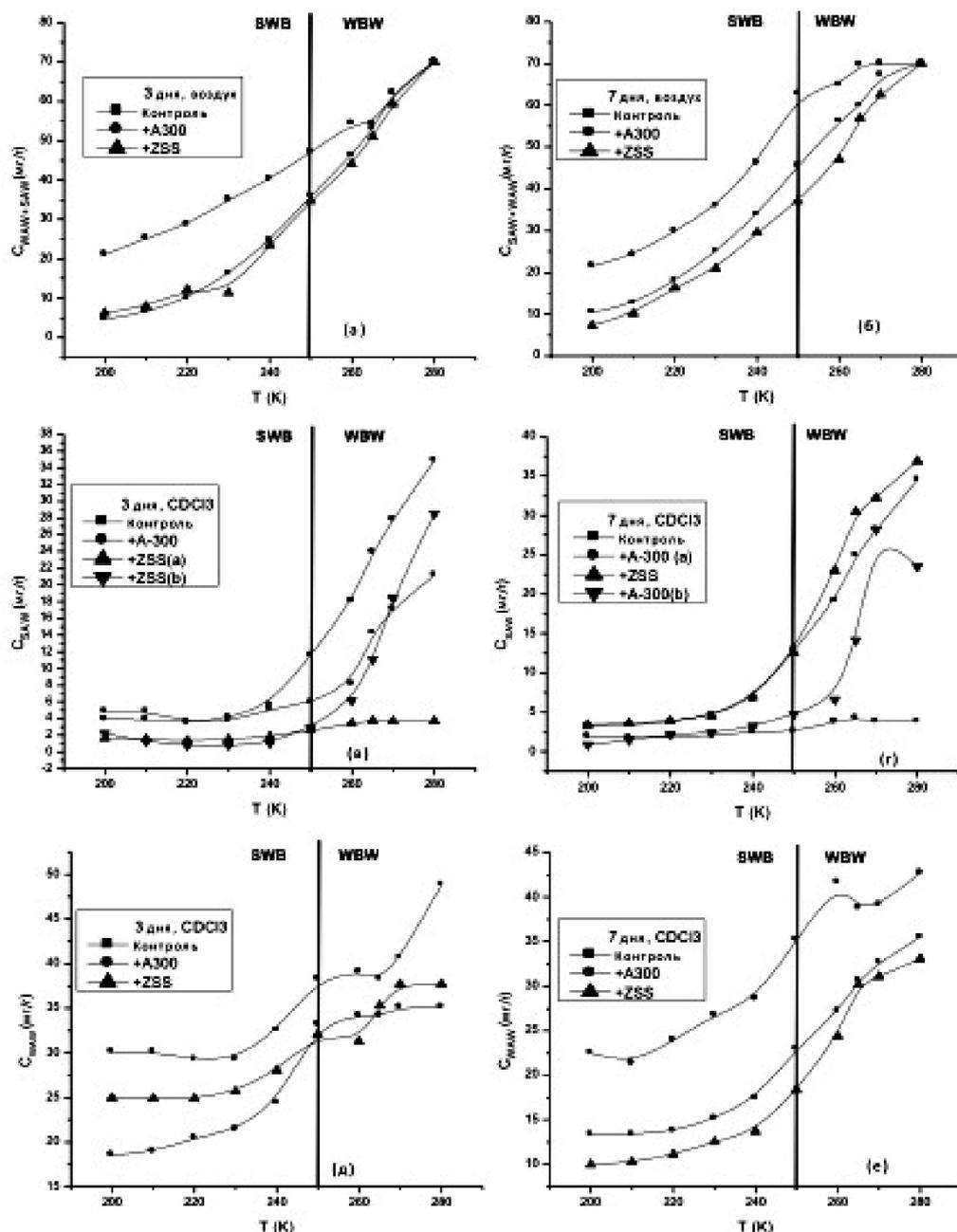


Fig. 4. Temperature dependences of signal intensity of different forms of interfacial water recorded in air and in the medium of CDCl_3 in partially dehydrated wheat roots at various terms of germination

It follows from Fig. 3 a, b, that with decrease in temperature the signal intensity of SAW decreases much more strongly, than WAW, i. e. weakly associated water is mainly strongly bound water (SBW, which is capable of freezing at $T < 250 \text{ K}$ [8]). The low-polarity medium of chloroform reduces the capacity of WAW for freezing even more (Fig. 3 c, d). The correlation of intensities of weakly and strongly associated water may significantly change with the increase in time of germination, and this effect depends on the measurement medium. So, in air (Fig. 3 a, b) after 3 days of germination slightly stronger signal intensity of WAW is recorded, and after 7 days of germination slightly stronger signal intensity of SAW is recorded. On the contrary, in the medium of CDCl_3 (Fig. 3 c, d) along with the increase in time of germination the amount of SAW increases drastically. This implies, that even the hydrophobic organic

medium isn't inert to the water localized in the internal cavities cased in a biopolymer (cellulose) matrix of material of dehydrated roots, and is capable of influencing correlation of amount of different water forms, as well as energetic parameters of water bounding with inner phase boundaries.

Temperature dependences of signal intensity of different forms of interfacial water for partially dehydrated roots couched in the presence of nanosilica A-300 and PSM in comparison with control are given in Figure 4. For recorded in air spectra only total amounts of strongly and weakly associated water ($C_{SAW+WBW}$) were calculated, since the division of the broad, closely located signals led to considerable miscalculation. In the medium of CDCl_3 , when possible, concentrations of two types of strongly associated water ($C_{SAW(a)}$, $C_{SAW(b)}$) and weakly associated water (C_{WAW}) were calculated. Vertical

line at $T = 250$ K allows to estimate the content of strongly and weakly bound water (WBW which freezes at $T > 250$ K) for each studied system.

From the results shown in Fig. 4 it follows that in air (Fig. 4 a, b) in samples there is a great amount of weakly and strongly bound water. The contribution from WAW decreases for the sample couched in the presence of A-300. In the presence of PSM after 3 days of germination the correlation WBW/SBW slightly changes, and after 7 days the amount of WBW increases a little.

In the medium of CDCl_3 the major part of strongly associated water, recorded in spectra as a signal (b), is weakly bound (Fig. 4 c, d). At the same time almost all water, which is observed as a signal (b), belongs to the strongly associated water. After 3 days of germination in the medium of A-300, in the layer of SAW, the part of weakly associated water decreases, and after 7 days — increases.

In a layer of weakly associated water (Fig. 4 e, f) after 3 days of germination in the presence of both nanomaterials the decrease of total amount of WAW is observed, and the minimal values of C_{WAW} are recorded in the presence of finely dispersed silica A-300, however for this sample after 7 days of germination C_{WAW} becomes maximal and is more than 60 %

of the total content of water in biomaterial. Over half of total amount of weakly associated water should be referred to strongly bound water.

The conclusion

Thus the nanostructured highly dispersed silica A-300 as well as PSM on the basis of methylated silica may have an essential influence on biometric parameters of germination of wheat, increasing the volume and mass of forming seedlings and roots. It is discovered that water in partially dehydrated wheat roots at different stages of germination is in a cluster state and in strongly and weakly associated forms which are registered in ^1H NMR spectra in the form of separate signals differing in size of chemical shift.

Germination of seeds in the presence of nanomaterials changes a correlation of concentrations of different water forms. The size of the effect depends on the type of the used material and period of germination. In the presence of finely dispersed silica A-300 after 7 days from the beginning of germination in samples of roots the maximal amount of weakly associated water is recorded. Apparently it's one of the main factors defining high biological activity of this nanosilica, which is capable of stimulating development of plants even in the absence of nutrients introduced from the outside.

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Section 11. Transport

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The concept of improving environmental engineering systems for integrated waste management ships (IWMS)

Abstract: The article is devoted to the design of special systems of IWM ships using activated oxidation technologies. The article discusses the features of the systems and components for ship-generated waste processing, combined into a single complex and presents the ways of upgrading existing systems.

Keywords: integrated waste management ships, activated oxidation technology, upgrading of ship systems.

After consumption by the vessel the polluted water and air are discharged into the environment, compromising its ecological status. In this regard, it is necessary to provide such characteristics of the vessel, which would bring her to an environmentally safe entity, the impact of which on the nature does not jeopardize it to risks meeting standards and requirements [1; 2; 3].

In accordance with currently accepted classification of ship-generated waste, fixed by international regulatory documents there are three main groups of [4; 5; 6; 21]:

1. Liquid waste, which include: waste water (WW); oily water (OW); ballast water (BW); contaminated water requiring special treatment.
2. Solid waste (garbage).
3. The waste gases (exhaust and smoke gas of the engine, gases generated by turbines, boilers and incinerators).

The main ways to reduce the negative impact of river vessels on the environment is to implement the following measures.

The volume of waste water on ships is in direct proportion to the water consumption. Therefore, diminishing the impact on the environment by the vessel-produced waste water may be effected by reducing water consumption or using turn-around circulating systems [7; 8; 9].

Firstly, it is necessary to reduce the water flow through the water fittings of the galley, showers, sinks and toilets: due to throttling the flow of water at different pressures on the decks (2...3 % savings); by reducing the time of idle running out (up to 30 % saving).

Ship aboard circulating systems can be used in utility water systems: for flushing toilets, boiler feed water, cooling systems of ship power plants (SPP), and gas cleaning plants (with the "wet" processing methods). Implementation of the above measures calls for cleaning and decontaminating waste water to satisfy certain conditions [7; 8; 9].

Active engineering protection of nature implies the use of shipboard waste water treatment plants. The final operation processing technology is always disinfection, which allows you to reach the standard parameters of treated wastewater. Most often chlorine and ozone are used as a disinfectant in ship waste water treatment plants. However, in recent years ultraviolet radiation (UVR) [10; 11; 12] and thermal oxidation [14; 15] are used, giving the ability to create circulating water supply systems [13].

With the existing technologies to ensure the quality of purified water the treatment plant is designed with a significant margin of purity level which is hygienically guaranteed by excessive concentration of bactericidal agent. It is known [14; 15; 19] that the wrong dosage of selected reagent instigates the formation of by-products of oxidation, which are difficult to remove in the cleaning process and are more toxic than the original pollutants (phenols, chlorides, bromate, formaldehyde, ketones et al.). This is especially dangerous when such water contaminates the water supply systems. This state of the art requires a mandatory regulation of disinfection process.

Thus, it is expedient to use activated oxidation technology involving the combined action of environmentally friendly oxidants — hydrogen peroxide, ozone, copper or titanium ions, UVR (" $H_2O_2 + UVR$ ", " $O_3 + UVR$ ", " $H_2O_2 + O_3 + UVR$ ", " $TiO_2 + UVR$ ", " $H_2O_2 + O_3$ ", etc.). Hydroxyl radicals OH decompose organic substances down to complete mineralization, and hard oxidizable inorganic impurities are oxidized to higher forms of oxides and removed by follow up filtration. The efficiency of the method is explained due to synergistic effect of separable actions of each of the means [16; 17; 18]. Considering the characteristics of the aboard treatment plants the most acceptable treatments here are " $O_3 + UVR$ ", " $H_2O_2 O_3 + UVR$ ".

Another way to upgrade the wastewater treatment plant is cavitation processing of waste water. Mechanical,

electromechanical, hydraulic, vibroacoustic devices [19] are now being applied in this treatment.

The ship wastewater treatment plant necessitates the device that meets the following requirements: inlet low suction head ((200...500) kPa.); the possibility of the reagent feed directly into the zone of cavitation incipience, high performance with low weight and dimensions; simplicity of design and operation; long service of elements when working in aggressive environment. Data analysis [19; 20] shows that out of all the varieties the hydrodynamic cavitators mostly satisfy the aforesaid requirements.

Due to the increasingly stringent requirements of the Russian and International legislation in the field of pollution prevention it is advisable to use the following ways in clean up oil polluted water challenge:

1) To equip vessels with modern cleaning stations providing the necessary quality of treatment for a given performance. However, high cost and considerable weight and dimensions of such equipment prompt to use it only in the vessels of integrated waste management.

2) To use oil polluted water after pretreatment in water-fuel emulsions boilers and incinerators. This will enable not only forego part of cleaning equipment, but also reduce the amount of harmful substances in the smoke gases, which is appropriate both in environmental and financial aspects.

3) To construct combined shipboard treatment systems for waste and oil polluted water cleaning. This will enable effective cleaning using universal environment processing technologies that have dramatically different baseline characteristics. This makes it possible to use standard hardware components and with the possibility of grouping them into aggregates, which in turn will reduce the weight and size, as well as energy consumption. Reliable and high-quality waste and oil polluted water cleaning is only possible in the implementation of multi-stage processing scheme, the same techniques being used in post treatment. As noted above, the basis of the combined system should be a ship waste water treatment plant with the addition of oil pollutant processing unit, these being involved at the initial purification stage, and the addition of the elements of the automatic monitoring and control of discharge in the final stage.

Regarding the ballast water one can conclude that efficient and practically applicable methods are the following solutions:

1) Ballast water treatment on board with the help of special purification systems. The analysis of existing designs has shown that practically all manufacturers use filtration and UVR disinfection or active chemical in processing [2; 9].

One area of development in ballast water purification systems is the use of cavitation in combination with ozone oxidation of ballast water impurities. There is also advisable to use hydrodynamic cavitators with adjustable ozone treatment. The method will yield good results, but setting up special equipment would be costly for shipowners.

2) Creation of floating ballast water processing stations in the ports or the installation of such systems aboard

waste management vessels. The use of the stations of high performance aboard craft will allow multi-purpose solving the ballast water problem in a specific area. Mobile waste management vessels can easily be adapted to the navigational situation in the fairway or port waters, providing high quality and timely ballast water treatment of transit vessels and other services in maintenance of the fleet.

3) Construction of "ballast less vessels" can fundamentally solve the problem of ballast water, but this method is applicable only for the vessels that are being designed and newly constructed, and is associated with a number of technical difficulties.

4) Re-use of ballast is also quite effective, but being simple and relatively inexpensive to implement, it will entail a processing station for primary treatment of ballast water as well as different systems and storages of large capacity.

5) Treatment of ballast water in specialized receptacles. This method is more efficient, safe, and cost of such treatment is low in comparison with other techniques. However, the advantageous use of receptacles will cause re-routing and idling of ships. It should be noted that these means have not been under consideration yet in Russia.

Supplying large and medium-sized vessels with incinerators solve the problem of the garbage destruction, and under certain conditions, and disposal of all major types of shipboard garbage with simultaneous generation of heat. Various sludge produced by processing stations, and fuel oil residues can also be used as fuel for boilers and incinerators aboard ship.

The mechanism of formation of toxic substances in the exhaust gas on the one hand and the smoke gas on the other generated by ship power plants is fundamentally different; this fact does not allow to reduce the emission by a universal remedy. Two ways are possible in problem solving: reducing gas hazards during gas formation and decreasing toxicity.

Possible ways of reducing the harmful substances of the exhaust gas are given in the literature [22]. The most promising four low-cost measures to reduce pollutant gas emissions — gas cleaning, pretreatment of fuel, treatment pollutants in water-fuel emulsions boilers and recycling [22]. Their implementation does not require significant modernization of ship power plants, which means that they can be used for vessels under design and vessels in service.

There is also promising application of fuel additive and alternative fuel grades [23], but so far their use in the fleet is constrained by economic factors. On larger vessels and waste management ships an additive to the main fuel may be the alternative fuel — the biogas generated from waste water sludge.

However, for a number of medium-sized and small river boats installing the mentioned equipment on board is not possible. This is due to several factors: the small amount of waste, significant weight and dimensions of installations, high energy consumption, high cost of equipment, the additional costs of operation, maintenance, repair, etc.

Thus, for river vessels it is expedient to separately accumulate waste and subsequently transfer it ashore for processing at enterprises. However, having considered pros and cons, we can conclude that it is not optimal. This is explained, first of all, by the economic side of the issue. There is the need of a developed, long-lasting operative infrastructure with significant costs to run it. The system is thus rigidly tied to the geography of onshore facilities and cannot be changed along with the freight and passenger traffic changes due to its constant performance.

Therefore, one can recommend the use of self-contained waste management vessels as an optimum solution to the problem of ship waste. Their commitment is imperative and will be able to eliminate the major shortcomings of the existing system of integrated fleet maintenance due to mobility, maintenance of any navigable area, maximum efficiency. The vessels do not require the construction of capital facilities and are of low cost in construction and operation. The systems of processing certain types of waste, combined into complexes, can provide high quality cleaning, answering both existing

demands and the future requirements of environmental legislation. In this respect it is possible to use a single oxidant — ozone for all processing complex.

In this case, it is advantageous to use technologies aiming at utilization of waste rather than at disposal of waste [3; 7, 18]. Thus, oil sludge, dry garbage, oily and waste water sludge are disposed of by incineration. It is promising to use alternative fuel — the biogas generated from sludge and food waste. The resulting heat should be used for the needs of the vessel: technological systems, ship power plants, etc., the excess energy can be transferred to external customers. As a result of waste management technology the vessel will collect a small amount of unprocessed debris and dry bottom ash to be transferred into shore-based processing plants.

So, to solve the problem of ship-generated waste the use of a new type of waste management vessels [24; 25] is here suggested, featuring an integrated approach to utilize ship-generated waste with the view of maximum economic benefit to the consumer at the lower operating cost.

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Section 12. Philology

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Effective communication with credit experts of commercial banks (some aspects of work of small innovative enterprises at higher education institution)

Abstract: Small innovative enterprises at higher education institutions provide non-standard educational services for various categories of consumers. The work of the banking sector of economy is one of the objects of research carried out by the enterprises mentioned. The article deals with the description of speech strategies used by commercial bank credit experts. The research is intended to help potential borrowers to understand credit conditions offered by the banks in detail.

Keywords: speech strategy, small innovative enterprise at higher education institution, educational service, credit expert, commercial bank, client, consumer loan.

Public-private partnership is a set of forms of medium and long-term interaction of the state and business for the solution of socially significant tasks under mutually agreed terms. A small innovative enterprise at higher education institution is one of the most relevant ways of realization of this partnership. Such enterprises are established due to synergy of financial, scientific, technological, personnel and methodical resources of an educational institution and business structures. The scope of activity of small innovative enterprises ranges from introducing innovative technologies in production process to providing up-to-date services focused on consumer interests. The enterprises provide non-standard educational research and development, practice-oriented, methodical and other services for various categories of consumers.

The work of the banking sector of economy is a timely topic requiring special attention in the workflow of small innovative enterprises as consumer spending and consumer lending are the main driver of the GDP growth in the current market conditions. Any government is certain to be interested in

this driver functioning in the long run. Consumer lending is extensively developing in the Russian Federation. Moreover, experts note the upsurge of unsecured consumer lending. However the increasing number of loans is accompanied by the growth of consumer loans in arrears. This fact indicates that more and more citizens meet financial difficulties due to various circumstances and cannot pay a loan off in time.

The number of commercial banks in Russia has considerably increased against the background of rapid development of the retail lending market. The purpose of the credit organizations is to form extensive credit portfolio in the shortest possible time. The bank doesn't worry if a borrower is unable to meet the credit agreement conditions. The security service will help the bank to get the money back or the overdue credit will be bought out by one of numerous debt recovery agencies. As the regional portfolio of consumer credits grows, the number of the bad loans also increases.

The reason of such an ambiguous situation is in good advertising and adequate marketing policy of credit organizations.

The announcement “Sale of credits” and people offering bright leaflets of some banks with tempting proposals have become a common thing today. We all have got used to endless sms messages and email letters from some banks. These tools are working successfully and they earn huge profits for the banks as the credit that can be taken out with only one document in five-minutes time implies a very high interest rate.

Appeared at the market of consumer lending brokerage firms also play an important role. For a definite commission these firms “will help” everybody to get a loan “under the best possible conditions” no matter how clear your credit history is and how much money you earn.

Availability of credits (point-of-sale loans, on-call loan specialist coming to your workplace, etc.), a simplified procedure of drawing up loan documents, a great number of credit consultants being perfect masters in strategies of persuasion make customers subscribe under unprofitable credit agreements.

The target of this work is to identify the speech strategies used by credit experts dealing with the bank clients. According to O. S. Issers the speech strategy is “the cognitive communication plan that controls the optimal solution of the speaker’s communicative tasks in conditions of the lack of information about the partner actions” [1, 100]. Procedurality of a speech act implies the choice of definite speech patterns used to influence on the interlocutor as “strategic planning of speech is carried out by selecting some speech steps aimed at achievement of the target” [2, 204].

Banks carefully choose both their borrowers and the bank’s credit officers. It results from the necessity to minimize the risks assumed by the bank while granting a loan and the intention to maximize the loan portfolio. The lower the risk is the higher profit the bank gets and the less the bad debts portfolio is. That’s the reason the bank staff advising clients is thoroughly trained before the independent work and is guided by the effective consultation algorithms and speech patterns.

The data for this study were collected by means of the interview with 15 loan officers of different commercial banks based in the Kemerovo region. The analysis of the interviews let to distinguish several speech strategies. The consultation algorithms and speech patterns used by a loan officer aim to conceal some unattractive loan conditions. To assess all pros and cons of a loan offer the person who comes to a bank for getting a loan needs to understand exactly what the loan officer talks about, i. e. what speech strategies he uses to make him subscribe a loan agreement. The strategies identified through the analysis are listed below.

1. Strategy “Active search”. Surveys carried out by credit organizations show that 65 % of borrowers found out about the opportunity of getting a credit in some shops or trade centers or through direct-mail advertising. As the result loan officers are in permanent active search. They visit organizations, make phone calls to potential customers, hand out promotional materials. Potential clients should be aware that the only aim of these contacts is to make them get a loan by any means. The piece of advice that can be given to a potential

«victim» is as follows: if you have no need in getting a loan at present pay no attention to a bank’s tempting offers.

2. Strategy “Care and attraction”. The conversation with a bank customer begins with establishing the rapport. As a rule, a loan officer finds out the first and the middle names of the client to address only officially afterwards. The officer makes it not because he is very polite. His only aim is to establish the customer’s loyalty to the bank’s services. Psychologists consider that being addressed by the first and middle names the client feels significant and special for the bank. The officer usually makes only the illusion of some special esteem and care of the client. Nevertheless, this strategy works quite successfully.

3. Strategy “Target”. The customer is always asked the questions like “What is the target of your loan?” or “What do you need the loan for?”. He strongly believes that the loan officer is looking for some credit product that is the most advantageous for him. However this is one more illusion. The true goal in this case is to elicit the key motives and needs of the client to use them afterwards for “processing the client’s objections” connected with the high interest rate, expensive insurance, etc.

When the client hears the arguments aimed to meet his needs he unconsciously misses the information about the interest rate, the insurance rate and some other important conditions.

4. Strategy “Demand loan”. Loan officers present a specific banking product based on the needs of the client. However you should not think that the bank has created tens and hundreds of various loan programs. It is not so. As a rule, the range of services offered by commercial banks is limited to 4–5 key loan programs. For effective presentation of the bank’s products the loan officer uses the patterns like “According to your need...”, “This product can perfectly meet your needs...”, etc. These and similar speech patterns make the client believe that this is the only bank that can offer him some special credit product.

