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Section 1. Biology

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The trophic relationship of afelinides (Hymenoptera, Aphelinidae) in Azerbaijan

Abstract: This article provides information on afelinides (Hymenoptera, Aphelinidae) revealed for fauna of Azerbaijan Republic. As a result of long-term scientific research 62 species afelinides (removed from scales, armored scales, a plant aphids, etc.) have revealed for the fauna of Azerbaijan. It was prepared a table reflecting trophic communications between afelinides (Hymenoptera, Aphelinidae) and their owners was prepared, as well as the list of genus afelinides with owners — phytophages.

Keywords: pests, parasites, fauna, entomophag, trophic relationship, afelinides.

Introduction

To use of natural resources of useful entomophages against pests has great theoretical and practical value. Afelinides are widely known as effective entomophages of many harmful insects — scales, plant aphids, whiteflies, successfully apply them in biological control.

However, natural resources of entomophages, including afelinides, still are a little used in the integrated systems of protection of plants from pests. Afelinides are parasites of many harmful insects therefore studying of their owner of parasitic communications allows to estimate prospects of their use for pest control.

29 species are given in the first message on fauna afelinid Azerbaijan [3, 89–94]. According to Mustafayeva G. A. for fauna of East Azerbaijan 46 species afelinid [1, 1–20] are revealed.

The purpose of researches was studying afelinid (Hymenoptera, Aphelinidae) Azerbaijan, as a basis for development of ways of their practical application in the integrated protection of plants against pests.

Material and methods

As material for the present article the collecting which were carried out in 1990–2013 in the regions of Azerbaijan from early spring to late fall served. Collecting is carried out as during complex faunistic expeditions of Institute of zoology of NAN of Azerbaijan, and by numerous individual expeditions. Afelinides gathered in natural and cultural the biosenosus by removal from owners and by means of an entomological net [4, 70–121]. For definition of small types made microscopic preparations. For definition afelinides the attributive tables made by Nikolskaya and Yasnosh [2, 47–110], Yasnosh [5, 506–551] were used.

Research results

As a result of long-term researches in Azerbaijan 62 species afelinides, relating to 4 subfamilies and 15 genus are registered. Afelinides are generally connected with Hemiptera.

Larvae afelinides internal, are more rare external parasites Coccoidea, (mainly Scales-Diaspididae), aphids – Aphidoidea, aleyrodides – Aleurodidea, is more rare than other insects. Trophic connection afelinides is established with owners. In table 1 these data are given below. Trophic communications are shown in the table afelinides with phytophages.

Results of our researches allows to share afelinides Azerbaijan as trophic relationship into the following groups:

1. Monophagus afelinides — infecting one, is more rare two, three close species of owners. In this group: *Eretmocerus haldemani*, *Aphelinus fulvus*, *Aphelinus mali*, *Aphelinus toxopteraaphidis*, *Aphytis chilensis*, *Aphytis chrysomphali*, *Coccophagus differens*, *Coccophagus proximus*, *Pterotrix macropedicellata*, *Encarsia formosa*, *Encarsia perniciosi*, *Encarsia leucaspidis*, *Coccobius granati*, *Coccobius mesasiaticus*.

2. Oligophagous afelinides infecting pests, belong to various sort of one tribe and subfamilies. 45 species concern to them.

3. The polyphagous — Polyphagous infecting owners from various families. Be on only few species: *Coccophagus lycimnia*, *Aphelinus chaonia*, *Aspidiotiphagus citrinus*.

The obtained data show that the monophagiya and a poliphagiya be to the few species, the majority of species are oligophagous.

Conclusions

1. Results of ours investigated showed that from 62 species revealed for Azerbaijan by parasites of scales are 30 species of 9 genus, parasites of aphids (Aphidinea) 14 species of 2 genus are, parasites of armored scales and pulvinaries of the 11 species of two genus, parasites whiteflies (Aleyrodinea) are 6 species of 2 genus. 1 species is connected with mealy Pseudococcidae, 1 species is a parasite of Orthoptera.

2. In fauna afelinides Azerbaijan the monophagous (14 species) and a poliphagous (3 species) peculiar to only few species, the majority of species — 45 species are oligophagous.

Table 1. – Trophic communications afelinides (Hymenoptera, Aphelinidae) Azerbaijan with their owners — phytophages

Family Aphelinidae. Genus and species afelinides	Owners afelinides (Species of pests).
1	2
Genus – Aphelinus Dalman, 1820	
1. <i>Aphelinis asychis</i> Walker.	<i>Hyalopterus pruni</i> Geoffr.
2. <i>Aphelinus chaonia</i> Walker.	<i>Aphis gossypii</i> Glov. ² <i>Dysaphis devectora</i> Walk. ² <i>Chaitophorus niger</i> Mordv. ² <i>Brachycaudis helichrysi</i> Kalt. ² <i>Aphis umbrella</i> C. B. ² <i>Aphis farinosa</i> Gmell. ² <i>Aphis fabae</i> Sc. ² <i>Aphis genistae</i> Scop. ² <i>Aphis craccivora</i> Koch. ² <i>Hyalopterus pruni</i> Geoffr. ²
3. <i>Aphelinus daucicola</i> Kurdjumov	<i>Brachycaudis cardui</i> L. ² <i>Siphocorine eylosyei</i> Schre. ²
4. <i>Aphelinus flavipes</i> (= <i>A. kurdjumovi</i>) Mercet.	<i>Diaspis devectora</i> Wlk. ² <i>Brachycaudis helichrysi</i> Kalt. ² <i>Aphis craccivora</i> Koch. ² <i>Aphis rufula</i> Walk. ² <i>Shisaphis graminium</i> Rond. ² <i>Rhopalosiphum maidis</i> Fitch. ²
5. <i>Aphelinus fulvus</i> (Yasnosh)	<i>Chaetophorus capreae</i> Koch. ²
6. <i>Aphelinus fuscicapus</i> Foerster.	The owner isn't known.
7. <i>Aphelinus brunneus</i> Yasnosh	<i>Aphis fabae</i> Scop. ²
8. <i>Aphelinus mali</i> (Haliday)	<i>Friosoma lanigerum</i> Hausm. ²
9. <i>Aphelinus (Mesidiopsis) subflavescens</i> (Westwood).	<i>Tuberculatus quercus</i> Kalt. ²
10. <i>Aphelinus varipes</i> Foerster.	<i>Aphis gossypii</i> Glov. ²
11. <i>Aphelinus toxopteraphidis</i> Kurd.	<i>Sphizaphis graminum</i> Rond. ²
12. <i>Aphelinus bicolor</i> Yasnosh	<i>Aphis fabae</i> Scop. ²
13. <i>Aphelinus transversus</i> Thoms.	The pests isn't known.
Genus Protaphelinus Mackauer	
14. <i>Protaphelinus nikolskajae</i> (Yasnoch) (= <i>Aphelinus nikolskaya</i> Yasnoch)	<i>Pemphigus bursarius</i> L. ² <i>Pemphigus lichtensteini</i> Tullg. ²
Genus Marietta Motschylsky	
15. <i>Marietta picta</i> (Andre).	<i>Parthenolecanium persicae</i> F. ¹
16. <i>Marietta zebra</i> (Kurd).	<i>Sphaerolecanium prunastri</i> Fonsc. ¹ <i>Pulvinaria betulae</i> L. ¹ <i>Pulvinaria floccifera</i> (Westw.) ¹ <i>Pulvinaria</i> sp. ¹
17. <i>Marietta picta</i> (Andre).	<i>Planococcus citri</i> Risso ⁴
Genus Eretmocerus Haldemani, 1850	
18. <i>Eretmocerus haldemani</i> Howard	<i>Trialeurodes vaporariorum</i> Westw. ³ <i>Aleurodes prolella</i> L. ³
Genus Aphytis Howard, 1895	
19. <i>Aphytis aonidea</i> Mercet.	<i>Lepidosaphes granati</i> Kor. <i>Carulaspis minima</i> Targ. <i>Epidiaspis leperii</i> Signoret <i>Diaspidiotus pyri</i> (Lichtenstein). <i>Diaspidiotus prunorum</i> Laing.
20. <i>Aphytis chilensis</i> Howard	<i>Aspidiotus nerii</i> Bche.
21. <i>Aphytis maculicornis</i> Masi	<i>Parlatoria oleae</i> Golvee.

1	2
22. <i>Aphytis mytilaspidis</i> Le Baron	<i>Diaspidiotus caucasicus</i> Borchs <i>Aulacaspis rosae</i> Bche. <i>Salicicola kermanensis</i> Lndgr. <i>Diaspidiotus ostreaformis</i> Curt. <i>Nuculaspis abietis</i> Schr. <i>Tecaspis prunorum</i> Borchsenius. <i>Tecaspis asiatica</i> Balachowsky. <i>Lepidosaphes granati</i> Kor. <i>Lepidosaphes ulmi</i> L. <i>Lepidosaphes ficus</i> Sign.
23. <i>Aphytis proclia</i> Walker	<i>Pseudaulacaspis pentagona</i> Targioni – Tozzetti. <i>Diaspidiotus perniciosus</i> Comst. <i>Diaspidiotus pyri</i> Licht.
24. <i>Aphytis testaceus</i> Tschum	<i>Carulaspis minima</i> Targ. <i>Lepidosaphes granati</i> Kor. <i>Epidiaspis leperii</i> Signoret.
25. <i>Aphytis hispanicus</i> Merc.	<i>Parlatoria oleae</i> Golvee. <i>Carulaspis visci</i> Schr <i>Aspidiotus nerii</i> Bche. <i>Chrysomphalus dictyospermi</i> Morg.
26. <i>Aphytis chrysomphalu</i> Merc.	<i>Chrysomphalus dictyospermi</i> Morg.
27. <i>Aphytis moldavicus</i> Yasnosh	<i>Diaspidiotus pyri</i> Licht. <i>Lepidosaphes ulmi</i> L. <i>Epidiaspis leperii</i> Signoret.
Genus <i>Coccobius</i> Ratseburg, 1852	
28. <i>Coccobius granati</i> Yasnosh and Mustafayeva sp. n.	<i>Lepidosaphes granati</i> Kor.
29. <i>Coccobius pistacicolus</i> (Yasnosh)	<i>Lepidosaphes pistaciae</i> Arch.
30. <i>Coccobius mesasiaticus</i> (Yasnosh et Myartseva)	<i>Diaspidiotus caucasicus</i> Borch.
31. <i>Coccobius testaceus</i> (Masi)	<i>Lepidosaphes conchiformis</i> Gmel. <i>Lepidosaphes ficus</i> Sign. <i>Lepidosaphes ulmi</i> L. <i>Lepidosaphes granati</i> Kor. <i>Diaspidiotus ostreaformis</i> Gurt.
Genus <i>Coccophagus</i> Westwood, 1833	
32. <i>Coccophagus differens</i> Yasnosh.	<i>Sphaerolecanium prunastri</i> Fonsc.
33. <i>Coccophagus lycimnia</i> (Walker)	<i>Coccus hesperidum</i> L. ¹ <i>Coccus pseudomagnoliarum</i> Kum. ¹ <i>Parthenolecanium corni</i> Bche. ¹ <i>Sphaerolecanium prunastri</i> Fonsc. ¹ <i>Parthenolecanium persicae</i> F. ¹ <i>Eulecanium bituberculatum</i> Targ. ¹ <i>Eulecanium rugulosum</i> (Arc.) ¹ <i>Rhodococcus turanicum</i> Arch. ¹ <i>Pulvinaria floccifera</i> (Westw.) ¹
34. <i>Coccophagus maculipennis</i> Yasnosh.	<i>Pulvinaria aurantii</i> Ckll. ¹ <i>Pulvinaria</i> sp. ¹
35. <i>Coccophagus insidiator</i> Dalman	<i>Physokermes piceae</i> Sch. ¹
36. <i>Coccophagus proximus</i> Yasnosh	<i>Sphaerolecanium prunastri</i> Fonsc. ¹
37. <i>Coccophagus piceae</i> Erd.	<i>Pulvinaria</i> sp. ¹ <i>Pulvinaria betulae</i> L. ¹
38. <i>Coccophagus semicircularis</i> Forst (= <i>C. scutellarus</i> Dalman).	<i>Parthenolecanium persicae</i> F. ¹ <i>Coccus hesperidum</i> L. ¹
39. <i>Coccophagus paleolecanii</i> Yasnosh**	<i>Paleolecanium bituberculatum</i> Targ. ¹
40. <i>Coccophagus signatus</i> Yasnosh	<i>Pulvinaria floccifera</i> (Westw.) ¹ <i>Pulvinaria</i> sp. ¹

1	2
Genus Ablerus Howard, 1894 41. <i>Ablerus atomon</i> (Walker)	<i>Aulacaspis rosae</i> Bche. <i>Diaspidiotus ostreaformis</i> Curt. <i>Diaspidiotus caucasicus</i> Borchs. <i>Diaspidiotus perniciosus</i> Comst.
42. <i>Ablerus celsus</i> Walker	<i>Lepidosaphes ulmi</i> L. <i>Lepidosaphes granati</i> Kor.
43. <i>Ablerus chrysomphali</i> Ghesquire	<i>Diaspidiotus caucasicus</i> Borchs. <i>Chrysomphalus dictyospermi</i> Morg., <i>Parlatoria oleae</i> Colvee
Genus Pteroptrix Westwood, 1833 44. <i>Pteroptrix macropedicellata</i> (Malac).	<i>Aulacaspis rosae</i> Bche.
Genus Archenomus Howard, 1898 45. <i>Archenomus bicolor</i> Howard	<i>Aspidiotus nerii</i> Bche. <i>Tecaspis asiatica</i> Arch. <i>Diaspidiotus pyri</i> Lichtenstein
46. <i>Archenomus caucasicus</i> Yasnosh	<i>Diaspidiotus caucasicus</i> Borchs <i>Diaspidiotus perniciosus</i> Comst. <i>Diaspidiotus prunorum</i> Laig.
47. <i>Archenomus longiclavae</i> Giralt.	<i>Diaspidiotus ostreaformis</i> Curt. <i>Lepidosaphes granati</i> Kor. <i>Lepidosaphes ulmi</i> L.
48. <i>Archenomus maritimus</i> (Nikolska-yae)	<i>Lepidosaphes granati</i> Kor. <i>Diaspidiotus perniciosus</i> Comst. <i>Diaspidiotus pyri</i> (Lichtenstein).
Genus Hispaniella Mercet, 1911 49. <i>Hispaniella lauri</i> Mercet	<i>Salicicola kermanensis</i> Lndgr. <i>Lepidosaphes ulmi</i> L. <i>Diaspidiotus caucasicus</i> Borchs <i>Diaspidiotus perniciosus</i> (Comst) <i>Diaspidiotus ostreaformis</i> Curt
Genus Aspidiotiphagus Howard, 1894 50. <i>Aspidiotiphagus citrinus</i> Graw.	<i>Parlatoria oleae</i> Colve. <i>Aspidiotus nerii</i> Bche <i>Pseudaulacaspis pentagona</i> Targioni — Tozzetti. <i>Diaspidiotus perniciosus</i> Comst. <i>Diaspidiotus prunorum</i> Laing. <i>Chrysomphalus dictyospermi</i> Morg. <i>Diaspis echinocacti</i> Bche. <i>Lepidosaphes ulmi</i> L. <i>Lepidosaphes glov erii</i> Pack. <i>Carulaspis minima</i> Targ. <i>Aulacaspis rosae</i> Bche. <i>Tecaspis prunorum</i> Borchsenius. <i>Tecaspis asiatica</i> Balachowsky
Genus Diaspiniphagus Silvestri, 1927 51. <i>Diaspiniphagus similis</i> (Masi)	<i>Diaspidiotus ostreaformis</i> Curt.
Genus Encarsia Foerster, 1878 52. <i>Encarsia aurantii</i> (Howard)	<i>Lepidosaphes ulmi</i> L. <i>Lepidosaphes glov erii</i> Pack. <i>Pseudaulacaspis pentagona</i> Targioni — Tozzetti.
53. <i>Encarsia gigas</i> Tshum	<i>Diaspidiotus ostreaformis</i> Curt.
54. <i>Encarsia fasciata</i> (Malenetti)	<i>Lecaspis pusilla</i> Loew. <i>Unaspis evonymi</i> Comst. <i>Adiscodiaspis tamaricicola</i> Mal.

1	2
54.	<i>Aulacaspis rosae</i> Bche <i>Lepidosaphes ulmi</i> L. <i>Aonidea lauri</i> Boche.
55. <i>Encarsia intermedia</i> Ferr.	<i>Nuculaspis abietis</i> Schr. <i>Lopholeucaspis yaponica</i> Ckll.
56. <i>Encarsia perniciosi</i> Tow.	<i>Diaspidiotus perniciosus</i> Comst.
57. <i>Encarsia formosa</i> Gahan	<i>Trialeurodes vaporariorum</i> Westw ³
58. <i>Encarsia partenopea</i> (Masi)	<i>Aleurodes proletella</i> L. ³ <i>Trialeurodes vaporariorum</i> West ³
59. <i>Encarsia tricolor</i> Foerster	<i>Aleurodes proletella</i> L. ³ <i>Siphoninus phyllyreae</i> Hal. ³
60. <i>Encarsia gautieri</i> (Mercet)	<i>Siphoninus phyllyreae</i> Hal. ³
61. <i>Encarsia leucaspidis</i> Merc.	<i>Leucaspis pusilla</i> Loew.
Genus <i>Centrodora</i> Foerster, 1878	
62. <i>Centrodora amoena</i> Foerster	<i>Xiphidium dorsetum</i> Latz. ⁵

Note: Systematic accessory owners-pests has the following designations:

Scales – without mark, a armored scales – 1, aphids – 2, aleyrodides – 3, pseudococcidae – 4, orthoptera – 5

Table 2. – Communications of Genus of afelinides with pests – phytophages

Pests – Phytophages					
Scales	Armored scales	Whiteflies, aleyrodides	Aphids	Pseudococcidae	Orthoptera
Aphytis Howard	Coccophagus Westwood	Eretmocerus Haldeman	Aphelinus Dalman	Marietta Motschylsky	Centrodora Foerster
Coccobius Ratseburg.	Marietta Motschylsky	Encarsia Foerster	Protaphelinus Mackauer		
Ablerus Howard					
Pterotrix Westwood					
Archenomus Howard					
Hispaniella Mercet.					
Aspidiotiphagus Howard.					
Diaspiniphagus Silvestri					
Encarsia Foerster					

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Section 2. Geography

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Droughts and their relationship with some phases of the streamflow regime for Ukrainian rivers

Abstract: The study considers spatial and temporal distribution of droughts in Ukraine at different time scales. The meteorological, agroclimatic and hydrological droughts describes using drought indices PDSI and SPEI for the period of 1950–2012 in the main physiographic zones of Ukraine. Statistical relationship between the SPEI at different time scales and some phases of the river flow in Steppe and Carpathian region has been estimated.

Keywords: drought index, runoff, high- and low-water phase.

Introduction. Territory of Ukraine every vegetation season is exposed the droughts of different intensity and duration. Strong and widespread general drought always accompanied by extended anomalies in the atmospheric circulation such as a blocking, which is lead to development of stationary anticyclones and prolonged deficit of precipitation in the impact region [1].

Monitoring of spatial and temporal distributing of drought has been provided using numerous specialized indices, which based at available data such as precipitation and temperature. Popular and usable drought indices are the Palmer drought severity index (PDSI) and Standardized precipitation-evapotranspiration index (SPEI). A non-rain period is an index, which high frequency and duration often results to drought. This period is defined as a time interval no less than 10 days, during which the amount of precipitation did not exceed 1 millimeter.

The PDSI is a meteorological index was developed to measure intensity, duration and spatial extent of drought. The PDSI values are derived from measurements of precipitation, air temperature, and local available water content of the soil. This index is calculated using the simple water balance equation, when also determined evapotranspiration, soil recharge, runoff and moisture loss from the surface layer [2]. Usually the PDSI values varies between -6.0 and $+6.0$, the drought conditions are measured by negative values.

The SPEI is a probability index, which is based on precipitation data and potential evapotranspiration data (PET) [3]. In original SPEI database was applied Thornthwaite's method

for calculation the PET, which made the index sensitive to the soil moisture content as well as the PDSI.

Intensity of drought can be defined according to negative SPEI values. The SPEI values from -0.99 to 0.00 relate to weakly dry or near normal conditions; values from -1.49 to -1.00 correspond to moderate drought; values from -1.99 to -1.50 correspond to severe drought; values from -2.00 and less relate to extreme dry conditions.

Previous moistening of the territory significantly affects the formation of different phases the streamflow regime of rivers. The spring and rain floods will be accompanied by much greater discharges and the sharp rise in levels if before them was a period of drought. On the other hand, low water flow is directly related to the non-rain period and determined by its duration.

The drought conditions in Ukraine at different time scales has been estimated using the PDSI and SPEI during the second half of the last century and beginning of 21st century. Some characteristics of river runoff in different phases were considered and relationship with the drought indices was analyzed.

Data and methodology. A monthly values of self-calibrated (sc-)PDSI with a step of 0.5 degrees were obtained from CRU (Climatic Research Unit, UK) database [6]. The SPEI data in a regular grid with a step of 0.5 degrees were taken from the Global SPEI database [7], which is based on monthly precipitation and potential evapotranspiration of the CRU data. All indices were averaged over main physiographic zones of Ukraine: Steppe, Forest-and-Steppe, Mixed Forest area (or Poles'e).

For definition of non-rain periods during vegetation seasons the daily station sums of precipitation were analyzed for April–October of 1995–2011.

For the hydrological calculations [4] used the data from of the observation network of the State Hydrometeorological Service of Ukraine for runoff during periods of high and low water for basin of Dniester and Southern Bug River from the start of observations until 2010.

Statistical relationship between the SPEI and runoff parameters was estimated using the Pearson correlation coefficient.

Results and discussion. The analysis of non-rain periods shown that 4–5 episodes in average are observed annually at all stations. Currently the amount of non-rain periods is a few less than climatic, but the duration became longer. The average total duration varies from 43–54 days in the west to 56–64 days in the north and increased to 75–96 days in south and east of country.

According to monthly sc-PDSI extremely dry periods were observed in 2007 and 2009 with the moderate to strong drought during vegetation season. The Steppe appeared the most dry area with the extreme value of sc-PDSI (-6.11) in July, 2007. In 2002 there was the moderate drought from April for July with most intensity in May. In the Forest-and-Steppe area the intensity of droughts usually less severe, but its duration is same as in Steppe. In Poles'e the mild-to-moderate droughts were observed in 1996, 2002 and 2003. Weak droughts were observed in 1996 from April to August and in 1999 from July to October. The frequency of autumn droughts increases in comparing to southern regions. Trends of sc-PDSI shows that aridity of physiographic zones is increased after 2002–2003 years.

The seasonal drought in Ukraine has been described using drought index SPEI at time scale 3 and 7 months. According to the 3-month SPEI during April to June in Ukrainian physiographic areas the dry conditions are prevailed. Spring-summer moderate droughts were observed in 1996, 2003, 2007 and 2012 throughout Ukraine. Spring droughts in those years led to large crop losses of winter wheat and spring barley (10–43 % from the trend). In the area of Mixed Forests were five mainly weak droughts during April–June in 1996, 1999, 2000, 2003 and 2007.

In summer period (during June to August) the drought frequency increasing in Steppe and decreasing in other regions. Moderate summer droughts covered the whole country only in 2007 and 2009 with SPEI equal to -1.13 and -1.00 respectively.

Summer-autumn period (during August to October) characterized by decreasing of drought intensity in all zones. Weak dry conditions were observed in autumn during 1998–2001 and 2005–2010. The anomalous autumn drought with moderate-to-strong intensity was detected in 2011, especially in Poles'e. This case has led to significant crop losses of winter grain crops next year.

On the whole, in Steppe occurred 7–8 droughts in every season during vegetation period. In the Forest-and-Steppe

area an amount of spring-summer and summer droughts reduced to 3–4. In Poles'e the temporal distributing of spring-summer droughts differs from south regions.

Using the 7-month SPEI in same period we are identified the most important droughts during vegetation season in 1999, 2007, 2009 and 2012. In Steppe drought in 2007 appeared the most intensive and reached the criteria of strong and extreme in spring and summer. In the Forest-and-Steppe area the most droughty season occurred in 2009, when there was a weak and moderate drought. In 2007 a moderate drought lasted all spring and summer seasons, and in 1999 a moderate summer drought has passed into weak autumn drought. In Poles'e most droughty season observed in 1999, when the mainly weak drought was continued during spring and summer time.

Comparison between indices the SPEI and sc-PDSI shown, that only main drought episode such as 2003, 2007, 2009, 2011 and 2012 clearly identified by all indexes simultaneously.

For hydrological purpose we have analyzed the time series of the SPEI at time scales in 12, 18 and 24 months for a long time period of 1950–2012 in several physiographic zones of Ukraine.

In the Western Steppe 2–3 drought cases were observed in the 1950s and the 1960s. In the 1970s there registered 1 case of severe drought. It is from 1977 to 1983 that a wet period lasted, following which, according to the trend, a long dry period began and has extended till the present time. In the 1990s four drought cases were registered. During the first decade of 21st century three drought cases were observed, in which longest drought of 2006 to 2010 reached extreme values. In the period from 1950 to 1967 a low-water phase was observed in the chronologic setting of the maximum river runoff. Later, with the periodicity of 4–5 years, it gave place to two high-water and one low-water phases, whereupon, since 1980 to the time present, there has been observed a period of low water level on the rivers [5].

For a spring flood the highest closeness of links between SPEI and runoff is reached at the time scale of 3–4 months, and a further increase in the calculation period leads to a steady decrease in the correlation coefficient.

In Carpathian region the time series of the SPEI at scales 12, 18 and 24 months shows that for all points were observed from 12 to 16 episodes of drought with the duration more then one year. The most important dry episodes occurred in region from autumn 1961 to summer 1965, from summer 1971 to summer 1974, from spring 2000 to spring 2005. In these periods hydrological drought reaches up to strong and extreme criteria in some points and years. From summer 1983 to summer 1998 was observed the continuous consecutive period with predominantly moderate dry conditions, when intensity of drought only one station (Golatin) and one time (spring 1997) reach up to extreme value. The main wet periods occurred from autumn 1974 to summer 1983 and from summer 1997 to summer 2002. In first decade of current

century observed the trend to strong increasing the intensity of wet period in mountain station Yasinya and smaller trend west along the Carpathian ridge.

Studies of statistical relationship between the SPEI at different time scales and minimum runoff rivers of Carpathian region showed that degree of significance interrelation depends on the time intervals of the SPEI and months for which they are calculated. Therefore for the winter time the largest value of the correlation coefficients (R) were obtained for March and April (R = 0.4–0.5) and SPEI – 6 and 12 months. For a low flow in summer time the best results were obtained for August, September and October (R = 0.5–0.7) and SPEI – 12 and 18 months.

Conclusions. The review of our investigations shown, that in Ukraine under current climate conditions prevail the spring-summer droughts at all physiographic zones. In summer the drought frequency increasing in Steppe and decreasing in other regions. Autumn period characterized by decreasing of drought intensity everywhere. Severe and extreme droughts occurred mostly in Steppe. In the Forest-and-Steppe area and Poles'e observed only weak and moderate seasonal droughts.

The presence of a significant correlation between the indices of drought and runoff in different periods (floods and low water) shows the possibility of using them for modeling and forecasting the various phases of the water regime of the rivers of Ukraine.

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The influence of the afforestation and swampiness on the design characteristics of the spring flood peak flow in the river Pripjat basin

Abstract: On the basis of the geometric model hydrograph slopeflow and streamflow we offered more sophisticated design scheme, which allows separate categories for factors of floods and freshets. It relies on materials of observations of maximum flood runoff in the basin of Pripjat river.

Keywords: maximum runoff, spring freshet, the layer flow, duration of the slope inflow, design characteristics, afforestation, swampiness.

Introduction

In most cases in the calculation formulas of maximum flow, the adjustments for the afforestation and swampiness are related integrally to the final results. This methodical approach can not account for the degree of influence of these

factors inclined flow into separate components. This notice applies to the principal circumstances, as the direction and level of influence of afforestation and swampiness to certain processes of runoff formation can be different and in different modeling combinations can even compensate each other.

Accounting for the effects of afforestation and swampiness in the calculation formulas of maximum flow of spring freshet of the rivers

According to [1], the formulas of maximum flow (of both, floods and freshets) are divided into 2 groups. The first group includes the structures, based on the geometric model of the hydrographs of the runoff — reductional and volumetric formulas. The second group includes those, which are based on the theory of river beds isochrons.

There are two types of reductional formulas:

a) in the following edition

$$q_m = \frac{\dot{q}_m}{(F+1)^{n_1}} \delta \delta_1 \delta_2; \quad (1)$$

b) in more expanded format

$$q_m = \frac{k_0 Y_m}{(F+1)^{n_1}} \delta \delta_1 \delta_2, \quad (2)$$

where q_m — is the maximal runoff modulus of foods or freshets;

\dot{q}_m — the maximum modulus of the slope inflow;

F — the catchment area;

Y_m — the flow layer for freshet;

k_0 — the slope coefficient of spring flood transformations under the influence of the afforestation, the swampiness, the watersheds tilled surface, the presence of karst, the characteristics of soils and watersheds altitude position;

$\delta = f(f_{ik})$ — reduction coefficient due to the presence in the catchment lakes, reservoirs and flow type ponds;

δ_1 — factor of influence on the maximum flow of the afforestation of watersheds;

δ_2 — factor of influence on the maximum drain of swampiness of watershed;

n_1 — exponent of the reduction in the dependence

$$q_m = f(F) \text{ or } \frac{q_m}{Y_m} = f(F).$$

From the comparison of (1) and (2) it is obvious that

$$\dot{q}_m = k_0 Y_m. \quad (3)$$

On other hand, according to [1],

$$k_0 = \frac{n+1}{n} \frac{1}{T_0}, \quad (4)$$

where $\frac{n+1}{n}$ — time factor of uneven slope inflow;

$$\frac{n+1}{n} = \frac{\dot{Q}_m \cdot T_0}{Y_m \cdot F}; \quad (5)$$

\dot{Q}_m — maximum water flow rate of the slope inflow during the periods of the floods (freshets);

T_0 — the duration of the slope inflow during the period of floods and freshets.

Thus, taking into account (3) and (4) the reductional structures (1) and (2) can be represented in the general form:

$$q_m = \frac{n+1}{n} \frac{1}{T_0} \frac{Y_m}{(F+1)^{n_1}} \delta \delta_1 \delta_2. \quad (6)$$

Analysis of the conditions of runoff formation shows that the afforestation and swampiness of watersheds can affect both, the layer flow Y_m , and the the duration of the slope inflow T_0 , i.e.

$$Y_m = f(f_{fr}, f_{sw}) = (Y_m)_{f_{fr}=0; f_{sw}=0} \cdot k'_{fr} k'_{sw}, \quad (7)$$

where $(Y_m)_{f_{fr}=0; f_{sw}=0}$ — layer of flow of flood or freshet, reduced to the condition $f_{fr} = 0$ and $f_{sw} = 0$;

$k'_{fr} < 1,0$ — the coefficient of the influence of the afforestation of the watersheds on the layer of flood or freshet runoff;

$k'_{sw} \leq 1,0$ — coefficient of influence of the swampiness of watersheds on the layer of peak flow of flood or freshet.

From the afforestation and swampiness of watersheds also depends the duration of the slope inflow T_0 , i.e.

$$T_0 = f(f_{fr}, f_{sw}) = (T_0)_{f_{fr}=0; f_{sw}=0} \cdot k_{fr} k_{sw}, \quad (8)$$

where $(T_0)_{f_{fr}=0; f_{sw}=0}$ — the duration of the slope inflow, under conditions $f_{fr} = 0$ and $f_{sw} = 0$;

$k_{fr} < 1,0$ — the coefficient of the influence on the duration of the slope inflow of the afforestation of watersheds;

$k_{sw} \leq 1,0$ — coefficient of influence of the swampiness of watersheds on the duration of the slope inflow.