5. Strategy “Camouflage”. While communicating with a client the loan officer is obliged to greet, answer the questions, describe the bank’s products and say good bye very politely with a warm smile. The essence of this behavioural model is to leave a positive impression of the visit to the bank. The client does not necessarily agree to get a loan at that very day but the bank managers are absolutely sure that he will come again to the place where he felt comfortable. This is the reason to pay your attention to the loan terms exceptionally and ignore smiling loan officers, a cozy atmosphere, a pleasant colour range and the office ergonomics.

6. Strategy “Speech deception”. The key stage in the work of loan officers is the Work with Objections block. The purpose of this stage is to convince the client that the offered loan conditions are quite acceptable for him. The point of the high interest rate is commented like this, “Ivan Ivanovich, the interest rate of what bank do you compare our offer with? Do you know that in other banks there are large hidden commissions which nullify the attractive interest rate by the total

overpayment?”. Another argument might be, “Ivan Ivanovich, in fact, the rate is not as high. You’ve said that you will pay the loan out in advance so the total payment will be much lower in your case!”. There are two aspects to remember here. At first, you as a client can face some financial problems that prevent you from full repayment before the maturity date. As a result the amount of the overpayment will be quite substantial. Besides, according to the banking legislation of the Russian Federation, banks are not allowed to include any hidden commissions in the loan cost. So, all similar arguments are used with the only purpose to bring a potential client to the right decision.

7. Strategy “Game of terms”. Some bank’s clients don’t understand the difference between the interest rate, the overpayment and the total cost of a loan. This circumstance is often used by banks. For borrowers to be aware of the main loan terms there is the following explanation. The total cost of a loan is the expenses for serving the loan expressed in percentage that include interests on credit, different commissions and other costs covered by the loan agreement and the bank’s tariffs. The total cost of the loan is expressed in an interest rate and is tied to the amount of the principal debt. Let’s assume that some borrower gets the loan of 100 000 roubles for 5 years period. The agreement states that the total cost of the loan equals 200 %. It means that the borrower will pay back extra 200 000 roubles in the form of commissions, payments, interests above the loan amount. As a result, the total sum of the payments will make 300 000 roubles. Loan officers do not usually comment on the total cost of the loan but appeal to the interest rate instead to disorient the customer.

8. Strategy “Pseudo-economy”. Advertising or loan officers often use the phrase “The annual overpayment will make only 15 %”. This wording creates some favourable impression about the bank and diverts the customer’s attention from the real loan terms. In this case the borrower should always remember to multiple the rates by the number of years that is the period of the loan. If the period is 5 years so the overpayment will account 75 %. Besides this strategy is mainly used by the banks that offer their clients the highest interest rates.

9. Strategy “Additional sale”. In case the bank client wants to get a short-term loan he often refuses life and health insurance. However the bank doesn’t have full credit-back guarantee in this case. So to persuade customers loan officers change the term “Insurance” to “Financial protection”.

They say “We offer you the financial protection not the life or health insurance!”. This term creates an impression of safety and care. However the borrowers should be alerted that the difference is only in terminology not in the amount saved.

10. Strategy “Back question”. The client that is not happy with the credit conditions asks the loan officer some specifying questions. The loan officer uses the Back-question strategy, cf.: “Your interest rate is too high!” – “Do you really consider our interest rate to be too high?” – “Yes, I do!” – “What is important for you: true information or pleasant deception?” – “True information, of course!” – “Well, you should understand that today any other bank offers loans on the same conditions but you’ll have to pay some additional insurance as well as hidden commissions. While our bank is fully honest with you! We do offer you the best conditions as our rate is all inclusive!”. A potential borrower should be very careful of this speech strategy as during such conversation he gives the loan officer additional information to be easily persuaded.

11. Strategy “The active listener”. The essence of this strategy consists in the ability “to keep correct silence” (to give a potential borrower possibility to speak out, to express his/her fears). A loan officer keeping correct silence creates an illusion that he/she is fully interested in the client’s problems and is trying to find the most profitable loan terms. The customer is absolutely sure that such a good person can’t deceive him.

12. Strategy “Shift to the future”. Bank employees quite often attract their potential borrowers by some benefits that they can get in the future: “You doubt if it is worth getting a credit card? This is the money just in case! If you don’t use the card you pay nothing! But if you need some money one day you won’t have to borrow it at your friends or relatives. Just use your credit card!”. The possibility to have “near” money without any additional costs always tempts people.

So, the given list of strategies used by loan officers is not complete for sure. Not to be caught on the hook potential borrowers should be aware of these strategies and tactics. Besides it’s a good idea to study some bank terms to understand what is going on while you are in a bank. Moreover before the visit to a bank the borrower should clearly understand what exactly he needs and what loan conditions he is able to meet. We consider that small innovative enterprises at higher education institutions can provide some educational services to eliminate financial illiteracy.

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Section 13. Philosophy

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Interpretation, truth and translation

Abstract: This paper purpose is to consider the relationship between understanding, interpretation and semantic truth, and to introduce the problem of semantic truth as a problem of translation. Acceptance of such treatment results in some epistemological conclusions.

Keywords: understanding, interpretation, meaning, senses, fact, truth, truth-value, translation.

One of the modern philosophy characteristic features reflecting real processes taking place in modern socio-cultural universe is a so called “linguistic turn” in the process of thinking and consciousness study. In this case the language is interpreted as something more “objectal” (structuralism), “real” (phenomenology, hermeneutics), “pragmatical” (analytical philosophy, pragmatic approach) than consciousness. However language is not so much consciousness antagonist as demonstration and support of thinking process and consciousness since consciousness is an cognizer capability to reproduce and translate the activity with subjects into to activity in sign information system as well as to translate sign language into activity in the world. Language is the greatest achievement of human being. Thanks to language the human being became the one what he is now since language is an irremovable intermediary between human being and world and it contains senses and algorithms of human life activity. Via language, the person joins to culture learning how to desobjectify its world. But for this purpose one should understand this language.

Traditional view to understanding lies therein that one subject can objectify his thoughts in term, sentence, text (written or pronounced), acts or in a certain object. And another one can desobjectify, make the ideal that was laid in sign foundations by the first cognizer of his own “Ego” and moreover to make it adequate. It is in the adequacy of ideal transfer and its criteria lie the problem of understanding in traditional hermeneutics. Another approach to understanding is connected with the concept of interpretation: “... interpretation is a brainwork which involves the sense interpretation being an evident meaning; in meanings levels revelation included in literal meaning; ... interpretation takes place there where there is a multisyllabic meaning, namely many meanings are found in interpretation” [1, 18]. Therefore, contrary to traditional hermeneutic with interpretive approach “reconstruction” of conception gives place to “structure” of meaning. To understand in this case means to assign some meaning. But can it be arbitrary or the process of interpretation formation is felt under some requirements?

In the process of its establishment, the language obtains a certain logic differing from logic of material activity and logic of thinking. But though these logics are not identical there is a close relationship between them, namely genetically the logic of language is based on logic of action being at the same time the reality of thinking. To have a concept about something means to have some information that permits to know the difference between this thing and another ones, that can be possible only at the level of reasoning. Reasoning is a common connection between true judgement or statements. Statements are language sentences interpreted at a certain universon and interpretation is a process of conceptual means operation regarding meanings correlation. Logic of language, in actual fact, is a semantical movement in correlation of senses, meanings, terms as a certain dynamic of language inner form.

Best of all it is shown in modern science that refused from empirical fact conception in which the fact is understood as something “entitative” and just perceived and fixed by the observer. The images about the relation between observation results and interpretations transforming them into “facts” become more complicated. P. Feieraband noted: “Science does not know «naked» facts at all and those «fact» that are included in our cognition are already considered in a certain manner and hence conceptualized significantly” [2, 149].

The same data can be seen in different ways depending on the way of their interpretation and therefore on the base of only one set of “facts” it is possible to construct different discourses. It could not help being reflected on problem of “reality” understanding that became perhaps the central theme of the European philosophy along with consciousness problem. The observable is no longer identified with reality and not interpreted as actually objective part of reality. Moreover according to modern images developed in psychology the reality lies beyond the being observed and therefore more likely inferred than perceived.

Thus, the “reality” appeared to be intimately connected with cognition. Sociological approach to relation of “reality” and “cognition” was clearly stated by P. Berger and T. Lukman,

that it is sufficient to determine “reality” as a quality common to phenomena, to have entity irrespective of our will and wish ... and “cognition” can be determined as a conviction that phenomena are real and have peculiar characteristics [3, 9].

It turns out that when researcher addresses to the facts, sensations, state of things for determination of propositions substantiation in order to assign it the meaning “true” he does not in principle add anything new, any additional factor, any new essence to the universal already known. Here the possible doubling effect is observed unambiguously. This effect is implemented in that starting from statement meaning or from its truth, we double factors applying difference between proposition and its meaning, between proposition and conditions of its trueness. Equivalently, during philosophical analysis we, having come across the meaningful statement or meaningful and true statement, initially remove its conditions of meaning or truth and then again determine the meaning of statement truth on the basis of these conditions.

But if it is so, one can affirm that conditions of truth establishment are the same as conditions of translation. The language used by cognizer is included in propositions sphere considered to be true relatively to which the researcher actualizes his activity regarding translation. Truth meanings of new statements depend on original sphere of truths. It means that prior to determine or establish the truth of some judgement the cognizer should be already among true propositions. The researcher can not, if I may say so, arrive from outside or, as many philosophers sometimes consider, stand outside of truth, beyond it and over and over again or from time to time reach forth arms toward it. Therefore, it is necessary to admit that initially the cognizer is in the world of truths, i.e. in context of true propositions in order to go to another true proposition. And this transition is provided with transfer of one true propositions to another true propositions. Sphere of truth, in which the researcher historically is immersed, creates initially-meaningful variety of propositions, i. e. ensemble of statement and negations considered to be true from which the cognizer moves towards another propositions. The term “context” is important to show the understanding under which conditions it is impossible to develop initially the idea of truth as judgement coincidence with fact, state of affairs or sensual impressions.

In theoretical cognition the cognizer deals with true judgement rather than with things, facts, sensations which can make these judgements true. If something is said about facts then the same only are true propositions as such. And instead of trying to assign truth conditions addressing to facts, sensual images, state of affairs, states there is a real need to recognize impossibility of their contrapositive and comparison with propositions and go to truth interpretation as a process of linguistic translation or interpretation. If it is so than in the result of interpretive activity, there is a possibility to receive as many truths as translations will be done.

Pluralism of probable interpretations requires only correlation with definite basic data, namely noncontradiction of terms sense and meaning with the text being interpreted

and taking into account pragmatic characteristics along with semantic aspect.

Therefore, during research a cognizer should pay main attention not to field of facts, state of affairs or worlds that should substantiate proposition but to diagram, algorithm and environment in which translation and interpretation is carried out. In this case, the researcher deals with some set of propositions subjected to be interpreted or translated based on cognition or conviction of those ones who formulate and hypothesize them — cognitions that nevertheless are expressed exclusively in propositions representing this knowledge. To receive or recognize the truth is the same as to carry out propositions translation on the basis of a definite sense and meaning that are formulated and exist in the language and that define the truth horizon, core, sphere that belong to our life form.

Generally speaking, with such approach, the truth-value assignment is based on conditions when it is necessary to refuse, first of all, from proposition status and factors difference substantiating their trueness, namely, sensory impressions, state of affairs, worlds, and secondly, from the possibilities of their contrapositive and comparison. This idea means that researcher is directly among truths that he has in possession and that he can express but not stays out of knowledge. And everything else is a creation or result of this initial epistemic act. Truth is a process that leads to translation sphere since the propositions already possessing trueness are compared, contraposed, and correlated with other propositions, whose trueness is generated by such comparison.

Conceptual importance of the fact that truth, being evaluated via contrapositive and comparison of true propositions is an admission of the fact that it is impossible to explain the notion of truth, placing themselves as researchers into the moment preceding the act of its establishment. Such strategy of cognition substantiation is hopeless.

Thus, if truth is a task and the translation result, and if true propositions are a part of cognitions context, opinions, convictions into which the cognizer is immersed, and if propositions recognition as true ones is a determinative concept, which assigns intransitive decision, here cannot be recourse to fact, and to state of affairs. It results in disallowing a question of dependence of distinctions between users of different languages from distinctions of their convictions, conceptual schemes or versions of world. When cognizers reasoning and thinking differently begin to interact differently from each other it is useless to recourse to fact, evidence or criterion that could establish whether distinctions between cognizers are in their conceptual schemes or in collection of their convictions. All that takes place due to fact that researcher translates propositions interpreting them in terms of other propositions regardless of criterion correlation facts, state of affairs or sensuous data from which statements could go to conceptual schemes. Cognizer has no opportunity to compare his propositions with propositions of those ones who think distinctly on the basis of non interpreted reality conceptual schemes difference or experience out of cognizers. That’s why, true propositions are always correlative to natural

language which is unstable, and in which the researcher is dipped. Trueness establishment is an operation of translation by means of long-duration mutual adapting, propositions coordination in the process of their combination into complexes with other propositions or negations. Translation is not carried out on the basis of standard or criterion that is focused on non interpreted reality approaching from somewhere outside, or on conditions of the same metempirical approach, or else on truth achievement as some ideal endpoint of step-by-step approaches to cognizer cognition implemented by human cognitiveness. Cognizer, most likely, deals with interpretation performance based on principle of interpretativeness according to which the propositions pretending to expression of new cognition are compared with other propositions being immanent to current cognition. New proposition falling into already existing cognition complex can rebuilt it by means increasing or decreasing truth set of propositions. Therefore, cognition complex is a certain “pulsing” totality, alternating widening or narrowing.

Thus, the ideas of impossibility of translation or its complete adequacy are two equivalent metaphysical myths caused by presupposition of non-interpreted reality existence that can be modeled by human. The only thing that we can do is to compare translation moving in truth horizon. This view does not lead to idealism of linguistic sense. On the contrary, exactly in linguistic idealism the idea of the world versions and conceptual schemes obstructing movement to this world is clearly seen. Just due to doctrine of conceptual schemes and world versions the cognizer was expelled from the world.

But nevertheless researcher can not avoid ontologic notions and therefore one should remember that ontology have the language character, namely conceptual tools themselves become subjects for study in logical semantics only in the result of definite conceptualization, that is conceptualizations through the prism of special categorical theoretic frame. In this case, particular theorized world is generated in which the conceptual tools under investigation (terms of various forms and categories, propositions, description of states, theories)

and operations carried out with these conceptual tools (reasoning, inferences, definitions, and etc.) become theoretical objects. And they, in themselves, are not already information carriers and become such essences that are subjected to be described and characterized somehow.

Thus, the variety of ways of reality cognition is complemented not only with understanding of the fact of the realities variety in which human activities take place but researcher’s place change in relation to reality as well.

Cognition is implemented in people’s perception being in specific historical conditions in defined stage of cognition and practice development using the definite language, categorical apparatus. Truth acts as resultant of two vectors: proceeding from object and proceeding from subject. Since the truth is not an objective reality in empiristic meaning, as it is, regardless from human, namely this reality mastering by human, and relation with it is established in human language, thinking, notions and therefore it initially assumes decoding, interpretation, reality translation to the language easy-to-understand for person. Therefore, trueness relation here means the definite code selection established by people. Cognizer looks at reality from inside through prism of language, cognitions, certain picture of the world entering separate statements in their system. The reality in semantic truth theories examined is neither more nor less than model of the language under consideration consisting of objects, their features and relations. Structurally it is defined and depends on the way of cognizers relations setting.

Itself the possibility of cognition and reality relation is supported by reality conception generation that is carried out in the process of language formation and conceptual frame. Exactly in this case the truth becomes cognition that is in proportion and accessible to cognizers-researchers.

Therefore the modern semantic interpretation of truth considering it as feature of cognition under formation, change, connected with context, reflects tendencies of the modern cognitive process, in which proposition is not true by itself but proposition in some horizon of its certain use, definite set in relation to it.

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Philosophical understanding of an anthropic cosmological principle — “No Man’s Land between science and theology?” (on the materials of modern Russian discussions)

Abstract: The article analyzes the circumstance that a considerable number of participants of modern Russian discussions in respect of an anthropic principle interpret it in the manner of theology, which, in turn, leads

to theological explanation of the origin of both, a human being and the Universe with its incredibly consistent properties.

Keywords: anthropic principle and its interpretation, philosophy, science, religion, teleology, theology, the problem of a man's origin.

The title of the article contains an apparent paraphrase of B. Russell's words: «between theology and science there is a No Man's Land, exposed to attack by both sides; this No Man's Land is philosophy» [1, 19] (like theology «it consists of speculations on matters to which definite knowledge has, so far, been unascertainable» [1, 19], at the same time, like science, philosophy «appeals to human reason rather than to authority» [1, 19]). Similarly, one of the reputed modern Russian philosophers A. A. Guseinov, director of the Institute of philosophy of the Russian Academy of Sciences, writes in the article with an exemplary title «Philosophy: between science and religion» that this wording «also expresses the essence of the matter, which lies in the fact that philosophy has a dual-purpose nature: one part is related to science, the other part is related to religion» [2, 16–17]. Today, this peculiarity of philosophical knowledge is especially obvious on the example of a discussion of one of the central modern scientific ideas, namely, anthropic cosmological principle. Referring to modern philosophical encyclopedic literature, not to get confused among numerous contradictory, often mutually exclusive interpretations of it, we can see that it is interpreted as a fixation of a connection «between large-scale properties of our Universe (Mega-galaxy) and existence of a man, an observer in it» [3, 131], arising from the fact, that «the observed properties of the Universe» are rigidly connected with numerical values of some fundamental physical constants. If the values of the latter were different, «the existence of either atoms, stars or galaxies, or appearance of conditions that made the nascence of the man, the observer, wouldn't be possible in the Universe» [3, 131]. Or, in another expression, anthropic principle establishes «the dependence of the man's existence as a complex system and cosmic creature on the physical parameters of the Universe (particularly, on the fundamental physical constants — Planck's constant, light speed, masses of proton and electron etc.)» [4, 59]. There are different definitions of it — «weak», «strong», «cooperation», «finalist» etc. — but all of them are viewed in modern Russian (and not only Russian, but the author is primarily familiar with it) literature «through the prism» of teleology. The latter is defined as follows: «philosophical teaching about the explanation of development in the world with the help of end, target-oriented reasons. In modern methodology it is viewed as a principle of explanation completing the traditional causality of reason-goals» [5, 854], or as «a teaching about the practicality as a characteristic of separate objects or processes and being in the whole» [6, 1025]. We are considering this idea of existence of some purpose of the Universe in detail because the analysis of Russian publications of the last decades shows that there is «one step» from the very teleology in the interpretation of anthropic principle

to its interpretation within theology (here we imply «theological studies, combination of religious doctrines about the essence and action of God built in the forms of idealistic contemplation on the basis of texts accepted as divine revelation» [7, 32]). This relation was especially emphasized in the Soviet philosophical literature where teleology was primarily characterized as «idealistic teaching about the purpose», according to which «ideally postulated purpose... has objective impact on the course of the process» [8, 673]. In other words, in all variants of teleological explanation of the world «the main thing is preserved... idealistic anthropomorphization of natural processes, attributing of the goal to the nature, giving it the ability of goal-setting» [8, 673]. This transition from teleology to theology at the attempt to understand the essence of the anthropic principle is noted by many modern Russian experts of the latter. For instance, L. A. Maksimenko writes that «due to the very teleological problem cosmology couldn't be “a narrow specialization”; moreover, the indicated problem generated a dialogue about “the latter questions” between scientists, philosophers and theologians» [9, 47]. However, due to the teleological «filling», «anthropic principle suited well in the theological interpretation causing a real boom» [9, 82], because before the recognition of this principle as a science «the incompatibility of science and religion was contemplated with almost axiomatic authenticity» [9, 82]. Consequently, the recognition of anthropic principle as a science is interpreted by L. A. Maksimenko as «a gift to theologians», which «is significantly equipped with reanimation of the notion of goal» [9, 82]. The quoted author is a doctor of philosophical sciences, but it is also accepted by the representatives of natural science. For instance, doctor of physico-mathematical sciences, a member-correspondent of the Academy of sciences of the USSR at the Department of general physics and astronomy N. V. Karlov, stipulating the scientific «content» of anthropic principle, makes the following conclusion: «the complexity of the Universe, the precise matching of all its parts and interactions, the whole system of provision of a quite delicate balance in a very narrow, resonance diapason of conditions of homeostasis leads, voluntarily or involuntarily in this presentation of the question, to a thought about the existence of a wise Creator» [10, 16]. In other words, «theological nature of approach to the development of anthropic principle in the theory of knowledge is explicit; it almost doesn't have a disguise» [10, 16]. In this respect, the following comparison is important: American mathematician, physical scientist and cosmologist F. Tipler, who together with John Barrow wrote a fundamental work «The anthropic cosmological principle» (1986) begins his other work (which also considers this principle) with an exemplary title «The Physics

of Immortality: Modern Cosmology, God and the Resurrection of the Dead» (1994) with the following words: «Currently... one can rarely find books proclaiming the unification of science and religion. It is almost impossible to find a book claiming as I do in the main part of this book that theology is a part of physics and that physicists can prove the existence of God with their calculations» [11]. If one analyzes Russian works considering the anthropic principle, then, on the contrary, we can see that many authors consider it as a modern example of «unification of science and religion», the illustrative example of which are the following titles: «The anthropic principle in studying of a religious belief» (A. N. Volkova, 2011); «The phenomena: life after death» (1995) and «Oriental wisdom and advanced science» (V. S. Polykarpov, 1995); «The anthropic principle — content and speculation» (Yu. V. Balashov, S. V. Illarionov, 1994) — it is also about religious speculations etc. Coming from the description of the situation to its evaluation, critical evaluation, let’s note an important moment: on the one hand, we generally agree with the thesis that the solution of the problem of survival and progressive development of the mankind requires close interaction of scientific and philosophical-religious thinking. As a basis for such interaction, let’s set forth a thought expressed by many authors, but most concisely by M. Veber in the following words: «empiric science cannot teach anyone something that one should do; it only indicates what one can do, and under known circumstance, what one wants to do» [12, 350]. In other words, science refers to the sphere of choice of these or those tools of achievement of a certain goal, but the choice of goals is the task of philosophy relying on the tradition, including the religious one. However, on the other side, it cannot be viewed as an argument in favor of a direct connection, mutual dissipation of these forms

of thinking — here we agree with F. Nietzsche that a developed culture «should give a man a double brain as if two brain chambers: firstly, to perceive science and, then, to perceive non-science; they should lay next to one another, be separable and closable and exclude any mixing; it is the requirement of health» [13, 373–374]. Attaching this thought that «if this requirement of the highest culture remains unsatisfied... the consequence of it will be the destruction of sciences, inverted plunge in the thievery» [13, 374] to the problem of anthropic principle, let’s make the following conclusion: if «one mixes» scientific and religious interpretation of this principle, then scientific and religious natures simply disappear turning into «science-like heresy». In this respect, let’s agree with already mentioned member of the Academy of sciences N. V. Karlov, who on the one hand admits that «the idea of one and wise Creator of all things played an important determining role in the establishment of scientific search, in the establishment of science itself. The development of the anthropic principle is a confirmation of it» [10, 17]. But, on the other hand, he indicates the following moment often ignored by the supporters of theological explanation of anthropic principle: «religious narrowing of the issue to deliberate role of the wise Creator of all things does not solve the problem as it sets forth a more difficult question about the nature of the Creator and his Will, incentive motivations of the act of creation, the time when it happened and what was before that» [10, 17]. Thus, we cannot agree with the fact that philosophical contemplation of the anthropic principle is «No Man’s Land between science and theology», i. e. we juxtapose the interpretation within so called «global evolutionism», the consideration and grounding of which is a goal of a separate research, to a common interpretation of the teleological interpretation of this principle.

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Section 14. Economics and management

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On instruments of tax incentives of the innovative development in the economy of Uzbekistan

Abstract: This scientific article researches peculiarities of using various tax concessions of stimulating innovative activity of the enterprises. It also provides comparative analysis of possible consequences of applying these instruments in practice. This article is also devoted to the analysis of the current government policy of the tax support of the innovative enterprises in Uzbekistan and development of proposals and recommendations on improving the existing mechanism of the state tax stimulation of innovative processes ongoing in the economy based on the principles of the support of innovative processes by three aspects: producers of the innovative production, consumers of these goods and specialists who create innovations.

Keywords: innovations, innovative enterprises, R&D, tax incentives, expenditures on R&D, innovative tax credit, qualified R&D.

Precisely tax measures are mainly considered as a key mechanism for stimulating the activity of national enterprises in the field of research and development (R&D) and innovation in many industries. In conditions of tough international competition and accelerating the process of globalization of the world economy many countries try to attract to their territory the best laboratories, the best scientists and the most advanced, innovative enterprises by means of improving the tax regime.

Many countries of the world have already developed and are efficiently implementing particular measures of tax privileges to encourage investment of private enterprises, research institutions in different periods of their development. In addition to standard tax measures of a regulatory nature, such as exemption, reduction, differentiation of tax rates in order to stimulate R&D, these countries use other mechanisms, such as deferred payment of taxes; reducing the size of the taxable base; deduction of taxes.

Below we are going to consider the main types of tax concessions given to R&D existing in developed countries of the world.

Write-off of current expenditures on R&D. Many developed countries allow businesses to write off the entire cost of the current expenditures on R&D, in the year in which the expenses were made. Thus in some countries, losses occurred are supposed to be referred to the next or last year or distributed during the period with the indefinite duration.

The opportunity to indemnify their losses due to past or future profits is a substantial support for enterprises using new technologies and innovative projects for high-risk, as their activity at first is often unprofitable. As an example of such kind of measures we can state French experience where it is permitted to refer current expenditure on the performance of companies either to past three years or to next three years [1, 12]. There entrepreneurs usually select the scheme to write off their expenses in advance.

Additional tax credit. The purpose of this measure which is complementary to the first, is a further decline of the tax burden for businesses on those activities that are associated with R&D. Additional tax credit allows businesses to reduce taxable bases in a larger amount than their R&D expenditures. For example, if the company made a profit, it can reduce its taxable income deducting the amount which exceeds its expenditures on R&D. The right for this benefit can be determined by the volume of expenditure on R&D, or their increment compared to the prior level. In some countries there are limits on the maximum amount for either accounted expenditures on R&D or the size of the annual deduction.

In particular, additional tax credits are used in Great Britain, Belgium and Denmark on the basis of volume indicators, and in Australia, Austria and Hungary additional tax credits are used on the combined basis i. e. with the account of volume and incremented indicators.

So in Great Britain large businesses have an opportunity to exempt from taxation the part of its profit in the amount equal to 130 %, and small businesses — in the amount of 200 % from the volume of R&D expenditures [2, 33].

Tax credit on research (TCR). This tool has become not only the first targeted, but according to many analysts, the main tax benefit in tax subsidies of innovation. It has several objectives — improving the overall level of spending on R&D between separate items of expenditures that is to change the structure of expenditures. Introduced for the first time in the United States in 1981 it was aimed at balancing the absolute scientific and technical excellence of the USA with other countries, especially Japan, which in the 70-s started to increase their spending on R&D to reduce its scientific and technological backwardness. Over the past thirty years an increasing number of countries is applying the TCR in many cases raising its size and improving the mechanism of its application. Thereby it can be considered as one of the bright examples of the tax competition between countries who have passed the stage of innovation development of economy.

TCR allows companies to deduct from the amount of the income tax a part of expenses on the innovations determined by the interest rate of the tax credit. There are various ways to implement this deduction in different countries, but the main differences are the two components — the interest rate of the tax credit and the basic rate of spending on R&D of the company, which, in turn, is considered either in its total amount in the basic year or as an increment of entirety in the base year, or as R&D expenditures to the basic level of expenditures (average for the basic period — 2, 3 or 5 years). In literary sources the first type is called R&D volume based tax credit while the second type is briefly referred to R&D tax incremental credit. Each of these forms has its advantages and disadvantages.

The incremental form meets the objectives of stimulating R&D better as it encourages the growth of expenditures on R&D, but it is more difficult in calculating and registering for both entrepreneurs and the government as there are problems with how best to choose and define the basic level of expenditure on R&D. The increment of expenditures is later determined in relation with the basic level of expenditures. The tax credit in this form is more beneficial for enterprises on the stages of the project when the increment of R&D expenditures is going on. If R&D expenditures are significant but stable at the same time, enterprises lose this benefit. Large enterprises often criticize for this form because it does not take into account the cyclical nature of the research, the transition from one stage of the research to another one, the benefit of this tax credit is difficult to implement in long-term strategic R&D programs. However, this form is easier to target and use to encourage start-ups, small businesses. Finally, the main disadvantage of this form is that it provides companies with more opportunities for manipulation and abuse.

An advantage of the volume-based tax credit is that it is more simple and cheaper in registration. Large companies

with the big volume of R&D expenditures prefer this type of tax credit. However, this type is more expensive for the government as the applications for the tax credit are submitted by these enterprises which would perform R&D in any case. Therefore the government can lose a part of its revenues in vain as it partially compensates the enterprises their R&D expenditures.

Sometimes a mixed form of the tax credit can also be used. Its essence is that incremental tax credit (for example, with 50 % increment in relation to the average basic R&D expenditures for this period) is added to the volume-based tax credit (for example, with the 30 % from basic R&D expenditures).

Volume-based tax credit and mixed tax credits have become the most widely-spread forms in the world. France, Spain, Portugal use mixed form. Volume-based form is used in Italy, Canada, and Norway. France has rejected the incremental form since 2008. Incremental tax credits are used only in 4 countries.

Special regimes of depreciation of fixed assets connected with R&D. This measure is aimed at stimulating purchase of fixed assets needed for R&D. Normal depreciation supposes that the cost of capital assets is amortized over their lifetime. Benefits connected with capital expenditures on R&D are related to the calculation of depreciation. They consider primarily allowed amortization period of capital assets, taking into account of the economic lifetime. These incentives encourage businesses to invest in modern equipment, which contributes to the appearance and development of new products and processes. In some countries, the benefits of capital can be used in the same year, when the company gets the right to use them, but in other countries benefits can be taken into account in calculating a taxable profit during next years.

EU countries and the USA apply two types of social regimes of depreciation of fixed assets connected with R&D — free depreciation and accelerated depreciation. Free depreciation represents absence of the fixed write-off method. It supposes an opportunity of simultaneous and complete writes-off of all capital R&D expenditures during the first year. An additional privilege of the free depreciation in many countries is the enterprise can use deduction from the taxable base not only during the year of purchase of innovative capital assets but also during another period. Accelerated depreciation enables to write off relatively big amounts during the first year than during next years or reduces the terms of writes-off in comparison with their economic (actual) use. Both free depreciation and accelerated depreciation imply that the tax stimulation is a deferral of tax payments. Application of free depreciation and accelerated depreciation result in reduction of R&D costs.

Various countries prefer various types by the nature of incentives. Accelerated depreciation is envisaged in Austria, Belgium, Denmark, Finland, Italy, Portugal, Sweden and the USA. On the contrary, Ireland, Spain, Great Britain are allowed to use free depreciation. In France entrepreneurs are free to choose between these two systems.

Innovative tax credit. By its efficiency this measure is close to the accelerated amortization. It enables to write off a significant part of the equipment cost during the first years of its operation. This measure aimed to stimulate the volume of investments in general is an important encouragement for innovations because it efficiently reduces the cost of investing in something new, more oriented to IT.

Tax concessions on salary of scientific researches. Encouraging a private innovative activity is performed through reduction of the employer's costs on salary and wages. Taxes, entrepreneurship social contributions, reduction of income taxes of the researches are involved in these costs. Such instrument as R&D wage tax credit is used for these purposes. It is aimed at compensating relatively high costs, caused by high wages of researches, to employers. From the name of this incentive we can see that it reduces the amount of income taxes paid by researches and a tax on the wage fund paid by the employer.

Tax concessions on salary of scientific researches mean deduction from the income tax and social tax on the wages of researches in the amount determined by the credit rate. Tax concessions on salary of scientific researchers are beneficial for both an entrepreneur and the employee because labour costs are decreasing for the first one and disposable income and net profit are rising for the second one. In this way we can see double stimulation: encouragement of the businesses who are willing to direct more investments in R&D and reduce labour costs in the sphere where its share is relatively high as well as support of inflow of scientific employees in this sphere.

In general it should be noted that the volume and type of tax incentives is determined, first of all, features by the enterprise itself: its size, sphere of its activity, age, character of completed projects, and particular conditions of giving tax concessions existing in every country. Some concessions have a general character and can be used by any company performing R&D. Other ones aimed at stimulating either certain kinds of research or support of certain categories of enterprises can be applied only in case if the enterprise meets exact criteria, for example, if the company conducts a joint research in cooperation with the universities.

Volumes, kinds and conditions of applying tax concessions for enterprises by countries mainly depend on the goals pursued by the government when fixing tax stimulations for R&D, nature of the concession itself, economic efficiency of its use and peculiarities of tax systems of certain countries.

In case of Uzbekistan special tax instruments of stimulating innovations haven't been implemented in practice yet, but there is an effective policy, developed by the government to encourage a certain category of taxpayers engaged in modernization, technical and technological re-equipment of the industry as well as participating in developing infrastructure of regions. The following tax concessions are applied to them [3, 58–74]:

- Educational and experimental centre of high technologies are exempted from the Value Added Tax by services provided by non-residents of the Republic of Uzbekistan (until January 1, 2017) [4];

- Enterprises of agricultural engineering during the development of the production of new types of equipment, components, assemblies and parts to them within the framework of the implementation of investment projects are exempted from the property tax in the part of fixed assets used for production of new types of machinery (for 5 years) [5];

- Enterprises-exporters depending on the share of export of the domestic production for freely convertible currency (excluding commodities) are given tax benefits on the profit tax and tax on property of legal persons in the following order:

- from 15 to 30 % in the total volume of realization — a fixed tax rate is reduced by 30 %;
- from 30 % and more in the total volume of realization — a fixed tax rate is reduced by 50 %.

- Newly established enterprises since its registration by the government are exempted from the property tax within 2 years;

- The followings are exempted from the VAT:

- import of technological equipment brought into the territory of the Republic of Uzbekistan according to the list confirmed in accordance with the legislation;
- import of property brought as investment obligations according to the agreement concluded between an investor and an authorized government agency on public property management;
- import of raw materials, commodities and spare parts used in domestic production brought by enterprises with foreign investments specialized in manufacturing children's footwear.

- Certain concessions are given to enterprises with private foreign investments in such branches of industry as: radio electronic, light, silk production, construction, production of poultry and eggs, food, dairy, chemical and pharmaceutical;

- Enterprises located in the free industrial-economic zone "Navoi" are given the following tax exemptions: customs duties on brought equipment, commodities, materials and spare parts; land tax; property tax; profit tax; tax on infrastructure development; single social payment; compulsory deductions to the Road fund [6]. Conditions and terms of giving privileges depend on the volume of placed indirect investments in the amount:

- 3–10 million Euro — for 7 years;
- 10–30 million Euro — for 10 years. During the next 5 years the rates of the profit tax and a single social payment are fixed on the amount of 50 % lower than existing rates;
- more 30 million Euro — for 15 years. During the next 10 years the rates of the profit tax and a single social payment are fixed on the amount of 50 % lower than existing rates.

- Enterprises located in the special industrial zone "Jiz-zak" [7], special industrial zone "Angren" [8] are given the following tax exemptions: profit tax; tax on property of legal persons; tax on infrastructure development; single social

payment for small businesses; compulsory deductions to the Road fund; customs duties on equipment, commodities, materials and spare parts produced outside the republic. Terms of giving privileges are the following:

- 300 thousand–3 million USD — for 3 years;
- 3–10 million USD — for 5 years;
- more than 10 million USD — for 10 years.

Tax privileges mentioned above are stimulating investment activity in branches of the real sector of the economy of

Uzbekistan. However, it is not sufficient for creating a favourable investment climate in the country. Efficient tax instruments aimed at making enterprises increase R&D expenditures are needed to facilitate investment activity. Therefore, taking into consideration current tax policy conducted in our country we propose to implement in practice an appropriate tax instrument to stimulate innovations, customers of innovations, and specialists who create innovations in the scheme given in Figure 1.

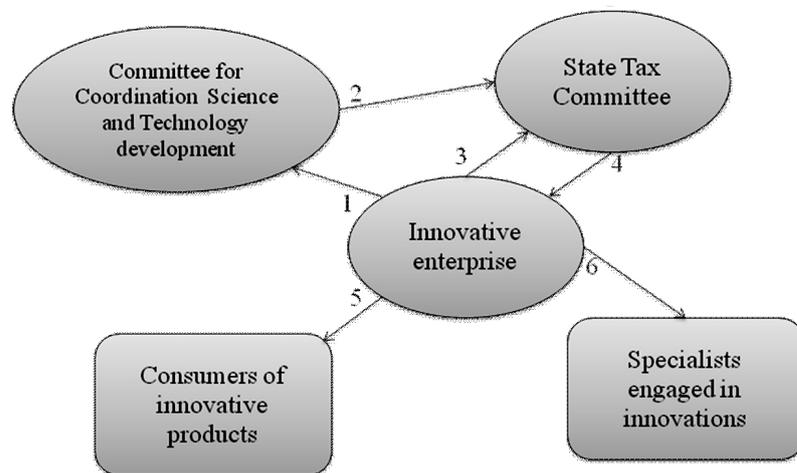


Fig. 1. Proposed scheme of interplay of innovative company with the government agencies while getting tax benefits

1) Determining status as «innovative». Committee for Coordination Science and Technology Development as the main government authority regulating innovative policy of the country in the field of innovations can give status “innovative” to the companies after conducting appraisal and audit of the business-plan of the innovative project of the enterprise.

This particular approach, i. e. considering the business-plan of the project by the committee before giving certain tax privileges will make the mechanism efficient and successful. As a result the State Tax Committee will not have a necessity to establish additional divisions on considering applications for these appraisals, employ new specialists — inspectors and organize their training, continuously renew instructions which highlight all issues related to the applications for tax benefits.

In other countries an application for the tax concession is a part of the tax return and all forms of submitting the application are developed by the tax authorities and all entrepreneurs are announced about them in advance.

If Committee for Coordination Science and Technology Development hesitates about anything it has the right to require from enterprises additional confirming documents.

Sometimes arguments about different opinions of the innovation development can occur. In our opinion, all entrepreneurs may get the tax privilege if they can correctly fill in the application. Moreover, it should be noted that the government not always has a possibility to check accuracy of the information. At the same time, enterprises cannot get tax concessions though they have sufficient grounds for it. As Professor B. Hall wrote in 2012 «Tax credits on research

caused a big deal of arguments between companies and tax authorities for last 15–20 years, many of which are referred to the notion of “qualified R&D”. At the beginning while registering TCR tax officers didn’t have enough knowledge and understanding about the feature of scientific research which was resulted in rejection of many applications. Currently many efforts have been made to train inspectors and those employees of the tax offices who are involved in TCR. On the other hand, the term “qualified R&D” has been clarified but this field undoubtedly will remain the arena for different opinions and struggle» [9, 19].

Therefore all countries seek for the ways of reduction these costs and one of them is the way offered by us when scientific projects are considered before giving a preference taxation. This way can be used only in case when there is a high degree of the independence of experts-members of the commission and there is absence of pressure made on them and corrupted administration.

2) Inform the State Tax Committee about the enterprises which have “innovative” status. Committee for Coordination Science and Technology Development will send to the State Tax Committee the list of enterprises which have an innovative activity. It is advisable to state in the reference forms the overall information about employed scientific specialists, innovative production, capital bases of the enterprise.

3) Submitting applications to the State Tax Committee. Once a year when the innovative enterprises submits an annual report to the State Tax Committee it also has to submit the report with the application for tax concessions about

the innovative activity performed during the ending year with the notice of total amount of expenses.

4) Reimbursement of funds spent on R&D. Having received the application of the enterprise will refund the sum basing on benefits. In this case the account of the refundable sum is made according to the following parameters:

- enterprises should be fully exempted from the single social payment with respect to the specialists involved in research activities. Enterprises have their expenditures reimbursed only regarding those specialists who were directly involved in innovations during the ending year (in developed countries the single social payment has a reduced rate but there are no full exemptions).

- enterprises should have their R&D expenditures reimbursed. Application of this method will enable the enterprise to get an instant financial reimbursement, and the government, in turn, will have less budget revenues. However, we should take into consideration that that reimbursed sum must not exceed the amount of taxes paid by the enterprise by the Single Social Payment (for small businesses) and the tax on profit of legal persons. This form is especially efficient for start-ups.

5) Raising availability of the innovative production for customers. We should also consider an opportunity of the VAT exemption for the production of the innovative importance. This impacts on the pricing of the innovative production, raises its competitiveness and results in growing demand and, consequently, encourages its production.

6) Raising wages of specialists. Exemption from the single social payment in regard to the specialists of the innovative enterprises will enable raising the wages fund of the enterprise. It will result in raising wages specialists, make the potential scientific employees interested in research, and create new working places for future innovators.

Rules for obtaining tax benefits should be simple and clear to entrepreneurs because the sum of benefits shouldn't be overlapped by the excessive cost of its registration (preparation of necessary documents, consultation with experts). The effectiveness of such a system depends not only on the

selected specific tax instrument, but also on its indistinctness and computation simplicity. The more complex the rules of its calculation are, the more possibilities for tax abuse exist. The system should be uniform, consistent in meeting the requirements of all levels of the enterprise. For example, Germany in the 90s of the 20th century has canceled the TCR because enterprises-innovators began unreasonably artificially divide themselves into small firms in order to obtain benefits intended for young innovative enterprises.

We should not be afraid of the loss of tax revenue. There is an argument in favor of the fact that the government can go to the temporary loss of that part of the tax revenue, which is equal to the sum of the size of the shortfall of tax incentives for R&D expenditures. These temporary losses will be fully covered with future benefit from higher overall level of scientific and technological capacity, which will lead to the production growth, labour productivity, and growth of well-paid jobs, exports and, accordingly, the growth of tax revenue.

We can make a conclusion that each of considered forms and methods of the tax regulation and stimulation of the innovative processes has its advantages and disadvantages on the support of innovation initiators which efficiency can be determined only by the level of the development of the economy where this measure is used. For example, if the incremental form of the tax credit on research is successfully used in the USA, Japan, South Korea, but France rejected it because of its inconvenience. Results of the analysis of the tax policy in Uzbekistan show that the refusal in the field of innovation activity of the national economy from the existing form of the tax stimulation of the innovative activity is very low. We can see that real reforms on improving the government mechanism of the tax stimulation of the innovative processes in the economy are needed. We propose to make the approach based on three principles: producers of innovative goods — by means of reimbursing their R&D expenditures, consumers of these goods — by exempting them from the VAT payments, and specialists who create innovations — by exempting them from additional taxation for charging income taxes.

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Defining strategic areas of management for small business and private enterprise players

Abstract: This article explores the ways and features to define strategic areas of Management for small business and private enterprise. In addition, the article includes algorithms and factors for Defining Strategic Areas of Management.

Keywords: small business, economic management, strategic area, supply, demand, economic, social and political factors of demand, variety of strategies.

Conditions for the existence of small businesses say that against the background of increasing competition and falling demand of the population, the instability of the environment is growing: the events are becoming more unusual and unrecognizable; the pace of change is increasing, which far exceeds the speed of response of small business; increases the frequency of occurrence of unexpected events, sudden changes in their unpredictability. In this situation, the very existence of small businesses depends on how their leadership could correctly predict the prospects of development of events, assess the domestic capabilities, coordinate the actions of all subsystems of the organization for achieving its goals. These actions are intended to implement the strategic management subsystem.

For small businesses to develop a strategy begins with identifying the industry in which the company operates. The modern concept of the market is based on effective methodological techniques — strategic segmentation and allocation of strategic areas of management.

In the terminology of American business strategic area management (SZM) — a separate segment, the sector of the market for which the firm has an access or is willing to receive it. As a result of analyzing this SZM, prospects are determined opening any competitor, in terms of growth, the rate of profit, stability, etc.

Practice shows that the majority of managers about the outlook for the development of a business, based solely on their experience. Note also the following: one of the main characteristics of today's regional small business is that ownership and management are in the same hands. Entrepreneur is able to participate, make decisions, manage a maximum of two types of business (if these businesses are completely different from each other in technology, consumer and market characteristics), or four or five (in the event that these types of businesses are related to technology, consumer or market basis), regardless of other circumstances.

Studies have shown that in cases where the amount exceeds the above-mentioned types of business performance, small businesses become out of the control of the owner-entrepreneur and had a dismal finish. This happened due to the two main reasons: First, the system operational and strategic decisions on small businesses are usually located in a single center, and appearing problems demanded rapid decision-making, but because of the high degree of congestion of the head, responsible decisions were not taken in time, which ultimately affects the speed and quality of the enterprise and the reaction resulting in the loss or weakening of the positions in the competition; secondly, the lack of a clearly established system of internal monitoring led to a distortion of the data that received the head to make a decision that led to the error and, as a result, to the weakening of the competitive position.

In this regard, before consideration of the definition of strategic areas of managing small businesses should consider the following assumptions:

– Entrepreneur already leading a particular business and managing its small business can: assess the prospects for the development of operating business; assess the prospects of the business, as close as possible to the technology, geographic location to the current one; assess the prospects for the development of a fundamentally new business for the entrepreneur (SZM);

– A businessman who has attained success in one of the types of businesses tends to have a desire to invest in the current or any other business.

One of the stages of strategic management in a small business, as a rule, is to find the direction of further movement.

As the search business ideas for the organization and implementation of a new kind of business or expanding an existing business within, the entrepreneur should assess the impact of the environment on the activity of a small enterprise, that is, to monitor the environment.

There are two types of monitoring: commercial and strategic. The algorithms of strategic monitoring can be represented as the following steps:

1. Arranging goals.
2. Setting the system principles.
3. Setting the boundaries of the environment and its cleavage.
4. Selection of components of the environment to be monitored.
5. The choice of method.
6. Implementation, analysis and control.
7. Regulation.
8. Decision making.

Monitoring activities in a small business is complicated by the fact that there is no stencil technologies. It is the very area, where appears the talent and ability of the manager to manipulate poorly structured objects and data sets. Definition of indicators by which you can track the probability of occurrence and the extent of its impact on the small business — a task that is also facing uzbek managers.

Modern management techniques offer a variety of selection criteria for assessing the external environment and the extent of its impact on business prospects. Note the most common of them proposed by I. Ansoff, — method for assessing the attractiveness of the strategic areas of management. Parameters for assessing the attractiveness are the future growth in SZM, future profitability SZM, future instability [1].