Taking into account (7) and (8) the formula (6) can be re-written as:

$$q_m = \frac{n+1}{n} \frac{1}{(T_0)_{f_{fr}=0; f_{sw}=0}} \cdot (Y_m)_{f_{fr}=0; f_{sw}=0} \frac{1}{(F+1)^{n_1}} \frac{k'_{fr} k'_{sw}}{k_{fr} k_{sw}}. \quad (9)$$

Comparing (9) and (6), we conclude that:

$$\delta_1 \delta_2 = \frac{k'_{fr} k'_{sw}}{k_{fr} k_{sw}}, \quad (10)$$

$$\text{where } \delta_1 = \frac{k'_{fr} \leq 1,0}{k_{fr} \geq 1,0} \leq 1,0, \text{ and } \delta_2 = \frac{k'_{sw} \leq 1,0}{k_{sw} \geq 1,0} \leq 1,0 \quad (11)$$

Taking into account that $\frac{k'_{fr}}{k_{fr}}$, from one hand, and $\frac{k'_{sw}}{k_{sw}}$, from another one, affects Y_m and T_0 differently in the numerator and denominator, then to establish the existence of the corrections δ_1 and δ_2 is often impossible, and thus one might get a false idea regarding the impact of afforestation and swampiness on the maximal runoff.

Choose same raw material, so that the catchments were only forested or swamped in real conditions is practically impossible.

The foregoing leads to the conclusion about the lack of a theoretical framework that underlies reducing-types formulas such as (1) and (2). More acceptable is the structure (9), but it is inconvenient because of its bulkiness. A simplified version may be represented by the expression:

$$q_m = \dot{q}_m \cdot k_F \cdot \delta, \quad (12)$$

where \dot{q}_m — is the maximal modulus of the slope inflow:

$$\dot{q}_m = \frac{n+1}{n} \frac{1}{T_0} Y_m, \quad (13)$$

T_0 — is the duration of the slope inflow:

$$T_0 = f(f_{fr}, f_{sw}) = (T_0)_{f_{fr}=0; f_{sw}=0} \cdot k_{fr} k_{sw}, \quad (14)$$

Y_m — layer of slope inflow for the flood or freshet:

$$Y_m = f(f_{fr}, f_{sw}) = (Y_m)_{f_{fr}=0; f_{sw}=0} \cdot k'_{fr} k'_{sw}, \quad (15)$$

k_F — is the generalized coefficient of channel-floodplain regulation of floods and freshets:

$$k_F = \frac{1}{(F+1)^{n_1}}, \quad (16)$$

δ — rate regulation coefficient of floods and freshets by drainage lakes, reservoirs and ponds.

For the calculus the parameter k_F is reasonable present as:

$$k_F = k_m \cdot k_n = e^{-(a+b)\lg(F+1)}. \quad (17)$$

Establishment of design parameters for maximum flow of the spring flood considering afforestation and swampiness of watersheds (based on Pripyat river example)

Pripyat river is one of the largest (right bank) tributaries of the Dnepr river. Geographically located within the Steppe and Forest-steppe zones. The catchment area — 68300 km². Time series of the observation during more than 15 years (to 2010), there are available for 43 watersheds with an area from 141 km² (riv. Vizhevka – vill. Ruda) to 13,300 km² (riv. Sluch – city Sarny).

Statistical processing of time series of maximum rows and layers of spring flood runoff was performed using the method of maximum likelihood, and the calculated values Q_m and Y_m for reference provision of $P = 1\%$ were established using the of three-parameter curve of gamma distribution of S. N. Kritskyi and M. F. Menkel [2].

Getting to the spatial generalization of runoff layers $Y_{1\%}$, first of all we build the dependance $Y_{1\%} = f(\varphi_{n.l.}^\circ)$, where $\varphi_{n.l.}^\circ$ — geometric latitude of watersheds centers. In general

$$Y_{1\%} = (Y_{1\%})_{\varphi=51} + 19,9(\varphi - 51), \quad (18)$$

where $(Y_{1\%})_{\varphi=51}$ — layer of spring flood runoff, reduced to conditional latitude $\varphi = 51^\circ n.l.$

$$(Y_{1\%})_{\varphi=51} = Y_{1\%} - 19,9(\varphi - 51). \quad (19)$$

Now it is possible to investigate the effect on the runoff layers $(Y_{1\%})_{\varphi=51}$ of the afforestation (f_{fr}) and swampiness (f_{sw}) of watersheds.

In relation to the right bank pool of the Pripyat river, we found that the correlation coefficients of dependencies $(Y_{1\%})_{\varphi=51} = f(f_{fr})$ and $(Y_{1\%})_{\varphi=51} = f(f_{sw})$ — are insignificant. From this follows that $Y_{1\%}$, caused by the latitudinal position of watersheds are subjects to direct spatial generalization. The $Y_{1\%}$ are changed from 200 to 100 mm. in the basin of Pripyat river.

The duration of the slope inflow T_0 is also the subject to the spatial generalization. The dependance T_0 on the geometrical latitude of the centers of river watersheds $\varphi_{n.l.}$ is given by the equation:

$$T_0 = (T_0)_{\varphi=51} + 89(\varphi - 51), \quad (20)$$

where $(T_0)_{\varphi=51}$ — the duration of the slope inflow, reduced to conditional latitude $\varphi = 51 n.l.$

$$(T_0)_{\varphi=51} = T_0 - 89(\varphi - 51). \quad (21)$$

The dependance $(T_0)_{\varphi=51}$ on the degree of swampiness of watersheds is as follows:

$$(T_0)_{\varphi=51} = 236[1 + 0,27\lg(f_{sw} + 1)]. \quad (22)$$

As for the afforestation, it has no significant effect on the duration of the slope inflow.

According to the preferential correlation coefficient ($r = 0,28$), which is significant, from (22) one can get the expression for the swampiness coefficient k_{sw} :

$$k_{sw} = 1 + 0,27\lg(f_{sw} + 1). \quad (23)$$

The next step is to bring all values $(T_0)_{\varphi=51}$ to the condition $f_{sw} = 0$, i. e. to $(T_0)_{\varphi=51; f_{sw}=0}$. Plotting the dependance $(T_0)_{\varphi=51; f_{sw}=0}$ on the afforestation of the watersheds shown that it is insignificant. Thus, in the river Pripyat basin the duration of flow of water from the slopes in the fluvial network is affected only by swampiness of the watersheds, which is a factor in the natural freshet-regulation.

Coming to the spatial generalization of T_0 , one should bring first all original values T_0 to the condition $f_{sw} = 0$, i. e.

$$(T_0)_{f_{sw}=0} = \frac{T_0}{k_{sw}}, \quad (24)$$

where k_{sw} — coefficient of influence on the duration of the slope inflow of spring freshet in the river Pripyat basin of the swampiness, which is calculated according to (23).

On the territory $(T_0)_{f_{sw}=0}$ varies from 350 to 125–150 hours.

Test calculations performed within the proposed structure (15), lead to the conclusion of satisfactory convergence of the results with the original data. The average deviation of $\pm 16,5\%$ taking into account the accuracy of the initial information on the maximum spring flood runoff in the Pripyat basin, is within standard mean-square uncertainty $\sigma_{Q_{1\%}} = 16,7\%$.

When using the formula (12) the layer of runoff $Y_{1\%}$ is taken directly from the map (at the geometrical centers of watersheds); the time factor coefficient of uneven slope inflow $\frac{n+1}{n}$ for all watershed is taken to be 6,25; the reductional coefficient k_F is calculated according to equation (17); the duration of the slope inflow T_0 , which, as well as $\frac{n+1}{n}$, is included to the parameter k_0 is determined basing on a map $(T_0)_{f_{sw}=0}$, and:

$$T_0 = (T_0)_{f_{sw}=0} \cdot k_{sw}, \quad (25)$$

where k_{sw} is determined by the swampiness of the largest watersheds f_{sw} (in per-cent), according to (23).

Conclusions:

1. The author substantiates the version of design scheme that provides in a parametric form the allocation into separate categories the impact of the afforestation and swampiness on maximal runoff of floods and freshets.

2. The implementation of the proposed calculation formula of maximum flow of the spring flood was carried out basing on the materials of observations in the river Pripyat basin.

2.1 The study of the impact on the layers of the runoff $Y_{1\%}$ and the duration of the slope inflow T_0 does not found their significant dependencies from the afforestation of the watersheds.

2.2 From other hand we determine the dependence of the duration of the slope inflow T_0 on swampiness f_{sw} , wherein swampiness is a controlling factor of spring flood runoff on the slopes, and the coefficient of influence $k_{sw} \geq 1,0$. On layer of the runoff $Y_{1\%}$ the effect of swampiness is not revealed. From this it

follows that the normative parameter δ_2 by its nature in the river Pripyat basin relates only to the duration of the inflow T_0 .

3. With respect to the river Pripyat basin, the proposed design scheme is recommended for practical application in the whole range of watershed areas.

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Section 3. History and archaeology

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The beginning of British Colonization of India. Lord Robert Clive

Abstract: The assessment of the history of British colonization is ambiguous. There were a lot of negative aspects, but there were also many positive ones. The historical process should be seen through the prism of individual participation in it. The colonization of India is difficult to imagine without the personality of Robert Clive. The glory of a colonizer of such scale is also quite controversial. The article attempts to analyze the role of an individual in quite an ambiguous process such as colonization.

Keywords: colonization, England, India, Lord Clive, Bengal.

The Europeans repeatedly interfered in the history of colonization of India. The English disrupted the balance of relations partially; herewith, it affected the condition of traditional Indian structure in the whole. Though, the traditional forms were replaced by new relations. India became actively involved in the world market and international trade relations. The English built railways, established regular postal service, opened industrial enterprises, created a colonial bureaucratic administration that was quite different from the one existing before. Nevertheless, this painful process contributed to the development of the country, introduced India to new forms of relations, machine production and basics of science and technology. The English, and especially English language, started serving as an integrating beginning that helped unite the country speaking different languages into something whole and integrated.

The history of British colonization of India is difficult to imagine without the personality of Robert Clive. The glory of a colonizer of such scale is also quite controversial.

The name Clive sounds quite ominous for most Indians. But, at the same time, despite the official condemnation, for the English, Clive is a hero who made a considerable contribution to the establishment and evolution of the powerful British Empire, which is confirmed by a Robert Clive monument erected in Whitehall, London, in front of the Ministry of Foreign Affairs.

In the Soviet historiography, the name of Robert Clive is, as a rule, associated with a tough colonial policy carried out by

England in India. Clive was portrayed as the personification of this policy, whereas not more than few pages were dedicated to Clive himself tinged with negativity, as was indicated above.

While any Indian history lover will find detailed and interesting information about other famous colonizers such as the French Dupleix, Bussy, Lally-Tollendal and some others, they will hardly find anything about the man who laid the foundation of the English rule in India. Having gone down in the history of England, India and France, for many Robert Clive remains a person with a rather mysterious fate.

Robert Clive was born at an ancient English family estate, near Market Drayton in Shropshire, on 29 September 1725 to a lawyer Richard Clive and Lady Gaskell. According to one of the Clive biographers: «... already at an early age, he showed strong will and wild passion combined with inborn shyness» [5, 23]. Apparently, such set of qualities made the character of Robert Clive difficult for people around. He didn't get on well with relatives. When Robert turned 18, his parents sent him to India to serve in the East Indian Company. He was sent to the other end of the world with only a recommendation letter. However, it can be assumed that not only the difficult character of the young man was a reason for such quick separation, but also a bad financial condition of the family. Paying respect to Clive, when he became a very rich man, he supported all relatives financially.

In 1743 Robert Clive left the motherland for the first time and headed for Madras. The travel was long (he found himself in Brazil where he had to spend several months); it took

him more than a year to reach India. By that time, he ran out of money given to him for the trip. The man, who the recommendation letters were referred to, died. Pride didn't allow Robert to ask for anything from unfamiliar people.

Winding up in a different continent, unfamiliar and unusual environment, the young man didn't even try to establish relations with his compatriots. The only place where Clive's soul found peace was the governor's wonderful library, where he spent long hours. When Clive got a position of a small clerk, he almost lost it because of his temper.

The service didn't satisfy Clive. Probably, it was the hardest time in his life. Desperation reached a certain limit and he tried to commit suicide. He attempted to shoot himself twice but it misfired both times. It's a fate. It is unknown how things would have turned if there had been a third attempt. Incidentally, it took place after nineteen years.

In the middle of XVIII century, the most powerful East Indian Companies were British and French. Their rivalry led to an armed conflict.

Unlike the French Company, the British Company already had strength and riches largely due to the fact that it was «regulated». It had a large army of employees, profitable trading stations, own fleet and troops. Being interested in its activity, the English government gave it a global-scale support.

Famous J. F. Dupleix was the head of the French colonial forces in India, who occupied the position of the governor of Pondicherry. Understanding that the English became the main rival of France, he was eager to expel them from India. Being a talented organizer, Dupleix created a small troop that consisted of Indians and was taught in European manner. This small army of sepoys that was under the command of the French officers was quite combat-capable.

In the 40s of XVIII century, England and France began a war for the Austrian inheritance in Europe. The echo of these events came to India by 1746. The first English-French trade war started. Dupleix put his sepoys on the squadron that arrived in Pondicherry and was under the command of B. F. Labourdonnais. Soon, they disembarked in the center of the English dominions in India and seized Madras quite easily. The English had only one dominion left — Fort St. David (southwards from Pondicherry), where Clive ran away to with his compatriots from the French.

The attempts of the English to seize Pondicherry were not successful. Nevertheless, the first English-French trade war ended with the victory of France. According to the Treaty of Aachen of 1748, France returned Madras to England in return to the concessions in Europe (Dupleix insisted on the destruction of Madras, but the French authorities sitting far away in Europe didn't take his opinion into account). At the same time, Dupleix wanted to use the victory at maximum. Skillfully «playing» the disputes between the rulers of Hyderabad and Carnatic, he put his henchmen on the thrones, which gave him power over the entire south of India.

The English couldn't put up with such situation. They interfered in the dynasty struggle in the south of India helping

the rivals of the French representatives. The war between South Indian rulers led to the second English-French war, which started in 1750.

These events changed the life of Robert Clive completely...

The war was much more attractive for Robert Clive than civil service. The former clerk turned out to be quite a capable military man, who possessed not only commanding but also brilliant organizational talents.

Initially, the French and their appointees acted rather successfully in the new war, having captured the entire Carnatic (a region in the south of India). A year after the beginning of the war, the English only had the fort of Trichinopoly in their hands, which the French were preparing to capture together with the army of their appointee Chanda Sahib.

In these conditions critical for the English, in order to distract the forces of Chanda Sahib and the French from Trichinopoly, a small troop of the English led by young captain Robert Clive took Arcot (a center in the south of India) by storm unexpectedly for the enemy and held it for 53 days in spite of all efforts by the Indian troops. The heroic protection of Arcot destroyed all plans of Dupleix. And, in the future, all his attempts to seize Trichinopoly and return the dominancy of the French in Carnatic failed.

The siege of Arcot made the name of Clive popular. But the quickly begun career of a military man and the glory of a hero could be lost as easily as it came. Clive was forced to come back to England due to his disease.

In the meantime, the struggle between England and France over the dominancy in India continued. The peace treaty signed in 1754 recognized Muhammad Ali, an appointee of the English, as the Nawab of the Carnatic; moreover, the French lost a few territories.

Conquering Bengal, the English were forced to fight not only with the French but the very Bengali troops. In 1756, young Siraj ud-Daulah became the Nawab of Bengal. As it was mentioned earlier, the English tried to use the disagreements between the princes of India and supported the opponent of Siraj ud-Daulah. As a result, the troops of the young Nawab captured Calcutta that belonged to the English. Thus, the plans of the English to gain possession of Bengal were put under serious threat; their dominancy could be crushed in the bud [2, 28]. A corps was levied on short notice, which mobilized all troops positioned in Madras. Robert Clive, who recently returned from England, was given the command of the corps. Madras heads understood well that the English didn't lose six years ago primarily due to Clive. Clive lived up to all expectations and Calcutta was seized.

After his comeback, Clive no longer looked like an unhappy young man who came to India ten years ago. Now it was a confident 30 year old man, who was popular among troops, had the glory of a winner that was growing with every passing year. The authorities trusted him more and more.

In same 1756, England and France were in the state of war. The Seven years' War started. The battlefields were not only in Europe, but also in America and India, where the news

about war reached in 1757. By that time, the French were not ready for the war in India. They didn't have enough means and the government of France didn't hurry to help. England, on the contrary, was quite determined. Her moods were brightly manifested in the activity of the chief commander of the English troops Robert Clive.

Clive started secret negotiations with a Siraj ud-Daulah's commander Mir Jafar, as a result of which a secret agreement was concluded under which Mir Jafar promised to help the English in the final battle. In return, the English promised the throne of the Nawab of Bengal in case of victory.

Clive felt as confident in behind the scene maneuvers as in the battlefields. They found Mir Jafar due to some Amichand, an Indian and a former big trade agent of the East Indian Company. He demanded that the payment for his cooperation was stipulated in the text of the above mentioned secret agreement. Clive deceived Amichand by concluding a false agreement the signatures in which were forged. The name of Amichand was not mentioned in the real agreement, although, the obligations of Mir Jafar towards the English were described in detail: after becoming the Nawab, he was supposed to expel the French from Bengal and recognize the authority of the English over himself. Furthermore, «in order to compensate the losses incurred in relation to the capture of Calcutta by the Nawab's army», Mir Jafar was obliged to pay an enormous amount to the English — 17,7 million pounds sterling [3, 24].

Thus, according to a just notice of many historians, a careful preparation for the final battle with Siraj ud-Daulah determined its result.

The secret agreement with Mir Jafar largely explains the fact that, on the first face, the recklessness of Clive forced him to confront the large army of the Nawab on June 23, 1757 consisting of 18 thousand horsemen and 50 thousand infantry with a troop of 3 thousand soldiers in the Battle of Plassey [1, 88]. Not only confront, but also win. Mir Jafar who was leading the main forces of Siraj ud-Daulah didn't allow them acting, and thus, ensured the full defeat of the Nawab's army.

In many works dedicated to the history of English conquest of India, the day of the Battle of Plassey is considered the date of establishment of the British dominancy in India. Indeed, the significance of this victory for the English is difficult to overestimate, because they gained a province, the resources of which were used by them in the course of further fight for India.

Success was primarily achieved due to Robert Clive, who, multiplying the riches of England with his victories, didn't forget about himself. Hence, apart from the vast amount of money received from the new Nawab of Bengal Mir Jafar (in compliance with the agreement), the English received big amounts from him in the form of gifts. Clive got two and a half million rupees in cash and also occupied a rich estate that brought a big annual income. To give him credit, Clive was not an exception. Many English and French colonizers behaved similarly. Apparently, Clive didn't think that he was criminally using his position for his own profit.

After the Plassey victory, Clive added the glory of a determined governor (he became the governor of Bengal) to the glory of a vigorous warlord and lucky colonizer.

In 1763 the new Nawab of Bengal Mir Qasim rose in rebellion against the English, which soon gained a wide anti-English character and put the English in a rather difficult condition. Clive was in England at that time.

In 1764 the English troops defeated the rebels. Now, the task was to strengthen their territorial possessions. Moreover, it was necessary to bring discipline in the Company itself, the employees of which sank into the mire of abuses, racket and bribes. Robert Clive, who returned to India in 1765, was tasked to solve these problems and was again appointed the governor of Bengal. With his inherent energy, Clive undertook resolute measures: the employees of the company were not allowed participating in private trade; simultaneously it was presupposed to increase the salaries of the officials at the expense of profits from the state monopoly on salt, opium and saltpeter. The prices on salt were not augmented. Finally, Clive introduced a so-called system of double government, in accordance with which the civil matters were under the supervision of local authorities and the collection of taxes and financial matters were transferred to the Company.

Clive left India for good in 1767. He left being a man whose name was forever associated with the first considerable successes of the English in India, which laid the foundation of the English dominancy in India for many decades.

Upon the return to London, Clive was not a hero basking in his glory, but a convict. The English Parliament accused Clive of abuses committed by him in India.

In 1773 Clive came before the commission of the House of Commons accusing him of embezzlement of a part of riches won by the English. After Clive, his successor at the position of the general governor Warren Hastings went before the Parliament, who was also accused of corrupt practices. In response to the accusations, Clive, who stayed clear, claimed that he behaved humbly in India and was surprised at it himself, because he could take possession of the entire treasury of the Nawab of Bengal, which the English gained mainly to his, Clive's, valor. Eventually, considering that «Lord Clive rendered significant and praiseful services to his country», the Commission acquitted him [5, 31].

In spite of his rehabilitation, Clive slipped into a heavy spiritual crisis after the parliamentary accusations, which he was not able to overcome. Robert Clive committed suicide on November 22, 1774.

J. Malcolm was one of the prominent specialists on «Clive», who considered the English colonization of India and means of its conduct very negative. He wrote in his book «The Life of Robert, Lord Clive»: «... Clive and Warren Hastings, great people in the eyes of future generations, seemed just lucky ones and adventurers to the contemporaries. They couldn't forgive them that they had gone to India being poor and returned burdened with treasures that were exaggerated to absurdity by envy and feud.

In the consequence of horrible circumstances and public disgrace that the conquerors and first rulers of India were subject to, the victories and conquests lost their brilliance; they were looked at unjustly and shortsightedly. Clive and Hastings were in the position similar to the position of Caesar, William of Orange and Napoleon. Their behavior was looked at from the point of ordinary people... Same rules applied to the deeds of ordinary people were applied to their actions,

which decided the fate of millions of people, appointed and threw down the rulers and established the whole Empire. It is similar to the summons of Caesar, Cromwell and William of Orange to the commercial court or the court of correctional police... » [4, 46].

One can agree or disagree with the above stated opinion, but we reckon that law is for everyone. And the English law gave its definition towards the first general governors of India.

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Economical problems in the cities of Fergana valley (in the example of 1917–1924s)

Abstract: In this article informed about the economic regression occurred in the cities of Fergana valley and its results.

Keywords: The cities of Fergana valey, Oktober revolution, economic crisis, the Soviet government, hungriness, the press, the problem of food, new economiy policy.

In the result of the economical events carried out by setting the Soviet government in Turkistan the economical situation in Fergana valley got worse. In the consequence of the decline in the agriculture of Russia in 1917 and the drop in productivity delivering grains to the region dramatically reduced. Especially, in the previous years before the October revolution from 14 million pood to 20 million pood (*pood is a unit of measure equal to 16 kg.*) grain was brought into Turkistan every year, but in 1918–1919's with great difficulties less than 1,5 million pood grain was brought, only [1, 104].

While 52 million pood grain harvest was gathered in 1917 throughout Turkistan, the demand of the region for the grain was 110 million pood at that time [2, 102]. In the result of the economical crisis in the region the rural working people's interest towards growing cotton decreased, and it also caused dramatically reduction of agricultural fields. Also, devastation didn't go around the industry of the region. In the cotton ginning industry, which was a leading branch of the industry, the volume of manufacturing reduced more than twice in 1917 than in 1915 [3, 514–517]. Because of the general crisis in the economy in the result of World War I began in 1914 the future harvest was lost because of stopping bringing in the grains from abroad and the severe cold in the winter of 1916–1917, and the droughts in the summer of 1917. The decline in the field of cotton growing brought to increase the number of the unemployed in the cities of Fergana valley.

According to the information, in 1917 in Fergana there were about 400 thousand unemployed sharecroppers (*which uses the landowner's animals and equipment in exchange for 1/4 of the crop*), 300 thousand landless cotton-growers and 50 thousand factory workers [4]. In 1918 in Fergana 1,5 million people met 800 thousand dessiatina (*measure of land = 10,900 sq. metres or 2.7 acres*) land, that is, it coincided with half dessiatina land each person [5]. In such condition the farmers and urban people who dispossessed their living devices filled the rank of the strugglers for freedom against the Soviet government.

In 1917 in Fergana the areas of cotton fields dropped from 248,325 dessiatina to 70,000 dessiatina in 1918, and to 33,000 dessiatina in 1921. The number of livestock animals was 1,565,414 in 1917, and in 1921 it was 146,336 [6, 225].

In 1916 the average price of one pood of wheat was equal to 1 ruble 50 kopeck, and as a result of the starvation in the region the price of most food products increased. In 1917 a pood of wheat was valued at 35 rubles, a pood of flour was valued at from 2 to 40 rubles, and a pood of rice was valued at from 5 to 45 rubles, and a pood of corn was valued at from 1 to 25 rubles [7]. People's earnings were not enough to buy food. In the decision of the general meeting of Margilan workers it was noted as "a poor who earned 4 rubles per week even couldn't feed oneself. Those, who can afford, can buy the flour. Such people comprise 10 thousand of 125 thousand population of Margilan. In a week a worker could work to be able to buy flour enough

only for one day, and the other days he/she stayed hungry. The flour given by the Food Committee was enough only for two days" [8, 16]. Because of the food committees established throughout the region let injustice in distributing the grains among the population the state of the local people became more difficult. For example, the Muslim people of Old Margilan insisted on being equalized with Russian, Jewish and Tatar people of the city Skobelev, who was getting 3–4 pounds (*a pound is a measure of weight equal to 453,6 gr.*) in supplying with flour. In their decisions they made a request such as "the 90 bags of flour distributed by the food committees for a day are not enough for 82 thousand people, therefore the food committees of the uyezd should distribute 300 bags of flour everyday" [8, 16–17]. In some places the Muslims even were not given bread for several days. As it noted in the newspaper "Znamya svobodi", the Muslim people of Andijan city were deprived from the supply of bread from October 25 to November 4 in 1916, even the European people of the city couldn't get bread [9]. But, the local native people tried to solve this problem themselves. In 1917 it was reported in the pages of press that many of the local rich people were helping the poor. For example, it was noted that in Andijan Azim Hadji gave the poor the bread at a fixed rate. Also, in the structure of the food committees the power of the native local people was very low.

In order to supply the demand of the people for bread and baked goods in 1918 on February 18, 250 poods of wheat, 250 poods of flour were brought to Andijan from the city Skobelev [10, 99]. Free cafeterias were founded in Andijan uyezd and city. In November of 1918 Help for starving people committee was organized. Under the leadership of this committee 12 cafeterias in Andijan city, and 40 cafeterias in the uyezd were opened until the December of 1918. While 52 cafeterias worked in the spring of 1918, their number increased to 55 in 1919 [11, 98]. 100 gr. bread was given to every people in the city.

The base of the economical politics in the first period of time of the Soviet government was comprised of economically centralization involving the whole period of time, that is, keeping the surrounding regions under the control, military governing system, centralized security, rationing system and injustice in them.

After the decisions of the government "Setting the state monopoly in cotton-growing" adopted in 1918 January 12 and "About confiscating the cotton supplies of the region" adopted in 1918 February 12, the state began to seize the cotton harvest of the poor farmers. As a result, in the region the number of the unemployed increased, starvation and disagreements began. The prohibition of the cotton trade negatively influenced on the development of the commercial business in Turkistan. The 422,726 desiatina area of cotton growing territory in 1913 dropped to 87,622 dessiatina in 1920 [12, 79]. In the result of the decrease in growing cotton and wheat in the region the prices in the markets increased. Also, the amount of the grains brought from Russia to Turkistan in exchange of cotton was dramatically lessened. In the result of the lessening of

the industrial manufacture in Turkistan and bringing the industrial and food products from Russia less and less the prices increased in the region. As a result in 1917–1918s there happened starvation in the region of Turkistan and it was blamed for more than 1 million people's life. The life of the urban people also became worse and the disagreements increased among them. Everything at the disposal of the city craftsmen and shoemakers was taken away and confiscated to the benefit of the state. The economical politics held without considering the conditions of Turkistan region and many other reforms caused the people's disagreement. The injustice in distributing the food and industrial products in 1917–1920s, closing the schools, inequality in teaching the children and belittling the benefits of the people living in this region influenced negatively on the emotions and feelings of the local people. When the inspections were carried out in Fergana valley in 1919 it was seen that the peoples condition was extremely decadent. In 1920 the food committees, with the agreement of the local governors, collected the products from Fergana valley twice as much as indicated in the plan [13, 44]. Especially, foods, cattles and horses were seized and taken away with force from the farmers in the villages for the Red Army supply, and often no document or money was given for it.

The starvation in Fergana valley can be conditionally divided into two periods.

The first period involves the years from 1917 to 1919, the information about this period was kept in the periodical press. The second period involves the years from 1921 to 1923 and all the terrible events of the starvation reflected in the archives about that time [14, 246].

If the main reason of the first period of the starvation was the severe colds in the spring and the droughts in the summer of 1917, and completely stopping bringing the grain from the Centre, the starvation in 1921–1923s was caused by the wrong economical politics of the Bolsheviks, the general decadence and the military movements in the valley.

Because of the unparalleled hard situation in the region starvation and various diseases were widely spread out in Turkistan. The starvation rapidly surrounded the cities. Also, the population of the whole villages entirely died out due to the starvation the cities became empty. The most of the victims of the starvation were comprised of country people. It was possible to meet thousands of people in every step in the streets of Fergana, Kokand, Margilan and other cities, who were exhausted of hunger and entreating for a piece of bread. According to the official information, in 1919 the starvation surrounded the most part of the population of Kokand uyezd, especially the most of the country people. Because more than 90% of the population of the uyezd lived in the countries. According to the official information of the journal "Turkistan halk hujaligi" in 1920, the price of food increased 58,8 times much in 1919 than in 1914 and 10,6 times much than in 1918. Particularly, in December of 1919 the price of wheat – 3.6 times, mung bean – 6.7, bread – 7.9, beef – 14.9, mutton – 19.5, carrot – 12.4, onion – 3.0, grapes – 16,3 times increased than in the previous

year [15, 153]. In the autumn of 1919 the food supplies became poor, especially, the lack of bread and meat increased. In particular, as the cost of production was 4–5 rubles, the market price of meat surpassed 40 rubles. The population stricken with hunger had to live from hand to mouth with the roots of plants and grasses. As a result various diseases such as tuberculosis, cholera, typhoid fever spread among the people and the most part of the population were slaughtered. In the notification 1082 of the Health Care Commissioner S. D. Asfandiorov sent to Turkistan Central Executive Committee on February 19 in 1923 it was noted that in Kokand uyezd the death level among the patients suffered from tuberculosis reached up to 40% [16, 37].

At that time Kokand city was full of hungry people come from surrounding villages. They, in thousands gathered and lay in the mosques, streets and even in the graveyards. According to the information of a farmer who witnessed these events, he saw 17 dead men, who died on the way to the market to sell their last things, in the distance of 20 kms as far as Kokand [17, 201]. The level of death among the hunger people was so high that everyday hundreds of dead people could be found in the streets of the city. The most terrible time of the starvation came across the May, June and July of 1922, because of many dead people in the cemeteries at that time, it was impossible to breathe in the nearby surrounding house because of the malodorous smell. As a result, the 122,247 people population of Kokand city in 1917 [18, 119], reduced to 50,338 people in 1924 due to the hunger and military movements [19, 10].

In 1917–1919s it began to report in the periodical presses about the terrible starvation in Turkistan region [20, 86–101]. Especially, from the January issues of the newspaper “Ulug Turkistan (the Great Turkistan)”, series of worrisome information about the terrible of the starvation began to be edited. In particular, in the issue of “Ulug Turkistan (the Great Turkistan)” on January 24 in 1918 in the article named “The disaster of starvation” by Abdulla Kodiriy, it was informed about that in Turakurgan village near Namangan city a wife and four children of a man named Orzigul died from hunger, and even in the streets people were starving to death, the number of people dying from hunger was rising in the villages such as Kurgoncha, Yandama, Mozorkuy, Eskiobod and Kumboy [21].

In the spring of 1918 the starvation in Turkistan got its way in Andijan city too. At that time in the telegram sent to Tashkent by D. S. Uryupi, the chairman of Andijan Council, on March 26 it was requested to introduce the people widely with that every day hundreds of people were dying from hunger in Andijan, typhoid and other diseases were increasing in the result of hunger, the number of the unemployed was rising and workplaces were losing and to inform about it in the newspapers and meetings [22, 148]. In order to provide the hunger people with food measures were worked out in Andijan city. In this purpose a special committee was organized in the city, and its representatives were sent to the region and uyezd's districts for arranging the grain.

In 1919, 12 cafeterias in Andijan city and 40 cafeterias in the uyezd were opened and the people could eat there for free [23].

Their number increased to 55 in 1919. Also, food products from different cities of Turkistan were brought to Andijan as a humanitarian aid. Particularly, in the January of 1918, 250 poods of grain and flour from the uyezd of Skobelev and 200 poods of flour from Kokand city were brought [24, 99].

In 1919 in Fergana valley 64 committees helping the poor people were organized, 33 of them were situated in Skobelev uyezd, 12 of them were in Andijan uyezd and 19 of them were situated in Osh uyezd [25, 136].

In the winter and spring of 1917–1918s 30 percent of the population died because of the terrible starvation in Fergana valley [26]. While the population of Fergana region was 2 million 160 thousand people in 1917, it reduced to 1 million 669 thousand people in 1923 [27]. Only in Kokand city 120,984 people lived in 1917, and the number of its population reduced to 50,338 people in 1923 [28, 37]. While registering the people in 1920, it was defined that many people had died here or left the half destroyed villages [29, 24]. When inspecting the 74 volosts of the region in 1922 – 370,943 hungry people were registered in the places, and it was indicated that 63,010 people had died from hunger and 481,632 people suffered from hunger [30, 164].

The food problem occurred in Turkistan in 1917–1918s didn't go around the city of Skobelev. In the December of 1917 – 48 wagons of food products were brought to Fergana region from the Center [31, 33]. Food committees were organized in the city. In the middle of the February in 1918 – 4 free eating houses were organized for the hungry people in the city of Skobelev [31, 33]. In such eating houses hot meals were rarely distributed and the meals contained only water and bean.

In 1918 the council of Skobelev appealed about the lack of bread of the population. The situation in the region was so poor that special staff were not enough to guard the prisons. As a result, in the February of 1918 the military commander of the region Skobelev officially appealed to the district attorney explaining that it was necessary to release the prisoners and find jobs for them in the provinces of Russia where there was enough food.

In 1918–1920s many measures were carried out for the hungry and orphan children in Kokand city too. One of the boarding schools “Turkistan railways” was founded first in Kokand. In this educational establishment the children of the railway workers were given food for free and also young personnel were trained there for the railway specialization.

In order to fulfill the demand of providing the staff of Kokand department of Turkistan Railway and Railway school with the additional classrooms the city council gave them a part of Simkhaev's house. The city provision centre separated 75,026 rubles of money for the education of preschool children and improving the material security and placing 100 children to nursery schools in October and December of 1918. 50 of the abandoned children were placed to dormitories by the social-security department. By the decision of the city council 59,439 rubles of money was spent for providing these dormitories with food from 1918,

September 19 to November 30 [32, 274]. Together with the abandoned children the children of the families with insufficient income were admitted to these dormitories.

Besides the orphanages opened in Fergana region, the local wealthy people also put large cauldrons near the mosques and fed the hungry people from their account turn by turn. The Head Orphanage was opened in the Haqqulbek mosque in Kokand city, 800 men and 229 women in total were provided with food there.

In the 10 dessiatina land belonging to the orphanage in Kokand 50 people were busy with a job. Besides that, the children in the orphanages were also engaged in shoemaking and sewing. The first orphanage in Kokand meant for 50 children began working in the September of 1918. In these orphanages 112 rubles 50 kopecks was spent for each child every day. In 1918 on September 15 this kind of establishment was opened in Skobelev city too, and about 55–60 children lived there.

The second step of the starvation was happened in 1921–1923s, and this period of time is considered to be the most terrible time of the starvation in the valley. It is known, Fergana valley stayed in the war fire in the result of the armed struggle against the Soviet system as soon as annihilating Turkistan Anutonomous in 1918, in February. The Military movements happened in the valley in 1918–1922s completely derailed the industry and agriculture of Fergana region. The first signs of the second step of the starvation began to appear in the winter of 1921. The economic depression in the spring of 1922 encircled not only the countryside but also the towns.

In the result of the new economic policy began in Turkistan in the middle of 1921 several reforms were held in the economic field. In Fergana region the economic life and agriculture faced the crisis because of the unproductiveness and starvation. Large agricultural fields and also the cotton fields reduced. As a result the existed cotton cleaning factories stopped working. Of the 180 cotton cleaning factories existed in Fergana region only the 4 worked in 1922, they were situated in Andijan, Fergana, Kokand and Namangan [33].

The starvation increased in Fergana valley didn't go around Namangan uyezd. Like in the cities of Fergana valley, the free eating houses were organized in Namangan uyezd too. Such kind of eating houses were situated in Namangan city and Chust district. In 1922 the number of people suffering from hunger in the uyezd was 1485 in total, the 270 of them were children [34, 27]. In the early august of 1921 the commission helping the hungry people began to work. In the consequence of weekly activities held in October of 1921 – 18 million rubles of money and other things were gathered from the population in Namangan city as a help for the hungry. Besides that, 4 million 698 thousands rubles was gathered from the community work day organized in order to help the hungry people. In Namangan uyezd from the August 5 to August 12 food products, dressing gowns, soaps, quilts and also 8 million 025 thousands rubles charity alms were gathered [35]. In 1922 in Namangan city Abdurazzaq Hakimbekov worked in the position of the head of the committee against starvation [36]. Several

boarding schools and free eating houses worked during his time too in Namangan city. In 1923 in the eating houses existed in Namangan city 697 hungry people we provided with bread and hot meal. Also, the boarding school number 2, named after Rahimboev, which was established in the city in 1923, registered about 70 children [37, 11]. In the same year the boarding school established in Chust city collected 100 children. In 1923 in Namangan city every 1000 people suffering from hunger needed 9 450 poods of wheat, 2 250 poods of cereals, 2 250 poods of vegetables, 500 poods of meat, 300 poods of oil, 300 poods of soap, 360 sazhen [sa: dʒen] (measure of length = 2.134 metres) wood [38, 11].

The commission helping the hungry people organized in Fergana region mentioned the following information in its report to “The Central Commission helping the hungry people” under the Turkistan Central Executive Committee during the time from April 20, 1922 to May 1: “the local people are begging for bread with tears in their eyes because of the hunger, but we cannot add them into the list of the hunger without permission, most of the hungry local people are unemployed and unable to work” [39, 115]. According to the information, the number hungry people reached to 277 thousand people in Fergana valley in 1922–1923s [40, 9].

From the end of 1922 and the beginning of 1923 the Centre began to pay attention to the starvation in Fergana. Because, not helping Fergana region, the main cotton-growing region, might bring to increase growing wheat and vegetables instead of cotton in the region. Therefore the Centre began to help Fergana.

According to the information of the company finishing the results of the starvation in Fergana, in the September and October of 1922 the number of the population was indicated to be 877,855 or 875,549 people. In the summer and autumn of 1922 only 63,689 or 64,336 people from Fergana region died and 46,689 or 64,336 people had to move to another places because of the hunger here [41, 43]. In the autumn of 1922 it was determined that 387,018 people in Fergana valley were suffering from hunger, 154,807 of them were comprised of children [42, 5]. From the autumn of 1922 in Fergana region the following norms of providing the population suffering from hunger with food was indicated: 1 pound of bread, 1/4 cereals, 1/4 vegetables, 6 zolotnik of (*some 4.6 gr.*) meat 3 zolotnik of oil for every person per day and 1 pound of soap per month [43, 122].

In Fergana region with the help of the committee helping the hungry people the population suffering from hunger was helped as followings [44, 3]:

1. The state taxes taken from people were reduced, special privileges were given to bring the food products and work tools used in agriculture into Fergana;
2. Seeds and animals were given in order to increase the growing fields;
3. Eating centres for the people suffering from hunger and children's homes were established.

In 1922 in Fergana region 17 children's homes, 16 eating centres and 31 food distributing centres worked [45, 5].

The presentation of the “tax of starvation” in Turkistan on January 1 in 1922 was difficult for the people of the region, especially for the poor people in the villages and towns [46, 246]. This tax was presented without considering the financial position of the poor people in the villages and towns. As it is indicated in the information, 6600 poods of different food products were gathered from the people of Fergana region. With different ways from January 1, 1922 to December 124.5 million rubles of money, about 69 million poods of food products, 14.4 thousands of clothes were gathered in the savings of the Central commission helping the hungry people of the Republic of Turkistan. The most part of the gathered products was sent to the refugees came to Turkistan and to the central provinces of Russia suffering from hunger as an aid [47, 15–16]. Because of that tax presented to the population of the region the starvation began again in Turkistan in 1922–1923s, especially in Fergana region. As it was noted in the archive documents, it was possible to meet plenty of people suffering from hunger in the cities and villages of Fergana valley in 1924 [48, 1–4]. In 1923 in Fergana region 16 children’s homes, 16 eating houses, and 24 food distributing centres were organized. In the eating centres in towns brown bread, hot tea and hot meal were

given once a day. Dormitories were also organized together with the eating houses in Kokand, Andijan, Skobelev, Margilan, Osh and Namangan cities of Fergana valley [49, 207]. The 55.6 thousand rubles gathered in 1923 was spent on the people suffering from hunger in the region by the Committee helping the hungry people [50, 91].

In conclusion, the reason for the starvation in the region was the policy of Russian realm first and then the government of Bolsheviks. The analysis of the policy carried out by the Soviet government shows that the Bolsheviks put the benefits of the Centre in the first place even in such difficult economic decline situations. The soviet government didn’t pay attention seriously to solve the economic problems in Fergana valley and also to prevent the starvation. Nevertheless, the local governors of Turkistan tried to settle the food problems as possible as they could on their own. But, the measures carried out by them were not enough to settle the economic problems in Fergana valley. But, it should be mentioned that during the food rarity in 1917–1923s the people of the cities of Fergana valley helped the hungry people immigrated from different places even though they were hungry themselves and showed humanistic kindness and patience.

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The history monuments of the city Namangan

Abstract: The article is about architectural monument of the city Namangan.

Keywords: Namangan, Hujamning Qabri, Azizhuja medrese, Medrese, medrese Mulla Kirghiz, Mullah Bozor Ohund, mosque, history monument, Mavlaviy Mullahodji ishan.

Namangan is one of the the most beautiful cities of Uzbekistan and differs its beautiful nature, unusual history sightseeing. The Clean faith, industry, probity — here is inherent quality of the inhabitants of this town. In Namangan are hitherto preserved plenty of history monuments. Many as ancient ruins, fortresses stayed under the ground, large temples referring to average age and many other are one of them. These buildings were a built by local skilful architects and in them there are their skill. Before present-day time, were preserved some of them, and has its especial importance.

For present-day time, in Namangan were built from hands of grew up in our area masters many of history monuments. Some of them “Hujamning Qabri” (XVIII age), “Azizhuja medrese” (the second half of XVIII age), mausoleum “Mavlaviy

Namangoniy” (begin of XVIII age), madrasa “Mullah Kirghiz” (begins of XX age), mosque “Atoullohon tura” (1915 yy.) and many others. One of such architectural monument is “Hujamning Qabri”, which is found on street Kuzagarlik [1, 20]. This mausoleum being monument in XVIII age, on its construction participated the most skilful master architects of that time, which decorated it with the most fine taste. For its embellishment is used carved ceramics, but this proves about that, as in that time was a method embellishment. The Threshold of the building is arch like, in the manner of small angular minaret. Facing of threshold and inside buildings decorated with colour, enamel glazed tile. Beside the main door mausoleum is written “Amalii usto Muhammad Ibrohim ibn Abdurahim” that is to say “has Built the son of Muhammad Ibragim

builder Abdurahim". This mausoleum is considered as the most ancient amongst others in city of Namangan [2, 14].

The Second history monument Azizhodzha eshon was built near by mausoleum Hujamning qabri. But this medrese has built by the nephew of Ibragimhodji Azizhodja in the second half of XVIII age. During construction basically actively participated masters from Namangan — an architects. Medrese consisted of 24 rooms, one auditoriums, one small pantry and one mosques. Actions were conducted In rooms of medrese often on reading the gazelles [3, 36]. In such action were going to many students from other medreses. On meeting several times participated even the kokandian friend of Nadim Namangani, poet of the enlightenment of Muhammad Aminhodja Mukimiy [4, 56].

The Unusual mosque in Central Asia is considered the mosque of Atoullohon tura, which is located in the centre of mahalla "Sumalak guzar", on Uychi street. The Mosque was built by grandson of Caliphs Abdulaziz (Majzub) Namangani, enlightened rich man of its time Atoullohon tura (folk named Otavalihon tura). Before that time instead of mosque was a cathedral mosque, which was known in Central Asia in XX age as inherent therefor decorations. But, because of fire in 1914 after earthquake, building has tolerated the significant damages. And hereon name to mosques Atoullohon tura is taken to build instead of old the new. Construction of new mosque begins since 1915, leading builder was a son of namanganian architect Ibragim Usta Kirghiz. The Main costs on the building materials has undertaken by Atoullohon. In 1918 appeared discords between Atoullohon and master Mullah Kirghiz, have temporarily suspended the construction of mosques. Passing several years, newly begins the construction and is brought before the end. But, in 1927 on decision of government of bolsheviks, fight began along the whole republic against religious faith and religious institutions. In effect this mosque Atoullohon tura was closed. Since 1929 building to mosques used by many organizations [5, 45].

One of the history monument of the city Namangan is medrese Mulla Kirghiz. Medrese is found in old part of town, on platform CHorsu and was built in 1910–1912 master Mullah Kirghiz. As of information, medrese was built three years. Medrese was built by bankrolls of the Mullah Kirghiz Mashraboy. The General area of medrese Mullah Kirghiz consists 600 sq. m. and has 43 rooms, as well as 3 greater domes. The Building was built from square-wave burned brick produced

by Mirzadadaboy and Toshboltaboy [6, 78]. Children learned basically in medrese from well-to-do family. The most deserving attention in construction of medrese is an auditorium in right part, building method, external and internal type. On they were built dome, but for lordships of the rooms above they were put opening. With 1970 on 1990 in medrese Mullah Kirghiz has its activity the regional division of society guarding history and cultural monument of Uzbekistan. As from the end 1990 on permit moslem governing of the Central Asia and Kazakhstan, was opened the islamic educational institution (medrese). This educational institution has its activity in 1991–1997 in building of the Mullah Kirghiz. But on edict of hokim (governor) city of Namangan medrese has interweaved into building of the former mosque Atoullohon tura (folk name the mosque is Gumbaz) and before present-day leads its activity. In building of the Mullah Kirghiz are work to reconstructions [7, 62].

Also one of the architectural monument is a mausoleum of Mavlaviy Namongoniy, which is located on right coast of north Fergana channel. About construction mausoleum there is no written sources. But on writing on internal wall of mausoleum, for the first time it is repaired in 1805. Coming from this record, we approximately can expect that reconstruction was organized approximately after 50 years that is to say in 1875. If so expect, that mausoleum was built before death of Mullahodja ishan. As well as, she was not mausoleum, but revenge pilgrimage. The Second reconstruction was realized by 1905 year that is to say after one hundred years. But some scientist expect that mausoleum was built in 1805–1806. As of in writings in the second reconstruction actively participated the carved master as Zakir Ahun, master Husayn and master Abdurazzak. In 1957 during reconstruction Namanganian poet has restored all writing on the wall of mausoleum. Founding on these record, on fringe of this mausoleum were buried three mentors and they are a descendant of Mavlaviy Mullahodji ishan [8, 21].

Except this cathedral Mullah Bozor Ohund were built in city Namangan (XVII age), mosque Mahdum Is-han (XVIII age), mosque Orifboy (1798), mosque Langar (1850), mosque Terakzor (1848), mosque Kurash-hona (1887–1888 yy.), mosque Alo boy (1912), Mosque Rajab Azimboy (1912), mosque Ishan SHayh (1913), mosque Otahonboy (1923) and many other architectural, history unusual monuments, which regrettably did not. Such monuments are bright and cultural heritage of our ancestors. The Study and study such monument, is for each debt of us.

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Section 4. Mathematics

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Nonlinear diophantine equation to generate prime numbers

Abstract: We have created a new non-linear Diophantine equation with two unknowns for the generation of large prime numbers. We gave examples of receipt of such numbers.

Keywords: primes, the Diophantine equation.

Consider a primes n -th floor of the form:
 $p(n, \hat{m}) = (2\hat{m})^{2^n} + 1$, where \hat{m} and n are natural numbers. Divisors for composite number of this floor $s(n, m)$ of the same kind are primes $\bar{p}(n, \hat{\mu}) = 2^{n+1}\hat{\mu} + 1$ of auxiliary floor. Indeed, the equality $s(n, m) = \bar{p}(n, \hat{\mu}_1)\bar{p}(n+1, \hat{\mu}_2)$ is not possible under the law of conservation of parity. Therefore, the primes $p(n, \hat{m})$ are the best result of the decomposition of $s(n, m)$ at multipliers. For example:

$p(2, 4) = 4097 = 17 \cdot 241 = \bar{p}(2, 2) \cdot \bar{p}(2, 30)$. The presence of two classes of primes makes it easier factorization problem and the generation of large prime numbers, i. e. in the canonical decomposition of $s(n, m)$ includes a limited number of primes of the form $\bar{p}(n, \hat{\mu})$. It is mathematically written as:

$$(2m)^{2^n} + 1 = \prod_{t=1}^N (2^{n+1}\hat{\mu}_t + 1). \quad (1)$$

If the product in (1) degenerates into one multiplier, then the left is prime with a good index \hat{m} and where in $\hat{\mu} = 2^{2^n - n - 1} m^{2^n}$. Equation (1) is the first simplification for the task of generating large primes.

The second simplification is to use the determinant criteria for divisibility [1], which allows to quickly check the divisibility of any two numbers on each other. This feature divisibility was proposed by the author of this article and is as follows. There are dividend $A = a_1 \cdot \beta^{kl} + a_0$, and the divisor $B = b_1 \cdot \beta^L + b_0$, i. e. multiplier β is present in both composition of numbers in different degrees. This allows to create function of Druzhinin's divisibility:

$$D(A; B) = \begin{vmatrix} a_1 & a_0 \\ (-1)^{k+1} b_1^k & b_0^k \end{vmatrix} = a_1 b_0^k + (-1)^k b_1^k a_0. \quad (2)$$

If $D(A; B)$ has a multiple of B , it is necessary and sufficient that A is a multiple of B . Since the factor β is removed from $D(A; B)$, then in many cases $D(A; B) \ll A$, that making it easier to check divisibility. Here is an example on using this sign of divisibility. There are:

$A = 50011 = 5 \cdot 10^4 + 11, B = 13 = 1 \cdot 10 + 3$. According to (2)

$D(50011; 13) = 5 \cdot 3^4 + 11 = 416 = 13 \cdot 32$. Hence it follows that $A = 50011$ is multiple of $B = 13$. Indeed, $50011 = 13 \cdot 3847$.

We apply determinate sign of divisibility for two classes of numbers and denote:

$$2^n = \alpha(n+1) + \gamma, a_1 = 2^\gamma m^n, \beta = 2, a_0 = 1,$$

$$b_1 = \hat{\mu}, L = (n+1), k = \alpha, b_0 = 1.$$

Substituting these values in (2), we obtain the sign of divisibility:

$$D(s(n, m); \bar{p}(n, \hat{\mu})) = \begin{vmatrix} 2^\gamma m^{2^n} & 1 \\ (-1)^{\alpha+1} \hat{\mu}^\alpha & 1 \end{vmatrix} = 2^\gamma m^{2^n} + (-1)^\alpha \hat{\mu}^\alpha. \quad (3)$$

Since we are interested in the expansion of the composite number of n -th floor $s(n, m)^{2^n} = (2m)^{2^n} + 1$ on primes for of the auxiliary floor $\bar{p}(n, \hat{\mu})$, then we investigate divisibility $D(s(n, m))$ for $\bar{p}(n, \hat{\mu})$, i. e. we compile Diophantine equation:

$$2^\gamma m^{2^n} + (-1)^\alpha \hat{\mu}^\alpha = x(2^{n+1}\hat{\mu} + 1), \quad (4)$$

where x is an integer. This is the required non-linear Diophantine equation to find a primes of the n -th floor.

To solve this problem for a fixed n , we need first create a set of primes for auxiliary floor, i. e. we need define a set of a god indices $\hat{\mu}$ giving primes $\bar{p}(n, \hat{\mu})$. After that, we set a specific number m and solve the equation (4) for the unknown x and $\hat{\mu}$. Thus it is enough verify that x is an integer, while it's not specifying. The resulting set of values $\{\hat{\mu}_t\}$ gives primes for decomposition $s(n, m)$. If there are the only $\hat{\mu}$ and $2^{n+1}\hat{\mu} + 1 = s(n, m)$ in the solution (4), the number $s(n, m)$ is a primes of n -th floor.

Consider the work of the scheme by specific examples.

1. Let $n = 1$. There is $s(n, m) = 4m^2 + 1, \bar{p}(n, \hat{\mu}) = 4\hat{\mu} + 1$. Equation (4) has the form $m^2 - \hat{\mu} = x(4\hat{\mu} + 1)$. If $m = 1$, we have one solution $\hat{\mu} = 1, x = 0$. This gives the first prime of the first floor $p(1, 1) = 5$. When $m = 2$ we have also one decision $\hat{\mu} = 4, x = 0$ and obtain the second floor of the first prime $p(1, 2) = 17$. $m = 3$ gives the third prime $p(1, 3) = 37$. When $m = 4$ there are two solutions of the equation (4): $\hat{\mu}_1 = 1$ and

$\hat{\mu}_2 = 3$. We got the first composite number of the first floor $s(1,4) = 65 = 5 \cdot 13$. When $m = 33$ we have one solution $\hat{\mu} = 1089$, which gives another prime of the first floor $p(1,33) = 4357$.

2. Let $n = 2$. There is $s(2, m) = 16m^4 + 1$, $\bar{p}(2, \hat{\mu}) = 8\hat{\mu} + 1$. Equation (4) has the form $2m^4 - \hat{\mu} = x(8\hat{\mu} + 1)$. If $m = 1$, we have one solution $\hat{\mu} = 2$ and we get the first prime of the second floor $p(2,1) = 17$. When $m = 4$ we have two solutions $\hat{\mu}_1 = 2$ and $\hat{\mu}_2 = 30$. We got the first composite number of the second floor $s(2,4) = 4097 = 17 \cdot 241$. The index $m = 28$

gives one solution $\hat{\mu} = 1229312$, i. e. we get another prime of the second floor $p(2,28) = 9834497$.

3. Let us find the decomposition of Fermat's fifth floor $s(5,1) = 4294967297$. Our scheme leads to the equation $4 - \hat{\mu}^5 = x(64\hat{\mu} + 1)$. When $\hat{\mu} = 10$ we have the equality $(4 - 100000) = -156 \cdot 641$, i. e., the fifth Fermat number is composite. It was first discovered by Euler.

The solution of equation (3) greatly reduces operation of factorization and search of primes, and apparently could provide new record primes.

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Section 5. Machinery construction

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The role of management processes in the integration of quality management systems for the engineering enterprises in Azerbaijan

Abstract: The purpose of this paper is to design the process of quality management at the engineering enterprises of Azerbaijan. On the basis of previous works, authors propose the procedure for definition of management processes by production quality according to ISO 9001–2001. Also the article describes the ways of establishment of integrated systems of quality management with business orientation.

It is concluded that in search of optimal solutions in the quality management system, in the evaluation of stakeholders' satisfaction with engineering production quality, the theory of inaccurate sets can be applied. Further research may be appointed in order to develop methods for modeling and optimization in the process of manufacturing engineering products, as well as the use of software systems.

This paper provides new evidence about a still unexplored topic, trying to bridge the existing gap in the literature about the quality management system and its implementation at the Azerbaijan enterprises.

Keywords: quality control; system analyses; business management; mechanical engineering.

For the last years a greater emphasis is put on of the engineering industry in Azerbaijan. The issue of mastering of manufacture of competitive production is brought to the limelight, as the most priority problem. As engineering enterprises manufacture high technology production, which is responsible by its destination and complex by its composition, quality assurance of this production is an important scientific and technical problem [5, 179].

For quality of production and services in the engineering enterprise, the quality management system (QMS) is to act in accordance with standards of ISO 9001–2001. And establishment of QMS in the enterprise consists of design and realization stages of this project, which is studied in detail in corresponding literatures [4, 225].

However, the procedure of solution of such issues, as detection of QMS processes, its definition and description isn't developed sufficiently [5, 160]. With the purpose, first of all, it is necessary to maintain the classification of all processes and procedures (fig.1), taking place in the engineering enterprise. During classification of processes, it is possible to take classification of set of processes, obtained on base of the system analyses, as a primary base [2, 34].

According to this classification, a set of processes, connected with production quality, is divided into the following five main classes:

1. Business processes of manufacture of production or services.
2. Processes of life cycle of production or services.
3. Main technologic processes of production or services.
4. Providing processes of manufacture of production or services.
5. Processes of quality management system.

The experience of engineering enterprises indicates, that detection and description of QMS processes, is an important factor for development of the plant program on analyses of defects of manufactured production, its elimination or decrease. Within QMS frames such program promotes to realization of the quality management principles according to standards ISO 9001–2001. Along with this, favorable conditions are being created for improvement of the quality of QMS processes and provision of integration of QMS with business [1, 204].

For integration of QMS with business in the engineering enterprises, it is necessary to restructure the management system, which doesn't meet modern requirements and to direct this system, as a whole, towards production quality, that is, it is required to conduct business reengineering of processes. With aim to facilitate solution of this problem, it is possible to design and introduce the quality management system with business process orientation [6, 150].

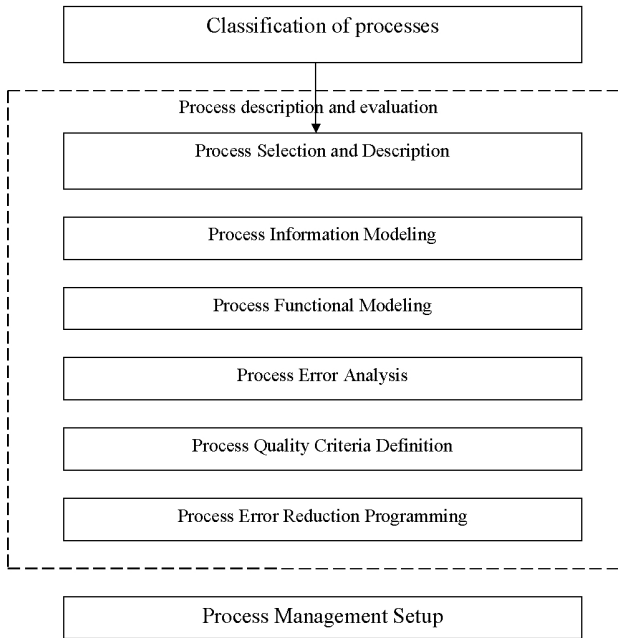


Fig. 1. Classification of processes for the machinery manufacturing

The basis of QMS with typical business process orientation is the business process, and the business process consists of sub-processes of the product life cycle. On base of typical business process, specific business processes, depending on purposes of enterprise in quality area are to be formed. Establishment of the QMS with the business process orientation contributes not only to certification of meeting with requirements of ISO 9001–2001 standards, but also to provision of increase of competitiveness and economic productivity of the enterprise.

Introduction of the QMS with typical business process orientation in the engineering enterprises of Azerbaijan allows decreasing difference existing between certification of quality systems and actual results of improvement of production quality, to increase, as a whole, operation productivity of the enterprise [3, 12].

The most important element of the QMS, including typical business process orientation is a procedure of a typical quality management [3, 11]. While applying this procedure, the management of the enterprise must select prospective production or information on base of optimal strategy of range. Then the business process, relating to manufacture and to sale of production and directed to formation of consumer cost of this production is to be identified.

In the organizational chart it is necessary to select the business process of the production manufacture, then business process of product manufacture is to be subjected to decomposition into internal processes of the life cycle of production. For each sub-process it is necessary to define the management system of characteristics, which allows its absolute measurement.

These works are conducted at two stages: first, the preparation of processes of the life cycle of production for application according to standards ISO 9001–2001 is conducted on base of fig. 2, and then organization of the management of business process on base of fig. 3 is conducted. Described methodic of the quality management of business processes is introduced for application at the engineering plant, producing the oil-field equipment. Thus, methods of analysis of functionality-cost and functionality-cost-labor content are applied.

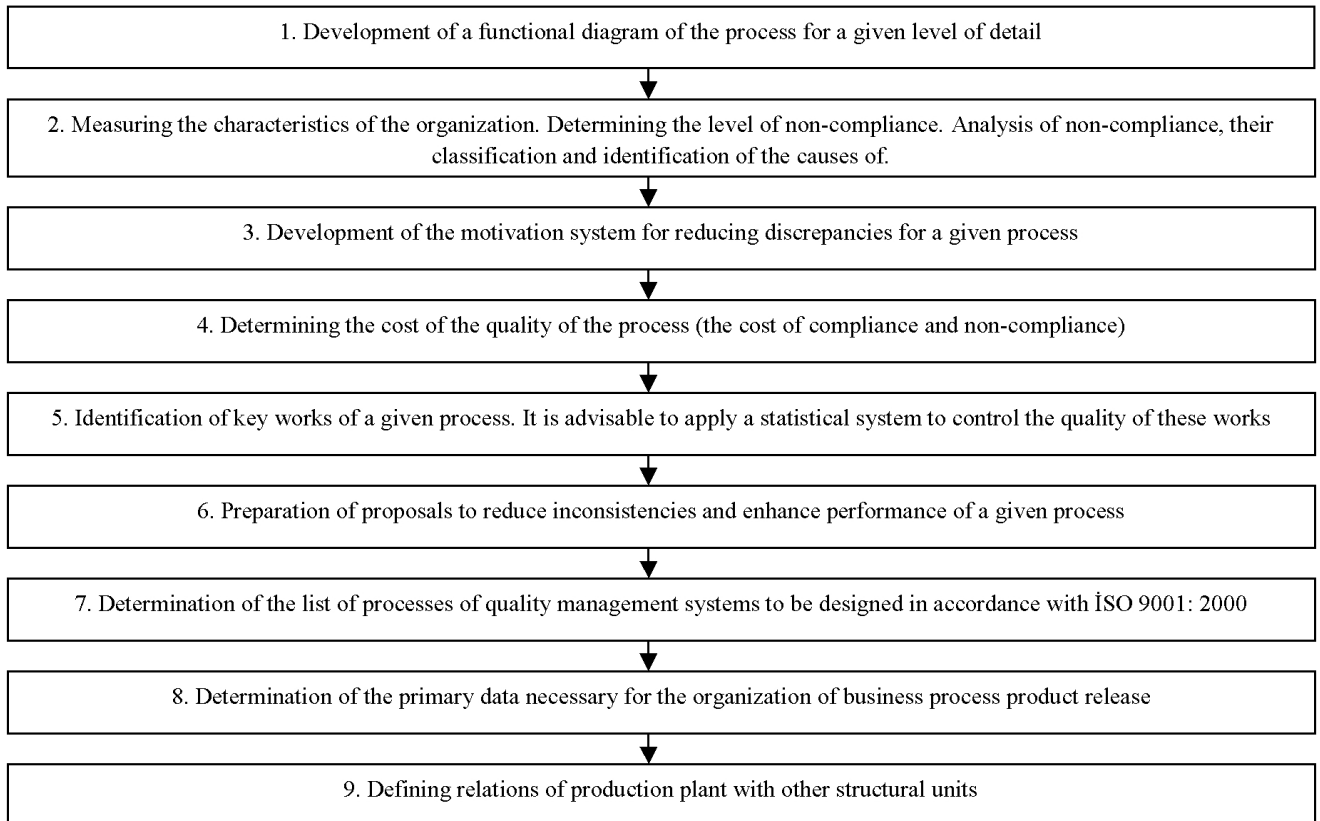


Fig. 2. Scheme QMS process of product life cycle

Taking into account that in the engineering enterprise QMS does not exist separately from general management, particularly, from labor and environment safety management, the establishment of “Integrated system of quality, labor and environment safety (ISQLES)” is proposed. The structural model ISQLES may be developed on base of the QMS ISO 9001–2001 by adding two elements on labor

safety and environment protection [3, 9]. On base of structural model ISQLES the collection of requirements, presented in mathematical form may be developed. By considering these requirements, the hierarchical structure of ISQLES documentation, covering all types of QMS documentation, including policy, goals, general management, registered procedures and records, is formed.