As the parameters defining the strategic areas of managing existing and prospective business for small business in **Uzbekistan**, we offer the use of the following indicators:

1. The detection of SZM in terms of changes in demand.
2. The detection of SZM in the terms of position in the competition.

To identify these indicators is needed to identify the factors (events) that may affect accordingly to changes in demand and position in the competition. The identification of such factors — is a very individual for each small business. Taking into account all the specifics of their operation conditions, it is possible to offer a list of factors that may be taken into account by managers of small businesses in the formation of the monitoring system. To assess the prospects for changes in demand in the current and future business, we offer the use of the following factors: events in the economy, developments in the social sphere, developments in technology, and other events that may affect the change in demand.

1. Economic factors:
 - Rate of the national currency;
 - The refinancing rate;
 - The formation and execution of local budget (orientation, procedure);
 - The average salary in the region;
 - The presence of a stable functioning of enterprises in the region;
 - The ratio of private and public enterprises in the region;

- The nature of the use of municipal property;
- The nature of privatization;
- The presence (absence) in the region of large monopolies;
- Regularity of payments in the social sector and the public sector;
- The policy of local banks;
- Relations with regulatory authorities;
- The purchasing power of the population;
- The mechanism of formation of local taxes and fees;
- The state and the nature of the labor market;
- Formation of the local business elite;
- The infrastructure of small business in the region;
- The ratio of income and expenses between the rich and the poor in the region, etc.

2. Social factors:

- The degree of social orientation of budget expenditures;
- Demographic and ethnic composition of the population in the region;
- Geography of settlement construction in the region;
- The condition and rhythm of urban transport;
- Ownership enterprises urban infrastructure;
- Statistics of marriages and divorces;
- Carrying accessory kindergartens, schools, etc.;
- The weight of the cultural intelligentsia in the life of the region;
- Frequency of citywide events and activities;
- Status and activity of organized crime in the region;
- The state of the health care system in the city, the region, etc.

3. Technological factors:

- The state of R & D in the region;
- The emergence of technological innovations;
- The state of the market “know-how”;
- Conditions for the import of technology and equipment;
- Availability of domestic analogues of imported equipment, etc.

4. Other events that can be monitored:

- Weather forecast for the coming season;
- Climatic conditions;
- The development of communication systems;
- Access to information sources, etc [2].

Allocation of factors and assess the impact of their changes on the demand are determined by peer review. Estimation algorithm might look like this: stand factors, whose change may affect the change in demand in each of the types of businesses; determined by the valuation rules, for example: each of the factors expert assigns a score depending on the impact of changes in factor to changes in demand for five or ten point scale. Integrated assessment is defined as the arithmetic average of the opinions of experts. Each group is assigned a specific weight parameters.

Due to the fact that collecting the maximum amount of data on competitors is simply not possible and the scheme proposed by M. Porter is used to determine the SZM in terms of position in the competition.

This scheme brings information to the four elements: future goals, current strategy, presentation and possible competitors [3].

Recognize the purpose of competitors in the near future is possible, using, for example, the following characteristics:

- Direction of investments;
- Orientation of R&D expenditure;
- Personnel policy of a competitor;
- The degree of product updates;
- The possibility of diversification, etc.

Current strategies can be determined with the help of using this information:

- Focus and aggressive advertising;
- Current personnel policies;
- Market share;
- Pricing policy;
- The level of after-sales service, etc.

Organization of the system of strategic monitoring in a small business should engage in either the head or a specially prepared for this employee. It is possible to separate the functions of information collection and analysis.

The importance of defining the strategic business areas of management lies on this, that it is the beginning stage of determining whether, where a small business will move on. It is this analysis will allow the head owners of SB to see not only the economic side of their intended future actions, but also their qualitative assessment from the perspective of securing the future for small business.

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Ecologization of thinking: economic and legal factors of formation

Abstract: Rapid change of technological behavior in some countries and hopeless backwardness of the other, fast deterioration of the environmental condition and climate of the planet, destruction of the system of international relations with concurrent enhancement of conflict situations, especially in relation to natural resources, are typical for modern stage of development of world economy. The mankind lack not only knowledge to prevent natural catastrophes and negative consequences of climate changes, but even elementary ability to use the existing potential to ensure sustainable economic development [1, 15].

Keywords: surrounding environment; environmental crisis; legal requirements concerning economic measures of nature use and protection of the environment; environmental thinking.

Degradation of the surrounding environment and its consequences are only one side of the environmental crisis. The other side is social, reflected in the crisis of state and public structures incapable of ensuring the performance of effective measures on environmental safety of the society. Externally, it is manifested, firstly, in the insufficiently effective work of special agencies for environmental protection, special agencies for protection and use of forests, animals and resources.

Secondly, environmental crisis is manifested in the incapability of law-enforcement agencies of ensuring sound control and supervision of the execution of laws on environmental protection.

Thirdly, environmental crisis is manifested in the social aspect in the mass ecological nihilism, i. e. in mass disrespect of ecological legal requirements, their violations or non-performance.

Among the reasons of exhaustion, pollution and destruction of the environment arising from man-induced activity, one can define objective and subjective ones. Objective reasons include the following:

- Firstly, it is maximum capacity of nature for self-cleaning and self-regulation. The nature processes, cleans the wastes of the man's production for a certain time protecting itself from their harmful effect. But its capacities are limited.

• Secondly, it is physical limitation of land within one planet. Consequently, the mineral reserves such as coal, oil etc. used by a man are gradually consumed and cease to exist.

Throughout its history, the mankind has already used up to a half of extracted reserves of traditional fossil fuel and current demand for it exceeds the growth of available reserves by nearly four times. The peak of extraction was crossed by 54 out of 65 countries-producers of oil. A planet maximum is forecast for 2015–2020. At the same time, according to the assessments of the International Energy Agency (IEA), the world demand for primary energy resources will rise by 2030 to 17.010 billion tons in oil equivalent (o. e.) against 11.730 billion in 2006. In the conditions of the modern structure of energy balance, to satisfy it, it would require to introduce the oil reserves for use that would be six times bigger than the current reserves of Saudi Arabia. The situation is better in respect of gas, coal and nuclear energy; but, according to the same IEA scenario, the preservation of orientation to traditional energy will cost the world some 26 trillion dollars (as for the prices of 2007) of investment. Moreover, the growth of the need for investments during this period will exceed the expansion of energy resource supply, because nearly half of the existing energy structures of the world will need reconstruction and replacement by 2030 only to sustain the achieved level of supply [2, 31].

• Thirdly, it is non-waste production in the nature and waste that remains after man's production. In nature, the production is done in the closed circle. It is non-waste. The end product of the production activity becomes initial product for a new production cycle. Unlike natural production, man-induced production has waste. It was calculated that it is required to consume not less than 20 tons of natural resources per year for human life activities. Only 5–10 % of them go for production and 90–95 % goes for waste.

• Fourthly, it is learning and use of laws of natural development by the man in the process of use of nature and experience accumulation.

Subjective reasons include:

• Firstly, there are drawbacks of organizational-legal and economic activity of the state with regard to environmental protection.

• Secondly, there are defects in environmental education [3, 166–174].

To protect nature means to use it appropriately, i. e. not to take it to the level when protection is required. In order to appropriately use nature without causing any damage to it or to a man being a part of nature, one should know how it is organized and under what laws it exists.

The basics of legal regulation of the economic mechanism of environmental protection are established in section III of the Law «About environmental protection». According to the Law, its main elements are:

- planning of use of nature and environmental protection;
- financing of environmental protection;
- payments for the use of land, earth depths, waters, other natural resources and the pollution of the environment;

- extra-budgetary ecological funds, legal regulation of their formation and use;

- ecological insurance;

- tax and credit benefits, other rewarding measures in the sphere of nature use and protection.

Legal requirements concerning the economic measures of nature use and environmental protection are contained in a wide range of laws and sub-legislative acts related to ecological and other areas of the Russian legislation.

Essentially, the legal regulation is performed in respect to separate economic measures and separate natural objects. The payments for the use of the respective natural resources are regulated in detail in the Federal law «About subsurface resources», Forest code of the Russian Federation, Water code of the Russian Federation and Federal law «About fauna» etc.

One of the main principles of nature use is payment basis. In accordance with the legislation about environment, the introduction of payment basis implies different goals. Firstly, payment for the use of natural resources is a source of refill of the state and local budgets as well as ecological funds. Secondly, the most important goal of payments is the stimulation of nature users for rational use of those resources that they pay for, and increase of the efficiency of their environmental protection activity.

The Law «About environmental protection» (article 20) establishes two types of payments: for the use of natural resources and environmental pollution. In the legislation, each of these types is classified into sub-types. The structure of payments as well as the order of making them for nature use is regulated by natural resources legislation and other regulative acts.

The payment for environmental pollution and other kinds of harmful effect on nature are considered in the ecological law of Russia and foreign states as one of the main economic stimuli to make the enterprises, nature users, whose activity is related to such impact on nature, take their own measures to reduce pollution of the environment in accordance with the requirements of the legislation. Such measures can be manifested in different forms. Nature users, who are not interested in regular high payments for excessive pollution, can improve the production technology, build effective purification facilities or ensure high efficiency of work of the existing facilities. Finally, a significant effect on decrease of the environmental pollution levels can be achieved by enterprises at the expense of increase of discipline for employees and ensuring adherence to labor and technological discipline.

Ecological insurance is a new legal measure of environmental protection. Ecological insurance is understood as relations aimed at protection of property interests of citizens and legal entities in the event of unfavorable ecological consequences at the expense of monetary funds created by the insured.

The RSFSR law «About environmental protection» distinguishes two types of ecological insurance: voluntary and compulsory state insurance of companies as well as citizens, objects of their property and incomes in the event of an ecological and

natural disaster, accidents and catastrophes. In compliance with this Law, the order of ecological insurance and use of its funds is established by the Government of Russia.

In general, the directions of economic stimulation of environmental protection are defined in the article 24 of the Law «About environmental protection». They include:

- establishment of tax and other benefits provided by the state and other enterprises, institutions and organizations, including environmental protection ones, upon the implementation of low-waste and non-waste technologies and productions, use of secondary resources, performance of other activity ensuring environmental protection effect;

- relief of ecological funds from taxation and rendering of a part of their means on the contractual conditions under interest-bearing loans to enterprises, institutions, organizations and citizens in order to realize measures on the guaranteed reduction of emissions and discharge of pollutants;

- establishment of enhanced norms of amortization of the main production environmental protection funds;

- application of incentive prices and extra charges on the ecologically clean products;

- introduction of special taxation of ecologically harmful products issued with the use of ecologically hazardous technologies;

- application of easy-term loans for enterprises, institutions, organizations regardless the form of property, which perform effective environmental protection [3, 166–174].

Solution of environmental tasks by various methods is possible if a specialist of production, management, science etc. has knowledge in the sphere of ecology that enables them to evaluate their actions from the environmental point, i. e. have environmental thinking. Ecologization of thinking of state and public figures, specialists and experts should take place, which will be manifested in the penetration of environmental ideas in all spheres of social life and state construction. Decisions of expert commissions should be of compulsory nature and their execution should be ensured by all power of law-enforcement and supervision authorities.

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Section 15. Science of law

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Manifestation of crimes against property in the new Criminal code of Republic of Kazakhstan

Abstract: In this article the questions of qualification are examined crime against property in accordance with the new Criminal code of Republic of Kazakhstan.

Keywords: criminal law, criminalization, court, Criminal Code.

One of the big news of this year of sheep in the country led to the implementation of legal reforms, including the reform of the criminal law. The main focus of the criminal policy is to improve the existing criminal law. To this end, since January 1, 2015, this new criminal and penal codes of criminal procedure adopted and came into force. Of the Criminal Code is the law of the country after independence. Old Code adopted on 16 July 1997 Today is at the bottom of the story. State criminal law is very important to have the right to order. Therefore, the times changed, because of the emergence of a new public think that it is forced to go to such reforms.

Many of the crimes, articles, chapters appeared, were some of the crimes. If you want real changes, which is currently experiencing a lot of change in crimes against property crimes. A crime against property crime is one of two in the manufacture of the court to say that, no more. And how is it reflected in the new Penal Code?

In 1997 the Criminal Code, which was adopted on July 16 of this Chapter 6 of crimes against property. In this chapter, items 175–188 in seven of the ten offenses.

New Special mortality 6th Chapter of the Criminal Code, criminal offenses against property, eighteen of the crime. The disappearance of the former projects in one of the crime, a crime is a criminal offense.

The new article 187 of the Criminal Code, which was adopted on July 3, 2014, petty theft is a criminal offense. Previously, this was one of the administrative offenses, offenses. Petty theft, a small amount of the theft of another's property, fraud, embezzlement of purchase or to that of [1]. Three of seventeen article of the Criminal Code is theft of another

property in this caused damage to the owner or other owner of the property, or other rights of the people in favor of the mercenary motives of the person found guilty of anti-free removal and (or) spin. Insignificant amount of not more than ten monthly calculation of the property owned by the entity owned by an individual, or the value of the property does not exceed two monthly indexes [1].

This is a violation of the Code of Administrative Offences before, there must be no more than ten times the monthly index [2]. The law refers to a new project, it is a criminal offense. That is, through the criminalization of the Criminal Code.

Replaced by a new term changes theft, misappropriation of the term of the Criminal Code.

Some changes with regard to the crime of theft. Theft, theft of another's property is hidden [1]. This is due to the advance of the crime aggravated by a group of people, a few times, residential, office or industrial premises, storage or transport illegal on the sign, as well as unauthorized access to the information system and information and communication network as a way to change the information provided by the theft [2]. Former canceled in contrast to the Criminal Code, which was adopted on July 13, 1997 relating to the composition of the oil- and -gas pipeline theft aggravating. Included in the new Code innovative information system, illegal access or change the information provided by the information and communication network introduced a new crime of theft by staff. Aggravating composition of the legislature put a large amount of the theft. Aggravated by the structure of the criminal group, made of oil-and-gas pipeline, the largest amount. Criminal group is an organized group,

a criminal organization, the criminal community, transnational organized group, transnational criminal organizations, transnational criminal and terrorist groups, extremist group, gang, is illegal paramilitary structure [1]. Legislative group organized criminal group referred to the new law, a criminal organization, etc. to introduce the concepts. Former adopted on July 13, 1997, the Criminal Code, it ceases to relate to a crime committed by an organized group in the composition

of the heavy component [2], and he referred to the structure of the most aggravating. I. e. criminal groups, criminal organizations, and other responsibilities of the crimes committed by the same group. More than 500 large and a large amount of damage to the monthly cost of real estate in excess of the amount of damage, and the largest amount in the amount of more than 2000 times the value of the property and provided that the amount of damage [1].

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The new Criminal Law

Abstract: In this article experts' opinions about the reasons and the features, about the innovations introduced in the New Code of the Republic of Kazakhstan are described which is in force from 2015.

Keywords: Humanitarian principles, crime, economic pressure.

The New Criminal Code came into force on the 1st of January, 2015, to nominate the strategy of the President's message called "Kazakhstan-2050" "The new political trend of a developed state".

The reasons of adopting the new Code: many changes took place in our country from 1998 till this morning. If we count them: the development of the country's economics flow into new market direction, appeared new information crimes, medical crimes, kind of terrorist offenses, bribery began to grow. That's why the old Code could not answer them. We need new Criminal Code to prevent from so-called crimes.

If we name features and innovations of the new Code: first of all Criminal violation divides into two according to its degree of hazard identification and punishment to public: crimes and criminal offences. According to new Code, dangerous action (action or inactivity) to public is called crime, but criminal offence is an action, which is not dangerous but probability of an action that brings intangible harm to humans or to public, to country. The second, there are forty six articles from the Code of Administrative Offences, there are one hundred and three articles from the Criminal Code in force and new seven articles, that are from one hundred and fifty six articles composed kind of criminal offences introduced into law. The whole new Code consists of general and special sections:

seven parts, eighteen items and all together four hundred and sixty seven articles. New items: the seventh item is about informational and communicational criminal offences, the twelfth item is about medical offenses are added. First discovered new articles that are part of the crime are to clown people; illegal actions in the adoption of a child; illegal export of minors abroad; during armed concern criminal offences of international humanitarian law; to organize the bases for the preparation of mercenaries; to organize extremist groups and petty extortion; to put a person to rule the airplane or ship, who is not a specialist in, such a new components of the crime are introduced into the Criminal Code. The third, the New Criminal Code is based on the principles of truthfulness, humanitarian, equality of citizens before the law, only they are responsible when they are guilty. According to the law principles the concept of crime and punishment are given only in the Criminal Code. Offender shall be punished by the same criminal liability regardless of gender, nationality, origin, property or official position, religious belief, despite the attitude of public organizations and political parties before the law. To ensure the safety of a person and citizen is the sincere purpose of the New Criminal Code of the Republic of Kazakhstan. That's why to committed a serious crime, to organizers of crime, to the active participants of criminal

groups assign severe punishment, and vice versa to have mercy on violated the law for the first time, sincerely repentant, committed crime is an innocuously to people, to society, to the country, is humanitarian side of the new Code. One more side of the humanitarian principles of the new Criminal Code is a special item for teenagers' criminal liability. There are items of exemption from liability according to their age sensor and psychological development of teenagers. The fourth, there is much economic pressure to committed a criminal offence and to offender. If we count the imposed fines for criminal offences

are from 25 monthly calculation index (MCI) to 500 MCI, for crime from 500 MCI to 10 000 MCI, but in the articles for taking bribe, giving bribe and to mediate bribery appointed punishment in accordance with the Code sanctions.

In conclusion to prevent the so-called crimes, upbringing and humanization is the basic rule of the new Criminal Code. The new Criminal Code complies with the international legislation, law standards. To be part of the thirty developed countries, as our President says, is to stand in the developed countries row.

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The international system of copyright protection in the Republic of Kazakhstan

Abstract: In this article questions of protection of copyright in the Republic of Kazakhstan are considered.

Keywords: protection, copyright, internationally, intellectual.

In all periods of human history, the result of the work of writers, poets, artists, scientists, became the basis of human and spiritual wealth of society. In a market economy, literature, art and science, as well as the results of creative activity, the primary means of human and spiritual life of society, and not only becomes an indicator of the level of development of market relations in the form of a special kind of turnover was formed as an object. Objective processes in the world, primarily in the rapid development of scientific and technological progress and spiritual well-being is not only the creator, as well as opening up new horizons for consumers. In this regard, the famous American composer, actor, producer B. Sherman's words: "What a creative person in the country to find out what the most respected way — easy to get acquainted with these copyright laws of the state". In the West, the scope of the copyright pays more attention from the government to be one of the developed countries have opened the way to become world leaders in the field of industrial products [1].

Cash, which is equivalent to 500 billion. Equal to that of the US dollar clothing, cars, computers, and more than the total number of aircraft, including for export. As the Republic of Kazakhstan, we define the level of intellectual property in the future welfare of the citizens of the state, has gained importance as

a valuable resource forehead. Such as the former Soviet Union, the national intellectual property system began to take shape after the country gained independence and autonomy. Thus, in accordance with the Cabinet of Ministers of the Republic of Kazakhstan in 1992 on the basis of copyright law department of the All-Union Agency of Kazakhstan organized by the State Agency on Copyright and Related Rights. In 1996 he composed the State Agency on Copyright and Related Rights "Copyright and Related Rights" (the Copyright Law) Law of the Republic of Kazakhstan. Currently, the main function of copyright in 2001, organized by the Ministry of Justice of the Republic of Kazakhstan entrusted to the Committee on Intellectual Property Rights. One of the main goals of this organ of state regulation of relations in connection with the observance of the rights of authors, legal literacy, as well as supervision of persons with intellectual property. Until recently, most practical day-to-day intellectual property rights for citizens who do not have good legal concept. Currently, the World Intellectual Property Organization carried out a number of international treaties, agreements and conventions, is a full member, nevertheless found that there was a lack of copyright protection in the country and internationally. Thus, the management representatives of the European union of private companies operating in

Kazakhstan, through a survey of the population and the protection of copyright, infringement of intellectual property rights is not common practice to conclude. International experience shows that the task of any state in the fight against violation of the rights of authors introduce the creation of an effective law enforcement system. An important step in ensuring the rights of intellectual property, intellectual property rights, including responsibility for the crimes and offenses in connection with the adoption of the Criminal Code and the Code of Administrative Offences. National legislation in the World Trade Organization in 2005 with the aim of identifying the “Copyright and related rights” to protect the work retroactively amended the Law of the Republic of Kazakhstan, in particular developing countries, such as the protection of authorship period was extended from 50 years to 70 years. At the same time, the authors provide the necessary conditions for the country “for the period 2005–2015 for the development of the national innovation system of the Republic of Kazakhstan and the program” was adopted. “Copyright and Related Rights” adopted in the current Law of 10 June 1996, until 1991, the Supreme Council of the principles of civil law. Amendments to the Copyright Act introducing changes to July 9, 1998 – April 16, 2004 5 Intellectual Property Rights, approved by the World Organization “Internet Treaties” due to the inclusion. First of all, the World Intellectual Property Organization amended with the consent of the copyright Consider the situation in the field of intellectual property rights. After analyzing how these changes have been carried out. The founder of the provisions of the following aspects: national goal, which is reflected in the form of works in mode; Protection period is 50 years after the author’s death (Note: In 2005, the World Trade Organization ülgialiptarimen national legislation to meet the full term of copyright has been extended from 50 years to 70 years); computer programs and a database containing a list of objects of protection; protection of their ability to expand: differences and form an objective; Moral rights: the right of authorship, the right to protection of the reputation of the author and include the right to withdraw the work (right of the public to the amendments added in July 2004); property rights issue, placement, import, public rights, rights of public performance, the right to inform the public, over-the-air broadcast rights, the right to transfer, modify the law. In July 2004, after adjustment included in this list were renewable ranks; Easy to use: for personal use, study, training and education in order to print, broadcast information purposes, the methods used for the blind, libraries and archives, during the official ceremony of the judicial, administrative purposes, transformation, decompilation, and archiving copies of computer terms programs and databases. With respect to digital aspects, it is not practical demand. There are several reasons. First of all, own domestic law through the Internet still works in construction, transportation, trafficking is not involved, so that Internet users are not side-impact damage. Second, the number of Internet users in Kazakhstan still relatively low. On the following numbers: –10,000 in 1996, in 2000–70,000; 250,000 in 2002, 2005 –1,200,000; 2,300,000 in 2009 [2].

Initially the increase in the intensity seemed to be fast, 2,300,000 people need to be monitored should be only 14.9% of the population. Third, the collective management of rights is not further used, so that society lacks a powerful tool to safeguard the rights of authors. However, the changes associated with the advent of the Internet and digital technology was raised theoretical questions raised. They relate to the following questions: 1) “Global Network” Search for the temporary storage of work and 6 (view) should be carried out with the consent of the author; 2) the influence of the conditions of free Internet works; 3) Internet “piracy” need for new measures to combat. 1) With regard to the first question, the Copyright Act, any electronic form (including in digital form) to reissue temporary storage. Thus, the search mode on the Internet and temporary storage operation (in other cases) should be carried out with the consent of the author. 2) “Global Network” libraries, archives and educational institutions in the conditions of use are always alarming. Repro question differs only in cases where preventive measures are not covered by copyright, and does not apply to the legal acts of the owner of the right to use the right techniques. And so, the “digital” protection against counterfeiting measures are not enough, so the need for new measures to combat internet law. Thus, the “digital calendar,” to understand the changes in the conditions, we consider changes to the July 9, 2004 on an individual basis. Temporary re-release. The Law on the Rights of patorskih who raised the issue of re-launching of the first edition of a temporary nature, but after the amendments were made to the “release”, the concept of “temporary isolation” has the ability (or in the language and background Raynbot Lewinsky, “keep up with the future”) [3].