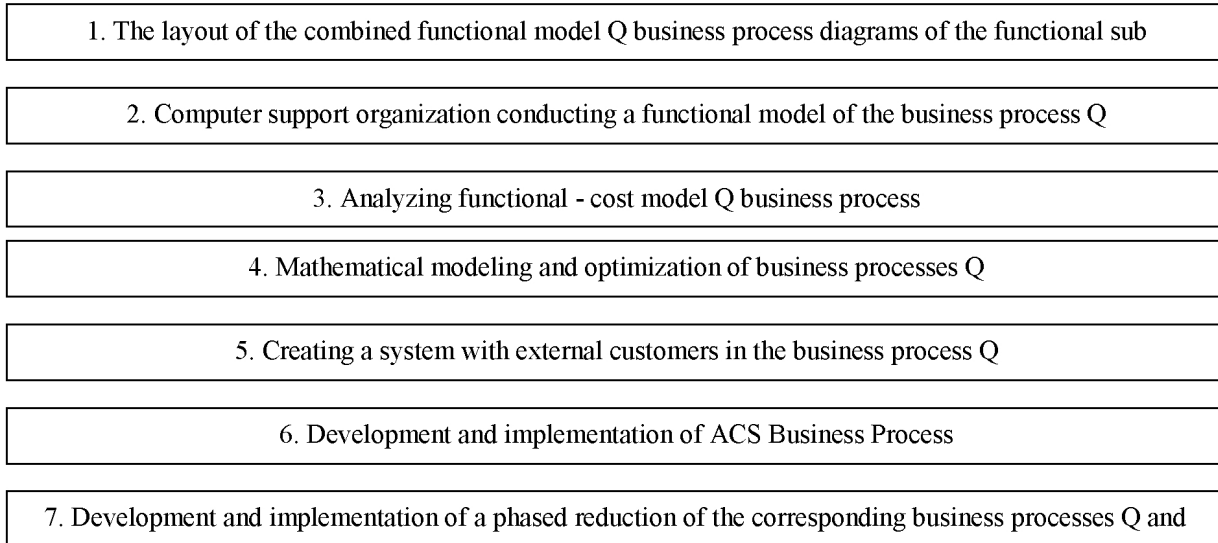


Fig. 3. Organization Quality Management Business Process

Great influence is exerted to QMS multivariate analysis in new standards of ISO 9001–2000. This issue becomes complicated repeatedly in integrated QMS. For its solution the method of multivariate system analysis of data on quality is applied. The method is developed on base of multivariate statistical analysis and information technologies with the artificial intellect.

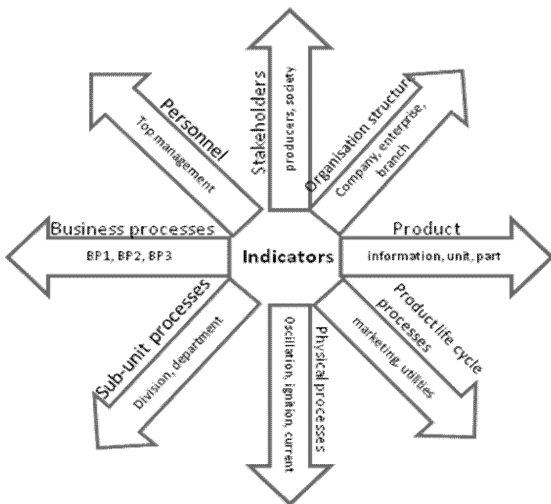


Fig. 4. Quality data multidimensional model scheme

The structural scheme of proposed model is based on multivariate model of data on quality, represented in fig.4. Main elements of this model are as follows:

1. Information layers are cited in fig. 4, as conditional lines, defining multivariate phase of data on quality.
2. Indicators or facts, that is, backbone node of data.
3. Data cube is multivariate analysis of data about quality and it is a subspace of directly accomplished database. The

Cube sides are called, as axes possessing hierarchic structure and play a role of index of analyzed information. Conditional description of data cube, formed at solution of two issues of multivariate analysis of data on quality, is represented on fig. 5.

The mathematic support of the data analysis on quality is based on sets and spaces of final measurement and statistical analysis of applied multivariate regression. The software is developed on basis of application of toolbox of Microsoft Server-2000. The method of the multivariate analysis of data on quality is presented to the “Baku plant of oil engineering” for the complex analysis of results of QMS audit. On base of formed data cube (fig. 5, a) the top management of the enterprise solved issues of QMS benefit analysis. In the shops of the plant producing oil-field equipment, the method of the multivariate analysis, aimed at definition interdependence of quality of processes (fig. 5, b) is applied.

For the development of software of system modeling and management optimization, the subsystem of computer support of process of adoption of optimal decisions is proposed. The managers on quality and the auditors are envisaged, as its users. Block diagram of such subsystem is presented in fig. 6.

The nucleus of the computer subsystem of modeling and optimization of decisions in quality system is the multivariate database about quality, which is constructed on base of multivariate model. The multivariate analysis of data about quality and the process of adoption of optimal decisions are provided in the ECM by means of seven functional modules. Each of these modules may be realized in the form of program complex.

Thus, it is possible to conduct an estimation of stability of optimal decisions taking into account inaccuracy of data about quality. The theory of rough sets may be applied searching for optimal decisions in QMS, estimating satisfaction

of interested parties, as engineering production. Methods of modeling and optimization in the process of manufacturing of engineering production and also application of program complexes are among issues, pending its decision.

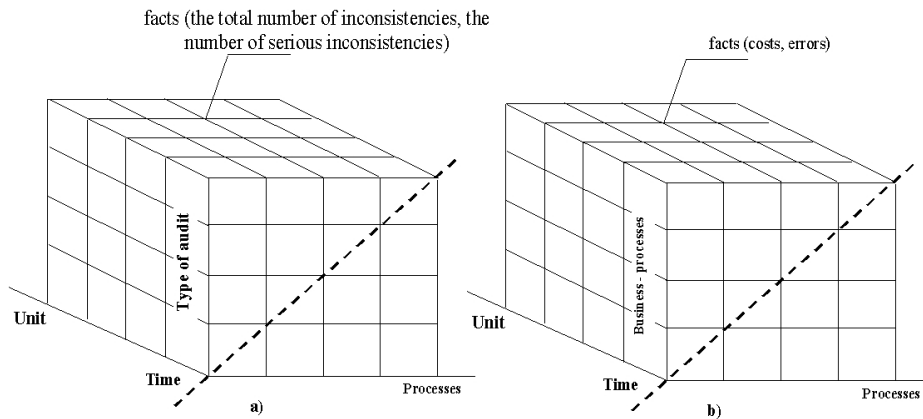


Fig. 5. Cube quality data: a) a multi-dimensional analysis of the results; b) the error processes and multivariate analysis of the cost

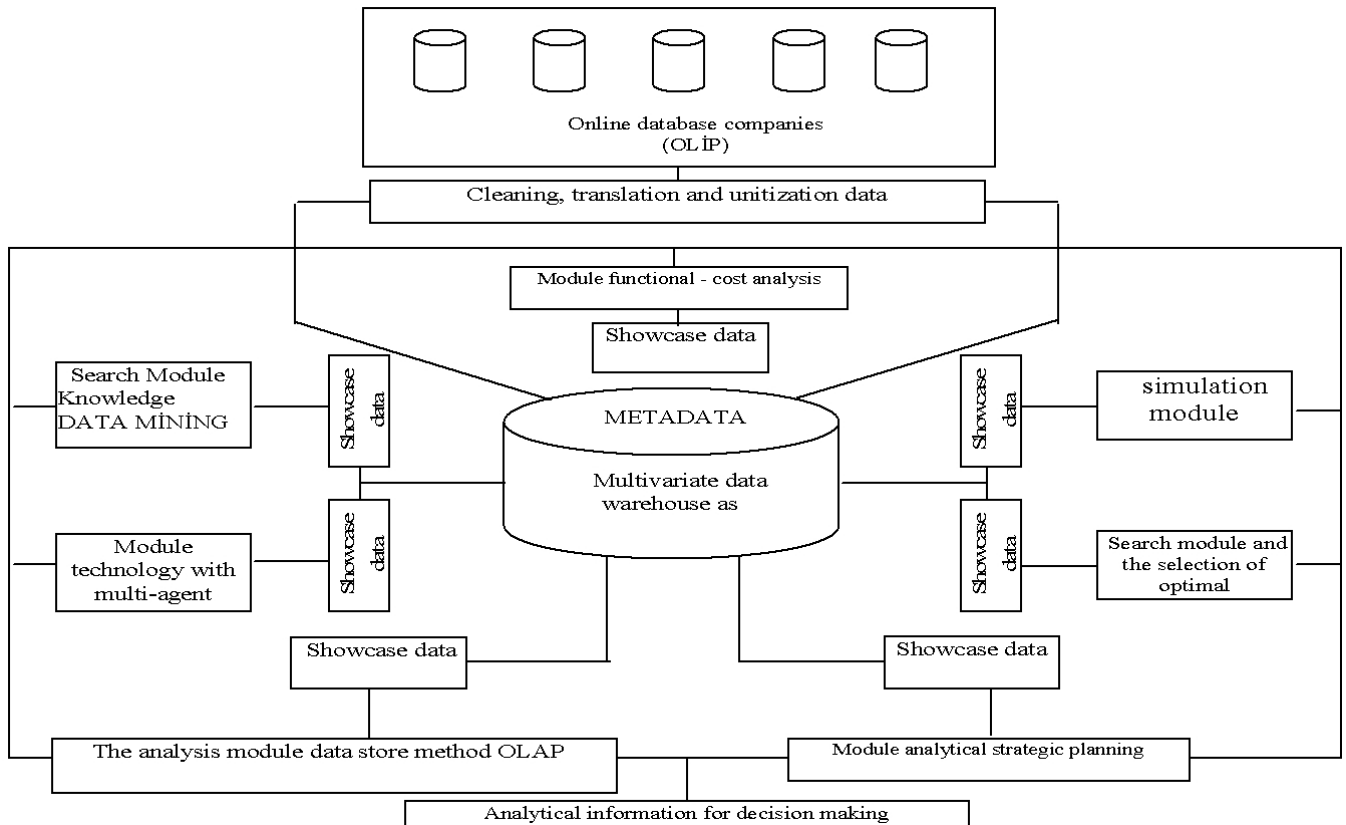


Fig. 6. Computer support for optimal solutions in QMS

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Section 6. Medical science

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Correction of the damaged intestinal disbacteriosis in children with chronic hepatitis b associated with lamblia

Abstract: Analysis and evaluation of the state of intestinal microbiocenosis in 85 children with chronic hepatitis B associated with lamblia for the purpose of correction of disbiotic disorders in the intestine of children with individual approaches to the treatment choice.

Keywords: Chronic hepatitis B, disbacteriosis, lamblia, therapy, probiotics, children.

The disbiotic events in the intestine are one of the pathogenic part in the development of pathological process and simultaneously unfavourable outcome of chronic viral hepatitis (CVH) in children [7; 8; 10]. Our previous studies of the state of intestinal microbiocenosis in children with chronic viral hepatitis confirmed that irrespective of the presence or absence of lamblia the disturbances in the contents of the intestinal microflora were revealed in 99.7% of cases [2; 3]. Under the conditions of chronic viral persistence the disbiosis contributes to development of disturbances of secretory, motor and barrier functions of the intestine and all ways of the lamblia brining appear to be real. In turn, lamblia under conditions of intestinal disbacteriosis at CVH in children, in the aggressive environment excrete a plenty of toxins which promote generalization of the viral infection with the appropriate consequences — polysystem organ insufficiency, that results in inhibition of the macroorgan resistance and then under the conditions of associated viral-parasitary infection provide development of two parallel already mutually aggravating processes [5; 6; 9; 11]. Now the question about a choice of an optimum biopreparation remains rather problematic, because of presence of a huge arsenal of medicinal means in the pharmaceutical market used for correction of intestinal disbiosis. The results of our early performed investigations showed that the existing methods of treatment of disbalance in the intestinal microecology are not always effective (62.2%). Taking into account this fact, and also recently registered characteristic development of microbiota resistance to the biological agents noted over the last time [1; 12], a question arose for us about development of a

method allowing in short terms (1–2 days), in comparison with bacteriological research (5–7 days) to carry out a choice of a biopreparation for treatment of disbacteriosis in the children with chronic viral hepatitis, ensuring the maximal effect from its application. In this connection the searches of means rendering influence on restoration of intestinal microecology are represented by the extremely urgent problem and, are rather perspective for maintenance of a choice of optimal preparation individually for each patient. The above-stated facts were the basis for more detailed study of a condition of microbiocenosis of the intestine and revealing more effective approach to correction of the damaged intestinal microbiocenosis in children with chronic hepatitis B (CHB) on the background of lamblia invasion.

The purpose of research was the estimation of efficacy of application of a biological agent on the basis of a method of an individual estimation of lymphocyte sensitivity in the test in vitro in children with chronic hepatitis B on the background of lamblia.

Materials and methods of research. Under supervision there were 85 children with CHB and intestinal lamblia at the age of 3 to 14 years hospitalized to the hepatological center of the RSSPMC of Pediatrics of the MH of RUz. The distribution of the patients in dependence of activity of CHB showed that disease on the background of lamblia developed in the progressing form. So, the overwhelming majority (80.0%) of the patients had moderate (49.4%) and marked (30.6%) activity of illness. The duration of CHB was 4.1 ± 0.2 years. The diagnosis of CHB was based on data of medical history of disease, clinical examination, biochemical and instrumental investigations.

The verification of a HBV-infection was performed with use of methods IFA and PCR (HBsAg, HBsAb, HBeAg, HBeAb, HBcorAb, HBV-DNA). The intestinal microflora was studied according to the methodical recommendations offered by I. B. Ershova (2002). The study of intestinal microflora was carried out by technique of R. V. Epshtein-Litvak and F. L. Vilshanskaya (1977), the classification offered by B. M. Granitov was also used (2002). Lamblia diagnosis was carried out by methods: immunofluorescence — definition of an antigen G. *Lambli*a in feces; PCR- definition of DNA G. *Lambli*a in blood/feces and, three-multiple microscopic examination of residual components of the feces.

For definition of the lymphocyte sensitivity to biopreparations there was used method of an individual estimation of a choice of biopreparation based on definition of the functional activity of T-lymphocytes of the peripheral blood (Patent UZ IAP 04570 is used, 2012) [4]. In this method the performance of the “loading” test is proposed for the estimation of functional activity of the T-lymphocytes in the reaction of E-rosette formation in vitro in incubation with probiotics, that allowed taking into account of the body individual sensitivity in each concrete case to choose an effective biopreparation. As the control the contents of E-rosette-forming cells (E-RFC) was measured in the blood serum in the same patients without stimulation of preparations. The criteria for estimation were the results of E-RFC > 5 % to the control — hyperergic, E-RFC < 5 % — hypoergic and E-RFC without changes (Inoyatova F. I., 2012; IAP 04570). There were used bacterial preparations with various contents of biocultures: Bifilax-immuno — 10×10^9 COE, *L.paracasei* CRL-431, *B.animalis* BB-12 in capsule (Pharmaxx International, Denmark), Lacto-G — 5×10^9 , *L.acidophilus*, *B.longum*, *B.bifidum*, *B.infantis* and fruitzooligosaccharides in capsule (GMP, Georgia) and Narimax-plus — 2×10^8 COE *L.acidophilus*, *L.rhamnosus*, *B.bifidum*, *St.thermophilus*, *L.bulgaricus*, *L.salivarius* in capsule (JSC-Vitamax-E, Yerevan).

At the comparative analysis of the test in vitro with addition of biopreparations used for restoration of the intestinal microflora we revealed positive result to the preparation Bifilax-immuno in 68.7% of cases, Lacto-G — 38.7% and Narimax-plus — 30.0%. In this connection the basic group was made of 55 children who have received on a background of basic therapy chosen in test in vitro a high-sensitive biopreparation in age dependent doses. Other 30 children (control group) on the background of basic therapy have received dry bacterial preparations: bifidum- and lactobacteria in the standard dozes within one month. The eradication of lamblia was carried out with use of preparation Macmiror (nifurantel) in doze 15 mg/kg² times per day for 7 days, taking into account its small hepatotoxicity. The estimation of efficiency of used therapy was performed on the clinical, biochemical and bacteriological data.

The statistical processing was performed with use of a method of variational statistics with application of t-criterion Student test under the special program Excel-2000. The differences were considered to be reliable at values of $p < 0.05$.

Results and discussion. The study of the intestinal microbiocenosis has allowed us to establish prevalence (more than 3.5 times) of disbacteriosis (D) of more marked degrees in children, being ill with CHB on the basis of lamblia-sis, D-IV (48.2 %) and D-III (35.3 %), respectively. It testifies about pathogenic influence of lamblia antigens and their toxins on the intestinal mucosa, aggravating not only already available inflammatory processes, but also immunological tolerance of the gastrointestinal tract, as a whole. The features of the type landscape of microorganisms in the intestine depended on the degree of disbacteriosis which were characterized by a phase of aggression of aerobic flora that is expressed by reduction of the number of anaerobes in relation to aerobes, presence of deficit of bifidobacteria and lactobacteria, or their full absence on the background of significant growth of the facultative flora and their toxic metabolites.

The use of individually chosen biopreparations showed significant effect on the dynamics of the main clinical symptoms in children with CHB on the basis of lamblia-sis (Fig. 1). The comparative analysis of application of biopreparations has shown that use of individually chosen preparations had more effective influence on the development of CHB in comparison with multicomponent preparations. In particular, clinical response of 78.4% of children (against 38.3% in group of the control, $p < 0.05$) was positive, that was reflected in improvement of the state of health of children, reliably more rare the symptoms of asthenovegetative syndrome were registered as complaints on rapid weakness and fatigue as well as headaches, dizziness and sleep disturbances, ($p < 0.001-0.05$). The skin integuments were pale and dry in the third part of patients of group I ($34.5 \pm 4.7\%$ and $30.9 \pm 6.3\%$, respectively), that was 2.1 times less often in relation to the patients of group II, $p < 0,001$. Positive dynamics was noted in the symptoms of dyspeptic syndrome. (DS). Such symptoms as poor appetite and furred tongue were registered in 2.0 and 2.3 times less often, respectively, in children of the main group ($p < 0.05$ and $p < 0.001$ concerning the control). Dyspeptic syndrome was noted predominantly among the children from control group — 61.6% of cases. Such symptom, as the nausea was observed in 4 patients of the main group ($10.9 \pm 4.2\%$), which was met in 2,7 times less often concerning group of the control ($30.0 \pm 8.4\%$), $p < 0.05$. The vomiting symptoms disappeared in the patients receiving polycomponent biopreparations, whereas this parameter at the patients of control group was registered in $13.3 \pm 6.2\%$ of the patients, $p < 0.05$. The symptoms of the dyspeptic syndrome as a pain in the abdomen, meteorism reduced in 2.3 and 2.6 times, respectively, collywobbles in the abdomen was more frequent than 2.7 times and stool disorders were registered in $13.3 \pm 6.2\%$ of the patients, $p < 0.05$. Cholestatic syndrome (CS) was more characteristic for children from group of the control, thus subicteric skin integuments after treatment was found in $20.0 \pm 7.3\%$ of cases, while in the basic group this parameter decreased to $10.9 \pm 4.2\%$ ($p > 0.05$). There were not revealed reliable differences in subicteric sclera in the both groups. The complaints on skin pruritus were reliably rare in the patients from the main

group in $10.9 \pm 4.2\%$ of children, whereas, in control group this parameter was registered in $33.3 \pm 8.6\%$ of cases ($p < 0.05$). Hemorrhagic syndrome (HS) in form of nasal bleeding was noted after treatment reliably more rare — in 2.5 times in children of main group, ($p < 0.05$). The intensity of extrahepatic signs in CHB, as a capillary network and vascular asterisks in children of the main group decreased in 1.5 times ($p < 0.01$ concerning group of the control). It is necessary to note, that after the therapy carried out in children of the main group there were also revealed changes in the sizes of a liver and spleen. The increase in the sizes of a liver — hepatomegalia (GM) more than 3 cm. was reliably revealed 2.0 times more rare in children of the main group, than in children of control group ($p < 0.05$). In the basic group splenomegalia (SM) was registered 1.8 times less often concerning group of the control ($p < 0.01$). Thus, after application of sensitive biopreparations on the background of basic therapy we reveal significant improvements of clinical syndromes of CHB in comparison with control group.

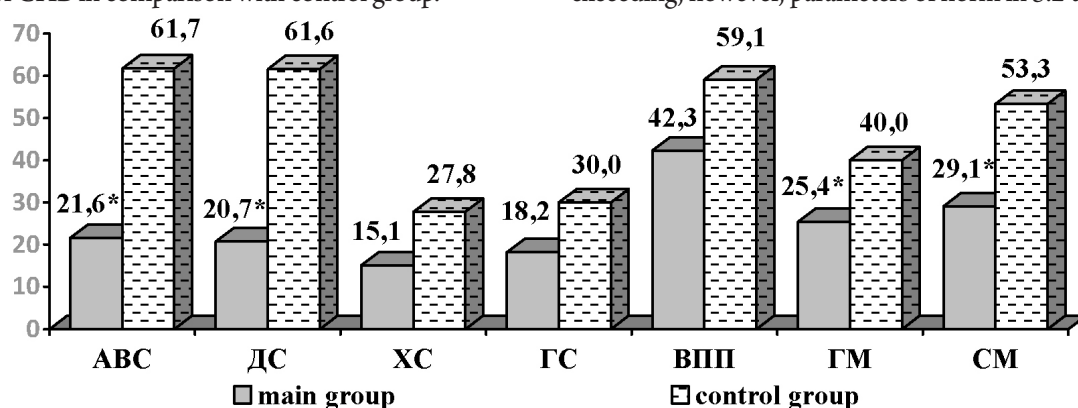


Fig. 1. Dynamics of the changes of clinical syndromes in children with CHB on a background of lamblia (%)

Table 1. – Dynamics of the biochemical parameters changes in children with CHB associated with lamblia (%)

Parameter	Health	Before treatment n=85	After treatment		P
			Main group n=55	Control group n=30	
ALAT, mmol/l	0.49 ± 0.03	$2.30 \pm 0.20^*$	$0.89 \pm 0.14^*$	$2.06 \pm 0.14^*$	< 0.01
AsAT, mmol/l	0.34 ± 0.02	$1.42 \pm 0.11^*$	0.40 ± 0.08	$1,0 \pm 0.12^*$	< 0.01
Bilirubin, total					
Bilirubin, mcmol/l	14.85 ± 0.57	$26.9 \pm 2.9^*$	15.4 ± 2.25	22.8 ± 5.7	< 0.05
Protein total, g/l	71.32 ± 0.86	$55.3 \pm 2.78^*$	69.0 ± 0.80	$64.2 \pm 0.6^*$	> 0.05
Albumins, %	54.5 ± 0.72	$46.0 \pm 3.48^*$	$49.3 \pm 0.64^*$	$39.8 \pm 0.98^*$	< 0.01
Gamm-globulin, %	15.7 ± 0.47	$24.2 \pm 2.32^*$	$18.2 \pm 0.66^*$	$28.3 \pm 1.44^*$	< 0.001
Thymol test, Un/l	4.5 ± 0.28	$8.8 \pm 0.41^*$	5.96 ± 0.42	$11.9 \pm 1.03^*$	< 0.001
PTI, %	75.0 ± 0.66	$66.0 \pm 1.28^*$	74.2 ± 0.78	$66.8 \pm 1.73^*$	< 0.05
Fibrinogen, g/l	3.01 ± 0.09	$2.42 \pm 0.07^*$	$2.73 \pm 0.07^*$	$2.25 \pm 0.09^*$	< 0.05
SMP, mmol/l	0.136 ± 0.04	$0.280 \pm 0.01^*$	$0.230 \pm 0.01^*$	$0.270 \pm 0.01^*$	< 0.01

Note: * – reliability of differences in relation to parameters of healthy children;

P – reliability of parameters between groups on the background of therapy

Under action of the complex treatment the parameters of cholestatic syndrome changed. Thus, the reliable decrease was noted in the parameters of the total bilirubin, the level of which after treatment was 15.4 ± 2.25 mcmol/l ($p < 0.05$). The average level of total and direct bilirubin in the patients of control group remained to be higher and accounted for 23.0 ± 5.7 mcmol/l and 8.73 ± 2.3 mcmol/l, respectively,

At the comparative analysis in the studied children on the background of the used therapy the changes of a number of biochemical parameters (Tab.1) were observed. Considering parameters of biochemical homeostasis it is necessary to note, that all studied parameters before treatment in children with CHB accompanying with lamblia and disturbance of intestinal microbiocenosis considerably exceeded parameters of healthy children (corresponds to reliability from $p < 0.02$ to $p < 0.001$). The inclusion into therapy of the chosen polycomponent probiotics rendered positive influence on dynamics of parameters of the syndrome of cytolysis. So, the average parameter of ALAT decreased 2,5 times ($p < 0.001$ in relation to a parameter before treatment), reached normalization in 56.6% of children. The same changes occurred with AsAT, which average level before treatment was 1.42 ± 0.11 mmol/l, after treatment — 0.40 ± 0.08 mmol/l ($p < 0.001$). After a course of basic therapy the level of ALAT decreased to 2.06 ± 0.14 mmol/l ($p < 0.05$), exceeding, however, parameters of norm in 5.2 times.

($p > 0.05$). In the patients of the studied group the reliable (from $p < 0.01$ to $p < 0.001$) increase of average values of albumin ($49.3 \pm 0.64\%$), prothrombin (to $74.2 \pm 0.78\%$) and fibrinogen (to 2.73 ± 0.07 g/l) indicated about increase in the synthetic function of the liver (hepatopril syndrome). The level of total protein in dynamics acquired the tendency to increase ($p > 0.05$). The effect of basic therapy with

monocomponent biopreparation on the synthetic liver function we did not found. So, the contents of total protein, albumin, prothrombin and fibrinogen were within the limits of starting meanings. There were also no significant changes in the parameters of mesenchymal-inflammatory syndrome and endogenous system of detoxication ($p > 0.05$). In the patients of the studied group in the parameters describing mesenchymal-inflammatory syndrome there was also noted marked normalizing effect of the biopreparations used that was expressed in the reduction of the level of gamma-globulin (to $18.2 \pm 0.66\%$) and thymol probe (to 5.9 ± 0.42), $p < 0,001$. The activation of systems of endogenous detoxication was confirmed by significant lowering of the level of middle molecules to $0.230 \pm 0.01 \text{ mmol/l}$ in the at the patients of the main

group ($p < 0.01$ in relation to parameters before treatment and group of control). Thus, in children with CHB on the background of lamblia with disturbance of intestinal microbio-cenosis the use of chosen in the test in vitro of highly-sensitive biopreparations additionally to basic therapy showed positive effect on a number of biochemical parameters of CHB.

At the comparative analysis of quantitative and qualitative changes in the contents of intestinal microflora (Tabl. 2) in children with CHB associated with lamblia after complex treatment the amount of normal contents of bifido- and lactobacteria in the limits 109–1010 KOE/g was noted in $34.5 \pm 4.7\%$ and $30.9 \pm 6.3\%$, respectively, that was 2.5 times more frequently in relation to the patients of control group — $13.3 \pm 6.2\%$ ($p < 0.01$; $p < 0,001$, respectively).

Table 2. – Dynamics of the changes of the intestinal microflora representatives in children with CHB on the background of lamblia (%)

The agents of the intestinal microflora	Main group n=55		Control group n=30		P
	Before treatment	After treatment	Before treatment	After treatment	
Bifidobacteria:					
norm. contents (10^9 – 10^{10} CFU/g)	3.7 ± 2.5	34.5 ± 4.7	3.3 ± 3.3	13.3 ± 6.2	< 0.001
moderate reduction (10^6 – 10^5 CFU/g)	21.8 ± 5.6	49.1 ± 6.8	20.0 ± 7.3	23.3 ± 7.7	< 0.05
significant reduction ($< 10^5$ CFU/g)	74.5 ± 5.9	18.2 ± 5.2	76.6 ± 7.7	63.4 ± 8.8	< 0.001
Lactobacteria:					
norm. contents (10^9 – 10^{10} CFU/g)	3.6 ± 2.5	30.9 ± 6.3	6.7 ± 4.5	13.3 ± 6.2	< 0.01
moderate reduction (10^6 – 10^5 CFU/g)	29.1 ± 6.2	50.9 ± 6.8	30.0 ± 8.4	33.3 ± 8.6	> 0.05
significant reduction ($< 10^5$ CFU/g)	69.1 ± 6.3	18.2 ± 5.2	63.3 ± 8.8	53.4 ± 9.1	< 0.001
E.coli typical:					
norm. contents (10^7 – 10^8 CFU/g)	5.5 ± 3.1	34.5 ± 4.7	6.7 ± 4.5	16.7 ± 6.8	< 0.01
amount decrease ($< 10^7$ CFU/g)	74.5 ± 5.9	49.1 ± 6.8	73.3 ± 8.1	70.0 ± 8.4	< 0.02
amount increase ($> 10^8$ CFU/g)	20.0 ± 5.4	18.2 ± 5.2	20.0 ± 7.3	13.3 ± 6.2	> 0.05
E.coli lactozonegative	30.9 ± 6.3	18.2 ± 5.2	33.3 ± 8.6	26.7 ± 8.0	> 0.05
E.coli hemolytic	20.0 ± 5.4	5.5 ± 3.1	20.0 ± 7.3	16.7 ± 6.8	> 0.05
Enterococci:					
norm. contents (10^7 – 10^8 CFU/g)	7.3 ± 3.5	50.9 ± 6.8	10.0 ± 5.5	16.7 ± 6.8	< 0.001
amount decrease ($< 10^7$ CFU/g)	74.5 ± 5.9	49.1 ± 6.8	73.3 ± 8.1	70.0 ± 8.4	< 0.02
amount increase ($> 10^8$ CFU/g)	18.2 ± 5.2	–	16.7 ± 6.8	13.3 ± 6.2	< 0.05
Staphylococcus aureus	29.1 ± 6.2	9.1 ± 3.9	26.7 ± 8.0	20.0 ± 7.3	< 0.05
Staphylococcus epidermidis	29.1 ± 6.2	5.5 ± 3.1	23.3 ± 7.7	20.0 ± 7.3	< 0.05
Proteus	14.5 ± 4.8	–	16.7 ± 6.8	10.0 ± 5.5	< 0.02
Klebsiella	14.5 ± 4.8	9.1 ± 3.9	13.3 ± 6.2	10.0 ± 5.5	> 0.05
Candida fungi	56.4 ± 6.7	18.2 ± 5.2	53.4 ± 9.1	36.7 ± 8.8	< 0.02
Two-component associations of the opportunistic microorganisms	20.0 ± 5.4	9.1 ± 3.9	20.0 ± 7.3	16.7 ± 6.8	> 0.05
Three-component associations of the opportunistic microorganisms	10.9 ± 4.2	–	13.3 ± 6.2	10.0 ± 5.5	< 0.02
Four-component associations of opportunistic microorganisms	5.5 ± 3.1	–	6.7 ± 4.5	3.3 ± 3.3	> 0.05

Note: P – statistically reliable distinctions of parameters on the background of therapy

The amount of significant reductions of bifido- and lactobacteria ($< 10^5$ CFU (colony-forming units/g) in the patients of the main group were revealed 3.7 and 3.1 times less often accordingly to the parameter of control group ($p < 0.001$). The detection of colon bacillus with normal fermentative activity was registered reliably more in the patients of the main group

($p < 0.01$ in comparison with the control). Reduction of quantity of the typical colon bacillus 107 CFU/g in the patients of control group after treatment came to light almost 1.4 times more than in the patients of the main group, $p < 0.02$. There were also hemolytic E.coli 2.9 times less often in children of the main group ($p > 0.05$ in comparison with the control).