Deficiency of certain types of carrier material to refuse changed “in any degree of objective” was the introduction of the concept. Copyright law in accordance with the current edition of the “re-issue” — “works or objects of related rights of one or more permanent or temporary copies by any means and in any form, in whole or in part, directly or indirectly. Preparation of audio or video, two-dimensional or three-dimensional the work of one or more copies, as well as works or objects of related rights in any material of any permanent or temporary storage types” should be defined. Copyright and Information Society of the European Union (Directive) for comparison, you can see the following [4].

The decision to re-issue a temporary measure will be excluded from the definition of a legal issue, “technical” criteria, as well as the Copyright Act to temporarily release the free part of the definition in all cases were identified. As a result, the law of Kazakhstan, temporarily re-release of “technical”, it is not necessary to prove compliance with the criteria. Only one target established by copyright law, it is time to re-release a free state in the definition. — The right to public attention. 2004 amendments “to the public rights” included in the definition of “copyright and (or) social objects of related rights, at any time and from any place, at the discretion of the individual (mode) via a wired or wireless connection, capable of achieving Report means” to help her. But Yet, the

right to inform the public about the circumstances that are not related to the rights granted to the owners of the authors only. Preventive protection methods. The commitment of technical measures. Copyright and technology “are protected by the law, to prevent any violations of copyright or related rights violation or obstruction approach, which is an integral part of the product or the product of any device, product or component” should be defined. The counterfeit copies of “changed the definition of technical methods to prevent illegal activities”, rights management information has been removed or altered without permission holder or techniques to circumvent the protection of objects made with the use of illicit devices, allowing objects of copyright and related rights recognized forgery. “Nevertheless, technical measures to protect the rights, primarily foreign work (or objects) are used as a measure of protection for the owners of the domestic law of the use of expensive” [5].

Rights management information. Information Rights Management (DRM) to another new norm of copyright law. It “works derived author, artist, performance, the performer, sound recording, film, performance, or phonogram work, performance or phonogram, or information about the conditions of use of the copyright owner, identifies information. Any item of information work annexed with reported cases of execution or phonogram, or write to inform you about working with the public or to inform you, performance or phonogram and (or) arising in connection with the supply of such information in

any numbers or codes given rights management (DRM) on the understanding that the right to manage electronic information, including responsibility for change and for the removal of the Treaty Copyright World Intellectual Property Organization as compared with Article 12, any legal liability for copyright differs from the definition of rights management information” [6, 20].

Results of intellectual activity, especially in connection with the use of copyright and related rights, relations and even deep will be developed in an emergency — there is no doubt true. As a result, in order to prevent a permanent lack of protection and that too comes to abuse, to present “chaos” is necessary to set a new trend in the development of intellectual property. The ratio between the two owners of the users and violation of the law. Thus, users of intellectual property on the one hand effectively put into operation Now, on the other hand, based on intelligent achievements to provide the appropriate level of protection for authors a “flexibility” required. It is believed that digital computer and network technologies in the field of new, important to consider the contradictory phenomenon. Go to the principles of national and favorable treatment on the basis of mutual understanding, to the unification and harmonization of laws and regulations, the emergence of new globalizing international treaties, the development of digital networks — all copyrights progressive new “cross-border”, which leads to the properties. New phenomenon internationally agreed, are to be found the universal legal answers.

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The criminal legislation – criminal offences in branch of communication and informing

Abstract: The Republic of Kazakhstan in political, economic, global Internet and social development of the world, there is a strong development process. But the country that is taking place with the positive achievements of the society to further hinders the development of the dynamic of the negative phenomena. And crime, computer crime. The opening of such crimes, the official registration causes a lot of problems.

Keywords: global Internet, Computer crime, Criminal Code of the Republic of Kazakhstan.

The Republic of Kazakhstan in the growth process in political, economic, global Internet and social development in the world. It is obviously, in this short period of time a lot of success in the Republic of Kazakhstan for all of us, but that is taking place in the country with such positive achievements, which further hinder the development of a dynamic society with negative phenomena. One of the phenomena and anti-social crime. Computer crime or other crimes of the past two decades to more than one of the factors that did not meet the gravity of this issue over time, gradually approaching the number of offenses. The opening of the official registration of such crimes cause a lot of problems [6]. At the moment, our lives are closely linked to the network of information and computer technology and the Internet. People use computer system and application software for various purposes work, correspondence and e-mail along with a variety of information on the Internet, banking, investment management, applies to the purchase of products. However, modern information technologies will contribute to the formation of a civilized society, but, unfortunately, new threats and challenges that the favorable conditions for the birth of a non-confidential [5].

On the territory of Kazakhstan of information at the same time a new negative (negative) to the emergence of phenomena, including in this area led to the crimes.

Criminal Code of the Republic of Kazakhstan, which entered into force on 1 January 1998, computer equipment and devices are a permanent solution to the Chapter 7, Article 227 of the Criminal Code of the Republic of Kazakhstan in the field revealed the following crimes:

– Computer information protected by law, that is, machine Clipboard electronic calculating machine (computer), computer system or network of illegal access to information, as well as a computer, computer system or a violation of the rules for the use of their networks, these actions remove, block, or to update the copy of the computer, computer system or network caused the violation;

– Eliminate the unauthorized interception of information, or to update the copy of the computer, computer system or network, multi-known computer programs that lead to the violation on or make changes to existing programs, such as programs or programs with the use of computer storage media or liquidation.

When turned over that grass on the latest changes and additions to Article 227 and Article 227–1 is added, it is one of the computer crimes in the official title of the article and content:

– Mobile device identification code of the subscriber, the subscriber identification device to the illegal change, as well as subscriber identification code for the programs to be illegal, use, distribution [1].

Taking into account our scientists T. B. Seitov's opinion "computer crime threats has been adopted by many countries as an objective reality. The reason for his scientific work being done on this issue in these countries, there is legislation in accordance with the norms" [2]. As an example, by T. B. Seitov's

opinion "the legislation of the countries of the former CIS will be recommended to the legal provisions of the Model Criminal Code". This document is the 12th chapter of crimes against information security items found in the following types of crime:

1. The illegal access to computer information;
2. Modification of computer information;
3. The computer sabotage;
4. The illegal acquisition of computer information;
5. The computer system or special processes for the preparation and distribution of illegal access to the network;
6. malicious programs for the creation, use and dissemination;
7. Violation of the rules on the operation of computer systems and networks.

In this regard, according to the T. B. Seitov "legislators in the preparation of the Criminal Code of the Republic of Kazakhstan chose only two of the units".

Relating to computer crimes at the end of the twentieth century enactment of the law of the Criminal Code without any changes and additions. But there is no doubt the accuracy of those rules that the rules should be improved to meet the challenges of the time.

A. L. Dzigar involved in the new legislation, according to Karl Marx: "society, the law should not be motivated. On the contrary, society should be based on the law, it is against the will of private individuals from the public interests and the needs of the total consumption of the material must be reflected", the doctrine that does not know or can not be accounted for.

According to the Strategy «Kazakhstan-2050» — N. Nazarbayev in his Message noted that the state's task is to promote the implementation of business activity in most of the citizens, to this end, the national legal system focused on the need to start the next stage of modernization. Because, law only protect the national interests, but also a combination of a dynamically developing international legal environment. For this purpose, the President of the Criminal and Criminal Procedure emphasized the need to reform the legislation. For further humanization, including decriminalization of economic infringements importance to the new Code, the Criminal Code and stressed the need to develop. The adoption of these key legislative action conceptual point of view, the policy of modernization of the fight against crime, according to the level of a crime against the human rights of its intention to raise the level of that act. Now, signed criminal code was prepared and discussed and were sent to life. On July 3, 2014, two sections of the Code, Article 467, Article 98 of the General Department means, in particular Article 369 section. According to the law, two types of criminal offenses: crime and criminal offenses. That parts 2 and 3 of Article 10 of the Code on the following terms: that is, as a crime in the Criminal Code fines, corrective labor, restriction of liberty and imprisonment or the death penalty to punish the guilty prohibited qaterimen be made socially dangerous action. And the criminal offense do

not pose a significant threat to society, causing minor damage to person, organization, society, or the risk of damage to the state caused by the imposition of penalties for committing it, corrective work, community service, the arrest alwtürindegі activities of the charges is punishable by a action (inaction) Another factor that delingen. Totally recognized as one of the new Code penalty ruggedized crime is cyber crime. The country's only just heard a new sound for this type of crime in our society, but the obvious harm suffered. New chapter «in the field of Information and Communication of criminal offenses» (205–213 articles). In fact, the trail of hackers, and scams with a high level of training, professional qualification is required. As an example, we look at the sources of cyber crimes in 1997 when 49 people were punished. All of them canceled under Article 227 of the Criminal Code of the old to 5 years of imprisonment. Only in 2013, only to take cyber

crime 2 of the hacker. According to the Prosecutor General's Office in the country from 1997 to 2013, 614 cyber-crimes. Based on this data in cyber crime growing in recent years, you can see the weaknesses of the criminal law. Summing up the results of the study of modern information security the extent of the person does not meet the company's needs or the needs of the state. Government bodies to complete, is available in a timely manner in order to ensure a full and clear information, including the protection of state information resources, in conformity with the technical means in accordance with the requirements of the system and to clarify the need to take decisions for the improvement of domestic remedies. A negative impact on the organization of information security professionals in this area will be less. Information weapon against technical intelligence and many other issues further believe that there is a need to organize.

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On the significance of the microparticles in the investigation of rape

Abstract: In this article examined about the value of microparticless in investigations of raping.

Keywords: criminalistic materials, criminalistic materials, criminal, micro traces, microparticles.

At commission of rapes always there are material traces. Especially it is important to consider it at rapes with heavy consequences when it is interfaced to murder of the victim. These traces are various — by the origin nature, on the education mechanism, a functional purpose, the sizes, etc. Elements of a material situation of an event of a crime can be carriers of these traces: the criminal, his clothes, footwear, the tool of a crime to which he threatened the victim, means which were used by the criminal at violence (for example, a towel with which rolls up the victim's head) the victim, her clothes, footwear, subjects

belonging to the victim. If the sexual violence is made to the room or on the open district — that traces, respectively, remain on a floor, furniture, carpets, the earth, etc.

For the last century in criminalistics branches — criminalistic materials, substances, etc. are developed, within these scientific directions recommendations of detection, fixing, to withdrawal of traces from a scene, clothes of the criminal and the victim, from their body, etc. are made. Techniques of research of these objects are developed, it is known, what circumstances can be established by means of traces of hands,

footwear, teeth, fibers of clothes, soil stratifications, etc., all participants of criminal trial know, what their value in the general subject of proof.

In investigative practice situations when expose the criminal by means of such material traces which it is difficult for the specialist criminalist working together with the investigator at a scene to find owing to their microscopic sizes often meet. However, as a direct or indirect result of the events related crime, criminal or victim, implements, tools of crime, they acquire forensic value and may even act as evidence in establishing the facts and circumstances of the offense. It is about such traces which belong to microobjects. Criminalists showed interest in different small and smallest objects long ago. Still G. Gross indicated the need of collecting dust-like particles in due time. But for the last three decades, criminalistic value of microobjects sharply increased. It is caused by the following reasons:

1) general development of criminalistic equipment and, as result, equipment of investigating authorities perfect scientific and technical means;

2) emergence of the new expert methods opening opportunities for researches of small amounts of substances and materials (methods of raster electronic microscopy, etc.), they provide from microparticles of information which was absolutely inaccessible earlier;

3) on a scene the criminal destroys "traditional" traces as traces of fingers of hands, displays of a sole of footwear.

Meanwhile microobjects during the skillful work of the investigator and experts in many cases can be found and used in the course of investigation. One of features of microobjects — impossibility of their elimination by criminals, and this circumstance in no small measure promotes growth of "specific weight" of microobjects among other material proofs. There are all bases to believe, as, further value of microobjects in fight against crime, including with sexual harassments, will constantly increase.

Classification of microobjects in criminalistic literature can be built on a source of their origin. On this basis they can be divided into three groups:

- 1) organic origin;
- 2) inorganic origin;
- 3) the mixed origin.

The first group includes hair of the person and animals, fibers of fabrics of a vegetable and animal origin, a particle of various cereals, plants etc.

The second group includes microparticles of various metals and metal alloys: silver, copper, iron, aluminum and so forth, and also particles of coal, quartz sand, cement, asbestos etc.

The third group is formed by the microparticles consisting of substances of both an organic, and inorganic origin, for example, the soil, dust.

Micro-objects can be differentiated on the micro traces and microparticles. If the micro-object is in the office (isolated) from the following vehicle as they should be called microparticles,

micro traces — a micro-objects, not separated (not isolated) on the subject of next-step-carrier. Microtraces may include the following overlay inclusion, layering or implementation. Traces of imposing are, for example, microparticles of hair, cellular elements or other particles of a human body, and also the textile fibers which are "imposed" on the crime tool at the time of its contact with clothes and the victim's body. Similar traces can remain within several months. Inclusion traces in the form of the smallest particles of metal and other objects can be found in clothes, in a body of the person, a covering of a floor, house utensils, etc. Traces of stratification arise most often when the substance of stratification or the track-perceiving subject possesses in a varying degree adhesive properties. Traces of stratification can form liquid or semi-fluid substances, and also dust, ashes, etc. Traces of introduction arise at penetration of any liquid (for example, blood) in fabric, paper and other objects.

Detection and furthermore research of microobjects demands not only experience and knowledge, but also use of various devices. Therefore the task of the investigator consists in the correct definition of subjects on which there can be traces, and their timely withdrawal with the precautions excluding loss of separate microparticles or, on the contrary, emergence on a track-carriers of new, "foreign" microparticles. Research of the subjects track-carriers withdrawn by the investigator (clothes and so forth) is made by the expert. Depending on the found microobjects, their nature, structure, structure, examination can be made in a complex with participation of chemists, technologists, biologists, microbiologists, botanists, judicial physicians, etc. Participation of specific experts in production of examination is defined by the leader of experts which task included detection of microobject on the track-carrier, the provided investigator.

We will consider on examples as detection and research of microobjects allowed to direct a consequence on purposeful search of the criminal and to prove his guilt. In one of districts of the city of M. at an insignificant gap on time (no more than days) corpses of two women who underwent sexual violence were found. For promotion of the version about attack on both women of the same criminal there were following bases — about one and too time (about 23 hours of local time), one territory in a scene, both women had on necks suffocation traces fingers of hands. The investigator at once directed on examination the clothes of women withdrawn at inspection of the scene before sending bodies to a mortuary. The taken-off clothes in both cases were packed according to methodical requirements. Before the expert questions were raised: Whether there are on the presented clothes of the victims foreign stratifications, what nature and their appointment. The expert at research of clothes of women found microobjects in the form of particles of metal shaving. Comparative study of these particles with the scanning electron microscope «Stereoscan» showed that the indentations, the protrusions on the surface of the chips produced by the impact tool have identical distances configuration microprobe analysis showed the same chip element composition metal shavings.

During the time until the examination is being conducted, investigative steps to find the perpetrator, there have been three more rapes of women were fatal. Clothing women were immediately sent for examination, the study showed that the presence of similar chips. The presence of chips on the clothes have five victims, as well as the results of a comparative study of particle chips showed the professional activity of the criminal, that will narrow search. Operative treatment undergone working factories and workshops available on the site of the accident. During the arrest the offender was removed his clothes and assigned identification expertise that helped in exposing the criminal.

Examples illustrating the importance of micro in proving the guilt of the perpetrator, could be cited. It should be noted that in criminal cases of rape often is examined fiber clothing. Experts studying the clothes of victims or offenders under the

microscope reveal layers of fibers, fixing their location, and then remove them from the media, further research is carried out by means of physico-chemical methods — determine the structure, nature and type of dyes, etc. To answer that the fibers found on the clothes of the victim, or under her nails, etc., belong to the clothes (sweater, pants and other material.) Criminal expert is particularly structure, composition of fibers and they must be the same, in this case, given a definitive answer about the specific clothing accessories fibers. There may be situations when the layering of clothing found on the clothing of the victim offender.

In all these situations it is important to timely and proper withdrawal from the scene of the objects, things, on the surface as a result of sexual violence, formed micro-layers. There are examples from practice when because of neglect recommendations of criminalists of value of microobjects, rules of their withdrawal the criminal escaped responsibility.

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Sexual deviations of the convicts in isolation

Abstract: Deviant sexual behavior of convicts in prisons adversely affects the correctional process, reduces the effectiveness of preventive work in a correctional facility, prevents the proper organization of the runtime and punishment, as a background component penal crime, often results in conflicts between convicts are resolved by them, as a rule, criminal actions. As the basis for deviant sexual behavior are convicted defects of personality, it applied to them; disciplinary action does not have a significant impact on their behavior.

Knowledge of the criminal world, standards of conduct allow convicted prison administration to objectively analyze the crime situation in the institution, clear and timely control and predict it.

Keywords: convicted, deviant sexual behavior, place of detention, prison isolation.

Deviant sexual behavior of convicts in prisons, as part of the background of the penitentiary crime covers a wide layer of the phenomena of social life and, in general, has a negative impact on society.

Punishable deviant sexual behavior condemned, affects the correctional process in prisons, prevents the proper organization of the runtime and punishment, and reduces the effectiveness of preventive work in a correctional facility. Facts of deviant sexual manifestations impact negative on the morale of the people sentenced to imprisonment reduce their

level of positive activity and optimism in the process of serving the sentence.

It is a mistake to underestimate the importance and necessity of the struggle with homosexual violence in prison, which could lead to a complication of the operational environment, the emergence of conflicts between convicts resolved by them, as a rule, unlawful criminal actions. Research has shown that serious violent crimes committed in women's prisons are rare, but if they are committed, they based on the homosexual conflicts [1, 55]. According to O. V. Starkov in men's prisons

compulsion to homosexual act was concentrating object conflict crime in every fifth case, that is, the number of penal offenses significantly associated with sexual perversion [2, 220].

Given typology of sexual deviancy by specialists relatively based on the same grounds — on the object of sexual desire and sexual behavior methods. In the performance of imprisonment is the most common homosexuality, combined with a variety of sexual perversions and sexual deviation, which play a compensatory role, and usually do not involve legal consequences.

The most significant factors influencing the formation of deviant sexual behavior of the convicts are early sexual experiences, sexual abuse in childhood, adverse conditions of education, hereditary mental disorder, alcohol or drug addiction of parents, the presence of signs of mental and psychosexual deviation, and the effect of specific environments places isolated from society.

A. A. Bakin depending on the motives of homosexual activity, identifies five groups of convicts, characterized by different features of deviant sexual behavior: convict performing homosexual acts solely as an active party to solve interpersonal conflicts and maintain their status in the prison hierarchy (homosexual acts are due to external circumstances and aimed at humiliation and suppression of others):

- Convicted-transit performing homosexual acts associated with the inability to heterosexual contact in the colony, to meet the sexual needs (people enter into communication only as the active side);

- Convicted with psychosexual disorders characterized by severe persistent stereotype of behavior as a symptom of mental illness;

- Convicted involved in homosexual prostitution (act as passive partners);

- True homosexuals (detect the presence of persistent sexual attraction to persons of the same sex, and an aversion to heterosexual contact) [3, 10].

Convicts, who belong to the first group, have a negative attitude towards homosexual relations, homosexuality considered as unavoidable in the penitentiary system. Most of convicts of this group maintain heterosexual relationships with regular women-partners, as a rule, while having a dates allowed by the prison administration. They are socially and psychologically well adapted to the conditions of the detention facility, have an authority in the prison hierarchy.

Convicts of the second group are also well adapted to the correctional institution, form stable pairs and satisfied with the partnership. Before entering the prison most of the group members showed bisexual activity. In adulthood, personality disorders and behavior represented in two types of psychopathy: epileptic and unstable.

Representatives of the following three groups — people with long-term homosexual experience, the majority of them had not heterosexual experience before. All of them tend to create stable homosexual relationships, but there are cases of periodic prostitution.

A typical prison offense, with a very high level of latency, is forced sodomy. Coefficient of latency of such crimes is so high that they are practically not registered. Those who abused in every way trying to hide the fact of socially dangerous act. This is primarily due to operating of the “law of the silence” in the prison world, as well as fear of retaliation for reporting sexual acts committed against them and the fear of being the object of ridicule, humiliation and subsequent harassment. In addition, the status of the convicts subjected to an act of sodomy because of the publicity and according to the unwritten law, changed to the lowest.

According to Y. M. Antonyan observation, people who have been subjected to homosexual violence, as well as those who enter into homosexual relationships by free, and the convicts who do not observe basic rules of personal hygiene, mental retardation seen in double-dealing or stealing things food from other prisoners, even people with effeminate mannerisms, facial features or body, just weak in character and physically, who are not able to deal with threats and violence, as well as those who were unable to return the card debt — form a strictly isolated group rejected or so-called lowered [4, 54].

Traditionally, sexual violence usually cruel and degrading always, are also committed against people committed sexual offence before; against convicts who contributed to the law enforcement authorities; who have relatives in these area; or who engaged in sodomy in a passive form [5, 56].

As you can see, deeds and actions, for which possible rejection, are very different and varying degrees of community reviled criminals, sometimes causing them sincere anger and resentment. Punishment for them is almost always occurs immediately after placing these persons in detention. According to Y. M. Antonyan majority of those arrested for sexual crimes committed against children and adolescents, crimes related to the abuse of them or cruelty (about 80 %) rejected in jail. Only a small portion (about 15 %) rejected in the colony, and in the first months of imprisonment.

In some cases, community sanctions appear as an additional punishment to which assigned by the court, but in general, such sanctions regarded as an excuse to a certain social group sank to the bottom of the informal hierarchy. Therefore, if it were not for these reasons, the community would find others. The fact that this is the most humiliating way, and the consequences of last indefinitely, accurately reflects the level and quality culture is criminals. Rejecting, humiliating one, criminals seem to say to society: “Yes, we are bad, but there are worse us down to their level, we do not descend”. Thus, the presence of rejected allows others to rise in his eyes and in the eyes of the revered group. That is why this phenomenon is very difficult to fight.

Rejection of some of the convicts, as a specific offense prison, has a long history, but, unfortunately, is a hidden character and it rarely comes punishment. Victims are simply afraid to report it because of the threat of new massacres. The more severe the injury when the victim of sexual violence, the higher the risk of suicide, depression and profound expression of deep emotional (mental) disorders in it.

Convicts from “offended” perform significantly more work to do household activities, they are usually used in the least prestigious, dirty work. They live, eat and work separately from other criminals with them simply do not talk, do not allow to sit, stand side by side, to dine at the same table, in any way come in contact, etc. Prohibition of communication extends to all, without exception, they can only communicate with each other. Violation of the unwritten rules can lead to serious consequences, up to the deprivation of life. Their humiliating status remains practically all his life, during the second serving of sentences in prisons inevitably learn about him other prisoners. Hide it not make sense, because sooner or later it will be found, in which case the “guilty” is sure to be punished. Feeling hopelessness of their situation, pursued sometimes kill their oppressors or escapes (attempt to commit) from prison. Position rejected persists after release from prison, learn about it in its immediate domestic environment, which, of course, greatly complicates the adaptation to the new conditions of liberated life, causing him further suffering.