The quantity of the normal contents of enterococci in limits 10^7 – 10^8 CFU/g in the patients of the main group was registered almost in a half of patients ($50.9 \pm 6.8\%$ against $16.7 \pm 6.8\%$, $p < 0.001$). Reduction of quantity of enterococci to 10^7 CFU/g was noted after therapy by chosen in the test in vitro of highly-sensitive biopreparations and was registered in $49.1 \pm 6.8\%$ of cases, whereas in the patients of control group these results were revealed almost 1.4 times more often ($p < 0.02$). The increase of quantity of enterococci higher 10^8 CFU/g in the patients of the main group after treatment was not found out, whereas in group of the control these figures were reached $13.3 \pm 6.2\%$ of cases ($p < 0.05$). From the representatives of opportunistic microflora (OM) — golden and epidermal staphylococci were revealed 2.3 and 3.5 times less often, respectively, in children of the main group after treatment ($9.1 \pm 3.9\%$ and $5.5 \pm 3.1\%$ against $20.0 \pm 7.3\%$ of cases, respectively, $p < 0.05$). The determination of non-fermentative bacteria of a sort *Proteus* after the therapy performed in the patients of the main group was failed, however, in the children of the group of control these characteristics were not changed practically ($p < 0.05$). The yeast-like fungi of a sort *Candida* also decreased 2.1 times and the revealing of associations of opportunistic microorganisms decreased, and also there were absent three- and four-component associations in children of main group ($p < 0.05$ – 0.001). The pair combinations of opportunistic microorganisms were met almost 2 times less often in children receiving polycomponent biopreparations, in which there were found combinations *Candida*+*Staphylococcus aureus*, $p > 0.05$.

Thus, the correction of the disbiotic disturbances in the intestinal microbiosis in children with CHB on the background of lamblia resulted in improvement of the microecological status of the patients, at which representatives of the obligatory microflora increased while opportunistic microorganisms as well as their associations reduced. Totally, data received during this investigation indicated about real positive properties of therapy, which application led to improvement of the well being of the studied children, significant improvement of the state of the intestinal microbiocenosis and as well as achievement of the normal levels of the majority of studied biochemical characteristics that provided for development of remission: by clinical signs — 76.5% (against 23.8% in group of the control), biochemical — 64.4% (against 28.2% in the control group) and microbiological parameters in 62.0% of the patients (against 25.2% concerning the control), $p < 0.05$.

The conclusion. For the effective approach to the correction of the damaged intestinal microbiocenosis in children with CHB on the background of lamblia invasion and for providing of the choice of optimal biopreparation for each of patients it is recommended performance of the “loading” test in vitro before prescription of the probiotic agent. The choice of the individual treatment and evaluation of the efficacy of intestinal biocorrection from the first day of admission to the hospital will promote prolongation of the period of remission and favourable prognosis of the main disease.

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Dental disease incidence among the students of Rostov state medical university

Abstract: to study the structure of dental diseases among the students of Rostov state medical University. **Materials and methods:** the dental clinical examination of 102 students of Rostov state medical University was carried out. **Results:** various nosological forms of dental pathology were found. It was determined that 63.7% of students have comorbidity which characterized by the presence of more than 3 dental diseases. High dental caries intensity is accompanied by a large number of periodontal complications. Periodontal disease was noted in 85.7% of examined students. **Conclusions:** the teeth and mouth disease incidence among the students was clearly marked and was characterized by a variety of nosological forms.

Keywords: dental disease incidence, prevalence, caries, periodontal diseases, oral cavity.

Students are the separate part of population characterized by a certain age and a specific way of life. The total level of health among young people in the period of student life is influenced by many factors such as the increased psycho-emotional stress and uncomfortable social and hygienic conditions. The dependence of the increase of dental disease incidence from the rhythm of life, level of hygienic culture and education, dietary habits and medical care has noted in numerous investigations [1; 2; 3]. One of the most effective ways to maintain the health during the period of study is clinical examination which enables to reveal the symptoms of teeth and gums lesions in early stages and to provide the complete recovery of the diagnosed abnormalities [4; 5]. Recently, the study of oral health among the students and the development of clinical programs have elucidated by many authors [6; 7]. This part of population deserves the special attention as it is enough large and has a great potential health dentition.

In this regard, the study of dental status of Rostov-on-Don students is topical interest. The aim of the work was to study the dental disease incidence of Rostov state medical University students.

Materials and methods. To study the prevalence of oral diseases among the students of Rostov state medical university 100 persons of Dental faculty were examined. The average age of students was 23 ± 2.0 and they were 4 and 5 years of students

at the time of the examination. 35.1% (33 persons) young men and 64.9% (67 persons) girls took part in this study. The assessment of conditions of hard teeth tissues, periodontium, gum and the oral mucosa was included in the clinical examination. The dental formula, the nature of occlusion, the presence of non- carious lesions were also estimated. The diagnosed abnormalities were classified according to ICD on the basis of ICD-10.

Prevalence and intensity of caries process were studied by means of: CFE teeth index (CFE (t)) and CEF cavities index (CEF (c)), where "C" is the tooth affected by caries, "F" tooth having a filling, E — tooth extracted on account of caries and its complications. If the tooth has several indicators ("C" and "F"), it will be recorded as "C" that requires a medical intervention. CEF cavities index gives a more objective assessment of caries process as all the indicators on each tooth are registered. Initial caries (chalky spots) were recorded as number of lesions and the degree of process demineralization activity, method of vital staining. During examination non-carious diseases were registered, their prevalence being classified according to nosology (enamel hypoplasia, increased abrasion of hard teeth tissues, wedge-shaped teeth defects). Abnormalities of dentition and occlusion were noted, as well.

The determining of periodontal diseases prevalence was evaluated according to CPI index, bleeding index, PMA (papillary, marginal, alveolar) index and Schiller-Pisarev tests.

The establishing of oral hygiene level (OHL) was conducted by OHI-S index. The condition of mouth mucosa (MM) was assessed by incidence and prevalence of diseases. The obtained data were recorded in the dental status card and were subjected to computer processing according to the generally accepted methods of medical statistics.

Results and discussion. Assessment of dental status of Rostov state medical University students showed a significant prevalence and diversity of dental pathology. It was revealed that more than half of the students (63.7%) have concomitant pathology characterized by the presence of more than 3 dental disorders and only in 10.3% of the examined young people single dental diseases were registered.

Analysis of dental pathology structure according to the nosological forms showed that the most often Rostov state medical University students were diagnosed caries (C02). In almost all cases dentin caries were occurred (C02.1). This pathology of hard teeth tissues were revealed in all students (100%), both men and women (gender prevalence of dental caries was 100%) suffering from tooth decay equally. However, the percentage of those who were in need of treatment among boys was higher than that among girls (68.3% vs. 39.1%). The proportion of persons with multiple caries (more than 5 teeth affected) was 73% among all examined. Each student had an average of 3.5 ± 0.3 teeth affected by caries and they were required in treatment. The total number of teeth affected by caries were: by CFE teeth index — 8.5 ± 0.4 , and by CFE cavities index — 9.5 ± 0.5 . Mostly molars were affected by carious process ($63.8 \pm 1.5\%$), less often — the premolars ($41.5 \pm 0.8\%$). Analysis of the components CFE (t) index showed that a proportion of extracted teeth was a significantly high (0.3 ± 0.1). We estimated the values of CFE (t) as high (WHO recommendations). The problem is that the number of decayed and extracted teeth was almost equal to the number of filled teeth (3.9 ± 0.4 ; 0.3 ± 0.1 against 4.7 ± 0.3 , respectively). This suggests that half of the affected teeth need the serious dental treatment and the involvement of several dental specialists.

Periodontal diseases (C05) take the 2nd place among the diagnosed dental disorders. They were observed in 85.7% of students and were presented with gingivitis and periodontitis. In 45 patients an inflammatory process in periodontal tissues with redness, swelling, bleeding and in some cases with hypertrophy were revealed. There was no any malfunction of periodontal connection that allowed us to diagnose this pathologic process as gingivitis (C05.1). Clinically in 84% of students gingivitis had catarrhal character, in 16% — hypertrophic. Bleeding was one of the signs of inflammation in the periodontal tissues. During the probing of dentogingival connection marked degree of bleeding according to hemorrhage index occurred in 43.9% of young people.

Periodontal pocket was diagnosed in 3 people. During examination both abnormality in periodontal connection and periodontal pocket were revealed, they being the evidence of periodontitis (C05.2). In all the examined students the depth of periodontal pockets was not more than 3.5 mm., it

indicating mild pathology of periodontal tissues. In the majority of student localized periodontitis against the background of gingivitis was noted. We discovered the periodontal pockets in the region of 1–2 teeth in all patients that was evidence of the prevalence of local forms of periodontitis.

There were dental deposits. (C03.6), they being presented as soft plaque (81.6%) and mineralized deposits (above — and subgingival dental calculus) (27.2%). Oral hygiene index averaged 1.78 ± 0.04 points that corresponds to a satisfactory hygiene level. Only a small part of students (27.6%) brushed their teeth well enough, the rest took care of the oral cavity satisfactory or bad.

Dental and facial abnormalities including malocclusion (C07) were diagnosed in 49.3% of students (anomalies of dental arches correlation (C07.2) were revealed in 21%, anomalies of tooth position (C07.3) were found in 25.3% of patients). In most cases, anomalies of tooth position were combined among themselves and with other anomalies of dentition. Crowding of teeth in the dentition was frequently observed, it being accompanied by a large number of dental plaque. There were signs of inflammation in the periodontal tissues.

The result of gum and alveolar ridge changes (C06) was gum recession (C06.0), which was diagnosed in 39% of the students. Generally, it was observed in teeth with overhanging fillings or in the presence of malocclusion. Almost all diagnosed recession (93%) can be characterized as ill-defined and only in 4% of cases they were more essential, which corresponded to 1 and 2 class according Miller classification. They were due to the small vestibule of mouth.

Other diseases of hard teeth tissues were diagnosed in 43.4% of examined students. Increased (pathological) dental abrasion (C03.0) was observed in 0.8% of young people. In most cases pathological dental abrasion was defined against the background of malocclusion and defects of dentition. The teeth grinding (C03.1) was associated with wedge-shaped defect found in 16.8% of students. The defect was located on the first and second premolars of the upper jaw and was combined with gum recession. Hyperesthesia was determined in 26.6% (27 people).

Diseases of pulp and periapical tissues (C04) are a complication of tooth decay. During examination they were diagnosed in 27 students. For accurate diagnosis by nosologies (Pulpitis (C04.0) and Periodontitis (C04.5)) this pathology requires a deeper clinical and radiographic examination, however, all 27 students were noted a significant destruction of teeth crowns.

Diseases of lips and mucous membranes of oral cavity (C13) were revealed in 10.7% of students. Cheilitis (C13.0), mainly exfoliativa, was found in 2.7% of cases among the diseases of mouth mucosa. Tongue diseases (C14.0) were diagnosed in 2 students (2.1% of the total number of identified diseases of mouth mucosa). They were presented in 2 forms: Geographic tongue (C14.1) and Folded tongue (C14.05). Geographic tongue was appeared in the form of pinkish-red spots with clearly outlined white borders. In folded tongue

filiform papillae were smoothed and a tongue back was lined with deep folds. Other diseases of mouth mucosa were diagnosed in a few cases and were presented by: recurrent aphthae, leukoplakia and chronic recurrent herpetic stomatitis.

The temporomandibular joint pathology (C07.6) was revealed in a single case and was due to clicking in the joint and a mild pain.

The above data evidence that dental and mouth disease incidence among the students of Rostov state medical

University is clearly marked and is characterized by a variety of nosological forms, hence the necessity in dental care is significant. Failure to provide necessary dental treatment at this stage will lead to further tooth decay and pathology aggravation, which will require further intervention of specialists and the use of more complex and expensive treatments. At the same time, a wide preventive and clinical examination by a dentist can afford to maintain teeth health and cure a larger part of the pathology in the early stages.

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Monitoring of the patients operated on nodular goiter and features of the operated thyroid gland functional state depending on the surgical intervention extent

Abstract: The paper presents some data about a monitoring of the changes in the thyroid residue: hormonal status, antibody rate depending on the scope of nodular goiter surgical treatment. It was established that 2 months after the surgery the autoimmune process becomes more active, the intensity of which gradually fades to the 6th and 12th months of post-operative intervention. It should be noted that a compensatory growth of the residual thyroid tissue after the surgery was observed.

Keywords: Thyroid gland, surgical interventions, monitoring of patients.

Introduction. Endocrine pathology occupies a leading place among the diseases of other organs and systems [1, 2–4; 3, 1137]. Annual growth in the incidence of organic thyroid pathology all over the world causes an increase in surgical activity as surgery helps to remove morphological substrate of the disease — a node, a particle or even the entire thyroid gland [4, 1203]. But then there is a problem of correction of functional and organic disorders caused both by primary disease and the surgery. Among the problems of the thyroid surgery the most discussed in the literature are the choice of the optimal level of operations and the prevention of postoperative recurrence and hypothyroidism [7, 1742–1745; 8, 172–174]. In this regard, insufficiently studied changes in thyroid residue are: dynamics of its size, hormonal status and antibody rate are especially interesting. Common views on the nature of the relationship of these changes with nodular transformation of residual thyroid tissue lack currently in available literature [2, 85–89; 5, 420–421; 6, 1303–1308]. Determination of structural and functional dynamics of thyroid residue after resection of the thyroid gland will allow monitoring the risk and evaluating the clinical significance of recurrences, and analyzing the adequacy of primary operation extent [9, 126–132; 10, 336–338; 11, 9].

Objective. To study the functional state of the operated thyroid gland using postoperative monitoring.

Material and methods. The clinical material consisted of 30 patients operated on nodal forms of goiter: the first (I) group consisted of 15 patients with nodular euthyroid goiter who had undergone surgery in the form of hemithyroidectomy, the second (II) group included 15 patients with euthyroid multinodular goiter who had undergone subtotal resection of both parts of the thyroid gland. Diagnosing of thyroid pathology was performed based on a comprehensive evaluation of the functional activity of the thyroid gland, clinical data of physical examination, ultrasound and fine-needle aspiration biopsy. Patients in both groups did not differ by type of intraoperative anesthesia. After the surgery, all patients were prescribed levothyroxine for 1 month at doses for patients of the first group 0.7 mg/kg of their body weight, the second group — 1.0 mg/kg of the body weight.

Before the surgery and 2, 6 and 12 months after it, all patients were tested for TSH, FT4, FT3, antibodies to thyroglobulin (ATG), thyroid peroxidase antibodies (ATPO). Additionally, the dynamics of thyroglobulin (TG), as a criterion of changes in the amount of thyroid tissue in the postoperative period was studied during the treatment for early diagnosis of goiter recurrence risk.

Results. It is noted that 2 months after the surgery the TSH rate in patients of the second group was significantly higher than in patients of the first group 32.36 ± 6.91 to 12.92 ± 4.84 mkME/ml; $p < 0.001$. In remote postoperative period the TSH rate in both groups was in the reference range: 6 months — 4.035 ± 0.44 and 3.20 ± 0.15 mkME/ml; 12 months — 3.71 ± 0.31 and 3.28 ± 0.20 mkME/ml; $p < 0.001$, respectively.

Comparative analysis of the free thyroxine (FT4) contents in serum showed that in the second month of postoperative period in both groups of patients, a decrease in its concentration occurs: the first group from 1.22 ± 0.03 to 0.92 ± 0.05 ng/dL; $p < 0.001$; in the second group from 1.15 ± 0.05 to 0.67 ± 0.05 ng/dL; $p < 0.001$.

2 months after the surgery in patients of both groups there also was a reduction of the free fraction of triiodothyronine (FT3) in the first group from 3.33 ± 0.11 to 2.79 ± 0.15 pg/ml; $p < 0.001$; in the second group from 3.20 ± 0.09 to 2.20 ± 0.13 pg/ml; $p < 0.001$.

In the study of autoimmune processes activity it was revealed that patients in both groups 2 months after the surgery had an increase in ATPO rates: in the first group from 68.95 ± 24.58 to 90.69 ± 30.37 IU/ml; $p < 0.001$; in the second group from 179.94 ± 50.38 to 191.49 ± 50.39 IU/ml; $p < 0.001$ and ATG: in the first group from 72.11 ± 25.04 to 73.89 ± 19.53 IU/ml; $p < 0.001$; in the second group from 135.37 ± 46.12 to 152.88 ± 39.96 IU/ml; $p < 0.001$, respectively). 6 and 12 months after the surgery in both groups of patients there was a reduction of the autoimmune process activity.

There also was a probable reduction of TG in both groups 2 months after the surgery, which is associated with a significant reduction in thyroid tissue after the operation, in patients of the first group from 36.56 ± 4.51 to 23.58 ± 2.88 ng/ml; $p < 0.001$; in the second group — from 34.33 ± 7.40 to 10.00 ± 2.42 ng/ml; $p < 0.001$. After 6 and 12 months, due to compensatory growth of residual thyroid tissue TG rates increased gradually: in the first group to 23.54 ± 2.84 and 24.90 ± 2.87 ng/ml; $p < 0.001$; in the second group to 11.29 ± 3.04 and 19.17 ± 7.72 ng/ml; $p < 0.001$.

Conclusions. Postoperative monitoring and early detection of autoimmune disorders in patients operated on the thyroid gland is an important step in preventing postoperative recurrent goiter and hypothyroidism because 5–40 % of patients experience these complications due to an occurrence of focal and then diffuse thyroiditis in the thyroid residue.

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The main principle of the oriental medicine – the issues of health preservation in the works of Avicenna

Abstract: About preservation of health and hygiene in «the Canon of Medicine» and other poetic and prose tractates of Avicenna.

Keywords: preservation of health, hygiene, physical exercise, activity, food, age, massage.

«I state: medicine is a science studying a human body in respect of its health or loss of health in order to preserve health and regain health if it was lost...» [1, 5]. It is notable that, grounding his understanding of medicine, Ibn Sina brings the preservation of health to the forefront. His views largely correspond to the tasks of modern medical science and practice.

On the assumption of such understanding of tasks of medicine, Ibn Sina formulated the rules of health preservation and created a code of hygienic requirements based on his reasonable findings.

Ibn Sina wrote: «... The main thing in the art of health preservation is the balance of required (general) factors... Primary attention should be paid to the balance of seven factors. They are the essence:

- 1) balance of character;
- 2) choice of food;
- 3) cleaning (of the body) from excess things;
- 4) preservation of (right) bodily structure;
- 5) improvement of what is inhaled through one's nose;
- 6) adjustment of clothes and

7) balance of physical and spiritual activity. The latter includes, to some extent, sleep and awakening» [1, 296–298]. In such short form, Ibn Sina set forth the laws of health, listed internal and external forces and reasons that influence the preservation of health.

The wideness and diversity of the approach of Ibn Sina to factors ensuring the health of healthy people should be noted. He considers them depending on the age, state of health, inclination to diseases, peculiarities of the seasons of a year etc.

The names of separate sections of the third part of the first book of «the Canon», which is called «About preservation of health», certify the originality and deep medical views of Ibn Sina. Ibn Sina was the first to give a medical ground of the impact of physical exercises on the strengthening of a human organism. He believed that they were the main condition of health preservation. He wrote: «... A physical exercise is a voluntarily exercise that leads to deep uninterrupted breathing» [1, 312]. A person who systematically does physical exercises and adheres to a routine does not need medicine. «Physical exercises together with right adherence to other routines are the strongest factors

preventing the over-fullness and increasing the natural warmth and making the body light, because they generate slight warmth and eliminate the excess things that accumulate daily» [1, 314].

Ibn Sina divided physical exercises into «small or big, very strong or weak, slow or fast ... There are also anergic exercises» [1, 314]. According to him, physical exercises included the tug-of-war, fist-fighting, arrow shooting, brisk walking, javelin throwing, fencing, horse-riding, swinging both arms, swinging on a merry-go-round, rowing, chovgan (a game similar to modern polo), stone lifting etc.

Understanding a close relation between separate systems of the organism, Ibn Sina noted specific distinctive features typical for every organ. Chest muscles and respiratory organs can be developed by pronouncing sounds in low, high or medium voice. All organs of the human body are exercised during inhaling and exhaling.

According to Ibn Sina, starting physical exercises, one should follow two conditions: firstly, the body should be clean; secondly, the consumed food should be digested. It is not recommended to do physical exercises on empty stomach, especially strong physical exercises, because they «exhaust strengths».

Herewith, Ibn Sina strongly recommends taking into consideration the age of both healthy and ill person. An attempt of the scientist to establish age periodization is interesting.

He wrote: «There are four age groups: period of growth (also) called adolescence that ends at around thirty; prime of life that is period of beauty that ends at around thirty-five or forty; period of decline ..., i. e. age of elderly people that ends at around sixty and decrepit age when strengths weaken, i. e. senility that continues till the end of life. But adolescence is divided into infancy, when organs of a newborn are not ready yet for movements and standing up and young age, the period after standing up and before strengthening (of organs), when the teeth haven't fallen completely and haven't grown. Then, there is a period of growth, i. e. the period after strengthening and appearance of (adult) teeth, (but) before sexual maturity; then, there is preadolescence and sexual maturity, (continuing until), the face (of a young man) is covered with body hair coat; then, there is adolescence (continuing) until the growth stops» [1, 19].

Physical and hygienic recommendations for children, young people and «matured» adults are very reasonable and consistent.

Describing physical development of a child from birth to adolescence and the period of manhood, Ibn Sina gives detailed rules of taking care of an infant, their feeding, bathing, sleep, effect of the sun, air and water on a human organism, convincing of the usefulness of physical exercises for the development of sense organs (eyesight, hearing, sense of touch).

Ibn Sina gave big importance to conditioning of the organism and the usage of natural forces — air, water and the sun in combination with physical exercises. «The Canon» describes in detail a good effect of «good» air on a child: «Good air is an air, which is not mixed with steams or smokes

of a foreign body, and which is open air not limited with walls or roof. Healthy air is clean, without a mixture of steams coming from lakes, swamps or marshy lands as well as places where vegetables grow, particularly, cabbage and trees of bad nature such as nut and fig trees» [1, 161].

In the opinion of Ibn Sina, conditioning of the human organism is performed during a long stay in the open air. He advised to gradually increase the time of staying in the open air combining air bathes with movement, walking, games and physical exercises.

Ibn Sina reckoned that conditioning of the organism of young and elderly people can be performed in the form of wiping the body with water and washing themselves in a steam house. Speaking about the usefulness of a steam house, he advised not to overuse it. «... One shouldn't stay in the steam house for long. One should only take a bath and continue while the skin continues reddening and swelling; one should leave the steam house when reddening starts disappearing» [1, 130]. If a person spends a lot of time in the steam house, «it facilitates the outpour of the excess things to the weakened organ, makes the body slack, affects the nerves and eliminates natural warmth; it spoils appetite» [1, 197].

In the hygienic recommendations of Ibn Sina, one can see a few statements about the fact that water renders infectious diseases, thus, he justly recommended to drink boiled or filtered water. Ibn Sina repeatedly emphasized that an important condition of health preservation is the maintenance of clean body and «cleanliness of everything that the body touches» [1, 208].

One of the means of conditioning of the organism is sunbathing. If one does it correctly, the metabolism improves, as a result of which the organism grows and develops better; it becomes alert and strong. «Sunbathing eliminates the excess things, causes perspiration, destroys chronic coldness, headache and strengthens brain» [1, 198–199].

Massage is an important remedy for exhaustion. Ibn Sina distinguished between strong and weak massage. Strong massage strengthens the organism and weak massage softens the body. The purpose of the massage is to tighten «quaggy organs», harden «soft organs» and soften «hard organs». Ibn Sina divided massage into preparatory and reparative. Preparatory massage is used before physical exercises and reparative massage is used after them. It is a «calming» massage; it contributes to elimination of the excess things that stayed in muscles in order to prevent fatigue.

Apart from his main work «the Canon of Medicine», Avicenna pays a lot of attention to the issues of health preservation in several poetic and prose tractates about the preservation of health and hygiene. They include:

1. «Urjuza fi 'l-tibb fi hizf as-siza» («Medical text about health preservation»).

2. «Urjuza fi 'l-tibb fi-l fusul al-arba» («Medical text about four seasons of the year»). It talks about what should be done during each season, which medicine, food and drinks it is allowed to consume.

3. «Risala fi't-tadbir al-musafirin» («Tractate about a routine of travelers»). It explains the routine during sailing, treatment of eyes in case of snow blindness, removal of pain in the extremities caused by cold in winter etc.

4. «Tadbir manzil al'askar» («Arrangement of camping for troops»). The tractate particularly explains that «in summer, troops should camp on the hills or elevated areas ..., soldiers have multiple diseases ...».

5 «Risala fi-hifz as-siha» («Tractate about preservation of health»). It is dedicated to different measures of personal hygiene and prevention of a disease. The tractate consists of 13 chapters that speak about four qualities; balanced character; human body and what is required to preserve health; daily routine; toothpick and its usefulness; physical exercises and their usefulness; structure of a steam house and ways of its usage; food consumption; wine, its usefulness and harm; sleep; blood-letting; laxatives and other measures of defecation; choice of a day suitable for this or that measure.

6. «Daf' al-Madarr al-Kulliyya 'an l-Abdan al-insaniya» («Elimination of all damages to a human body by way of correcting different mistakes in the routine»). This is the biggest tractate of Ibn Sina dedicated to different issues of hygiene and ways and means of elimination of harmful consequences as well as mistakes in the routine. The work consists of seven articles: list of mistakes; air; steam house; food; water and drinks; activities (apart from physical exercises, they include psychological activities and sexual intercourse); defecation (blood-letting, ejaculation; laxatives, diuretics, sudorifics). Over 20 lists of the tractate certify about its wide distribution. One of the copies of the tractate (written on the marginal of the book of ar-Razi «About the usefulness of food») was found by us in the collection of the fundamental library of Tashkent Medical Institute (inv. № 4). The Arabic original published in Cairo in 1887 was later translated into Persian and Latin, then in Uzbek in 1978 and Russian in 1980.

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Section 7. Pedagogy

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Sciences bases of the student's competitiveness formation

Abstract: The transition of Kazakhstan to market relations in the sphere of economy and industry required reevaluation the state policy in the field of secondary and higher education.

Keywords: industry required reevaluation, schoolchildren, future students and a future specialist, competitiveness formation, education.

Formation of society with a high level of citizen participation and social solidarity is possible under the state policy in the field of education will be education of socially responsible persons with the sense of patriotism, who understands their in sustainable social development.

Today's student is a unique, integral person, developing and self-actualizing in the process of personal and professional formation. Today among the universal values are information, education and self-education, whose interconnection will help the rising generation to make successfully their own active life decisions under the complex social conditions.

The transition of Kazakhstan to market relations in the sphere of economy and industry required reevaluation the state policy in the field of secondary and higher education. Nowadays the society needs to prepare a well-educated, competent, competitive person [1], today's schoolchildren, future students and a future specialist as stated in the Concept of a 12-year secondary education of the Republic of Kazakhstan.

The actual implementation of the organizational form of competence-based approach in the 12 years of education should be a specialized education in upper secondary school. The system of training teachers for the implementation of school education should be tailored to suit the laws of teaching competence education and variant ways of implementing the educational opportunities and the needs of students.

Modernization of the education system can not be realized without the support of the education system qualified teaching staff and support state and society. Professional development of teachers and the formation of a new composition of the teaching corps, relevant needs of modern life, is regarded by us as a necessary condition for the modernization of the education system in Kazakhstan.

Learning at higher school is not only the process of acquisition of knowledge and skills required for mastering the

future profession, but also the formation of civic position of a young professional.

Rapidly developing and changing society, the growing amount of information lead to the fragmentation in the perception of the essence of the world and culture by a man. This resulted in our appeal to the synergetic approach (V.I. Andreev, V.G. Budanov, V.A. Ignatov, E.N. Knyazev, etc.) as an interdisciplinary field of science, studying the process of evolution, becoming of reality, self-organization and "controlling" chaos.

From the point of view of synergistic approach *education* is an open system in which there are constant communication processes between students and teachers, the processes aiming at getting information, new ideas, methods and means of education that, in its turn, changes the content of education. Openness implies interdisciplinary education in various fields, the constant exchange of information and energy with the environment. The content of education is constantly changing, as it may not coincide with the knowledge and skills of students at the given moment. In such situation, there is a nonlinearity of both the process and the result of education.

It must be noted that efforts of teachers to create and develop skills training activities are uncoordinated and unsystematic. From year to year the number of subjects, leading to an overload of students, requires frequent switching attention from one discipline to another, complicating the learning process. Hence, there is a need to find new ways to improve the content of education in the formation of a competitive person, one of which is seen in the humanization of the educational process. The formation of a competitive person is connected with the problem of finding general pedagogical conditions, technologies, mechanisms of pedagogical process, aimed at the development of personal qualities, implementation potential opportunities and abilities of students, the awakening of humanistic principles. At the present stage, there is an inadequate response to the needs of the educational system of the labor market due

to a lack of elaboration of the theoretical background and practical advice on the organization and implementation of the process of preparation of a future competitive specialist.

Today the ideals of humanism content are filled with new meaning, which enriched its content. The humanism involves rejection of the idea of violence, oppression, domination, not only of a man, but a man over the nature. The humanism considers freedom as an attitude, when partners accept each other and recognize the value of influences and interaction changes. The core of humanistic world outlook and the system-forming factor is a person who demonstrates in a variety of relations to a man, society, spiritual values, and to the world on the whole. The humanity of personality shows up in all of it. In a basis of the modern Concept of education of children and student's youth in Kazakhstan the principle of humanization and democratization of processes of training and education is laid. In modern conditions of social, economic reforms in the country a problem of education of children and youth with use of system of humanistic education get a cardinal importance. In this vein, the development and introduction to the theory and practice of the modern education and training provisions of the basic ideas and humanistic pedagogy is particularly relevant.

In the general sense of humanism is understood as a historically changing system of views, which recognizes the value of man as an individual's right to freedom, happiness, development and expression of their abilities, which considers human benefit criterion of social institutions, and the principles of equality, justice, humanity are as desired norm of relations between people. The humanism usually acts as a worldview, the basic principles of which are love for people, respect for human dignity, concern for the welfare of people. In general sense of the term the humanism means a focus on the man himself. As a theoretical concept of humanism, the right to freedom, happiness, development and expression of their abilities and creative potential of the future expert is recognized. These features appear in the humanistic concept as the main criteria for evaluation. In the relations between the members of society, the humanity recognizes as normal principles of equal opportunity, social justice, the manifestations of high culture communication and humanity.

Humane ideas in the education and training are at the center of such progressive pedagogical figures as Yan Kamenskiy, I. G. Pestalozzi; Student-centered pedagogy of the West is based on the humanistic psychology, founded in the 1960s of the twentieth century by R. May, Maslow, K. Rodgers. In the Russian tradition of teaching humanism as a science is developed by Pirogov, K. Ushinskiy, Tolstoy. Great experiences were in school-commune at the beginning of the 1920s. Psychological foundations of humanization are justified by Vygotsky and implemented in practical activities by such innovative teachers as Sh. A. Amonashvili, I. P. Ivanov, E. N. Ilin, V. F. Shatalov, and M. P. Schetinina, etc.

Some definite experience has been accumulated in the formation of copyright humanistic educational systems (A. A. Zakharenko, V. A. Karakovsky, A. A. Katolnikov,

B. O. Polyanski, etc.). I. P. Ivanov's collective creative education technique has identified itself. There is a long experience of humanistic educational activities in a number of educational systems of Kazakhstan.

Rapid changes taken place in social and economic life require sociocultural transformations, creation of a new concept for the development of society, fundamental changes in the spiritual and psychological image of people. The education system tends to the most comprehensive conformity of social changing.

The education system tends to most comprehensive meet changing social needs. The modernization of education is responsible for new requirements for the quality of higher education, providing conditions for training a socially protected and competitive specialist.

A modern man must be adequate, sustainable, be able to change, radically rearrange his living conditions and himself, manage his own life and self-education. It is obvious that in these circumstances, the important place is given to the question of analysis of the essence, mechanisms, driving powers, the ways of improving the learning process, its dynamics, and understanding of its features.

One of the leading human needs is his desire for self-determination, which generates personality's internal activity; it focuses on of success achievement, self-sufficiency. Activation of internal systems, external refractive effects, promotes the qualities of competitiveness.

However, the activities of the modern educational institutions have not been fully transferred to tracks of humanistic pedagogy in order to make a student the center of all the educational activities.

Humanistic aspects of the educational process in the modern universities have been studied insufficiently. There is a contradiction between the philosophy of humanizing the educational institution and its practice; between axiological character of education which involves not only the creative participation but also the restructuring of their relationship and communication in the humanistic basis; between the orientation of many teachers in the humanistic parameters of educational activities, understanding that there is no alternative humanist pedagogy, and the weak, both theoretical and practical training in this area.

In this regard, the issues of a student's competitiveness formation in the education process require a special study. Necessity to develop theoretical provisions, organizational facilities that promote the formation of a competitive student, is predetermined by number of contradictions actualizing the research problem:

- between the requirements for the formation of a competitive education system, focused on the individual, and the traditional system of training;
- between potential opportunities of higher educational institute and the lack of actual space for a student's self-realization;
- between the necessity of the formation of competitiveness as integral qualities of the person and the lack of elaboration of this problem in science.

The problem is that in order to solve these contradictions the most effective ways and means of implementing the humanistic foundations of educational activities should

be identified and theoretically justified, contributing to the formation of a new type of student — competitive in the labor market, as general pedagogical principle.

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Possibility of educational dialogue in the development of social intelligence of younger schoolkids

Abstract: The paper describes the possibility of social intelligence junior student with the help of the educational dialogue on the lesson.

Keywords: social intelligence, dialogue, educational dialogue, development of younger students.

The situation of contemporary schooling requires the child active new solutions of complex social problems. Given the setting federal state educational standards primary education, children should be formed interest in the social world, history, culture and religion. Junior high school students entering a period of greater development of spiritual values not only the Russian people, but also other peoples of Russia, as well as around the world. Children are members of the communities in which there are representatives of different nationalities, religions and national cultures religion. Firstly, social the situation of children has changed [6]. Junior high school student must adapt to a new school and social environment in which it must be accepted. In this regard, developing function of training comes to the fore. It provides a greater extent the personality of the younger schoolboy and disclosure of his individual abilities.

The basic position of “fundamental core of general education” is the idea that the development of personality in the education system is provided in the course of formation of educational activity or “ability to learn”. This involves the formation of a complex educational skills, which is the basis for the intelligence of the individual.

Intelligence is an important structural component of the psyche human. The term intelligence is often used to

emphasize the specificity of human psychological activity. In terms of domestic psychologists (S.L. Rubinstein, B.M. Teplov, B.G. Ananiev, V.N. Druzhinin) Intelligence is a set of general abilities, ability to adapt to new situations, using the experience and ability to adapt to the environment.

Today, more and more often used the term “social intelligence.”

The term is controversial, its content, structure, little research methods are developed. However, this phrase is understood in two aspects: cognitive and affective. This gives the key to understanding social intelligence as an interdisciplinary phenomenon.

Any psychological phenomenon can be understood in the context of its taking into account the diversity of manifestations of the factors affecting it. The social intelligence in this sense can be studied in terms of cognitive and social psychology. It can also be studied in the framework of developmental psychology with different conceptual approaches: within the cultural-historical theory (Vygotsky), activity theory (Leontiev, S.A. Rubinshteyn), as well as natural science tradition (P.K. Anohin, N.A. Bernshtein, Luria, I.M. Sechenov et al.). The definition of this concept in modern psychological studies, it is necessary in order to fully analyze the phenomenology of social intelligence.

These domestic and foreign studies suggest the possibility of isolation and study of social intelligence as a special kind of social cognition.

The concept of social intelligence can be considered to explain many aspects of its manifestation. The study of this phenomenon has an interdisciplinary nature. In this case, it is important and necessary to include the principle of unity of affective and cognitive aspects of its manifestations. The construct of social intelligence has been allocated in line with the psychometric approach, researchers studied various psychological trends. From the standpoint of modern theories (N. I. Kunitsyna, D. V. Ushakov et al.), the social intelligence is traditionally regarded as the ability to understand other people, their relationships and social situations. It allows you to build a more adequate behavioral strategy when there was the assessment of the situation and the people involved in it. The phenomenon of social intelligence can be solved on the basis of content analysis on the following criteria: cognitive, emotional, behavioral component.

The indicators below can be used for the diagnosis of social intelligence: the existing interpersonal relationships, the nature of the situation, the interpretation of the meaning of the situation, the choice of behavioral strategies on the basis of the interpretation of the meaning of the communicative situation. Thus, we can say that the modern psychological approaches to the study of social intelligence is not.

Only open new perspectives in the study of this phenomenon, but also suggest ways for construction of developing educational programs.

One of the most productive ways to develop social intelligence of pupils can be educational dialogue. Educational dialogue has all the features that stimulate the activity of students and promotes the development of the internal worldview. It opens up new possibilities of vision problems. Dialogue specific settings in the process of interaction in the classroom, in which the “problem tasks are in the form of unresolved paradoxes” (S. Barrows, I. M. Solomadin). With regard to the lessons of literary reading, dialogue is a way of communication — learning where the goal is to motivate students by the process of the development of literary material. Dialogue makes this process intellectually and emotionally appealing to students.

From the viewpoint of S. Y. Kurganova lesson — dialogue is “a special form of learning that cannot be reduced to the problem-based learning, or to other types of training, he shows a comparison of its structure with the structure of the lesson, which is provided by the movement of all students to the total for all cognitive outcome as a result, the unequivocal graduation work” [1].

Consider the example of Russian language lessons. For example, N. N. Mulyarchik is a primary school teacher. She introduced the mini-sketches for the development of the ability

to reason, to anticipate and justify their point of view. Starting from the second class, students are given assignments in which proposed to continue any statement, for example: “Snow is like a ...”, “Last day of vacation is similar to ...”, “Autumn leaves are similar to ...”, etc. These sketches precede work on writing, as well as contribute to the development of logical thinking, communicative function, and the ability to allocate significant signs promotes and inventing puzzles on a variety of topics. In practice, the teacher often uses group work, which provides emotional support, wish to express their views about something unknown.

During the search for truth is actively flowing exchange of information and dialogue of opinions, through the implementation of the game, research, problem activities. Thus, it is important to note the inclusion of all students in the process of dialogue in the classroom.

Thus education develops the ability to think and reason, perform one of the most important tasks of society. Means of achieving this goal is the vocabulary, style and logic of dialogue, which develop students “conscious internally adopted (turned into a need) thinking skills of the literate speech, critical perception of the world. This in turn helps to create a moral, educated person of the XXI century” [3, 1]. In the process of learning dialogue occurs educational “meeting” that enriches and students, and teachers with new experiences, ideas and values.

Information-sharing processes of semantic knowledge in accordance with a new experience, but retains the identity of the person, its integrity, its dignity, its human quality. Knowledge is by nature dialogical, because knowledge as a product of learning and cognitive activity is the result of the integration of external and internal exposure to an active learner. Therefore, the dialogue in training generates independence, responsibility, openness, self-culture of life, the ability to use your mind as a tool for understanding.

Thus in the educational dialogue can occur not only the uniqueness of each participant, but also the fundamental equality, difference and originality of their points of view, the orientation of each on the understanding and the active interpretation of the received information, mutual complementarity of the participants in the communication and etc. Consequently, in conjunction with the set educational objectives, educational dialogue has all the features for the development of social intelligence. In defining of social intelligence, scientists emphasize its connection with the social cognition of objects and situations, as well as communication with the understanding of the processes of interpersonal interaction. And the educational dialogue is a necessary condition for the deployment and development of interpersonal and intergroup interactions, as well as a means of natural way of knowing the world and ourselves.

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Innovative joint master program in engineering: strategy of development and implementation in Russian technical universities

Abstract: The article describes the strategy of Master educational programs' development for their realization in a networked form. There is also the technology of the program development as well as the piloting conditions stated in the article.

Keywords: educational programs, networked form, innovative educational environment, piloting, target groups, cross-cultural and transversal competencies.

For the development and implementation of basic educational program for master degrees in addition to curriculum and other documents regulating and providing the academic process, the prerequisites are: professional development of faculty members, material and technical supply, development of the system of scientific activity of students, design of assessment tools for routine control of students' academic progress, intermediate and final academic assessment, the determination of the ratio of general civil and professional elements in the structure of the program.

Today, for the successful implementation of socio-economic reforms in the Russian Federation there are needs for qualified specialists, capable to understand and implement the reforms. In this regard, higher education plays a unique role because being a social institution it is responsible not only for inheritance, accumulation and reproduction of scientific knowledge and expertise, but also for generation and transfer of cultural values and norms of behavior.

Contemporary Russian Higher Education as a system:

- educates professionals for different areas, including other institutions of the education system, being capable of transferring mentioned values;
- carries out researches and transfers the results to the real economy sector and society as a whole;
- to a large extent, having a significant scientific and human potential, it makes impact on the social consciousness, cultural and moral mentality of a society based on national traditions and universal values, on respect and protection of the rights of all citizens, including national minorities.

Considering the current state of educational institutions of higher education in Russia one should, first of all, pay attention to the structure and content of curricula and syllabi, as well as to teaching/learning materials that are directly related to the problem of management of education content.

The curriculum of academic disciplines in the educational organization of higher education is prescribed by

the academic calendar and syllabi, as well as textbooks and teaching/learning materials. Numerous studies conducted by Russian scientists show that many teachers experience difficulties in amending the curriculum related to changes in the order of topics, or their combination.

We believe the reason for this situation is that syllabus basically has in many cases no logical framework of studying concepts and notions. In addition, syllabus itself cannot be the only basis for understanding the philosophical nature of the study subject and its importance in the educational process.

Thus, teachers of educational institutions of higher education often spend more time on the following training programs, rather than creating conditions for the development of the creative personality of the student.

Students' interest in learning and self-learning is largely dependent on the quality of educational materials. This situation becomes even more important for master students because of their high motivation which they have shown entering the Magistracy.

We consider the content of a study subject in the context of:

- competencies that are logically related to the subject of study;
- means and methods for modeling this content, that will enable the student to acquire knowledge and develop his/her cognitive abilities.

Forming factor of a study subject's content is its conceptual system, which is a target complex of concepts, means and techniques for teaching/learning and implementation of the acquired knowledge.

It should be noted that conceptual system of the discipline as a generic tool generates the content of its functional fragments, as well as creates a paradigmatic value of the studied subjects. These generic tools of studied subject cognition and its functional parts function allows a student to gain competence in analysis and synthesis of the study material.

From the above it can be concluded that the content of the discipline required to be formed by a conceptual tool [1, 26].

In our opinion, the design a new educational program cannot be confined to a formal approach to the development of syllabi of obligatory and variable disciplines, practices, final attestation, focusing on common cultural and professional competencies identified in the federal state educational standards. The authors suggest that further development of professional competencies, in relation with the original disciplines, and, ultimately, with the upcoming professional activity of graduate of Magistracy, best meets both the requirements of the federal state educational standards and the needs of the real sector of the economy where graduates are going to build a professional trajectory.

The innovative processes, search for better models are now being actively developed in the system of modern education system. Innovative mind-enriching learning technologies are becoming more common [2, 25].

Nowadays joint form of realization of engineering master programs is currently important. For example, in the

framework of the Erasmus + program there is a possibility of joint program Master of Mechanical Engineering.

During the realization of this project it is expected to solve a number of problems.

Firstly, it is necessary to develop joint program Master of Mechanical Engineering on the base of studying the experience of development and implementation of joint educational master programs in the field of mechanics in the EU educational institutions of higher education on the basis of learning outcomes. The experience of employers' participation in the development and quality control of study programs should also be investigated.

Secondly, it is necessary to solve the problem of recognition of the educational program by higher educational institutions — members of Consortium, created for the implementation of joint educational program. The recognition should be in the form of agreements between educational institutions on the implementation of joint educational program, and local laws and regulations to ensure implementation of the program.

Thirdly, it is necessary to carry out the piloting joint program Master of Mechanical Engineering at higher educational institutions — members of Consortium by groups of teachers prepared for the implementation of the program in the conditions of innovative learning environment.

Development and implementation of programs joint Master of Mechanical Engineering will help meet the needs of the beneficiary countries in Mechanical Engineers with professional competencies corresponding to European requirements.

The implementation of the program at Russian Universities solves a number of strategically important tasks of higher education: implementation of a level system in education; implementation of a qualitative leap in the education of engineers on the base of programs considering the requirements for learning outcomes, quality control and accounting of the interests of employers.

In order to solve the problem and achieve the goal it is intended to use affordable and effective activities.

One of the most important results of the project will be created innovative learning environment facilitating the further transformation of all engineering master degree programs into programs, jointly conducted by educational institutions of Russia and the EU. This is particularly important for educational institutions of higher education — the beneficiaries, for the implementation of education on master programs in accordance with the requirements of the Bologna process, education at the European level, joining the European educational community.

Information materials about internships of Russian teachers in the EU educational institutions, workshops conducted by lecturers from the EU countries, will be available in the Internet, and published in special journals in Russia, which will contribute to the dissemination of experience in a community of professionals.

The process of developing laws and regulations of educational organizations – members of the Consortium,

providing implementation educational programs, should be guided by the legislation in the field of education in the country, where the educational organization is located, using a method of analogy.

The main product of the project will be an innovative program Master of Mechanical Engineering. The program will be built in accordance with the learning outcomes, taking into account the recommendations of the employers', increasing emphasis on cross-cultural and transversal competencies. Professional competence obtained at training program will be developed in accordance with European requirements.

One of the results of the project will be education of teachers capable of implementing the program Master of Mechanical Engineering.

At the initial stage groups including teachers and methodologists of educational institutions of higher education — Consortium members, as well as representatives of non-academic partners (members of the Consortium, promoting interests of employers) will be formed to study the experience in the development and implementation of joint educational master programs in the field of mechanics in the EU educational institutions of higher education based on learning outcomes.

Development of joint educational program requires in-depth analysis of the current educational practice of European universities and their interaction with employers. Such an analysis should be comparative in nature in order to find an acceptable degree of convergence of educational programs [3, 147] and the implementation of international experience, which allows domestic programs to be modernized without losing the engagement with the realities of the Russian labor market.

Obviously, if teachers and administrators will not have formed foreign language communicative competence in the professional area, the successful harmonization of programs is extremely difficult. Students who will be involved in piloting the project and later on in the program of credit mobility must also be capable of foreign language professional communication.

The experimental projects run at Russian universities shows that foreign language communicative competence in professional area by both target groups of teachers and bachelor students (future master students) can be formed during bilingual teaching engineering subjects [4, 54–55]. So, some bachelor programs should be affiliated with the joint master program under the development and integrated in the system of education on the base of key parameters.

To create an innovative learning environment contributing to the formation of foreign language communicative competence, it is necessary that teaching/learning materials include multilingual thesauri, representing the logical structure of study subjects and systems of descriptors, arranged in a special way. Examples of such instructional materials are Russian – English Thesaurus on Theory of Machines and Mechanisms, and Thesaurus on Theoretical Mechanics [5, 1–36; 6, 1–63].

During the life cycle of the project teachers and methodologists from Russia will participate in internships and training seminars in order to acquire skills in the design of

educational master program, the development of student — centered educational-methodological complexes of modules, based on the learning outcomes taking into account experience of the EU educational institutions.

Further realization of the project — the development of the curriculum, educational-methodological complexes of modules, local laws and regulations, ensuring the implementation of the program, will be conducted by trained personnel from partner countries and staff with experience in similar works, of which will be formed teams. Thus, it is guaranteed that the objectives assigned to the project will be resolved. Trained staff will also undertake piloting the program in the third year of the project lifecycle in partner countries, with the participation of experts from the EU educational institutions of higher education.

Formation of the target group of students for a piloting educational program Master of Mechanical Engineering will be carried out in accordance with the requirements developed during the project life cycle, that apply to persons enrolling for joint education program.

Initially, in the development of the project strategy the mobility models based on the needs of educational institutions of higher education in partner countries will be defined.

The project will allow the target group of students to get educated in the framework of new joint practice-oriented program Master of Mechanical Engineering, developed on the basis of learning outcomes. Such education enables students to gain knowledge not only in partner countries but also in the EU, which is important for the formation of professional, cross-cultural/transversal competencies and subsequent successful employment.

At the end of the project life cycle products and results of the project will be the basis for the development of similar engineering master programs for the joint implementation of educational organizations, the consortium partners, other educational organizations interested in using the products and the results of the project.

The strategy of educational institutions of the partner country at the most intensive integration into the European educational space will be through the implementation of the program Master of Mechanical Engineering on the basis of a agreements on implementation of a joint program signed by educational organizations — members of the Consortium during the life cycle; through the exchange of staff educated during the project life cycle, through the development of new joint Master programs.

Thus, cooperation with educational institutions of higher education of the EU countries will address a number of important tasks:

- preparation and beginning of implementation of joint engineering master's programs on the basis of innovative educational environment;
- professional development of faculty members, capable of implementing the program on the base of new technologies;

– development of strategies and concepts of academic mobility;
 – switch to the design of practice-oriented educational programs based on the requirements for learning outcomes;

– development of the laws and regulations for the implementation of joint programs with the possibility of academic mobility.

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On problems of safe information impact of Internet on students

Abstract: Formation of a new type of social system -information society has increased the role of knowledge, gradually transforming it into main capital, and consequently, changed the role of education in structuring social life, providing fundamentally new possibilities for individualization which enables to take into account the peculiarities of self-consciousness and self-assessment of each student, his/her psychological, physical and mental abilities.

In the article special attention is paid to the fact that not all Internet data are positive and can be used in educational purposes, educator must be familiar with the means for preventing negative psychological-pedagogical consequences, simultaneously developing informational culture of students.

Keywords: Internet, information impact, world view, thought, morality, information security, educational information.

It is impossible to imagine the modern education development without Internet, which, from a storage system and conveying a great deal of information, is more and more becoming a new psychological medium and lifestyle sphere of the youth, and first of all, students using computer nets run into psychological problem — a change of interest, motivations, goals, needs, directives, forms of psychological and social activities, i. e. Internet makes great changes in their lives which require corrections in education process.

Educational process in our understanding is integrated process of bringing-up and teaching on the bases of pedagogically planned implementation of targets, valuables, contents, technologies and organizational forms which agrees with B. P. Bepalko's definition that it is a self activity

of students and educators leading to learning social experience by students.

The notion of information impact in psychology is interpreted as a type of social impact, when a person has to ask other people for information how he/she should think and act, if not sure in his/her opinion or choosing best strategy in the existing situation, thus, information impact will become a powerful instrument of persuasion, satisfaction desire to follow other people.

In this case the main question, in choosing communication technologies, is to choose those, which will yield best results, and also how to plan in optimal way and organize the education process and provide appropriate relations, interactions between the teachers and learners. At the same time

the teacher must remember that not all information in Internet can be included in education load. Therefore it is necessary that educators must know methods of interactive limitation in using information reserves of Internet which is the first step to psychological and legal protection of a child, using Internet in education.

Today at the disposal of educators there is a prophylactic program to prevent Internet-dependency, other psychological consequences, and as well as legal violations, directed forming protectiveness of student as active social person. Algorithm program contains the following components, having internal logics and structure to prevent psychological–pedagogical consequences of using information-communication technologies.

We will consider more in detail main items of this program.

Educators and psychologists must form learner's attitude to Internet not as ready reference information with exact answers for information needs, but as reference information and control training materials, subject to information reliability assessment, conscious reflex and correlation with his/her own knowledge. Analytical critical, constructive thinking is the precise index of learners' information culture. From the pedagogical point of view it is the active process of cognition. And here we do agree with T. G. Galaktionova [1], that this type of thought helps person: a) to determine own priority in personal and professional life; b) responsibility for choice made; c) increase the level of personal culture. One more task is form identity of the teenager by moving out the state of "anonymity illusion" (M. Banks) in communication and putting information in Nets.

Net communication, protectiveness of anonymity, as psychodrama, allows to experience, modulate and enter the social relations, which in out of virtual world could lead to irreversible consequences. On the other hand, virtual experience allows to use stylistic features of electronic letter writing, jargon, modules, abundance of quotations and cruelty due to lack of verbal aspects of communication and practically complete irresponsibility as a result of anonymity. And herewith the behavior strategy is caused by the multiply iteration possibility of the subject matter. So, etiquette may be changed not by the etiquette or rules formed by certain group, or by the user himself, or moderator. The Net, as a communication base, is too complicated for teenager could independently make reductions of the situation or form up his/her own view on the matter. Here main role plays the emotional-moral aspect of critical thinking of students, laid by parental up-bringing. By parental up-bringing (as to M. Patter) it is understood, in pedagogy, up-bringing in the family, which encourages socially approved modules of behavior of a child, corresponding to his/her age, and reprimands habits, which were tolerable before or even desirable as an up-bringing step [4]. Parents of students, using Internet at home, must understand their task and promote to development of students communication habits and forming autonomous ethics [as to M. Corduell], which includes aspects of moral up-bringing characterizing changing of a child from

unconditional obeying to the rules of the old on problems based on their own experience, on experience of friends, fiction heroes etc., when to resolve moral conflicts, showing care for other people, but not only for himself [2].

Using new technologies in education process requires from educators application of particular techniques of pedagogical work, special habits, but it is important to know didactics of psychological and age peculiarities of learners.

Expression of any reaction on complicated life situations depends on the level of development of personality- the more higher the level the more successfully person overcomes difficulties he faced. Both protective and controlling style of reaction is connected with the received directives, with relations himself or others, with the structure of life experience, i. e. with cognitive, affective and behavioristic level of psyche. Consequently, compulsory psychological accompanying of students "risk group" is absolutely necessary for organization of therapeutic environment, which is according to M. Corduell it is a humanitarian approach to treat mental disorder, stress reactions, phobia, aimed creating the circumstances promoting to develop personality self-respect and conscious activities [2].

Psychological accompanying means: psychological diagnosing, including consultations for students, parents and educators; psychological support in the process of introduction and mastering informational technologies, valeologic monitoring and conducting psycho gymnastic exercises, communication training, legal training, joint submersion into information space Net with compulsory participation of school psychologist, which creates the state of protectiveness of students in education process, but does not exhaust security functions.

Today the most important task of a teacher is to support learners, help them understand in abundant educational and scientific information, make easy to solve facing problems, promote in every way mastering lots of new information.

Summing up all above said, we underline the main points:

1. Gaining of new knowledge, information, ability, skills and orientation towards their renewal and development is impossible information, due to the fact that it has become new psychological surroundings and sphere of everyday life activities of the youth, including students. Internet has actually become a new type of system forming and integrating education and led it out onto a qualitatively new level.

2. Information revolution and formation of a new type of social system -information society has increased the role of knowledge, gradually transforming it into main capital, and consequently, changed the role of education in structuring social life, providing fundamentally new possibilities for its development and first of all for individualization which enables to take into account the peculiarities of self-consciousness and self-assessment of each student, his/her psychological, physical and mental abilities.

3. In choosing communication technologies a teacher must choose those which would yield best result, organizing the education process so that the interaction between the

educator and learner will be more complete and effective. Since not all Internet data are positive and can be used in educational purposes, educator must be familiar with the means for preventing negative psychological-pedagogical consequences, simultaneously developing informational culture of students and their parents.

4. The main in forming pedagogical-psychological protection of students is to remove emotional stress, applying health saving technology, valeologization, preserving resistance to influences of aggressive environment, created by enormous and simultaneous influence of sensor, verbal and information stream.

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Section 8. Political science

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Reflections on the Soviet type of leadership

Abstract: The author's opinion comes down to the fact that the Soviet type of leadership had deep Russian roots and was a natural result of the development of the whole preceding history of the Russian intelligentsia. Political leadership established under Stalin in 1930s was a logical result of the Bolshevik movement. There are no principal differences or logical discrepancies between Bolshevism and Stalinism, which represent the same politically and ideologically.

Keywords: Bolshevism, Stalinism, Soviet type of leadership, Leader, Khrushchev's reforms, Secretary general of the CPSU Central Committee, Brezhnev epoch, universal human values, pluralism, new ways of thinking.

A few researchers formed a unanimous opinion with regard to the interpretation of the problem of Bolshevism and Stalinism. There are no principal differences or logical discrepancies between Bolshevism and Stalinism, which represent the same politically and ideologically. According to this opinion, Stalinism was a logical, consistent, triumphant and even inevitable result of Bolshevism. Hannah Arendt «Understanding Bolshevism» (1953), Isaac Deutscher «Russia in transition» (1963) and Barrington Moore «Soviet Politics — The Dilemma of Power» (1965) shared this view. The theory connecting Bolshevism and Leninism with the basics of Stalin's politics became popular due to the performances of A. Solzhenitsyn after he had been expelled from the Soviet Union in 1974 [1, 146].

The Soviet researchers reckon that «Stalinism does not start with either Marxism or Leninism. For Stalin, Marxism and Leninism were just a form, a cover for its true content...» [2, 95]. A few scientists see the roots of Stalinism in the miscounts of the old party guards, who were not able to create the levers of power to prevent the cult and defend the alternative to Stalin's command-administrative system [3]. The origins of Stalinism are also seen in the Jacobin traditions of terror, psychology of impoverished layers of the population of the country and characteristics of Stalin himself.

However, some researchers emphasize the relation between Leninism and Stalinism. A. Avtorkhanov is one of the representatives of this course. In his work «The origin of par-tocracy», he concludes that the origins of Stalinism should be searched for, firstly, in the totalitarian «philosophy of power» of Lenin in the form of his teaching about «proletarian dictatorship» as a new type of a state; secondly, in the tyrannical system of organization of this dictatorship, which can be performed not by the very proletariat, but only its avant-garde; thirdly, in the criminal origin of the Stalin's wing of Bolshevism; fourthly, in the Stalin's criminal way of thinking [4, 142]. According to Avtorkhanov, Stalin learnt well the leading principle

of Lenin's «philosophy of power»: «Scientific notion of dictatorship means something else as authority not limited by any laws and not constrained by absolute rules that relies upon violence» [5, 441]. Lenin also pointed Stalin towards the dictatorship of one person: «Soviet socialistic centralism does not contradict single government and dictatorship; sometimes, a dictator, who sometimes does more alone and is often more needed, fulfills the will of the class» [5, 119].

Avtorkhanov rests upon the history of origin of the criminal movement in the Bolshevik party — upon the history of the Caucasian «expropriators» who were shortly called «exes» in the party language. According to Avtorkhanov, Lenin was a «spiritual father» of the formation of a new politically-criminal direction that allowed the usage of «exes». One of the shining examples is the Tiflis «expropriation» as consequence of which 3 people were murdered, over 50 people were injured and 250 thousand rubles disappeared. The seeds of transition of Leninist Bolshevism into Stalinist criminal Bolshevism after Lenin's death were sown by Lenin himself during the years of expropriation [6, 150].

The entire history of Bolshevism, according to Avtorkhanov's opinion, is the realization and development of Lenin's «philosophy of power», i. e. the philosophy of violence. Stalin was Lenin's heir both in political practice and methodology. Avtorkhanov believes that Lenin bears «the main moral-political and criminal-legal responsibility» before the peoples of the Russian Empire, because the very «Lenin created that totalitarian mechanism of state power using which his heirs immortalized physical and spiritual terror and excluded Russia from the family of civilized and prosperous states for almost a century». Thus, «Lenin's responsibility for an age-long misfortune of Russia is primary and Stalin's responsibility is secondary» [7].

A. Tsipko considers the teaching of Marx the original source of all misfortunes incurred by Russia during the period of Soviet power. Tsipko sees the reason of the tragedy that started in October, 1917 in the adherence of Lenin and Stalin

to the Marxist doctrine. Tsipko believes that: «Karl Marx and Friedrich Engels thought same notions and categories as Vladimir Lenin... Marx was the first and only person in the history of mankind who called to replace the weapon of criticism with the criticism by weapon» [8, 186]. According to Tsipko, Bolsheviks only realized the Marxist social project. «There wasn't any Russian Marxism. There was only the Marxism that could be conceived among the Russian revolutionary intelligentsia after the acquaintance with those works that were recommended for publication in Russia by the founders of scientific socialism themselves, and, primarily after their acquaintance with the «Manifest of the Communist party» that openly called for the destruction of the old world» [8, 187].

In his theory, Tsipko presents Marxism as a drug under the influence of which Bolsheviks took power in 1917. Under the influence of Marxist drug intoxication, they established «military communism» in the country and started creating a Soviet government system. Tsipko believes that the mass terror by Lenin and Stalin originated from the belief in the truthfulness of the Marxist theory about violence as a midwife of revolution. «Stalin, like Lenin, yielded to the advice of Marx not to be afraid of terror when it is required to hold the power» [8, 181]. According to Tsipko, Marxism, Leninism and Stalinism are relative phenomena. He reckons that Bolshevism has Russian roots. Everything that Lenin possessed was inherited from Marx: Lenin's intolerance to political freedom does not come from a Russian character, but comes primarily from the Marxist teaching about proletarian dictatorship, the Marxist conviction that bourgeois rights and freedoms, bourgeois parliamentarism and freedom of press should be defeated in the course of a victorious proletarian revolution» [8, 178].

On the assumption of the above stated, our point of view comes down to the fact that the Soviet type of leadership had deep Russian roots and was a natural result of the development of the whole preceding history of the Russian intelligentsia. Political leadership established under Stalin in 1930s was a logical result of the Bolshevik movement. There are no principal differences or logical discrepancies between Bolshevism and Stalinism, which represent the same politically and ideologically. Stalinism was a logical, consistent, triumphant and even inevitable result of Bolshevism. Despite the fact that there is no a unanimous opinion about the connection between Bolshevism and Stalinism, most researchers believe that Bolshevism contained the «seeds», «roots» and «buds» of Stalinism. The victory of Bolshevik leaders is a consistent phenomenon, not a casus or accident, related to the mood of the masses during the period of world war and nation-wide crisis that were a reason of revolutionary crisis.

It is stated in the concept of milestones that Bolshevism with its ideology and practice is an heir to the world outlook and political tradition of the Russian revolutionary intelligentsia coming from Bakunin, Chernyshevsky, Lavrov and Mikhailovsky. Bolshevik leaders learnt moral nihilism and organizational party principles from Nechaev and the idea of a crucial role of the initiative minority in the conduct of a social

upheaval from Tkachev. Spiritual roots of Bolshevik leaders can be found in the world outlook tradition, which comes, at least, from Decemberists and, clearly, from Belinsky and Bakunin, from Pestel to Tkachev. The Soviet type of leadership is a natural, logical and even inevitable result of the whole preceding history of the Russian political thinking and intelligentsia.

Vladimir Ilyich Lenin was a political and state figure, «continuer of the work of K. Marx and F. Engels», organizer of the Communist party of the Soviet Union (CPSU) and founder of the Soviet socialist state.

His personality had a colossal impact on the course of political development of Russia and, indirectly, the entire world. Undoubtedly, V. I. Lenin was one of the most outstanding political leaders. He did not only know how to fight the old order, but could also organize a revolution and steer it in the required direction. The unique quality of V. I. Lenin as a political leader of our times was the fact that he combined adherence to abstract theoretical program with rare ability to adjust his tactic to the requirements of life. The combination was highly unusual [9]. It often happened in the political life that, having achieved power, radical socialist leaders hid their abstract theories in the archive and addressed the facts of everyday life exclusively. Unlike them, V. I. Lenin didn't lose the fanatical faith in his ideal even when all power was concentrated in his hands. And only at the end of his career, during the period of New economic policy, the voice of the ideal, which the entire political life of Lenin was built on, started fading giving way to new tendencies of real life.

Lenin was not a blind follower of Marx. He developed his own independent political system, which, of course, was related to the main principles of Marxism. He made substantial additions to the works of Marx, both in theoretical aspect and in the sphere of political tactic. One of the examples is Lenin's teaching about imperialism as a new phase of capitalism, a phase of monopolistic capitalism. Another example is his theses for the Communist international about the role of colonial and semi-colonial countries in the world revolutionary movement. Lenin also completed the Marxist thought with works on the national problem. Nevertheless, Marxism indeed forms the core of Leninism and gives Leninism content and clarity.