As a result, total psychological and social pressure, this category characterized by a convicted bitterness,

uncontrollable temper. Lack of self-control emotional state can lead to an attack on other prisoners and members of the administration, to other acts of aggression. They tend to exhibit suicidal intentions, including to manipulate others. Such prisoners often have artistry.

At the organization of individual educational work with this category of convicts should be aware that they are willing to fulfill any order, including acts of violence, the leaders of informal groups of a negative orientation, do not claim to a leading position in the criminal hierarchy. As the basis of their behavior are defects of personality, it applied to them disciplinary action does not have a significant impact on behavior.

Time in prison significant effect on the psyche of the convicts who are experiencing feelings about the conviction and imprisonment. Changing existing stereotypes of life in many convicted passes painful, accompanied often irritability, anger, aggression. Knowledge of the criminal world, standards of conduct allow convicted prison administration to objectively analyze the crime situation in the institution, clear and timely control and predict it.

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Classification features of linguistic expertise and her tasks

Abstract: The features of classification of linguistic examination are examined in this article.

Keywords: expertis, classification, linguistic expertise.

By definition of the object of linguistic expertise specific differences exist. Most subject matter expert linguistic expertise is defined as the actual data (facts), to be proved in a particular case through the resolution of issues requiring special knowledge in the field of linguistics.

But nevertheless there is a disagreement on the classification of linguistic expertise. To which many scientists fit differently.

According to the classification M.A. Grachev linguistic expertise belongs to the class of forensic examinations, in which he highlights the traditional forensic expertise;

developed in the last decades of the twentieth century; different types of research materials, substances, products, allocated in a separate genus, also called material science [1, 499].

However, there is another point of view. In the concept of E. I. Galyashina and E. R. Rossinskaya say that linguistic expertise is a separate genus of the examination, which is included in the class speech examinations [2]. According to this concept, in class speech expertise includes linguistic, handwriting and phonoscope examination. These types of expertise with the exception of linguistic expertise are traditionally included

in the class of forensic examinations. Although speech examination do not constitute a homogeneous class, with their production uses specialized knowledge from various fields of science (linguistics, acoustics and criminology), they share the commonality of the studied objects — speech products of human activity, a similar set of special speech examination of knowledge required for expertise, unity of methodology in the identification and solution of diagnostic problems.

In the concept of E. I. Galyashina and E. R. Rossinskaya theoretical and methodological basis for all three genera of the class speech examinations judicial speech acts — applied linguistic discipline, the object of study which is speech activity and results in the aspect of the problems that arise in the judicial examination. In other words, the court speech examination is the branch of applied linguistics that uses linguistic knowledge in judicial purposes — in order to establish/refute the facts that have the status of judicial evidence.

K. I. Brinev believes that the typology examinations of the genus and species is not a scientific descriptive value, but is important for the organization of training of specialists with relevant expertise specialties. For example, in Russia in accordance with the educational standard [3] training of specialists in the field of forensic examination is conducted in five specialties, including specialization speech expertise.

“Their” classification proposed by the experts of the Department of the Federal center of forensic expertise of the Ministry of justice, there are three kinds of linguistic expertise: researches on identification of the author, semantic research, the study of names [4]. On the basis of task descriptions identification of the author studies, we can conclude that it is independent kind of legal expertise — researches on identification of the author. In the regulations of the justice Ministry, the FSB and the interior Ministry stipulated that researches on identification of the author examination is a separate examination originating, including one expert specialty. Examination of the names is made with the purpose of the analysis of proper names (titles) from the point of view of their conformity to the norms of the literary language, their novelty and originality, the content of different kinds of references to the phenomena of objective reality [4].

The third type allocated by experts of the Russian Federal center of forensic expertise of the Ministry of justice, semantic analysis. This is the name of the kind of linguistic expertise due to the fact that its scientific basis is semantics. Semantics — the meaning of linguistic units (words, morphemes, grammatical forms, word combinations, sentences), as well as a science of the value (semasiology). The semantic tasks of the assessment are: identification of the meanings expressed in the examined texts and the analysis of these meanings from different points of view; determining the scope and concepts, expressed in a word or phrase used in the text; establishing the extent to which the transmission within the text content of another text [4].

Given the fact that researches on identification of the author examination belongs to a separate genus examinations,

semantic research and research items isolated in a kind of linguistic expertise and S. M. Wool, O. V. Dovzhenko [5, 100].

Another classification of linguistic expertise, which is based on the object of study, proposed by A. N. Baranov. They highlighted: a survey of speech, examination of written text and verbal-visual examination [6, 14–15].

E. I. Galyashina in a kind of linguistic expertise identifies the following types:

- Linguistic examination of titles (naming expertise);
- Linguistic expertise of normative legal acts and documents;
- Linguistic examination of texts of mass media and campaign materials, letters and addresses;
- Linguistic examination of works of science, literature and art;
- Linguistic examination of speech.

These divisions of linguistic expertise on the species based primarily on the specifics of the objects of expert research and solve their research problems. Based on these same grounds, and taking as a basis the classification of the types of linguistic expertise. By I. E. Galyashina, M. I. Podkatilina complements three new types of linguistic expertise: a linguistic examination of advertising texts; linguistic examination of verbal and combined trademarks and service marks; linguistic examination of extremist materials [7, 13].

Obviously, the subject of a certain kind of linguistic expertise is different from objects of other types. The difference between them is the establishment of various actual data detected based on the study of the regularities of a certain type of expertise [7, 17]. For example, the subject of forensic linguistic expertise of extremist materials — establishing the actual data relevant to the case, which can be the basis for the adoption by the authority of the decision on the recognition or non-recognition of texts extremist materials, will be different from the object of linguistic expertise of advertising texts.

There is no doubt that the name of this type of examination, like “linguistic expertise of extremist materials” conditionally, as, for example, examination of narcotic drugs and psychotropic substances. The name does not mean that all of the studied in the framework of this examination objects are narcotic, by analogy, and not every object of linguistic expertise of extremist materials will be recognized as extremist, especially since the recognition of the material as such relates to the competence of the court.

The grounds for the selection of these examinations in a separate kind of linguistic expertise are the specifics of the objects, tasks and complex special knowledge used in the production of these types of expert research. In light of the topic seems relevant link between the types of forensic linguistic expertise, objects and solve during their study objectives: — determine the type and objectives of the study. The primary object of the examination, and, on the basis of its properties and capabilities of its research, already formulated the tasks of a particular kind/type of expertise.

The tasks of linguistic expertise:

- give an interpretation and explanation of the meanings and origins of words, phrases, sustainable phraseological expressions (idioms);
- interpret primary and secondary (connotative) meaning of linguistic units or speech (oral or written);
- to carry out the interpretation of the provisions of the document text to determine what options understanding these provisions is possible in modern discourse;
- conduct research trademarks, verbal symbols, mottoes, slogans, advertising texts, commercial, corporate names on their identity or similarity to the point of confusion with other symbols;
- to conduct a study of the text fragment to identify its content and semantic orientation, modality of propositions, expressive and emotive speech units and their formal-grammatical features and semantics of specificity used stylistic means and methods.

The need for forensic linguistic expertise most often occurs:

- in criminal proceedings and law enforcement on disclosure, investigation and prevention of crimes committed

through verbal acts (libel, insult, and incitement of hatred and enmity, a is equal humiliation of human dignity on the grounds of belonging to any ethnic, religious or other social group, illegal use of a trademark, false advertising, violation of copyright and related rights, and patent rights, illegal distribution in the literature pornographic materials, etc.);

- in civil proceedings the courts of General jurisdiction on claims to the protection of honor, dignity and business reputation of citizens, to the protection of copyright and related rights;

- in arbitration courts on claims of legal entities o the protection of business reputation, the recognition of invalid (or illegal) decisions of Rospatent, the cancellation of the registration of verbal designation as a trademark, to ban the use designation similar to the point of confusion with a registered trademark, to invalidate warning Rospechat made by the media in connection with the distribution of extremist materials and other violations of the law the media, etc.;

- Affairs about administrative offences (propaganda of narcotic drugs and psychotropic substances or their precursors).

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Pre-trial investigation in the new edition of the Code of Criminal Procedure of the Republic of Kazakhstan

Abstract: The issues of improving pre-trial investigation in the new edition of the Code of Criminal Procedure of the Republic of Kazakhstan in 2014.

Keywords: Code of Criminal Procedure, criminal justice, criminal proceedings.

For the first time ever the task for the public authorities to develop a new Code of Criminal Procedure of the Republic of Kazakhstan was delivered in August 2011.

Thus, the protocol decision meetings with the Assistant to the President, the Secretary of the Security Council of the Republic of Kazakhstan № 52–6.11 of 5 July 2011 (5 and 6) and № 52–6.13 of 17 August 2011 (paragraphs 1–3), and on the basis of pursuant to instructions of the President adopted a decision on radical reform of criminal justice, planning the concept and the new edition of the Criminal Procedure Code of the Republic of Kazakhstan.

Hereafter, this task has been duplicated by national plan for the implementation of the Message of the Head of State Nursultan Nazarbaev to the Nation “Socio-economic modernization — main direction of development of Kazakhstan” dated January 27, 2012.

Responsible executives for the development of a new version of the Code of Criminal Procedure were appointed: Attorney General’s Office, Supreme Court, Ministry of Justice, Agency for Combating Economic Crimes and Corruption, Ministry of Internal Affairs and National Security Committee.

The Concept of Legal Policy of the Republic of Kazakhstan for the period from 2010 to 2020 approved by the Decree of the President of the Republic of Kazakhstan № 858 dated August 24, 2009, noted that the effectiveness of the criminal policy of the state is impossible without an optimal model of criminal proceedings [1]. In accordance with the characteristics of a modern democratic, law-governed state, the main aim of the legislator is the formation of procedural law based on the recognition of the constitutional provisions on human rights and freedoms have direct effect, the meaning, content and application of laws and ensures justice.

The adoption of the Criminal Procedure Code of the Republic of Kazakhstan in 1997 marked the construction of a model criminal justice system, based on the adversarial criminal process. Over the years, since the entry into force and application in criminal proceedings of the Criminal Procedure Code of the Republic of Kazakhstan it was made a considerable number of additions and changes that contribute to the improvement of the criminal process. However, numerous changes and additions, perfecting certain rules of criminal procedure legislation on the one hand, created a conflict with the other, or form a new problem, because of the CCP itself was based on Soviet law, and many of the amendments are implemented in it were of foreign law and were fundamental nature.

Given the above, in the criminal proceedings there is a need to conduct a thorough reform aimed, on the one hand, to ensure the actual implementation of constitutional rights and freedoms of man and citizen, and the other — the release of the criminal justice from the elements of repression and cumbersome Soviet order of enforcement. Genuine modernization of existing legislation in this area is only possible by using a new conceptual approach to the structure of criminal procedure, the content of the stages of the process and the powers of its members. Attempts to

combine and match current realities in criminal procedure forms the Soviet criminal justice that it represents the current Code of Criminal Procedure of the Republic of Kazakhstan are impossible.

In this regard, the development and adoption of a new edition of the Criminal Procedure Code of the Republic of Kazakhstan in 2014 [2] is a strategically important step in the country’s ongoing large-scale legal reform.

One of the main areas of reforming the Criminal Procedure Code of the Republic of Kazakhstan is to optimize the prosecution as an exceptional pre-investigation and transfer functions of charge from the investigator to the prosecutor.

Considering the given directions on which the reform of the pre-trial investigation is built, the following can be noted.

1. Refusal of pre-investigation stage and initiation of criminal proceedings

This area is one of the most urgent to improve the criminal procedure legislation of the Republic of Kazakhstan, as acting Concept of Legal Policy identified simplifying and speeding up procedures, both in the courts and in the pre-trial stage.

In accordance with the previously applicable Code of Criminal Procedure of 1997 the decision on the application or report of a crime should be made not later than 3 days from the date of its receipt. Present period of pre-investigation may be extended up to 2 months (Art. 177). And this is, in fact, the term of the criminal investigation.

Furthermore, there is a clear tendency to increase the number of investigative actions undertaken during the preliminary examination. So, in 1959, it was allowed to carry out inspection and expertise, in 2009 — the opening, in 2011 — survey and obtaining samples. Thus, at the moment of the 15 investigative actions prior to the initiation of criminal proceedings may be carried out 5, and this is a whole third of the entire arsenal of the investigator. Such a trend could lead to a gradual admission of the production of all investigative actions during the preliminary examination. Then how it will differ from the preliminary investigation?

But most importantly, it was observed during the pre-investigation the largest number of violations of the rights and legitimate interests of citizens in criminal proceedings. This is facilitated by a variety of causes associated primarily with the flaw of the current legislation and favorable conditions for corruption. In particular, during the preliminary examination, participants of this phase of the criminal process have no procedural status granting them certain rights and allowing to realize these rights. As well as the lack of proper control by the supervisory authorities. These and other circumstances lead to procrastination of decision making, shelter crimes, poor investigation of the circumstances of the incident, etc.

Thus, it can be noted that:

- a conduct of pre-investigation — is a waste of time and delaying the start of the criminal investigation;
- materials of pre-investigation are not used, as a rule, in the course of proving the circumstances of the case in court;

– immediately after the criminal case and taking it to its production investigator duplicates of the material of pre-investigation in the investigation documents;

– neither the prosecutor nor the judge cannot particularly affect the legality and validity of the refusal to initiate criminal proceedings; Attorney — because he is the prosecution and solidarity are often the investigator; judge — because it has no direct relation to the relinquished materials and it is not within its jurisdiction.

Refusal of pre-investigation in the future is well-founded. Previously made attempts to extend the range of investigative actions, the production of which is possible to open a criminal case, due to the fact that in legal practice the concept of “availability of sufficient data indicating signs of a crime” used in Part 2 of Article 177 Code of Criminal Procedure, is often identified by enforcers as the concept of “corpus delicti”. Mixing these two types of data, the substitution of one to another in a number of cases are one of the causes of errors when checking the grounds for initiating criminal proceedings: pre-trial investigation authority seeks at this stage to establish the circumstances that must be proved only after the criminal case in the full preliminary investigation. Testing actions at this stage are limited to certain extent, i. e. set of validation actions necessary to make informed assumptions (not proof) body of pre-trial investigation that there was sufficient data indicating signs of a crime.

Final qualification of the crime in the excitation of criminal case from the law enforcer is not required because sometimes correctly classify a crime without a preliminary investigation is impossible. Therefore, in the initiation of criminal case is necessary usually the pre-qualification of the crime.

In addition, the Code of Criminal Procedure in force before 1997 allowed the criminal case without qualification of the crime. Thus, in accordance with Art. 186 parts. 2 Code of Criminal Procedure (changes and additions made by the Law of the RK in 2011) in the decision to initiate a criminal case filed in connection with the disappearance of a person, the article of the Criminal Code is not specified.

In the new edition of the Code of Criminal Procedure, the term “criminal proceedings” is replaced by “the beginning of the pre-trial investigation”.

In accordance with the art. 179 Part 1 of the CPC of the RK 2014, the registration of statements, reports in the Unified Register of pre-trial investigations or the first urgent investigative actions are considered to be the beginning of the pre-trial. Thus, the period of the application or report a crime is absent.

If there will be signs of an administrative offense or a disciplinary offense in a received statement or the message, the appeal within three days is passed with cover letter to the authorized state body or official. And if you have a received a statement, reporting of legal relations regulated by civil legislation of the applicant, within three days in writing explaining the right to go to court, if there is information about criminal offenses, the prosecution of which is carried out in private, materials are sent to the appropriate court of competent jurisdiction (Art. 179 of the CCP ch. 4, 5 – 2014).

In this case, according to Art. 180 of the Criminal Procedure Code of 2014 to the beginning of occasions pre-trial investigation are:

1) statement of an individual or a message of official or a public authority or the person performing managerial functions in the organization of a criminal offense or disappearances of persons;

2) voluntary surrender;

3) messages in the mass media;

4) report of the official body of criminal prosecution of preparing and committing or a criminal offense.

In general, the Criminal Procedure Code of 2014 regulated in detail beginning of the pre-trial investigation, however, it still needs to be adjusted at the technical level. For example, the new version is not quite clearly regulates the mechanism of reports reception and information about crime. In accordance with Art. 185 h. 2 of the CCP in 2014 and refusal to accept the application for registration of a criminal offense is not allowed and shall entail liability established by law, and may be appealed to the prosecutor or the court. This provision was not only one occasion to top pre-trial investigation — an application for a criminal offense. However, according to Art. 180 Code of Criminal Procedure 2014 pretext to launch a pre-trial investigation, other than a declaration are to: Post official government body or person performing managerial functions in the organization of a criminal offense or disappearances of persons, voluntary surrender, reports in the media, official report person prosecuting authority of preparing and committing a criminal offense or. And the beginning of the pre-trial investigation mechanism in the event of data in the project is no reason. These and other questions need to be clarified.

However, despite some shortcomings, in general, the new edition of the Code of Criminal Procedure concerning the exclusion of pre-investigation stage and a criminal case, is worthy of attention. Since the rejection of pre-investigation will allow:

– to reduce the length of stay of the proceedings in the production of the investigator, because he is not a judge, and should not be converted into it, taking a decision on refusal to institute criminal proceedings;

– in fact, will protect the rights of victims of crime, especially a civil action in a criminal case and other participants in the process;

– the decision will become motivated to discontinue criminal proceedings, the right to take that on exonerating grounds should be referred to the prosecuting authorities, and the reasons for non-rehabilitation in terms of prejudice — to leave for court.

2. Exclusion of filing an investigator indicted suspects at the preliminary investigation stage, with the transfer of these powers to the prosecutor

This innovation suggests that after the start of the pre-trial investigation, the investigator gathers the necessary evidence, and then submit the materials to the prosecutor,

who will make the final decision to charge or trial, or to dismiss the case.

The new edition of Code of Criminal Procedure severely curtailed the powers of the investigator, previously regulated by the current legislation on criminal procedure. If the Code of Criminal Procedure 1997 is completely in the hands of the investigator gave the criminal investigation, including charges and preparation of indictment or termination of criminal proceedings (section 6 Code of Criminal Procedure), the new edition of the Code of Criminal Procedure (Chapter 25 Recognition of a person suspected of acts skill and determination of the suspect) investigator leaves only the collection of evidence and the definition of pre-qualification acts suspect. Thus, the Criminal Procedure Code of 2014 significantly expanded the powers of the prosecutor, since he will finally decide — there is the offense in the activities of the person or not (final qualification), there is a need to bring him to criminal liability or not.

On the face, the French model of the preliminary investigation, where the police will not accept enforcement of decisions relating to the legal assessment of the act, while remaining within the framework of classical logic Police. Legal assessment of the act is the result of pre-trial investigation, not a prerequisite, and is the responsibility of the prosecutor.

This model of pre-trial investigation deserves a lot of attention, however, a detailed analysis of Chapter 25 of the Criminal Procedure Code 2014 (Recognition and identification of persons suspected of acts of qualification suspect) showed that “the recognition of a person suspected” is nothing more than an “indictment”, but “the decision on qualification acts of the suspect” – “the decision on the person as a defendant”.

This becomes clear if we compare the articles of Chapter 25 before the current Code of Criminal Procedure 1997 (indictment) and articles of Chapter 25 of the new edition of the Criminal Procedure Code 2014 (Recognition of a person suspected of acts and the definition of qualifications suspect). Technically, the term “defendant”, “culprits” are replaced by “suspect”, “face recognition suspect”.

Thus, in fact, “the indictment” is left in the hands of the investigator and the prosecutor was transferred to “preparation of indictment”.

At the same time, although the Code of Criminal Procedure 2014 is the prosecutor “allegedly” decides arraignment

or termination of criminal proceedings, but it is a decision is made on the materials provided by the investigator. It turns out that “fact” which deviation (guilty or not guilty) investigator to gather materials, the decision (to indict or to terminate the investigation) will take the prosecutor. It is obvious that if the investigator to gather evidence incriminating the person of a crime, the prosecutor is obliged to indict and send the case to court, and if the evidence would justify a person, the prosecutor will be nothing left — how to stop a criminal case.

In addition, the introduction of this provision is largely reverses the pre-trial investigation, as well as the procedure for applying to the suspect measures of criminal procedure compulsion, including preventive measures. Previously, the Criminal Procedure Code of the Republic of Kazakhstan acting permitted application of preventive measures only in respect of the accused, and only in exceptional cases — to the suspect. In other words, the use of preventive measures is possible only if the pre-trial investigation body there is sufficient evidence of guilt of the suspect, and this is reflected in the decision to bring charges. However, if indict the suspect is not an investigator, and the prosecutor, the question arises — how reasonable and lawful use of the suspect will be a preventive measure during pre-trial investigation, if he has not been charged, which will be done by and large only at the end investigation, when it goes to the prosecutor, and how it will provide constitutional rights and freedoms of the suspect?

In this context, the introduction of this provision in the Criminal Procedure Code, consider a clear mechanism for its implementation, which would fully ensure the constitutional rights and freedoms of participants in the criminal process. And while such a mechanism in the new edition of the Code of Criminal Procedure 2014 can not be traced.

In general, it is useful that person is subject to criminal liability in the course of pretrial proceedings has the status of a suspect reasonably, as only the court can decide on the guilt or innocence of a person.

In conclusion, it should be noted that the development and adoption of a new Code of Criminal Procedure of the Republic of Kazakhstan in 2014 is a necessary step in building the rule of law, but its introduction should be phased with the creation of practical mechanisms to ensure the rights and legitimate interests of persons involved in criminal process.

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Significance and importance of appeal stage in criminal process

Abstract: The main purpose of the research is to consider problems of protection rights and interests of parties to the court of appeal by making a complaint against judicial decision of the court of original jurisdiction, which has not yet become effective in law, declare the importance of court of appeal judgments for the investigator, prosecutor, judge. To found (figure out) the mainly judge jobs in the president's message of Republic of Kazakhstan the leader of nation our country N. A. Nazarbayev "Kazakhstan strategy-2050": new politic course of wealthy government. This article describes the latest changes in criminal cases at the appeal stage.

Keywords: instance, appeal, prosecutor, judge, investigator, inquirer, judicial practice.

In article 13 of the Constitution of the Republic of Kazakhstan is written: "Everyone has the right to recognition before the law and has the right to defend their rights and freedoms by all means not contradicting the law including self-defense. Everyone has the right to judicial protection of their rights and freedoms. Everyone has the right to qualified legal assistance" [1].

In his message to the people of Kazakhstan, December 14, 2012 «Strategy "Kazakhstan-2050" new political course held state» President of Kazakhstan Nursultan Nazarbayev said: "The most important issue of legal policy is to implement citizens' right to judicial protection, which is guaranteed by the Constitution. For this is necessary to simplify the administration of justice, to save it from excessive bureaucratic procedures. With the active introduction of new information technologies make it easy. At the same time, in order to discharge the courts should continue the development of institutions of extra-judicial settlement of disputes. Necessary to provide a mechanism by which the resolution of disputes on minor issues will be conducted out of court. Authority of the judiciary is undermined because of the execution of court decisions. In this regard should be taken to remedy this situation radically" [2].