Joseph Vissarionovich Stalin

One of the most important problems of political science is the problem of introduction of the highest position of a General Secretary of the Central Committee of the Russian Communist Party (of Bolsheviks) in the Soviet political system. During the transition from war to peace, there was a keen struggle with regard to the issue about methods of economic management and ways of holding the influence on the Bolshevik party of the mass of workers. Its main front was formed: Lenin on the one side and Trotsky on the other side. Lenin and Trotsky were developing two significantly different concepts of new economic policy. Conducting reorganization of management system, Lenin simultaneously aspired to strengthen the political positions of his supporters in the government bodies of the party and state. Lenin's health was deteriorating from

the end of 1920 and he couldn't take part in the preparation of XI conference of the RCP (b), particularly, in the work of the Plenary meeting of the RCP (b), where the plan of political report to the conference was discussed. In these conditions, Lenin started thinking of political future and a successor. The only thing he could really do was to ensure the leading condition and solid political positions for a person selected by him.

Lenin wanted Stalin to head the party as General Secretary. This position expanded the political powers of Stalin and cemented his political positions, which relied upon the Central Committee of the party and decisions of the Plenary meeting of the Central Committee. The position of General Secretary became the highest position in the political system of the Soviet state. Lenin himself created a political system that, in case of his death, could ensure the transition of power in the party and state to the hands of that leader who he could rely on and confide the fate of revolution to. The core of the highest power at the moment of establishment of the Soviet power was not a position, but a Leader. The introduction of the position of General Secretary for Stalin became an important stage in the development of the Soviet political system.

Apparently, the realization of forced modernization required the respective system of power and elite capable of realization of this course. Today, the researchers speculate about what the direct reasons of large-scale purges of the end of 1930s were and the motives of elite rotation carried out by Stalin. At XX conference of the party, Khrushchev interpreted Great Terror by exclusively personal characteristics of Stalin — cruelty, arbitrary actions, intolerance to a different opinion. This is an emotional point of view. Stalin needed a loyal, effective, homogeneous managerial layer that would determine the success of modernization in the whole. A wide complex of measures taken in 1930–1940 that radically changed the structure of political elite is viewed in this context. Obviously, forced modernization in the conditions of deficit of resources implied the toughening of requirements of the state with regard to economic entities. Establishment of a tough regime of the supreme power and repressions are determined by the formation of effective and obedient elite. Also, repressions had other motives. Among them, there is an urge to rejuvenate government apparatus in order to increase its effectiveness. The motive of elite rotation may include a low level of education of the political elite formed in 1920s. Such motives as measures to increase the education level and rejuvenation of the ruling layer, limitation of its privileges came down to the ensuring of maximal effectiveness of the ruling layer as a tool of modernization. At February-March (1937) Plenary meeting of the Central Committee of the party, Stalin called for radical renewal of the structure of the party at the expense of the new replacement of «promoted workers».

Thus, the reasons of large-scale rotation at the end of 1930s were dictated by the need of forced modernization in the conditions of the resource deficit. The result of Stalin's staff revolution was the formation of a new serving class that fit the task of modernization in the conditions of the resource deficit,

which was loyal to the supreme power and flawless from the point of executive discipline.

Certainly, the peculiarities of Stalin's personality were the factor that left a dramatic trace on the course of political processes of the Soviet system. In the political-psychological research «Stalin as Revolutionary, 1879–1929. A Study in History and Personality» by R. Tucker, it is noted that the dominating features of Stalin's character were cruelty and vengefulness, constant need of self-assertion, black and white perception, experience of the environment as immanently hostile. However, the meaning of the psychological peculiarities of Stalin is secondary; if the leader was a different person, possibly, the process could be less extremist. But the main parameters of the course would probably coincide with the ones that were realized in practice. If one wants to explain the peculiarities of political development of the Soviet society in 1930–1950 through demonization of Stalin's personality, it puts political study at the level of an aphorism of Pascal: if the nose of Cleopatra had been shorter, the world would be different.

Nikita Sergeevich Khrushchev (1894–1971) was a Soviet party and state figure.

Material level of life of the Soviet people in 1956–1957 improved. The working day that fell for holidays or pre-week-end days was shortened by 2 hours. A shortened working week was introduced for teenagers aged 16–17. The salary was not cut. The leaves with regard to pregnancy and labor were increased. The system of separate education was cancelled in boys and girls' schools; the payment for high school at secondary schools and higher and secondary special educational institutions introduced by Stalin was also cancelled. The biggest social event was a new Law about pensions for workers. The new Pension Law increased all kinds of pension provision significantly. The results in the industry seemed not bad and the production growth was 11%. The appearance of Moscow changed due to the rapid civil construction. The appearance of many unique structures is associated with the name of N. S. Khrushchev: Palace of Congresses, Luzhniki stadium, Kalinin Avenue, Ostankino television tower and Moscow ring road [17, 113]. The rehabilitation of «disgraced» peoples illegally expelled from their ancestral territories under Stalin had a special value. On January 9, as per the Decree of the Presidium of the Supreme Council of the USSR, Kalmyk ASSR was restored. Soon, the Chechen-Ingush ASSR, Kabardino-Balkarian ASSR and Karachaevo-Cherkessk ASSR were restored. It was planned to carry out the moving of big masses of people during 5–6 years [10, 130].

In the first half of 1957, the Presidium of the Central Committee cancelled the system of «packages» under the initiative of Khrushchev, i. e. the issue of special sums in special envelopes to responsible workers introduced by Stalin, which sometimes were 2–3 times higher than officially set salary. In 1957, Khrushchev introduced the proposition of a radical change in the structure and nature of management of the national economy of the USSR for consideration of the Presidium of the Central Committee of the CPSU. It was suggested to liquidate most

industrial ministries and give the management of factories and plants to specially created territorial authorities — Councils of National Economy (Sovnarkhoz). By the beginning of 1957, the USSR had over 200 thousand big and small industrial enterprises and about 100 thousand construction sites. It became more and more difficult to manage this production from a single center. The project of N. S. Khrushchev turned the Commission into a simple additional chain and, leaving the real decision-making with regard to long-term decisions to the State Planning Committees, transferred the concrete development of the latter to regional bodies in the form of CNEs. The project even suggested the liquidation of industrial ministries, reduction and decentralization of too numerous central bodies. Proposed by Khrushchev, this system didn't pass any experimental check anywhere. It could turn out to be rational for such big industrial centers as Leningrad or Sverdlovsk region, but irrational for regions and republics of the North Caucasus, because the number of large enterprises was not more than two-three or even less in any republic [10, 135].

The main achievement of Khrushchev lies in the fact that he destroyed the cult of Stalin's personality. A courageous decision to rehabilitate many communists and non-party people who underwent repressions and executions during the period of the cult of personality restored justice, wisdom and honor in the life of the party and state.

As a pragmatist, Khrushchev was stronger than not only Malenkov, but other associates of Stalin. This quality let him take the initiative in respect of the cult of personality. The decisions condemning the cult of personality were, as it is known, taken jointly; although, there was never a unanimity of views with regard to this sensitive question in the Presidium of the Central Committee. Malenkov, for instance, considered the cult of personality as a mainly moral problem. «What is accepted to name «the cult of personality», — he wrote later, — implies, first of all, affirmation and self-affirmation of a leader in the position of a man without sins in his actions and behavior regardless whether they are right or wrong or mistaken» [11, 115]. He spoke about the cult of personality of Stalin but never narrowed down the problem of cult to the personality of Stalin. Khrushchev, unlike Malenkov, went the path of personification, giving Stalin in pledge of the public opinion.

The contradiction and superficial nature of Khrushchev's reforms were largely determined by those circumstances that the reformer himself, according to his own confession, had «arms in blood up to elbows». Some publications show proof that during the period of repressions of 1930–1940 Khrushchev took active part in them, both being the first secretary of the Moscow Regional Committee and Moscow City Committee in 1935–1938, and as the head of Ukraine in 1938–1939, when he took direct part in repressions initiating them in some cases [12]. The sentencing practice changed rapidly when he arrived in Ukraine: almost all arrested people were sentenced to the supreme penalty. Such change was also stimulated by the arrival of N. I. Ezhov, a People's Commissar of the internal affairs of the USSR, in the republic in February, 1938. Same

year, many Ukrainian chekists became the victims of repressions; 1199 people from the management personnel of NKVD were shot dead [13]. The indicated circumstances largely determined the superficial nature of political reformations of Khrushchev, which were an attempt to reform the system in the whole through liberalization, mitigation of the order formed under Stalin without changing the essential components of this system. However, the main reason of the superficial nature of Khrushchev's reforms was the fact that, essentially, they were not reforms. The problem is that, destined to be the subject of reformations, Khrushchev himself was the «product» of this system. The dramatic effect of Khrushchev's personal fate and unsuccessful reformations prove that the personality formed as a «cog in the machine» cannot be effective as supreme power, because the functioning in the regime of a «cog in the machine» requires unconditional duty performance, whereas the main quality of the first person of the system takes conceptual role of thinking. Khrushchev was not talentless, which is certified by his path to the supreme power: in the course of rotation, he managed to consistently outplay «triumvirate» Beria, Malenkov and Bulganin. The analysis of Khrushchev's leadership shows that the successful functioning of the political system is possible provided the conceptual nature of political management and political will of the subject of management. The absence of one of the conditions is fraught with the dysfunction of the system.

Leonid Ilyich Brezhnev (1906–1982) was a prominent Soviet and party figure, marshal and fourfold Hero of the Soviet Union, Hero of Socialist Labor as well as irreplaceable leader of the Communist party and the Soviet state during the period from October, 1964 to November 1982, General Secretary of the central Committee of the CPSU and chairman of the Presidium of the Supreme Council of the USSR.

Brezhnev had common sense, political quick-wittedness and staff cunning. G. Arbatov called him the grand master of staff struggle [14]. To some extent, the country was lucky because the power was taken by not the worst of communists and, as everyone soon understood, a man who was not evil or cruel. Brezhnev was careful. He didn't go to extremes, avoided personal conflicts and didn't forget old friends. At sentimental moments, he declared Esenin and Merezhkovsky and did acting. He knew the poem «Shakyamuni» by heart. He knew how to be sociable, communicative and courteous. Brezhnev had two hobbies: hunting and cars. The best natural reserves, hunting fields, villas and saunas in the country were at his service as well as all secret pleasures of nomenclature life. He took a good aim, drove a car well and had a license of a professional chauffeur. He liked gifts, but most of all cars out of which he formed a collection of expensive vehicles. He was not interested in art, culture and sports preserving bourgeois mindset typical for communist leaders in general [15].

In all official documents of Gorbachev's «perestroika» as well as all media of perestroika period, the years of Brezhnev's rule were called a «stagnation»; although, one can hardly find such characteristic just. Despite gradual drop in the pace of

socio-economic development, which is generally typical for developed industrial countries that passed the period of initial industrialization, a colossal growth of economic potential of the country was achieved during the years of Brezhnev's rule; its material and technical base expanded significantly; important steps in the development of the whole range of the most important and new industries of economy were taken, including the country's fuel and energy complex. During this period, the reserve of solidity was formed, which allowed Russia as the successor of the USSR withstanding the difficult 1990s. Crisis tendencies were gradually growing in the national economy in 1970–1980. It was mainly related to the decrease of efficiency of the Soviet model of primary industrialization. National economy failed to timely realize a new model primarily built on the usage of achievements of scientific and technical progress. Although, the possibilities for structural reconstruction of national economy were notably more favorable at this time compared with the end of 1980s – the beginning of 1990s.

In centralized economy, the profits of enterprises were taken to the treasury and, then, distributed for all-public aims according to the list of the most important tasks. It was a strong side of Brezhnev's system that realized a few fantastically big projects. The following should be noted:

- creation of the Unified Energy System of the country that includes gigantic hydro-power plants — Bratskaya, Krasnoyarskaya, Sayano-Shushenskaya and Ust-Ilimskaya;
- exploration of Tyumen oil and gas and Kansk-Achinsk fuel and energy complexes;
- construction of Baikal-Amur Mainline;
- construction of a branched system of oil and gas pipelines, nuclear-power icebreakers and stations, space stations.

806 higher educational institutions and hundreds of scientific-research institutes functioned in the country [15]. The Soviet social state gained further development under Brezhnev. Important steps in respect of the development of pension system were taken. Its effect covered the villagers. A guaranteed payment for labor was introduced for the members of collective farms. Serious measures on development of free of charge secondary, professional technical and higher education and improvement of its quality were taken. At the turn of 1960–1970s, the transition to five day working week and two weekends was carried out. The periods of paid leaves expanded significantly. A large-scale civil construction was performed at the expense of the state as well as personal savings of the citizens. Millions of people received new apartments or improved their existing living conditions considerably. As for the level of material well-being and volumes of social programs realized by the state, if one considers all main layers of the society and not its privileged minority, the era of Brezhnev comprises one of the most successful epochs in the Russian history. Finally, another very important social conquest of Brezhnev's epoch is related to the unprecedented level of social and personal safety of citizens relative to the crime rate, which was due to the attention paid

to the development of the Soviet law-enforcement agencies that made the rule of Brezhnev and his irreplaceable minister of internal affairs of the USSR N. A. Shchelkov a «golden age» in the development of the Soviet militia.

What was done during Brezhnev's epoch (if one rounds it off to three five-year periods of 1966–1980). Housing facility stock of the country was radically renewed. 1,6 billion square meters of housing space were built, i. e. 44% of all housing space in the USSR by 1980. 161 million people received new homes during three five-year periods. 2/3 of infrastructure of cities and villages — water pipelines, central heating supply and sewage were built during these three five-year periods. An average salary was 150 «difficult Brezhnev rubles» with a symbolic payment for communal services.

During the very Brezhnev's epoch the household of the majority of citizens was leveled to the standards of the most developed countries and there was no mass homelessness in the USSR typical for those countries.

During the very Brezhnev's epoch, economy and other spheres were saturated with highly qualified staff and energy capacities. The plough lands of the country started receiving almost enough fertilizers to compensate for the subtraction of nutritious matters with harvest. The soil started improving. A herd of pedigree cattle was created in the country, but later it was cut out by over a half. People settled down and started eating well. Social opportunities expanded. The number of graduates of the complete secondary school increased by 3 times and the number of students of higher professional institutions rose by 2 times. The population was growing consistently; only in the RSFSR it increased by 20 million people during those 20 years [15].

According to Sergey Kara-Murza, it was a golden age, which will not be repeated [16]. Brezhnev period is some «golden age» of the Soviet socialist order, its «Victorian age», according to S. Chernyakhovsky [17]. It was the period of supreme bloom and power. Not only military-strategic parity was achieved with the USA; at some moment, the fate of American presidents was decided depending on whether they promise their country to improve the relations with the USSR or strive for confrontation. Their visits to Moscow became an integral attribute of internal PR. Local and simultaneously global confrontation in Vietnam turned out triumphant for the Soviet policy and Soviet military power.

The epoch of Brezhnev was the epoch of stability and, primarily, staff stability. Medvedev R. reckons that Brezhnev didn't seem like a cruel ruler and he was not one, giving reference to nickname «ballerina» gained by Brezhnev during the work in Dnepropetrovsk, which meant his ability to be subject to different influences [18]. However, it doesn't mean that Brezhnev was not a leader. He was the leader. Brezhnev's behavior is a maximal flexibility that can be afforded by a politician in the conditions of a tough political system. Remembering Brezhnev, a party worker P. Rodionov was convinced that «velvet gloves hid steel fists» [19, 184]. Brezhnev managed to displace most former supporters from the top echelons of

power — Shelepin, Shelest, Podgorny, Polyansky, Mazurov, Voronov as well as potential rivals. He did it technically without resorting to repressions. He manipulated power cunningly, keeping everyone where that person was needed. Brezhnev was a grand master in staff games and staff struggle. A distinctive feature of Brezhnev as a leader was a desire to create his own team of faithful people. As for the conceptual strategy of the state, Brezhnev didn't have abilities for conceptual leadership; he was not able to understand the large-scale problem of a radical reform of management methods.

Mikhail Sergeevich Gorbachev took power in 1985. The only difference was his relative youth and speeches «without a paper note». For some time he continued to flow in the midstream of his predecessors in numerous and wordy performances. Then, he started talking about «socialism with a human face» and «return to late Lenin». Later he started to prolong the ideas of «general human values» and «new thinking». These ideas meant nothing but a refusal of Marxist-Leninist principles. One way or another, approximately by the end of 80s of XX century, a turning point was made. Gorbachev didn't start his reformation activity with economy, but with politics. For the purposes of internal political address,

Gorbachev introduced interrelated mottos of «general human values» and «pluralism». And there was a «new thinking» for international arena.

Essentially, two powerful bombs were laid, which undermined the Soviet system and, thus, Soviet leadership. If the priority of general human values was proclaimed, it meant that the basics of Marxism-Leninism, so called class approach, were crossed out. And the permitted pluralism of opinions and expressions cast down this principle. But, if the proclamation of a thesis about general human values took the ground out of the system inside the country, the «new thinking» gave a crushing blow to the state ideology of the Soviet Union and the very Soviet state in the international scale. In accordance with the «new thinking», the USSR stopped the confrontation with the capitalist world headed by the USA by way of a few important concessions. The Putsch of the State Committee on the State of Emergency that took place in 1991 shot down the Soviet system and the respective type of leadership. Lenin announced the beginning of the Soviet system of leadership. The end of this system is personified by Gorbachev at a Crimean resort. These are the milestones of the beginning and end of the Soviet, consistent, triumphant and inevitable type of leadership.

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China and Africa: win-win strategy

Abstract: The article analyzes the various aspects of China's policy in Africa in the 21st century. It is concluded that there is a mutual interest of PRC and African countries in multilateral cooperation.

Keywords: China, Africa, politics, economics, influence, diplomacy, interests.

In the last decade, China has managed to strengthen seriously its influence in Africa. The Chinese government and business are interested in African oil. It is expected that China will be imported by 2020 10–15 million barrels of oil per day, i. e., the same as now mined from Saudi Arabia or all African countries put together [1, 38]. The Chinese are actively investing in the search for and development of new deposits of ores, non-ferrous and rare metals. To ensure its food security China is building on the continent agricultural enterprises in rented or purchased lands. Africa is becoming an important market for the goods exported from China. In 2012, the trade turnover between China and African countries reached \$198.49 billion, and in 2015 it should reach \$300 billion. The volume of Chinese investments in Africa increased to \$21.23 billion. China is present, politically and economically, in all 54 countries of the continent. To achieve their goals in Africa Beijing uses different strategies, which are arranged in a precise system.

First, it appeals to the history, focusing on general distant and not-too-distant past with African nations. The brilliant episode, which draws attention, was visiting the East African coast by the Imperial fleet under the command of Admiral Zheng He in 1415. It is emphasized that he had not attempted to colonize the region, and visited it for the purpose of establishing friendly relations.

The Chinese influence in Africa began in the 60–70s of the 20th century when China was involved in the liberation wars on the continent and construction projects in independent countries. But the scale of this presence was limited by the tough competition of the USSR and the West in Africa. The African countries for the sake of receiving economic help were guided generally by one of the two world forces, and with both the People's Republic of China had hostile relations. Only after the end of Cold war and the actual withdrawal of Russia from Africa China could fix itself on the continent as an important actor. When the present Chinese leaders speak of their relations with Africa, they always refer to the historical context. Beijing puts emphasis on common past, in which China and African countries were the victims of the Western imperialism [2, 43–58]. This historical discourse must convince the African leaders that China, having become a great nation, is committed to the interests of developing countries.

Secondly, it is offensive policy in the field of education and culture. China provides scholarships for African students (6 thousand in 2012), is teaching technical, military and medical specialists. The majority of students are trained in Chinese as Beijing understands that political and cultural influence of the country is substantially carried out through language. Thus the elite, loyal to Beijing is formed. Moreover, the increasing presence of Africans in China offers the Chinese wonderful opportunity to show their hospitality, which is an important issue in African culture. In African countries Beijing is opening Institutes of Confucius which are the tools of promoting the Chinese language, culture, and Chinese visions of history. The first one

was opened in Nairobi in 2005. To date, 45 such Institutes have been established in 30 African countries [3].

Thirdly, an important element of Chinese influence in Africa has become diplomacy, which takes into account the interests of African countries, marginalized in the international arena. In 2006 the Chinese authorities published "The White Paper" in which the fundamentals of new African policy were declared. Beijing emphasizes that "China seeks to establish and to develop new type of strategic partnership with Africa, characterized by equality and mutual confidence in political affairs, mutually beneficial cooperation in the economic realm, and the strengthening of exchanges in cultural affairs" [4].

China offers to fight together for the democratization of international relations, including the reform of the WTO and the UN, and strengthening of positions of the African countries in them. All African countries have associated themselves with the Beijing's offer to provide developing countries with two additional seats, veto power in the UN Security Council and two seats of non-permanent members of the Council. Beijing is promoting the concept of the multipolar world, in which the major powers balance their influence and collaborate with each other. The Chinese leadership enhances South-South cooperation with the aim to improve the position of developing countries in the international arena. Frequent state visits also help to strengthen the position of China on the continent. They contribute to the establishment of personal contacts among the leaders. Frequency of the visits particularly intensified since the early 1990s. Africa has been visited by four Presidents of the People's Republic of China: Li Xiannian, Yang Shangkun, Jiang Zemin, Hu Jintao. The last made six visits to Africa: two as the vice-president and four as the president. The current President, Xi Jinping committed his first overseas tour to Africa, visiting Tanzania, South Africa and the Republic of Congo. From their part the heads of African states and governments also often visit China. During mutual visits China announces its new assistance initiatives, signs the multi million-dollar contracts [5, 70–93].

China has diplomatic relations with 50 of 54 countries of Africa. Only 3 small states — Burkina Faso, Swaziland, and São Tomé and Príncipe — continue to maintain diplomatic relations with Taiwan. All 50 countries, except for the Comoro Islands, have the embassies in Beijing. Since 1991 each new Minister of Foreign Affairs of China makes his first official visit to an African country. Every year on the invitation of the Chinese side groups of young diplomats from different African countries spend a month in China, intensively getting acquainted with the Chinese model of development [6, 25]. The People's Republic of China uses also so-called symbolical diplomacy. In January, 2012 Chinese constructed the headquarters of the African Union in Addis Ababa.

But China is also attractive for Africa for many reasons. Its powerful economic boom carried by the non-Western recipes. After decades of policies with an eye to the West now Africans are looking for new models of development. Africans willingly

make common cause with China that is not following the neo-liberal prescriptions of the international financial institutions. It refuses to join the Organization for Economic Cooperation and Development (OECD), which brings together developed countries, adhering to the principle of representative democracy and free market economy. Not by chance that the Chinese diplomatic offensive in Africa began with the countries that were in conflict with the multilateral organizations. In particular, Beijing has established a privileged relationship with Angola, Sudan and Zimbabwe. All these countries had a valuable economic asset, but, more importantly, were in a difficult relationship with the World Bank and other international financial institutions because of charges of corruption and human rights violations. Representing itself as a commercial and diplomatic partner outside the structures of the OECD, China has been able to access some attractive projects on favorable terms, such as oil production in Angola and Sudan. The Chinese do not associate their assistance with human rights, democracy, eradicating corruption, etc. For many Africans, tired of Western politicians' lectures, whose moral mandates aren't always faultless, it becomes a breath of fresh air. Africans willingly make common cause with China, which looks as a generous coach, but not the mentor. In general, Africans are very receptive to China's politics, which is aimed at establishing strategic partnership based on equality and mutual benefit. An important instrument for the development of relations between China and African countries is the Forum on China-Africa Co-operation (at ministerial level), which since 2000 has been held every 3 years. At the Forums cooperation programs concerning social and economic development are accepted and its concrete figures are defined. In November, 2009 in Egypt (Sharm el-Sheikh) the 4th Forum took place; there were summed up the results of cooperation during the last decade, and also further plans of the Chinese investments into the African economies were announced. Beijing promised to allocate \$10 billion soft credits, to create a fund with authorized capital of \$1 billion for lending to medium-sized and small African companies. Besides, the People's Republic of China promised to enter a zero duty for 95 % of goods from the poorest countries of Africa, and as well as to write off the debts to the most hopeless debtors. The humanitarian program of cooperation assumes granting the medical equipment for \$73 million to 30 hospitals, building of 50 schools and construction of 100 projects on production of "clean" energy from renewable sources [7]. This program was completely realized.

According to the 2010 State Council "White Paper", this will be composed of \$3 billion in preferential loans, \$2 billion in preferential export buyer's credits, and \$5 billion toward the establishment of the China-Africa Development Fund, which is designed to encourage and support Chinese companies investing in projects in Africa. The "White Paper" also indicated that China would provide credits of up to \$1 billion toward Chinese financial institutions for the development of small and medium enterprises in Africa [8].

The 5th Forum took place in 2012 in Beijing. On its results the document "The Plan of Action for 2013–2015" was accepted. Some basic provisions of it were sounded in the speech of the Chinese President Hu Jintao at the forum opening [9]. It allocated five main areas of strategic partnership between China and Africa. First, cooperation expansion in spheres of investments and accumulation of money for the purpose of assistance to Africa in achievement of a sustainable development. Secondly, further increase in the help to Africa in order that all African people used results of development. Thirdly, support of integration processes in Africa and rendering help so as to increase African general ability to further development. Fourthly, friendship strengthening between the people of China and Africa to lay the strong social basis for their joint development. Fifthly, to assist a lasting peace and stability in Africa, to create the safe environment for the African development.

China's interest in Africa, the results of cooperation urge developed countries to invest in Africa. The Chinese-African cooperation not only integrated the African continent into the globalization process, but also forced the world community to reconsider ways of assistance to Africa for the sake of access to its resources. Europe and the USA any more don't perceive Africa as "a patient", but see in it a partner.

Certainly, Africa's cooperation with China is not free from problems connected, first of all, with instability of African modes. China adheres to the principle of non-interference to internal affairs of the African countries, respect their sovereignty. However and here Beijing is acting pragmatically. Technocratic management of China realizes that absence of the state institutes effective and recognized by the majority in some African countries creates problems for modern business. China refused large investments in Zimbabwe, understanding that after aged Robert Mugabe's death in the country there can come chaos. The Chinese government was deeply shocked with the crash of its Libyan ally M. Kaddafi in 2011 and arisen after that the need to rescue 30 thousand Chinese citizens from disorders. Keeping rhetoric of respect of the African sovereignty, China joins the international efforts on establishing order in the problem countries. It actively participates in peacekeeping missions in Africa. Thereby it exploits existing international architecture in its own interests. Besides, Beijing creates image of the great power, capable to assume the responsibilities that go with that status.

Certain discontent Africans is caused by lack of China's interest to creation of enterprises of manufacturing industry. The rare exception is Sudan where with the Chinese help the industry of oil refining and production of cheap and simple products from plastic develops. Discontent is caused by weak attraction by the Chinese companies of local labor in the conditions of mass unemployment. Many construction projects are carried out with the minimum attraction of local labor; even drivers and unskilled workers are brought from China. Periodically there are disputes, concerning compensation of the attracted local people. The question of negative

impact of some Chinese industrial projects on local ecology is increasingly raised.

Now in Africa there are about one million Chinese. Part from them remained in the African countries after end of joint projects. This tendency amplified after 1985 when the Chinese emigration laws became less strict. The majority of them are small business owners, many of which are engaged in trade. In many African countries there are many shops in which the Chinese who are tolerably speaking local languages, trade in cheap goods of mass consumption made in China. Moreover, some Chinese manufacturers illicitly copy African designs, such as wax print textiles, and then produce them more cheaply for export back to Africa. Sometimes it is considered as an unfair competition and causes public indignation, as it was in Senegal and Malawi [10, 4].

Some Chinese traders use false companies to export illegally timber, diamonds, prized body parts of wild animals which was under the threat of disappearance. The traders from

Hong Kong moved into Africa as well. In recent years Triads stirred up the activity in Africa. They are engaged in stripping of the southern African coast of abalone (other name of these mollusks "sea ears"), in shark fin and a rhino horn trade, and also in people trafficking [10, 118].

All this has an adverse effect on the image of Chinese in Africa. In some countries there were anti-Chinese demonstrations. In Zambia the oppositional leader Michael Sata won the presidential election in 2011 largely due to anti-Chinese rhetoric. However these negative moments of the Chinese-African interaction are with interest compensated by its benefits for Africa. And not only material ones. The Chinese presence at Africa influences how the African countries build the relations with other partners. China paves the path for the countries trying to find their own ways and means for the development, want to assert itself on the international arena, while maintaining their independence and protecting their way of life in the world dominated by the West.

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Section 9. Psychology

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A triple model of interaction in the advisory process

Abstract: A triple model of interaction in the psychological consultation is represented in the article the theories of L. S. Vygotsky, M. M. Bahtin, A. B. Orlov, H. Hermans and H. Kempen are taken as a basis. A dialogical approach is disclosed and used as a methodological principle of the given model.

Keywords: Interaction, psychological consultation, dialogic approach, dialog, triple model of interaction.

For the last twenty years, domestic psychology has changed beyond recognition. The number of qualified psychologists has grown by a factor of ten and the overwhelming majority of them, (unlike the previous generation), is occupied not with research and teaching, but with practical psychological work. Neither is it simply a quantitative change, the social status of psychology has also changed. It is turning more and more into an independent social sphere and in this connection there are radical structural changes throughout the discipline. So the global methodological problem of modern domestic psychology consists in forming a new system of relations between psychological science and practice. Applied psychology places special emphasis on the problem of interaction, and one of the places where questions of interaction are most significant is psychological consultation.

The process of psychological consultation is complex and diverse. As A. F. Kopev remarks, “the current state of advisory practice is characterized by the great variety of scientific and theoretical ideas. Psychotherapeutic practitioners constantly introduce new methods searching for a more general view on this subject. At the same time the experience of concrete advisory work demands that these assessments can themselves be adequately judged without losing their specificity, so that they can be integrated into and scientifically compared with other experiences and their theoretical interpretations” [9, 17]. However the scientific basis of psychological consultation remains insufficiently developed.

An overview of the data and literature on psychotherapy and psychological consultation (B. D. Karvasarsky, N. N. Obózov, M. A. Gulina, A. F. Kopev, A. B. Orlov, V. A. Tashlykov, G. S. Abramova, V. A. Ababkov, M. G. Bobkova *et al.*) shows the existence of various approaches in both the psychotherapeutic and advisory process. In understanding all of this, the

absence of any accurate theoretical reference points can be seen. Practicing psychologists do not have any unity in understanding the distinction between psychotherapeutic and advisory activity and this creates areas of misunderstanding and uncertainty.

This non-systematic character restricts the possibilities of the psychologist’s productive interaction in working out a strategy between the practitioner and the client to solve their respective problems, whereas according to leading experts (Z. Freud, K. Rogers, R. Grinson, O. Kernberg, B. D. Karvasarsky, *et al.*), the quality of psychotherapeutic interaction is one of the major factors defining the success of psychotherapy and consultation. This is the most difficult part of psychotherapeutics to describe, even in general terms and has not been developed as science in itself until relatively recently; nevertheless the efficiency of “adviser-client” system still depends on a balanced advisory interaction relationship.

Interaction between the adviser and the client began, quite rightly, to take a central place in the understanding of consultation. According to V. A. Tashlykov the quality of treatment is best when the effectiveness of consultation is highest [13]. That is why research in this area is particularly important, allowing us to understand psychological consultation as a developed process of relations and interactions between the adviser and the client.

As a methodological “tool-kit”, the interpretation of interactions in psychological consultation uses the dialogical approach. In psychology, dialogism is thought of as a resolution of conflicts. In this respect the Great Psychological Encyclopedia defines the concept, as “dialogical speech” that means a “conversation between two persons, constructed in the form of remarks. Dialogical speech between interlocutors works at a certain level suggested by them, in language that is clear for

both. Speech expresses the essence of a person and defines his typological characteristic. A correctly constructed model of dialogue allows faster and more successful results than simple conversation" [3, 136].