In paragraph 7 of Article 3 of the Criminal Procedure Code of the Republic of Kazakhstan shows the position of judge appellate court thus: "the appellate court — the court hearing the case on the merits on appeals (protests) to not become enforceable sentences, court of first instance" [3].

Code of Criminal Procedure explains the appeal process as the Revised not entered into force judgments and sentences. Entry into force of the sentence means the administration of the court decision for execution. In other words, from this point on will state court considered mandatory for all citizens,

legal entities, government bodies in the Republic of Kazakhstan in connection with legal force equal to the statute.

In order to identify and eliminate errors Court Code of Criminal Procedure establishes the right of any authorized subject to appeal and filing a claim for a period of 15 days. According to this, the institute bringing appeals and complaints against judicial decisions and judgments is an effective way to test judgments, provides law and justice exercise of judicial power.

Investigative and judicial practice shows that the value of Appeal judgments and sentences as a procedural means to safeguard the rule of law in criminal proceedings is not limited to the specific cases in which they are given.

Persons who carried out the inquiry, investigators, judges who participated in the investigation of a criminal case in which the appeal issued a decree or judgment, take into account the provisions contained therein in their subsequent practice. In addition, the statutes and judgments of the court of second instance are studied by many judges, prosecutors, investigators, and not just those directly investigating a specific case or decided on its merits. Because of this, the appellate decisions and sentences are important for the prevention of violations of the law in the investigation and resolution of criminal cases.

Appellate decisions and sentences are to the judicial and investigative practice instructive value that strengthens the role of the appeal proceedings as a guarantee of legality in criminal proceedings. At the same time it increases the demands on the appellate rulings and verdicts, which must be lawful, reasonable, motivated.

The essence of the appeals process — to verify the legality, validity and no reason to final judgment and other decisions by the highest court of a new trial. As stated in the Law

of the Russian Federation on the appeals process, in order to implement the appellate review is to strengthen the legal guarantee of the individual and preclude the entry into force of an unlawful decision [4].

Above indicate that the actions of actors on presentation of complaints and claims for judicial decisions are proceedings generating processes at appropriate stages. Here are the process — checking the decisions made in the previous instance.

Instructive value appellate rulings and verdicts does not mean that their value like a judicial precedent. In Kazakhstan, the judge in the administration of justice are independent and subject only to the law. The analysis of the law and the evidence contained therein instructions, decisions and judgments of higher courts contribute to the deepening of theoretical knowledge of investigators and judges, a correct understanding of the law, and help them acquire practical skills in the application of the rule of law, actively contribute to the formation of justice judges, prosecutors, investigators. It is on this basis and in this way the courts of second instance contribute to the proper resolution of criminal cases as those who do not come to the stage of the appeal proceedings.

In general, one of the most significant changes in the appeal process — the court of appeal in the case of finding errors in the decision of the trial court makes the right decision by not returning the case. This means that the appeal process is an effective way to test the judgments and making fair decisions and to protect the rights and freedoms of citizens.

In order to fulfill the constitutional position of freedom appeals lawsuits, judgments on the basis of equality law gives equal rights to file complaints and claims. The parties were able to express their opinions and objections regarding the complain and claim documents to supplement the first instance additional material not previously considered in court. If the deadline for the submission of complaints and claims for the right reasons lost, guaranteed his recovery.

Thus, the revision of judgments and sentences have not entered into force — special stage of the criminal process, whose main objective is to protect citizens and society from miscarriages of justice, to ensure compliance with the law by all parties to the criminal legal relations, to ensure a fair, humane and democratic administration of justice [5].

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Legal basis of the customs union

Abstract: legal frameworks of creation of customs union are examined in this article.

Keywords: Customs Union, Customs Code, documents, the Commission of the Customs Union.

The Customs Union means that two or more regions replaced the customs of the region. The area between the trade union duties and other restrictive measures regulating trade, or at least not from this area. As a result shall not apply to trade in goods; each member of Union which is not part of

trading zones have used duties and other restrictive measures regulating the trade.

Participating countries of the Customs Union:

1. Kazakhstan — from July 1, 2010;
2. Russia — from July 1, 2010;

3. Belarus — from July 6, 2010;
4. Kyrgyzstan — from May 1, 2015;
5. Armenia — from October 10, 2014.

Many of the parties after the creation of the Customs Union on a regular basis has been working on projects and coordination of work that necessary for the creation of international agreements of the Customs Union within the EurAsES Integration Committee meetings.

The legislation of the Customs Union:

1. Customs Code;
2. Member-states of the Customs Union of international treaties regulating legal relations;
3. Code of the customs legal relations of customs union adopted regulatory decisions in accordance with the international agreements of the Customs Union member-states.

Belarus, Kazakhstan and Russia signed an agreement on the Customs Code of the heads of states of the Customs Union at November 27, 2009 in Minsk. 3 new economic integration has been working in the Customs Union between the structure of the states and this historic document came into full force on July 1, 2010. On this meeting at the same time, of the Customs Union was approved by the Common Customs Tariff which entered into force on January 1, 2010.

Also, in the field of customs and tariff regulation step-by-step effectiveness shall enter into force the following documents:

- The list using a system of tariff preferences to developing countries of the Customs Union;
- A list of tariff system benefits from the developed countries of the Customs Union;
- When migrating from the tariff preferences to developing and least-developed countries and a list of goods produced in those countries;
- Distinguishing the common customs tariff rates and customs duties during the transition period when one of the parties, the transit of goods and rates that list.

The Commission of the Customs Union by consensus to change the transmission rate of the duty on a special list of goods.

The Commission approved a number of documents in the field of non-tariff regulation on the basis of:

- In the course of trade with third countries in the framework of the EurAsEC Customs Union member states for inward and outward transport of prohibited or restricted to a single list of goods;
- Limitation of the rule;
- The Rules of Procedure of the Commission of the Customs Union;
- Regulations on Export Council within the framework of the Customs Union;
- The text of the new structure of the Secretariat of the Commission of the Customs Union;
- Estimates of the expenditures of the Commission of the Customs Union in 2010.

Customs Union within the framework of international agreements signed by all parties in the state has been adjusted

and as the supreme body of the Customs Union (at the level of heads of state and heads of government) will come into force only after the adoption of the relevant decision. To this day, within the framework of the Customs Union entered into force on 14 international document, began to work. They are:

1. On October 10, 2000 Protocol on amendments to the agreement on the establishment of the Eurasian Economic Community;

2. The treaty establishing the legal framework of the Customs Union and then to get out of, or access to international treaties governing the entry into force of the Protocol;

3. Agreement on Customs Union Commission;

4. The creation of the Customs Union and the establishment of a single customs space on the contract;

5. Within the framework of the Eurasian Economic Community sanitary and phytosanitary measures, technical regulations for a coordinated policy in the field of the agreement;

6. Products of the Customs Union agreement on internal and external trade statistics;

7. Agreement on the Common Customs Tariff regulation;

8. Terms of Use agreement on mechanisms and tariff quotas;

9. The case is different from the common customs tariff rates and the rates of customs duty on goods transported conditions and procedures for the use of the protocol;

10. Protocol on tariff preferences;

11. Customs Union Protocol on the common system of tariff preferences;

12. About a third of non-tariff regulation of the state agreement on common measures;

13. Common Customs in relation to third countries in the areas of trade agreement on the procedures to be applied to;

14. In the field of foreign trade of goods, the provisions of the licensing agreement.

Kazakhstan, Russia, Belarus Customs Union states first of all be noted that the conditions for the establishment of this idea can be supported by the political elite. President Nursultan Nazarbayev our country since the collapse of the former republics of the Soviet Union to participate in the continuous development of relations between the integration is well-known that. However, the establishment of the Customs Union is not enough to desire and the desire of the leaders of the country. This integration must go through several training group level. It was only in the second stage. In order to achieve the same level and many of the necessary preconditions. These include political, cultural, information, culture, etc. can be attributed to. I am writing this economy of the member states of the Union for the creation of international organizations, such as it should be compatible with each other. On the basis of any economy is the level of technical and technological development. So, such is the level of technological development of the main pillar of the Union. Our countries of the developed countries in the world in the past is the level of technological development 4 (the highest level — 6). In this regard, there is no one who can beat each other three coun-

tries, commensurate with the technological level. However, if we look only at the regional level, of course, is dominated by Russia. Therefore, this could benefit the organization in Russia. People do not understand. It is currently approved in the documents, thus increasing the people's protest. And it will certainly influence the leaders of the country. Thus, people have different levels of development of the economies and the disintegration of the protest may be factors. The second condition is the need for strong demand in developed countries to integrate into the economy. We export our products to Europe, and most of the imports come from Russia. The efficiency of this organization, mainly to Russia again. The third condition is that the level of civilized development is close to one another. At the international level, in the creation of the Union is of particular importance to take into account the three preconditions. However, economic convergence is always politically motivated. Because, economic cooperation plays an important role in the development of any country. On the global level, there are many objective reasons for this. After all, the current scale is difficult to live in the era of globalization, economic policy. Even as far back as the collapse of the USSR had already lived more than 40 economic group in the world, now the number has reached 150. Includes one of

each of the countries in the world in the same group. Well, some of them members of the country. Therefore, in this era of globalization demands a prerequisite for the establishment of the Customs Union. At the same time, there is an organization within the framework of the EurAsEC Customs Union, due to the establishment of this organization. Such as the Customs Union and the Eurasian Economic Union is an organization that was formed in post-soviet integration. Its one of the preconditions for the emergence of 70 years in the development of the state. Of course, different rates of development of independence, and now a lot of differences. However, at present, the era of globalization, together with more effective international stage.

Finally, Belarus, Kazakhstan, Kyrgyzstan, Armenia and Russia's economic integration model — voluntarily established between independent states formed Customs Union. The main advantage of this new structure, the current era of globalization through the unexpected entry into the Customs Union will be living with the economic storms. By domestic producers of the product to market dozens of times, the help of the competitiveness of the national economy. Side is even more harmful to the future I want to believe that in the future this organization will give our state policy and technical and economic advantages.

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Inviolability of dignity of the personality

Abstract: The personality provided with system of legal constitutional guarantees which the guarantee of the right for worthy and safe life are among can fully develop, work and function in system of social communications. In the Republic of Kazakhstan interests of the personality are regulated by branch system of the domestic legislation and protected by a certain degree of inviolability. The rights and freedoms of the person and the citizen occupy one of the first sections of the Basic law and establish priorities of all state system of the country.

However, about inviolability of dignity of the personality we don't speak as about self-sufficient category, its really democratic essence demands continuous scientific, practical and dialectic development taking into account all of the developing public relations, increase of a role and value of the status of the personality.

Keywords: advantage, inviolability of advantage, personality, torture.

We can consider the personality through possession of such qualitative characteristic as advantage. Advantage is the most difficult category and the condition of the developing positive properties of the person in total characterizing it as the personality embodying individual internal and external qualities realized, expressed outside is understood as. "Advantage is considered as set of positive lines and properties of the personality therefore it is encouraged and protected by the state through institute of right holding liable which essence is reduced to impact on all and everyone who is opposed to the individual (the absolute right), and for the individual observing the right for inviolability of dignity of other persons" [1].

According to p. 1 Art. 17 of the Constitution of RK dignity of the person inviolably.

The dignity of the personality is protected by standards of the Criminal code of the Republic of Kazakhstan providing the severe measures of punishment and action humiliating honor and dignity of the personality. Among them slander (Art. 129) and an insult (Art. 130) of the person.

In h. To the 2nd Art. 17 of the Constitution of RK it is established that nobody has to be exposed to tortures, violence, another to the cruel or humiliating human dignity address or punishment. In our opinion, the position of the legislator is represented interesting the threatened inviolability of advantage expressed in physical impact on the person by means of tortures and violence. In this case is expressed not how many an internal and external state and qualities of the individual, how many the individual as object of encroachment as the carrier of these properties and qualities since in this case all is — about physical impact on it.

Only at first sight, characteristics of its physical integrity are more shown here, however, at analytical approach of regulations we find out that to tortures, violence, another to the cruel or humiliating human dignity address or the person is punished in conditions when it is already subject to restrictive measures. First of all, it is connected with restriction of freedom and application of measures of the state coercion in relation to it. Therefore the persons involved in an orbit of criminal legal proceedings are allocated with the constitutional guarantee inviolability of their advantage in all stages of criminal prosecution, judicial proceedings, and the persons serving sentence have the right for the polite address from administrative personnel of executive establishment. They shouldn't be exposed to the cruel or humiliating human dignity address. Coercive measures can be applied to the condemned not differently, as on the basis of the law. In the Republic of Kazakhstan the respect of honor and dignity of the personality is brought to the level of the principle of procedural activity and it is obligatory by criminal case production. By criminal case production the decisions and actions humiliating honor or belittling the dignity of the person

participating in criminal trial are forbidden collecting, use and distribution of data on private life aren't allowed, and equally in data of personal character which the person considers necessary to keep in secret, for the purposes which aren't provided (item 1 of Art. 13 of the Criminal Procedure Code of RK).

Moreover, standards of the Constitution of the Republic of Kazakhstan are conformable with is international — legal interpretation of inviolability of advantage. In the Convention against tortures and others cruel, inhuman or degrading treatments and punishment the will of the states convinced is collected that protection of the persons deprived of freedom against tortures and brutal or a degrading treatment or punishment could be strengthened by extrajudicial means of precautionary character Torture according to the convention means "any action by which severe pain or suffering, physical or moral is deliberately caused to any person to receive from it or from the third party of data or recognition, to punish him for action which was made by it or the third party or of which commission it is suspected, and also to intimidate or force it or the third party, or for any reason based on discrimination of any character when such pain or suffering are caused by the state official or the other person acting in official quality or on their instigation, or from their permission or acquiescence. This definition doesn't join pain or sufferings which result only from lawful sanctions, are inseparable from these sanctions or caused by them incidentally" (Art. 1) [2].

According to the Convention each State Party "undertakes effective legislative, administrative, judicial and other measures for the prevention of acts of tortures in any territory under its jurisdiction. Any exceptional circumstances, whatever they were, whether it be the state of war or a threat of war, internal political instability or any other state of emergency, can't excuse tortures. Any State Party shouldn't send, return («refouler») or give out any person to other state if there are serious bases to believe that application of tortures can threaten it there. For definition of existence of such bases the competent authorities take all relevant circumstances into account, including, in appropriate cases, existence in this state of continuous practice of rough, scandalous and mass human rights violations" (st. 2, 3).

The convention also stipulates an obligation of the states of participants to provide punishability of tortures and the punishments humiliating advantage with measures of criminal penalty. The Republic of Kazakhstan joined the Convention in 1998. And in Art. 347–1 Criminal code of the Republic of Kazakhstan punishment for "the deliberate causing physical and mental sufferings made by the investigator, the person who is carrying out inquiry is established or it is suspected by other official with the purpose to receive from the tortured or third party of data or recognition or to punish him for ac-

tion which was made by it or in which commission, and also to intimidate or force it or the third party, or for any reason based on discrimination of any character". In the note to the considered article makes a reservation that "the physical and mental sufferings caused as a result of lawful actions of officials don't admit torture".

Prohibition of tortures and brutal or a degrading treatment or punishment is the general international standard which in different formulations contains in various international documents, in particular, in St. 3 European Conventions on Human rights; in the European Convention on the prevention of tortures and brutal or a degrading treatment or punishment [2].

In the Convention on the Rights of the Child (New York, on November 20, 1989) it is established that "The State Parties provide, that: a) any child wasn't subjected to tortures or another cruel, to inhuman or degrading treatments or punishments" [2].

Infringement of life and physical integrity, any types of murder, mutilation, ill treatment, tortures and tortures, infringement of human dignity, in particular, an offensive and degrading treatment is prevented by a number of the Geneva conventions stating the humanitarian principles which are the cornerstone of respect of the human person in case of armed conflict [2].

Especially it is necessary to emphasize, as the tough regulations regulating an admissibility of the proof which violation deprives the got data of validity so the data obtained with application of violence and illegal actions proofs aren't are provided in the Constitution which is the act of direct action and in the code of criminal procedure.

In particular, for compulsion of the suspect accused, the victim, the witness to evidence or other illegal actions from the investigator, the investigator with application of violence, mockery or torture imprisonment for a period of three till eight years is provided. Thus, our state, as well as the world community, realizes importance and need of acceptance of effective measures on ensuring protection of the rights of citizens, their honor and advantage. Similar practice locates also exceptional situations when because of the raised professional

overload, a formal assessment of results of activity only an effective way of detection of participation of the person in a crime is its confession.

Meanwhile the officials who are carrying out criminal prosecution exceed the authority, without observing thus elementary procedural legal status the suspects and accused which under the law have the right for refusal of evidence. Situation it is impossible to know in no way to exclusive as the citizen is in power of the official and it isn't capable to commission of illegal actions at present. The criminal procedure law provides a set of other legal way of obtaining information on circumstances of a crime, the made his faces, possible material and other proofs. Unfortunately, use of the way of proof depends on degree of a professional preparation of the employee of the body conducting a criminal persecution, its intellectual superiority over "opponent", ability to simulate criminal behavior to create favorable psychological conditions for mutual relation.

At research of inviolability of dignity of the personality it is important to remember that abuses physical and psychological provokdit way of violence over the personality at implementation of powers by bodies of inquiry and preliminary investigation to aggravation of confrontation between the power and citizens, in critical situations — to open counteraction.

The considered problem is aggravated also because in law-enforcement activity at a stage of advance investigation the latent level of use of force to the suspects accused which is quite often accompanied with abuses of a psychological and physical character is high. The violence is, as a rule, applied to socially unfortunate and legally unprotected group of the citizens involved in the criminal procedure relations. Thus the law justifies the purposes established by the law -fast and full disclosure of a crime, exposure the guilty people, protection of the rights and legitimate interests of the victims. Perhaps, it is necessary to agree with a position of those legislators who create the additional lever for balance of the called contradictory interests which creates special guarantees for avoidance of violence in criminal trial.

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State and legal peculiarities of the subjects of the Russian Federation in modern socio-economic conditions

Abstract: In the present research, it is attempted to analyze state and legal nature of a subject of the Russian Federation and study the problems of improvement of federal relations from the point of modern socio-political conditions.

Keywords: subject of the Russian Federation; legal state; legal system; legislative bodies of the subjects of the Russian Federation; federal executive bodies; executive bodies of the subjects of the Russian Federation.

Just like in all federative states, the issue of organization of state authority not only at the level of the Federation, but also at the level of its subjects is very current in the Russian Federation. State bodies of the subjects of the Russian Federation play an important role in the democratic development and formation of a legal state. The influence of the authorities of the subjects of the Russian Federation is not limited with the level of these very subjects. They also have a serious impact on the organization of state authority at federal level.

In the development of the federal legislation, the status of state bodies of the subjects of the Federation is confirmed in constitutions and charters of respective regions. These acts regulate basic provisions on organization of state bodies of the subjects of the Russian Federation.

Currently, there are different kinds of interrelations of legislative and executive authorities in the subjects of the Federation, which take into account the peculiarities of these subjects of the Federation. Regional state construction is not always within the standards established by the Constitution of the Russian Federation and Federal law «About general principles of organization of legislative (representative) and executive state bodies of the subjects of the Russian Federation». Though, it doesn't mean tough unification of authority organization at the level of the subjects of the Russian Federation. The very idea of a federative state presupposes a variety of approaches to solution of concrete issues of organization of the system of state bodies.

On August 1, 2011 a Federal Law came into force, in compliance with which the number of deputies of a legislative (representative) state body of the subject of the Russian Federation is defined depending on the number of voters registered on the territory of the subject of the Russian Federation [1].

Legislative powers form the main component of the competence of representative bodies of the subjects of the Russian Federation. The very realization of legislative powers is given principal time of the activity of the given state body of the subject of the Federation.

In accordance with the Constitution of the Russian Federation, federal bodies of the executive authority and legislative bodies of the subjects of the Russian Federation can transfer a part of realization of their powers to one another upon a mutual agreement.

The Decree of the Government of the Russian Federation determines the order of interaction and coordination of the activity of executive bodies of the subjects of the Russian Federation and territorial bodies of the Ministry of Internal Affairs of the Russian Federation, Ministry of the Russian Federation for civil defense matters, emergency situations and liquidation of natural disaster consequences, Ministry of Justice of the Russian Federation, Federal bailiff service, federal ministries and other federal bodies of executive power, the management of which is performed by the Government of the Russian Federation, federal services and federal agencies within the jurisdiction of these

ministries (hereinafter — territorial bodies) [2].

In the event of inappropriate realization of powers in the sphere of state control and supervision by executive bodies of the subjects of the Russian Federation, which were transferred to them in accordance with the agreements between federal executive bodies and executive bodies of the subjects of the Russian Federation, territorial bodies authorized in the sphere of execution of state control and supervision forward suggestions about elimination of violations to chief authorities of the subject of the Russian Federation (heads of chief executive bodies of the subjects of the Russian Federation). If the specified violations are not eliminated, they inform a federal executive body who rendered the realization of a part of its powers to the executive body of the subject of the Russian Federation.

Federal Law № 101-ФЗ as of June 18, 2007 «About amendments in the separate legislative acts of the Russian Federation with regard to the activity of state legislative bodies of the subjects of the Russian Federation and representative bodies of municipal formations» [3] establishes an additional case of premature termination of powers of a legislative body of the subject of the Russian Federation.

Federal legislator confirmed the following stages of dissolution of a legislative body of the subject of the Russian Federation:

- Consideration by court;
- A decision made by the chief officer of the subject of the Russian Federation (head of the chief state executive body of the subject of the Russian Federation) about premature termination of powers of a legislative body of the subject of the Russian Federation within 3 months from the date of the decision of the respective court [4, 8].

A legislative body of the subject of the Russian Federation is entitled to express incredulity to the chief officer in the event of a gross violation of the Constitution of the Russian Federation, federal and regional legislation as well as inappropriate execution of their obligations by the chief officer established by the court. The decision of a legislative body of the subject of the Russian Federation about incredulity to the chief officer is forwarded for consideration of the President of the Russian Federation to solve the issue about the dismissal of the chief officer from the position.

Constitutional (charter) courts of the subjects of the Russian Federation are formed by the subject of the Russian Federation to consider issues about conformity of the laws of the subject of the Federation, normative legal acts of state bodies, bodies of local self-government to the constitution (charter) of the given subject of the Federation, as well as interpret the constitution (charter). Currently, the capacity of creation of constitutional (charter) courts is specified in the constitutions and charters of more than half of the subjects of the Russian Federation. However, such courts operate appropriately only in separate subjects of the Federation.

In accordance with the Federal constitutional law «About a human rights commissioner in the Russian Federation» [5], a position of a Human rights commissioner is instituted in order to ensure guarantees of state protection of rights and freedoms of citizens, adherence to and respect of them by state bodies, local self-government bodies and their officers.

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About value of material evidence during the investigation of crimes

Abstract: This article discusses the place of evidence in the investigation of crime.

Keywords: crime, criminal, victim, micro-objects.

At fulfillment of the murder, bodily harm, rape, theft, traffic accidents with grave consequences and other crimes are always material traces. Traces of these diverse — by nature of origin, according to the mechanism of formation, functionality, size, etc. Carriers of these tracks may have different elements of the material circumstances of the crime situation: the offender, his clothes, shoes, instruments of crime, the means used by the perpetrator, the victim, his clothes, shoes, items belonging to the victim if the offense is committed in the indoor and outdoor areas — traces respectively, remain on the floor, furniture, earth, etc.

During the last century in forensic science developed branches — Trace Analysis, forensic ballistics, forensic explosion of maintenance, et al. In the framework of these research directions are given recommendations on detection, control, withdrawal of these traces (traces of hands, shoes, teeth, shells cracking, bullets, cartridge cases, traces gunpowder, explo-

sives, etc.) from the scene. Developed methods of the study of these objects, we know what the circumstances may be installed with the following hands, shoes, teeth, shells cracking, bullets, cartridge cases, traces of gunpowder, explosives, etc., all parties involved know what is their significance in the overall subject of proof.

But investigative practice there are situations when there is no trace of the traditional, but the crime is revealed, criminal expose by such material traces that are difficult to find skilled forensic work together with the investigator at the scene due to their microscopic size. However, as a direct or indirect result of the events related crime, criminal or victim, implements, tools of crime, they acquire forensic value and may even act as evidence in establishing the facts and circumstances of the offense. It is about these tracks, which belong to the micro-objects. Interest in various types of small and very small objects criminologists exhibited long ago. By H. Gross once pointed to

the need for the collection of dust particles. But over the past three decades, forensic significance of microscopic increased dramatically. This is due to the following reasons:

1) the overall development of forensic technology and, as a result, equipment investigative bodies perfect scientific and technical means;

2) the emergence of new expert methods, opening up possibilities for studies of small quantities of substances and materials (by scanning electron microscopy, and others.), they provide “receipt” of micro particles information, which was previously completely inaccessible;

3) during the investigation crime scene often lack such “traditional” marks, traces of fingers, soles of shoes display, damage from acts of hacking tools and instruments, traces can not be found due to the professional activities of the offender.

Meanwhile, the micro-objects with skillful work of investigators and experts in many cases can be found and used in the investigation. One of the features micro objects — impossibility of their complete destruction by the criminals, and this significantly contributes to the growth of “specific gravity” of micro among other tangible evidence. There is every reason to believe that, in the future value of the micro-objects in the fight against crime will continue to grow.

Classification of micro objects in the forensic literature decided to build on the source of origin [1]. On this basis, they may be divided into three groups: 1) an organic origin; 2) inorganic origin; 3) mixed origin.

The first group includes human and animal hairs, fibers, fabrics plant or animal origin, all kinds of particles of cereals, plants etc.

In the second group includes micro particles of various metals and metal alloys of silver, copper, iron, aluminum and so forth, and the coal particles, quartz sand, cement, asbestos and so on.

The third group is formed by micro particles consisting of compounds both organic and inorganic, such as the soil, dust.

Micro-objects can be differentiated on the micro traces and the microparticles. If the micro-object is in the office (isolated), from worn trace form, they should be called microparticles, micro traces — a micro-objects, not separated (not isolated) from the subject-worn trace. Microtraces may include the following overlay inclusion, layering or implementation. Traces overlay are, for example, microparticles of hair, cell particles or other elements of the human body, as well as textile fibers “superimposed” on the murder weapon at the time of contact with the body and clothing of the victim. These traces can be saved for several months. Traces of inclusions in the form of tiny particles of metal and other objects can be found in clothes, in the human body, floor covering, household goods, and so on. Footprints layers occur most often in cases where the substance or layering has to be taken subject to varying degrees of adhesion. Footprints layering can form liquid or semi-liquid substance, and the dust, ashes and others. It should arise in the implementation of any intrusion of liquid (e. g., blood) in the tissue paper and other objects [2].

Detection and especially the study of microscopic require not only knowledge and experience, but also the use of different instruments. Therefore, the task of the investigator is to properly identify objects, which may be the next, and the timeliness of their withdrawal with cautions, excluding the loss of individual microparticles or, on the contrary, the appearance of new worn trace, “outsiders” microparticles. Investigation seized investigator – worn trace items (clothes, etc.) is carried out by an expert. Depending on the observed micro-objects, their nature, composition, structure, examination can be carried out in a complex with the participation of chemists, engineers, biologists, microbiologists, botanists, forensic, etc. The participation of specialists in the production of specific expertise is determined by the leading experts, whose task was the discovery of a microscopic object on worn trace provided by the investigator. Worn trace microscopic object can be clothes (shoes) to the offender or the victim, washing hands and other body parts of the victim or the offender, the crime weapon, elements of interior scene and many others

Consider the example of how the discovery and study of micro allowed directing the investigation focused on the search for the killer and prove his guilt, in another example, set a specific vehicle hit a pedestrian. In the first example, in one of the areas of the city M. with an insignificant break on time (not more than a day), were found the bodies of two women subjected to sexual violence [3]. For the nomination version of the attack on the two women of the same offender had the following grounds — about the same time (about 23 pm local time), one territory on the scene, the two women had on the neck strangulation marks fingers. The investigator immediately sent for examination of materials, substances seized during the inspection of the scene clothes women before sending the bodies to the morgue. Remove clothing in both cases was packaged in accordance with the methodological requirements. The expert been asked for: Does the clothing of the victims represented by foreign layering, and the nature of their appointment. Expert in the study of women’s clothing found microobjects particulate metal shavings. Comparative research of these particles with the scanning electron microscope “Stereoscan” showed that the indentations, the protrusions on the surface of the chips produced by the impact tool have identical distances configuration, electron microprobe analysis showed the same chip element composition metal shavings. During the time until the examination is being conducted, investigative steps to find the offender, there have been three more rapes of women were fatal. Clothing women were immediately sent for examination, the study showed that the presence of similar chips. The presence of chips on the clothes have five victims, as well as the results of a comparative study of particle chips showed the professional activity of the criminal, that will narrow search. Operative treatment underwent working factories and workshops available on the site of the accident. During the arrest the offender was removed his clothes and assigned identification expertise that helped in exposing the criminal.

In the second situation: the early morning workers N. and M. on the roadside in K. found a man's body [3]. During the inspection of the scene investigators seized clothes of the victim and sent the corpse to the MEA. The cause of death of the victim, as shown by the forensic medical examination, was hitting the vehicle. This examination has also established the time of death — in a time interval of 24 hours. up to 00 h. 30 min. Operative by, it was found that around this time on this trail to carpool back two tractors DT-75 with numbers: B..2 ... B..3 ... The investigator has examined these tractors, but due to many years of their operation, the machine had multiple mechanical damage at the front and other details, making it difficult and made it impossible to establish the involvement of these tractors in the incident, but he took samples of their coatings, along with the clothes of the victim sent for examination.

Questions, which were to allow to the expert, were as follows: Are there any foreign accretions on the clothes of the victim, if there is, whether they belong to the lacquer coating vehicle. The second issue was the identification required to install the cover of the tractor B..2... or B..3... microparticles clothes belong to the victim. The difficulty was that the factory paint coating technique was identical tractors; according to the formulation of paint composition should have the same composition. Furthermore, the coatings have the same tractor blue color by visual and microscopic examination of the differences in color is not detected, furthermore, they have the same number of layers — layers 3, gray, brown and blue color of the upper, but chemical analysis indicated that the coatings are quite different binders — one covering the tractor B..2... was melamine alkyd, another the tractor cover B..3 ... — pentaphthalic. Clothes of the victim — jacket was examined using a binocular microscope, between the fibers of the fabric jackets were found paint particles, which had a blue color. Microscopic examination showed that the particles were laminated, composed of three layers, respectively, a layer of gray, brown and blue.

Further investigation showed that the microparticles paint coat had connections — melamine alkyd, the same elemental composition characterizing the pigment component and other signs coincide coated the tractor B..2 ... which together allow experts to formulate a definitive answer that the particle layers on jacket of the victim came from the tractor B..2 ... thus, the situation has been resolved.

Examples illustrating the importance of micro to establish the circumstances of the criminal case of murder, rape, theft, accident, etc. There are many, it should be noted that a situation where practitioners use microparticles as evidence, it is very difficult — there are no witnesses, no trace of the traditional. It is important to timely and proper withdrawal from the scene of the objects, things, on the surface as a result of the crime formed micro stratification. There are instances when due to neglect of the recommendations of the forensic value of micro-objects, rules of their withdrawal offender escaped justice.

Noting the importance of evidence in establishing the circumstances of the crime can be noted and their different categories, such as documents, physical evidence. This evidence is required to appear at the economic crimes [3]. But the way to make the information in the document for the implementation of criminal intentions depends on factors — who is the offender or offenders, that is the subject of a criminal assault (money, space, enterprise management, the means of production, finished products etc), the pattern of the (organized crime stable group, small group for a single criminal episode) and others. All of these factors necessarily reflected in the documents. To economic offenses in the documents may be a technical or intellectual fraud. Intellectual fraud occurs when an economic crime by persons having authority (the first head, their deputies, chief accountant). In these processes, the commission — the documents, their forms, some details — the signature, seal imprint, stamp no doubts about their authenticity, but h is making these false documents — the inconsistency content of the document of reality, which can be determined only by means of an audit or an audit check later can be further proved by judicial economic expertise. This article is dedicated to the physical evidence, we would like to draw attention to the technical counterfeiting, which may be complete or partial, depending on the capabilities of criminals. At full criminal forgery produces forms, making him the necessary details. In partial forgery offender has the original document and to carry out criminal intent in making the original partial changes. The theme the technical forgery of documents is very extensive, under Article it is impossible to embrace it all, let alone one of the very common ways to fake details of documents — a fake impressions of seals and stamps.

Prints stamps and seals are the most important details of documents issued by government agencies, enterprises and public organizations. The presence of the document stamps evidence of the legality of fixed it legal relations or legal facts. This special position stamps among other details of the document requires the relevant rules. In Kazakhstan there are state standards and technical requirements ST RK 1430 – 2005, according to which the original seals and stamps are available in public workshops on special — the same rules, determined by the order of storage of genuine seals, their use, etc. However, the criminals in order to achieve their selfish goals make fake stamps. There are different methods of making fake stumps, depending on whether the offenders technical skills, financial capabilities, and so on. In all cases of counterfeiting printing experts are studying the signs that appear in the seal impression on the paper. The study of signs of seals is directly dependent on the specific objectives of the study. So, when deciding whether printing is responsible, made in the workshop established for these product state standards — Explore signs printing, making the impression of identification sign. To solve the problem, whether the bearing seal of the seal on the document belonging to this institution, the study is, first, to study the signs of the test print on paper, and secondly, to establish

coincidence or evidence of differences compared objects — print on the test paper and print genuine print submitted by the investigator.

Signs cliché print that appear on the print, consist of the total composition of a cliché (shape, size cliché presence box, coat of arms, the relative placement of text, graphics) and small features (parts of letters, drawings, lines, frame, coat of arms, their relative placement, microrelief features surfaces of letters, drawings, lines, frame).

Common signs printing include:

- 1) The outer contours of the pad (circle, oval, etc.).
- 2) The overall composition of the relief clichés (the ratio of the size of a cliché, text, graphics, relative placement of text, graphics).
- 3) The content of the text.
- 4) The overall shape and direction of the line of text lines (lines form line can be straight, curved, sloping, direction can be straight, rising, falling).
- 5) The general pattern of the emblem or logo.
- 6) The distance between letters or words, the height of the letters.
- 7) The general pattern of letters.
- 8) The circle printing diameter.

Private signs printing include:

1) Properties of the text. Since the placement of the text in all the seals (except stamp duty) is usually caused by a sketch of the customer, this feature is extremely important to individualize printing. Features of layout involves placing it relative to the central plate portion (text or graphic), on a text arranged in a circle.

2) Features of the mutual position of the pattern and the individual letters of the text, as well as the location of the letters and their parts with respect to the line.

3) Especially small parts of letters, drawings, lines frame (deformed portions of letters, the lack of individual elements, the gap frame lines, etc.).

4) Small surface microrelief features letters, drawings, frame lines (presence of pits on the surface of the letters, the shape of these recesses, etc.).

To solve the problem of identification is necessary to consistently resolve a number of issues, without which it is impossible to obtain a judgment about the presence or absence of identity. Addressing these issues occurs in stages consistently held identification:

1. Separate research;
2. Comparative research;
3. Assessment matching signs and different signs.

The most common method that is used in forensic research seals and their impressions is a microscopic (in the scattered and oblique light). At the scattered light with the

help of loupe and microscope it's studying the structure of characters, size of characters and their elements as well as their mutual arrangement. This allows setting out the standard or non-standard characters. Microscopic examination also provides an opportunity to study the structure of print's strokes, allowing determine the type of platemaking's printing methods. In addition, this method allows to identify the individual characteristics of the structure of the seals and stamps, as in the objects themselves, as in prints.

Microscopic examination of stamps and dies in oblique light makes it possible to identify depressed strokes of characteristic prints, molded into a cliché made of hard materials. Research in oblique light can also define the boundaries of the printing elements and dent beyond them paint.

Signs and their elements can be accurately measured by a microscopic examination using a measuring eyepiece.

Research of the ultraviolet and infrared luminescence is used to detect traces of re-patterning seal or stamp or its application using a flat plate on a gelatin-based (cliché on photographic paper or photographic film — is often drawn cliché).

Small parts of the structure of signs of seals and stamps can identify and fix by a circular series of shooting in oblique light.

In the research of seals and stamps and prints are widely used by measurement method, and by the method of combining images and their parts.

For examination was presented diploma N., who was accused of murder. The investigator questioned on the authenticity of the seal. The expert was issued to establish the existence of technical forgery and application method print. The research used the following methods: microscopic measurement of the size of the print; study of the visible luminescence; studying and photographing paintings red and infrared luminescence.

Analyzed seal impression has the following features of the method of application: purple color; uneven distribution of the dye; pale purple fringing; the absence of the onslaught; edge strokes vague; Luminescence document field where print located under the influence of ultraviolet rays. These characteristics showed that the analyzed print applied by humid copy using a flat pad.

With further microscopic examination impression it was found that the stamp mark on the diploma has the following features of the method of manufacturing a cliché: size, pattern, the width of the same letters does not match the letters of typographic fonts; cutoff thin trunks are not available; touches are winding, start and end are dull; distance between letters and words is uneven. These signs showed that the investigated seal of the diploma applied by a flat plate manufactured of panache.

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The correlation of structure elements of criminal procedural law

Abstract: In this scientific article the author pays particular attention to the issue of classification of criminal procedure norms. The author determines the staging regulated by the norms substitutes and institutes of criminal procedure law activities as the main ground for the given variant of the structure of criminal procedure law.

Keywords: the structure of the criminal procedure law, criminal procedure institute, criminal procedure norm, staging.

Criminal Procedural Law, as well as other branches of law, has its own internal content, its structure. A. V. Grinenko has absolutely properly noted that “the value of the systems approach is that it allows you to set the right structure of the law branch, to identify conditions for optimal functioning of the system, to characterize the links that exist between the structural elements of the system, it helps you to determine the place and role of the various subsystems in the system of Criminal Procedure Law and in the legal system as a whole” [1, 55].

Arguing with V. I. Svidersky who considers the structure to be the tie law of its elements [2, 5], D. A. Kerimov accentuates that the structure is — “no more than a skeleton, organizational structure, internal architectonic with varying substantial integrity ... it can be both summative and systemic”. The properties of a system of law are inherent only in the systematic structure, but the “law is a complex and multi-structured phenomenon and not its every structure is characterized by natural connection of its elements” [3, 109–112]. It is difficult to agree with the judgment of D. A. Kerimov. The right is not arranged randomly, it is objectively and neatly organized phenomenon, its elements are peculiar for the signs of system, the branches, institutions and the rule of law constitute the structure of the legal system.

The structural elements of any branch of the law, of course, are the rules of law and the institutions. At the same time the scientists tend to distinguish other structural units. O. S. Yoffe writes: “... institution — is not only the last unit of the field of law after the rule of law (there are also sub-sectors), but it is not always the first unit, following it, as independent organic formations sometimes occur within the institution. Such formations could be called subinstitutions” [4, 50–64]. There is another original proposal about the extraction in the structure of criminal procedural law of the element that is intermediate between the rule and the substitution — so called «podsubstituta» [5].

From the view point of P. S. Elkind, the rule of conduct must have the following characteristics in order to be considered the rule of criminal procedure: “it must be established by the state, i. e., formulated by the legislature of the state in the relevant regulations; rules of criminal procedure are the general rules of conduct for subjects of criminal procedural rights and obligations for whom they are created, because they imply

not specifically defined actions and legal relations, but repeatedly occurring actions in the process of institution, investigation, consideration and resolution of criminal cases; rules of criminal procedure — are obligatory rules of conduct for participants in criminal proceedings; the general and obligatory rule of conduct contained in the rules of criminal procedure is provided by the power of state coercion and persuasion; the rules of criminal procedure are aimed at more effective implementation of the objectives of criminal proceedings” [8, 9–15].

E. G. Lukyanova points out the following types of procedural rules, on the basis of their function in the mechanism of legal regulation:

- The rules of specific content (the actual rules of conduct);
- The rules of general content [14, 182].

The procedural rules of specific content — a majority of legal norms ... directly establishing the procedural rights and duties of the subjects of the process, conditions and procedures for their implementation.

The content and structure of the rules of criminal procedure are determined by the goals and objectives of the criminal process. The purpose of the criminal proceedings K. V. Kim refers to the protection of the rights and legitimate interests of the individual by establishing objective truth in the case [15, 144]. The objectives of the criminal proceedings are enshrined in Article 8 of the Code of Criminal Procedure.

Discussing the elements of the structure, V. I. Svidersky pointed out that “... the concept of elements gets a sense ... not as an independent concept, but only in relation to the concept of structure as a link law of elements between each other, the system of their mutual relations. This condition, of course, imposes certain restrictions on the concept of elements and narrows their sense in comparison with the phenomenon” [2, 5].

D. A. Kerimov in his turn writes that such fundamental legal categories as norms, institutions, branches, the system of law, that have great theoretical and practical value, are based on the ratio of individual, special and general — this fact lies in the methodological value of their relations in the knowledge of the legal phenomena and processes [3, 114].

“A detailed regulation complicates the structure of the criminal procedural law, since, in addition to these basic

structural units as the norm and a legal institution, there are formed substitutions, complex institutions and even the sub-sectors" [6, 107].

O. M. Kulpeisova singles out the following elements in the system of criminal procedural law: "1) the system of rules regulating a separate operation; 2) the system of rules regulating a certain proceedings (the main regulatory unit); 3) the system of rules regulating a separate stage inside the procedural stage — substitute; 4) the system of rules regulating the process stage — the institution; 5) the system of rules regulating the two largest and most significant area of criminal procedure activity: institute criminal proceedings and preliminary investigation proceedings, proceedings in the court of first instance (a preliminary hearing and the trial) — sub-sectors" [7, 115].

The first element of the structure or the smallest unit of the division of criminal procedural law - is the rule of law. The objectives and principles of the criminal process are implemented by means of rules of criminal law. From the view point of P. S. Elkind, the rule of conduct must have the following characteristics in order to be considered the rule of criminal procedure: "it must be established by the state, i. e., formulated by the legislature of the state in the relevant regulations; rules of criminal procedure are the general rules of conduct for subjects of criminal procedural rights and obligations for whom they are created, because they imply not specifically defined actions and legal relations, but repeatedly occurring actions in the process of institution, investigation, consideration and resolution of criminal cases; rules of criminal procedure — are obligatory rules of conduct for participants in criminal proceedings; the general and obligatory rule of conduct contained in the rules of criminal procedure is provided by the power of state coercion and persuasion; the rules of criminal procedure are aimed at more effective implementation of the objectives of criminal proceedings" [8, 9–15].

Criminal Procedure Institute is a structural element branch of criminal procedure, which consists of a set of rules of criminal procedure regulating criminal procedure relations in the field of investigation, consideration and resolution of criminal cases that are believed to be the form of implementation of the objectives and principles of the criminal justice system.

Criminal Procedure institution can be considered as:

- A set of rules of criminal procedure, aimed at resolving the criminal procedure relations arising in the course of implementation of activities related to the investigation, consideration and resolution of criminal cases and thus resulting in realizing the objectives and principles of the criminal proceedings;

- A principle element of the structure of criminal procedural law, along with the norm, substitute, sub-sector. The status of «core» element of branch structure is connected with the institute's ability to personalize the mechanism of criminal procedure regulation, fully governing «its» sector of criminal procedure relations, which, as it has been repeatedly emphasized, are lined in relatively independent regions. After all, "one legal rule, no matter of what degree of important

rule it includes, can not constitute a legal institution, as it is unable to settle fully the public relations" [10, 63].

The element of system of Kazakhstan law. "Unlike other structural elements of the law system this branch, without breaking the system of communication, has a relative autonomy capable of independent functioning in the General system of law..." [11, 292].

Accordingly, if in the first two cases, being the element of the branch of the criminal procedure law, the Institute possesses a relative autonomy but in the system of law it does lose this quality, for it regulates the part of the subject criminal procedure law, which is in its turn the element of the system of law capable of functioning independently the regulation of criminal procedure relations.

Staging classification of relations constituting a subject of civil procedural law, according to Y. K. Osipov, is the basis for allocation of institutions in this field [12, 55]. In his opinion, in order to highlight the Institute in the field of law it is necessary to identify the signs by which homogeneous social relations are divided into certain types, which are the subject of regulation of the Institute. We believe that the staging classification of institutions can also be quite applicable to the criminal procedure law. The stages of the criminal process are completed blocks of criminal procedural relations, however, the related and interdependent. The beginning of each new stage is due to the completion of the previous one. However, it should be noted that some stages of the criminal process involve independent areas of relations, requiring autonomous regulation. Being guided by this conviction some scholars tend falsely to call the set of norms regulating such stages sub-branches of criminal procedure law. In particular, among the stages of the criminal process, consisting of the subdivisions that complicate their content, the court proceeding and the preliminary investigation are especially highlighted [7, 115]. We believe the stage of the proceedings to be regulated by the Institute of Law. A.M. Larin also expresses his disagreement concerning the "artificially emphasized" by S. S. Alekseev such subsectors in the criminal procedure law, as the preliminary investigation and the proceedings in the Court of First Instance [13, 149]. Given the characteristics of sub-branches of law presented above, A. M. Larin rightly disagrees with the allocation in the criminal procedure law "the right of the court of first instance" and "the right of a criminal case and investigation". The setting apart of these stages from all other stages of criminal proceedings would indicate the violation of the system of equivalent stages of criminal process. We have also ascertained that "staged criterion" is one of the grounds for the allocation of institutions in the criminal procedural law, as the stages of the criminal process are governed by the relevant criminal procedure institutions. O. M. Kulpeisova has different opinion by calling "sub-branches – the system of rules governing the two most significant part of criminal procedure: a) the institution of criminal proceedings and preliminary investigation; b) the proceedings in the court of first instance (a preliminary hearing and the trial)" [7, 115].

S. S. Alekseev, who made a significant contribution to the study of the legal institution, wrote that “sub-branch is the highest form of union of legal institutions ... — a complex mix of institutions and associations” (S. S. Alekseev, 1987). The structure of the sub-branches usually includes a general institution that establishes common basic provisions for several legal institutions governing the special complex of social relations of this branch of law, but not for all

legal institutions of the field. The sub-branch is such union of institutions that is characterized by a high degree of specialization, differentiation and integration of its constituent legal entities.

The value of the structural elements of criminal procedure lies primarily in the providing a comprehensive legal regulation of relations in the course of investigation, consideration and resolution of criminal cases.

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