The problem of dialogism is more fully discussed in M. Buber, K. Jaspers, M. M. Bakhtin, N. A. Berdjajev, S. L. Frank, U. M. Lotman *et al.*

In the first half of the 20th century, dialogism was seen as a new type of reflexion based on dialogue understood in philosophy as "the relation between "Self" and "Significant other" [11, 320]. The essence of dialogism as a "new type of thinking" is based on "relation", instead of knowledge, and is guided by an embodiment of "action", instead of remaining at a contemplative level. A valid "I" is the result of a spontaneous orientation of the person to something Other than itself [11, 320]. For K. Jaspers, dialogism (interlocutory) is a tool promoting communications, it is a means of 'life-comprehension'. Dialogism realizes that when "Another" has an influence *on* "Me" the same can be said of an influence *from* me. Besides, Jaspers considers that dialogism is a mutual tendency of people "to find themselves". Thus when the philosopher addresses himself to the problems of "lives of people in the world", the role of dialogism as a function of personal history, is clearly shown. Dialogue arising between those possessing "the will to communicate", is the necessary basis of any attempt at the unification of people. The core of dialogism is acceptance and understanding.

As M. M. Bakhtin wrote, "it is impossible to attribute a word to one speaker. The author (speaker) has his inalienable rights to use a word, but the listener also has rights, as well as the rights of people who used that word before it was found and used by the author (after all, there are no "nobody's words")" [1]. Besides, Bakhtin specified that the relationship between another's statements assume a relationship with the speaker, besides that of the relation of a dialogue to its subject. J. M. Lotman says that "dialogue means asymmetry, which is expressed firstly in distinction of the semiotic structure (language) of the dialogues participants and second, in an alternate giving and receiving of ideas" [8, 268]. The dialogical approach to psychological consultation, based on the philosophical principles of dialogism was developed by Russian psychologists and psychotherapists (T. A. Florenskaya, E. T. Sokolova, N. S. Burlakova, F. E. Vasiljuk, A. F. Kopev).

T. A. Florenskaya believes that one of the features of dialogical consultation is the relationship between the person and the subject of the "live dialogue", but not that between the object of research and influence. Such a dialogical approach "... is based on universal spiritual and moral reference points" [12, 5]. At a deep level of the understanding of human psychology — there is "a dialogue with the conscience where the spiritual "I" is shown" [14, 25].

Beyond any understanding, surpassing the possibility and comprehension of the person's "spiritual I", T. A. Florenskaya considers "the existent I" is the person in his present condition taking into account his limitation of experience, environment,

education and heredity. In addition "the existing I" comprises two voices "the real I" and "the ideal I". By the first, the author means the actuality of the person him- or herself. By the second, she means an ideal image, which he or she would like to see of him- or herself. The "Spiritual I", though, should not be the subject of psychological research, but it is necessary, that the psychologist recognises its existence *a priori*. In fulfilling this condition there is the possibility of "joining dialogically" his "spiritual I" with the patient's "spiritual I". Only then can the psychologist start to detect and describe the "existing I" of the patient, or so the author believes.

A. F. Kopyov [9] suggests considering dialogue as the moment of actualisation by clients of their original nature when they overcome the resistance and protection of their psyche. For this reason the author ascribes special emphasis to psychological conditions in which dialogue either occurs or is avoided, and also the clients dialogical intention, which is much more important than a total victory of his (the therapists) will in a consultation situation, or than the form which the self-determination of the client takes or the value of the words spoken at the time.

F. E. Vasiljuk [6] offers a classification of types of psychotherapist and client interaction, constructed along vectors of psycho-therapeutic space. He considers that the process works within the consciousness of the client, with the accent on localisation of work within the external 'world-knowledge'; the clients inadequacy of situation image; lack of experience or self-knowledge of the internal aspects of their private world.

It is always a dialogue, but what kind of dialogue depends on the chosen "psychotechnical unit" and the role the psychotherapist plays caused by this choice, The *modus operandi* when conducting a dialogue can be, at any given stage, a monologue of the psychotherapist (interpretation of unconscious displays), a monologue of the client (the psychotherapist in this case is the nonverbal participant of dialogue, demonstrating trust, empathy and acceptance of the client).

We suggest considering the idea of triological interaction models in psychological consultation based on theories of L. S. Vygotsky about social and cultural mediation in development of mental functions; the dialogical nature of consciousness of M. M. Bakhtin; the triological approach in psychotherapy and A. B. Orlov's psychological consultation and the theories of "dialogical Self" propounded by H. Hermans, and H. Kempen.

L. S. Vygotsky put forward the idea of social and cultural mediation in the development of mental functions, and noticed that this development is carried out in a dyadic communication context. The result of training is connected with the mastery of social skills and abilities which are then, in turn, used to process the internal means of personal organisation of behaviour. Activity is mediated by sign structures; the internal plan is transformed and becomes the plan for a problem resolution. The problem or solution factor in the internal plan is mediated by its own semiotic structure which in

the course of activity replaces natural mental structures and attains an ontological status [5]. According to L. S. Vygotsky, "... there are relationships between the higher mental functions and real human relationships. I concern myself with how people concern me" [7, 142]. Interaction, according to L. S. Vygotsky is about social and cultural mediation in the development of mental functions and it is shown through internalised language structures where the person internalises social relations, and also through concrete relations which being curtailed, become intra-psychic. Therefore talking about the nature of interaction and its dynamics, it can be supposed, using the ideas of L. S. Vygotsky as a basis, that in a dialogue, the actions of one interlocutor cause specific actions and replies in another and vice versa. Thus, within the activity in which realization is carried out through co-operation with others, the latter interlocutor forms semiotic structures corresponding to this activity. These semiotic structures then undergo the process of ontogenesis and turn into structures of consciousness.

M. M. Bakhtin considers any human manifestation (even silence, inaction, or ignoring communication) to be materially dialogic. There is no dialogue *a priori*. M. M. Bakhtin wrote: "Two voices are the minimum of life, the minimum of being" [1, 339]. He saw everything as a dialogue. Every word is a reply to another word, coming from another person. Through words we answer somehow, we agree, we fight, we argue with or accept Another Man. Thereby opening the boundaries of the human inner world, contact with another person only happens in dialogue, authentic dialogue is being, its dialogic nature actualizes our existence.

There is a system of propositions in A. B. Orlov's triple approach to the understanding of dialogue between the adviser and the client, which develops simultaneously the concept of the person in general psychology, and the system of concepts in the dialogical approach. His representation of the structure of a person is "the intra-psychological triad of instances" — a person, a face, a shade; and this triad goes back to A. A. Ukhtomsky's works: a person, another as its double; another as person (interlocutor) and this became the initial idea for subsequent reasoning. Accordingly, the following proposition is a statement about triple-voice and triple-being of person — triologue.

The concept "trialogue" means:

- 1) a conceptual understanding of the fundamental triplicity of being (as existence, structures, and systems);
- 2) communicative and auto-communicative structure, which can be said to possess four dimensions: inter-personal (a person — a person), intra-personal (a person — a shade), sub-personal (a shade — a shade) and trans-personal (a face — a face);
- 3) the real phenomenon of practical psychotherapy-consultation which includes, besides the positions of the psychologist and the patient, a third participant, the observer;
- 4) training procedure in psychotherapy-consultation practice.

According to this model, triologue is a real phenomenon of practical psychotherapy-consultation and is formed by two triads of subjects of communication:

- 1) the psychotherapist-adviser, the imagined observer, the patient;
- 2) the patient, the imagined observer, the psychotherapist-adviser.

Besides this, A. B. Orlov formulates three basic ideas for his approach:

- 1) the idea of three territories ("I overcome not there where I outlive, and I outlive not there where I live") [12];
- 2) the idea of three subjects (three internal instances — an observer, an internal client, and an internal therapist);
- 3) the idea of three languages (a display of an "I" with three subjects or aspects of the personal participants in the communication which occur in three language forms: an internalised observer uses the sign language of behavior, an internalised client uses the signals of body language and an internalised therapist uses the symbolical (figurative) language of conditions).

Thanks to the translation of the works of L. S. Vygotsky and M. M. Bakhtin the idea of dialogism has been recognised and developed in psychology outside Russia. One of the mainstream dialogical directions in psychological work is that of H. Hermans, and H. Kempen [14] with the concept of "dialogical Self". The authors have offered three definitions of this concept:

- 1) it forms several "I"-positions, and "I", depending on the situation can occupy any of the available positions;
- 2) each I-position occupies a limited, imagined spatio-temporal area, possessing a unique psychological maintenance which occurs because of the unique experiences of dialogue with voices of its own significant "others";
- 3) it is socially created because imagined "I"-positions arise from internal dialogues mediated by society [13]. Later, each of three statements has been specified and expanded:

1a) dialogical self (DS) is made up of a set of voices, each of which is in a condition to generate its own value system of the past, the present and the future;

2a) various voices with their value systems are located at declarative level of DS functioning, and all this system experiences influences of the latent source of motives;

3a) various voices, forming the value systems within their prospects communicate in the dialogical way.

Starting from L. S. Vygotsky, M. M. Bakhtin, A. B. Orlov, H. Hermans, and H. Kempen's ideas, it is possible to describe and study features of interaction in psychological consultation. An additional focus of attention occurs when studying the problem of interaction between the adviser and the client because of research into features of interaction and efficiency in modern methods of psychological consultation. The triple approach to dialogue between an adviser and a client allows us to create an interaction model where positions of the co-operating parties (adviser; observer; client) combine in special ways depending on the method applied in psychological consultation. Such a model of interaction is called as the "triple interaction model".

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Section 10. Regional studies and socio-economic geography

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Tourist recreational complex in the system of socio-economic development of Krasnodar region

Abstract: Due to the growth of economic activity of a man and significant change of the environment, there is an urgent need to evaluate its condition and level of its suitability for the man and other living things. The reviving of the economy and improvement of socio-economic component can be done by direct capital investments in the development of recreation.

Keywords: tourist recreational complex, socio-economic development, Krasnodar region, geo-system, tourism.

Today, tourism is one of the most dominating and rapidly developing industries of the economy of Krasnodar region that attracts millions of tourists by its extraordinary combination of recreation at the sea side or in the mountains together with therapeutic procedures and treatment by way of wide use of healing muds and local mineral water [2].

Until recently, one could recognize the following tendencies in the development of Krasnodar region as a recreational zone: the growth of the volume of services of establishments of resort and tourist complex was observed; the volume of recreational and health-related services was increasing; there was the growth in the volume of hotel services. In order to develop the industry attracting holiday-makers, increase budget response, the works aimed at the following were performed in the region: development of production base, improvement of advertising campaign, creation of the system of recording of the activity of entrepreneurs rendering services on accommodation for holiday-makers. The prospect of development of Krasnodar region as a resort mainly depends on the quality and diversity of its unique natural medicinal resources. The development of tourism inevitably implies positive and negative consequences for the environment. The development of recreational sphere is determined by many factors both natural and socio-economic. Their role changes at different stages of development depending on the level of recreational system and its interaction with the nature and social systems. The formation and development of recreational sphere has taken place in the conditions of planned administrative system for long [5].

Due to the growth of economic activity of a man and significant change of the environment, there is an urgent

need to evaluate its condition and level of its suitability for the man and other living things [3]. The environment can be considered by both, separate components (atmosphere, water, soil and biota) and landscapes in the whole. Reference to landscapes as integral multi-component geo-systems occurs due to the fact that, firstly, the entire complex of interacting components and inter-component ties is viewed; secondly, all happening or expected changes and consequences are recorded. Environment and resource reproducing functions, which are important for humans and vulnerable to manmade effect, also depend on properties and condition of landscapes. Landscapes in the normal undisturbed state can perform these functions fully. If the natural components are disturbed, the fulfillment of the named functions becomes incomplete or stops at all. This naturally leads to losses (damage): depletion of natural resources, growth of incidence of disease among population etc. [6].

It is necessary to study the interrelation and inter-influence of tourist recreational complex and general socio-economic development of the region and reveal regularities and main principles of the process. The conduct of such works presupposes the solution of the following tasks: development of methodical recommendations on the evaluation of the impact of tourist recreational complex in socio-economic development of the territory; development of methodological bases of integral evaluation of the level of usage of recreational potential; making a forecast of socio-economic development of the region taking into account the impact of tourist recreational complex.

The main methods of research can be general scientific, natural scientific and special methods. The processing of

statistical information should be performed on the basis of quantitative methods. Spatial models of the studied objects will be formed with the help of modelling. Geo-informational method will allow obtaining combined, multi-dimensional, volumetric and dynamic presentations of the studied phenomena and processes. Special methods of research include the methods of cognition of potential opportunities of tourist business, including the method of abstraction that enables to reveal typical ties and relations in tourism abstracting oneself from the variety of particulars. In the course of approbation of results obtained in the process of research, the use of private methods during the researches in the tourist activity applicable to solve the concrete tasks on professional improvement of separate enterprises will become useful.

Traditionally, in the socio-economic system of the south of Russia, recreational sphere is one of the fundamental and priority spheres that define the «face» of the region in the general national labor division. The development of recreation in the Southern Federal District of Russia is also encouraged by natural recreational resources: natural zones, climate conditions, usage of all most all kinds of mineral water, healing muds and ecologically clean landscapes [4].

Own recreational specialization, primarily medicinal and health-improving, has been formed in Krasnodar region.

The development of ecological tourism (specially protected natural territories, mountain districts etc.) can become one of the new directions. The reviving of the economy of the region and improvement of socio-economic component can be done by direct capital investments in the development of recreation.

The performance of all these processes will allow removing the socio-economic tension in the region significantly and become one of the factors of its sustainable development. Currently, Kuban region is the leading tourist center of Russia and the potential of its development is not exhausted. The natural conditions of Russia are unique and ahead of the neighboring tourist-oriented countries. The ecology in most districts is better and the wonderful monuments of ancient architecture and ethnography are preserved. The prospects of development of different kinds of national tourism and tourist complex of the country largely depend on the strengthening of state regulation of the tourist industry at general national and regional level. The actual tasks and problems with regard to the development of resort and tourist complex of Krasnodar region as well as separate tourist enterprises functioning at regional level should be based on the effective realization of resort and tourist potential at a profit for local budgets and increase of the quality of life of the population living in resorts [1].

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Section 11. Sociology

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Charitable activities in Azerbaijan

Abstract: In this article, found its proper reflection questions related to the issue of charitable activities in Azerbaijan. Briefly described the history of charitable activities in Azerbaijan. Also shown is the legal framework of charitable activities in Azerbaijan.

Keywords: charity, laws, benefactors, patrons, humanism, philanthropy.

Charity and philanthropy, and simply put, gratuitous aid neighbor, in one form or another exist in any political system and in any socio-cultural communities. As you know, the level of charity depends on the degree of overall socio economic development of the country. The higher the level of welfare, the stronger and more stable business sector, the more conditions for the establishment and development of charitable activity.

In the scientific literature there are several approaches to the analysis of the phenomenon of charity. Philosophical content charity trek to stresses such important aspects as a love for people, compassion and charity defines the phenomenon as a condition of the human soul and the desire to do well. Ethical approach to the analysis of this phenomenon emphasizes the link charity with universal values. And finally, the sociological approach sees charity as purposeful social activities. The following common signs of charity:

- Lack of administrative pressure on the subject of exercising charity. Charity lies outside the scope of the official administration, and decisions are taken here, and action is taken without the requirements of the law or official policy.
- Profit is not the purpose of charity.
- Organization and purpose of the activity.
- Mostly impersonal nature (on the project assistance — unlike charity, which give at the request of a specific person)
- Availability of public interest objectives [1, 15].

Azerbaijan charity engaged practically all sectors of society, businessmen and ordinary people.

Azerbaijan roots charity run deep into history. Our people are rich and ancient tradition of philanthropy based on humanism and humanitarianism. Its manifestations are associated with rising probably Zoroastrism and hallowed by centuries of moral and ethical code — «a good word, good thought, good deed». Another great Nizami said, “that he gave — it is yours”. And how we folk proverbs and sayings on this topic! Mercy, compassion, the desire to do good deeds, generosity and hospitality have always been and continue to be the most important life values of the Azerbaijani people. It is these spiritual principles

are one of the main virtues preached Islam and other world religions. In this cultural-historical and spiritual foundation in the late XIX – early XX centuries flourished in Azerbaijan as a kind of philanthropy. Most famous for his patronage young industrialists Azerbaijan in the late XIX and early XX centuries: Z. Tagiyev, M. Nagiyev, M. Mukhtarov, Sh. Assadullaev dynasty Ashurbekovs and many other domestic patrons, being very good stewards, spending huge sums for the public good — for enlightenment and education, arts and culture development, civil engineering. Much work was carried out numerous women’s charities created Govhar Aliyeva Ghajar, Hamida Khanum Javanshir, Nigar Aliyeva Shikhlinakaya [2].

The state began to attend to matters of charity with the first years of independence after the collapse of the former Soviet Union. Presidential Decree “On establishment of the President’s Fund” (1992) established the award of the President of the Fund “for charity and mercy”. Law on Political Parties (1992) tried to protect the charity from politics by banning for charities to give donations to political parties. Law on entrepreneurship (1992) established the right for entrepreneurs “for donations to public funds for health care, charity, enlightenment, for scientific and civilian targets” and the Cabinet of Ministers of the Azerbaijan Republic “On the international humanitarian organizations and their missions in the Republic of Azerbaijan” (1994), settled the status of international humanitarian organizations engaged in charitable activities in Azerbaijan. Resolution on the socio-economic situation in the Republic № 937 adopted by the Milli Majlis in 1994, the government even stipulated the development of the draft Law “On charity and sponsorship”.

The Constitution of the Republic of Azerbaijan, adopted in 1995, Article 38 an obligation for the state to create “opportunities for development charity, voluntary social insurance and other forms of social security” [3]. State partially fulfilled this obligation, including the Tax Code Azerbaijan (2000), certain provisions regarding charity. Basic rules governing charity are contained in the Tax Code. Charitable activities are defined in

Article 13 of the Tax Code, as “activities carried out by an individual and (or) a charitable organization and consists of rendering assistance, to include remittance, individuals in need of financial or other assistance, either directly to organizations that provide similar assistance, including charitable or scientific, educational or other activities performed in the public interest, unless otherwise provided in this Code”. For “other” legal persons, in fact, engaged in philanthropy law uses the term “sponsorship”. For example, “a non-profit providing aid, that is a charitable purpose, sport” stands out as the type of sponsorship in the Law of Azerbaijan Republic “On the Principles and Rules of sponsorship in the sphere of physical culture and sports development in Azerbaijan Republic” (2000). Individuals may engage in charity and helping the needy and charities. Charitable organization as defined in Article 13 of the Tax Code as “a non-profit organization engaged in charitable work”. Special procedure for registration of “international humanitarian organizations and other foreign entities engaged in charitable activities”. In order for such an organization to start its activities in Azerbaijan, it must obtain the consent of the Cabinet of Ministers for registration with the Ministry of Justice. Regular NGOs registered with the Ministry of Justice to obtain such consent is not required.

Ministry of Justice to obtain such consent is not required. Competent ministries and state bodies, Executive instructed to urgently assist humanitarian organizations. Media are required to allocate 5 percent of airtime and advertising space to accommodate social advertising, which has a charitable purpose in accordance with the Law “On Advertising” Republic

of Azerbaijan in 1997 [4]. It should be noted that in recent years in Azerbaijan as a whole has become intensely revive actively develop Institute charity. This is largely due to the tremendous efforts and personal initiative of the First Lady of Azerbaijan, President of Heydar Aliyev Foundation Mehriban Aliyeva. Multi-faceted and tireless work Mehriban in this area is well known and has received wide publicity not only in our country but also far beyond its borders. On her appreciation indicate two prestigious international awards — awarded her the highest order of the International Charity Fund “Patrons of the Century” — “Ruby Cross” and the premium for a large-scale charity “Golden Heart”. Today, Azerbaijan ranks 67th place among 150 countries and in the world rankings for charity. This is stated in the report of the International Charitable Organization “Charities Aid Foundation”. Topping the list of Australia and New Zealand, where 57 percent of the population are involved in charity. The top ten also includes Canada, Ireland, Switzerland, USA, Netherlands, UK, Sri Lanka and Austria. Charitable Foundation “Charities Aid Foundation” was established in 1924 in the UK. The Fund was established as part of the National Council of Social Services. Since 1974, the Foundation acts as an independent [5].

Thus, we can conclude the following: at the present stage, no doubt, recognized the positive impact charitable activities on society and social processes and in many charitable activities understood and acts as a resource and as a way to form as solutions to social problems, as well as a factor in personal development philanthropist and self-realization.

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Modernization of modern Russian education: the formation of an innovative educational environment

Abstract: The article analyzes the role of innovative environment in the formation of modern Russian education. In this context innovations in education are studied as a unique quality of the social mechanism that ensures resource development of both individuals, and society as a whole.

Keywords: innovation; education; educational process; learning environment; modernization.

The development of modern Russian society is associated with the modernization process that affects all aspects of functioning of life activity. The process of modernization is associated with the implementation of institutional matrix, which is based on innovative efficient structure of society, which implies effective economic development, eradication of corruption, increase of management efficiency, development of industry and science, improving the quality of human capital. Innovative processes, being the basis of modernization, with the whole logic of functioning of social mechanism put forward in the center of pressing problems and changes a sustainable public interest in high-performance innovation. A distinctive feature of modern innovation processes is that the overwhelming part of them connected with the conscious activity of people, their will, interests and motives of behavior.

At the present stage of development of Russian society, typical for traditional mind settings on the dependence on external to the man himself circumstances, paternalistic expectations, external control are dominated, affect that he can not. At the same time, in all social groups of Russian society there is the general priority of values, which perform an integrative role and make the system of values very stable, filled with inner meaning in relation to the activities of people.

Innovative personality as an immanent element of human capital are formed by the totality of motivational, perceptual, cognitive, imaginative components. The combination of these elements, their internalization forms the personality, capable of solving complex problems of both technical and social level. Crucial to this process is an innovative education as the most important resource of structuring the process of modernization.

Innovative education involves learning in the process of creating new knowledge — through the integration of basic science, direct teaching and production, which orients the student to the maximum development of creative abilities, creating the motivational need to self-improvement and self-learning.

One of the most important challenges facing the higher education system in modern Russia — the formation of an innovative educational environment.

Much in this process depends on the established educational environment as a whole, in Russia, and a particular institution in a particular region. The necessary component of this educational environment is the availability of innovative educational environment of universities, including business incubators, technology parks, venture capital companies.

The most important conditions for the transition to an innovative educational environment of the university is updating the content of education, which should be based on the use of information technologies, program-target methods of training students, the introduction of integrated training programs.

Educational environment of the university — is an organized set (system) of integrated components having the quantitative and qualitative characteristics for creating the conditions of targeted and effective use of university potential in the

formation of a competitive person with an innovative direction and having an active influence on the set of elements of the environment through feedback.

The main components of the educational environment are functionally target component, acting as the leading in the system, setting out the aims and objectives of environment, which depend on the real possibilities of the university; and technological component that is a factor providing the integrity and orderliness of learning environment. Feedback acts as the most important component, as an opportunity to project the interests and needs of students for optimization and stimulating the activity of subjects of the educational environment (university administration, teachers) for innovation. The consequence is the revitalization of professional and personal development and self-development of students finding their independent position, status, their own image, because the environment is perceived as an individual for each emerging person and apart from the educational and methodological knowledge in a particular area, is both a highly structured environment for the organization of various forms of independent cognitive activity.

The educational environment, having the integrity of necessary elements, provides the individual (student) the ability to adapt to the conditions of university and to develop the qualities forming the personality of innovative type. At the same time, such environment has the emergence, which makes possible the process of self-improvement of personal qualities of all the subjects in the educational environment, and having a wide range of modality, generates a variety of types of local environments, that give rise to the diversity and even mutual exclusion of the qualities of targets. Structural and dynamical characteristics of the educational environment determines its intensity, and the concentration of its influence, the degree of saturation of conditions and opportunities. In this process the activity of student's personality in the adaptation of the innovative environment acts as the determining value. The personality traits formed by the educational environment, going through the process of internalization, become stable personality traits, which are based on responsibility for their own preparedness as a specialist.

The effectiveness of the educational environment is defined in terms of diagnostics of its basic elements and the environment in general. Among them it is possible to allocate the current and prognostic adequacy of educational and training programs, forms and methods, means and techniques, ways of organizing learning activities; full and appropriate use of available educational resources, library collections, computer equipment, classroom fund; scientific, modern information content, creative atmosphere as the main characteristic of microclimate in high school, a flexible combination of administration and self-management in high school, extensive links with external social environment.

As a research area for the analysis of the educational environment, one of the largest universities in Eastern Siberia was used, that in 2010 received the status of a national research.

The analysis of individual elements of the educational environment is based on a combination of institutional, activity-activist and socio-communicative approaches, which led to the paramount importance of considering the subjective experience of perceiving reality by college students, as well as the transformation of experience and identity in educational practice.

The results of monitoring [1; 2] of changes in the educational environment of the university (in years 2006–2014), its ability to meet the demands put forward by the process of modernization are put in the spotlight.

The students of first courses set of 2014 demonstrated the greatest susceptibility to optimization of the educational environment of the university, the high level of expectations both in terms of the educational process, and socio-cultural values of the university. The bachelors of 1 year of study are characterized by high satisfaction with the information component of the educational environment (75–85.4%), training and methodological support (86.1%), the technical component of the educational environment: equipped classrooms and laboratories with modern technical facilities, the ability to work on your computer and accessibility to Internet resources (72.3–74.4%). During the last years monitoring recorded growth of potential activity of first-year student in mastering of the educational environment of the university, the desire for mastering and appropriation of its most essential qualities.

In contrast to the position of first courses students the final year students' opinions regarding the university educational environment have changed slightly (from a certain predominance of positive dynamics) from the time they enter university. These positions are the basis of an overall assessment of the educational environment of the university by final year students. In particular, 15.7% of the respondents described the process of learning in the university as "very high", 44% — "high", the average assessment of the learning process at the university is contained in the answers of 28.2% of the respondents; the lowest rate — in the answers of 10% of the respondents. 1.6% of the graduate students were not satisfied with the process of learning at the university. The above range of opinions broadcasts in indicators of satisfaction degree of the choice of university and profession. On the background of every fifth (22.5%) disappointed in his field student, and almost every fourth (29.3%) — in the university, 48.2% of students are sure that it is not a mistake with the choice of an educational institution and the profile of training. In 2008, the figure was 9% lower (39.2%).

However, these figures are in some dissonance with undergraduates estimates of their opportunities in the labor market, confidence in the future.

Generally, despite the positive characteristics of the condition and quality of the educational environment of the university, as in 2008, only 40.5% of the students surveyed are confident in their preparedness for life and work in modern conditions, to adapt to the labor market. 39% of respondents found it difficult to give an answer, 20.5% — responded negatively.

When planning their future only 46% of respondents feel a sense of optimism. At the same time the feeling of uncertainty associated, first, with the problems of employment is peculiar to 22.5% of the respondents, that is 7% more than in 2008. At last, for earning 31.5% of respondents are ready to forget about the specialty obtained and work not by profession.

Thus, the current situation has exacerbated the problem of formation of professional motivation and professional identification of students formed within the educational environment of the university. Half of the future graduates does not imagine themselves in the chosen profession. The degree of alienation of students from the chosen specialty and professional practice remains significant. The process of formation of personal and professional competencies of students is far from being full.

Overall, despite some positive, according to students, trends in the dynamics of the educational environment of the university, the reproduction of its former models is objectively observed.

It should be stated, that the going changes in the educational environment at this stage rather have the character of filling backlogs in individual elements, than a qualitative transformation and innovation in the process of forming its integrity.

The results of regional research correlate with the results of nationwide survey, according to which "the change in the status of the university as a resource innovation center is not much" and "there is no reason to say that the existing forms of innovations carry significant educational progress" [3, 70]. Thus, it is very early to fix the final outcome of the formation of an innovative educational environment of high school.

At the same time, the present study has shown the formation of positive expectations of students in the region for education sector modernization, as a whole, and the educational environment of the university, in particular.

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Section 12. Agricultural sciences

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Research on the cultivation of tobacco of “bare handle” ecotype by using a clean technology and the production-market valuation of the raw material

Abstract: The researches on the oriental eco type tobaccos in the Balkan Peninsula gaining in popularity. The reasons are the technological quality of the tobacco, intended for smoking with parallel opportunities for utilization of alternative yields of aromatic products, contained in the dry leaves and the strong demand of the characteristically oriental material on the market. In this guidance is the perimeter of this research, outlined in the article as part of an innovative solution for the realization of the raw material with the desired production results and market attractiveness. The research was carried out with “bare handle” ecotype oriental variety of tobacco by using elements of a pure technology of cultivation. Observations are displayed of agro-technical variations of events. There are established farming indicators on two technologies of cultivation. There are proven technology indicators of the overall level of quality. It is exposed a convincing technological hypothesis about technology of not using fertilizers and pesticides, which ensures limited accumulated levels of undesirable substances in the tobacco, which increasing its market attractiveness. It proves an increased resistance to drought. It has been shown through the evaluation of the raw material for commercial classes, consolidated of the qualitative level of the studied type.

Keywords: Oriental tobacco production, tobacco quality, organic farming, organic vegetable product.

Introduction: The receipt of raw material with high quality is a consequence of the environmental characteristics of the area of its cultivation, by application of proper agricultural machines and an appropriate varietal composition [4, 5–7; 5, 12–14; 15, 78–84; 14, 9–13; 2, 9–13; 3, 6–9; 1, 69–75].

In the recent years a market demand of tobacco in the country an interest are the varieties of ecotype Krumovgrad and “bare handle” oriental varieties of tobacco. A number of authors [2, 13–17; 19, 245–249; 6, 30–33; 20, 24–29] made a study of the biological, economic and technological characteristics of Krumovgrad varieties grown in not typical for them areas of cultivation. It is studied the chemical composition of oriental tobaccos with current market profile, applied are mathematical relationships for accelerated definition of technological quality [10, 469–471; 7, 63–73]. Current studies and researches are carried out in the south-western tobacco region, regarding the results of applying elements of agronomic techniques as part of the production of quality raw oriental ecotypes [8, 37–42; 16, 43–48].

Research on the biological, economic and technological qualities of “bare handle” ecotype oriental tobacco with main purpose of direct deployment in production in our country were carried out by [17, 23–27; 18, 4–9].

Part of the modern technology for cultivation of oriental tobacco in relation to the Framework Convention on Tobacco

Control WHO, is the use of biological stimulators as a substitute for artificial fertilizers and pesticides by the application of good agricultural practices. In modern agricultural policies, an actuality is combining organic farming with biological achieved (pure) product.

In the segment of tobacco science are made researches to define the characteristics of aromatic products with specific usage, in “clean” oriental tobaccos from ecologically preserved areas [9, 54–59; 11, 120–123; 12, 391–396; 13, 67–69].

The purpose of this study is to investigate the economic, technological and economic indicators of “bare handle” oriental tobacco type by using conventional and organic farming technologies in not typical for him area of cultivation.

Material and methods: The attempts are displayed from the Struma-Mesta River tobacco area. The object of study is “bare handle” oriental tobacco type. There are applied two types of farming technologies: option 1 – traditionally applied oriental technology option 2 – growing technology by using element of pure technology – biological stimulator. The crude tobacco is dried in drier for oriental tobacco, at the optimum duration of the drying phases – determined by the nature of the feedstock. On the dried tobacco is made a qualitative gradation on the criteria of commercial assessment on commercial on the producer tobacco.

It is showed also the environmental status in the area of research and the displayed ecotype tobacco.

Results and Discussion

Temperature and rainfall environmental factors during the period of the survey are set by Fig.1.

The figure shows that the average air temperatures are over 10 °C after the beginning of April. Average air temperatures during the transplanting of tobacco are at the lower limit of the optimum, and for the period of the intense growth and development of plants (June to August), they are in the optimal range for the cultivation of oriental tobacco. The drought in July and August did not affect on the vegetative growth of the tobacco and in fact it creates conditions for good solar drying. The soils on which is made the study are cinnamon, with a light mechanical composition, poor of humus, poorly stocked with nitrogen, medium rich in phosphorus and well stocked with potassium [15, 51–61].

The results of the process events of technological practices in tobacco cultivation display the following:

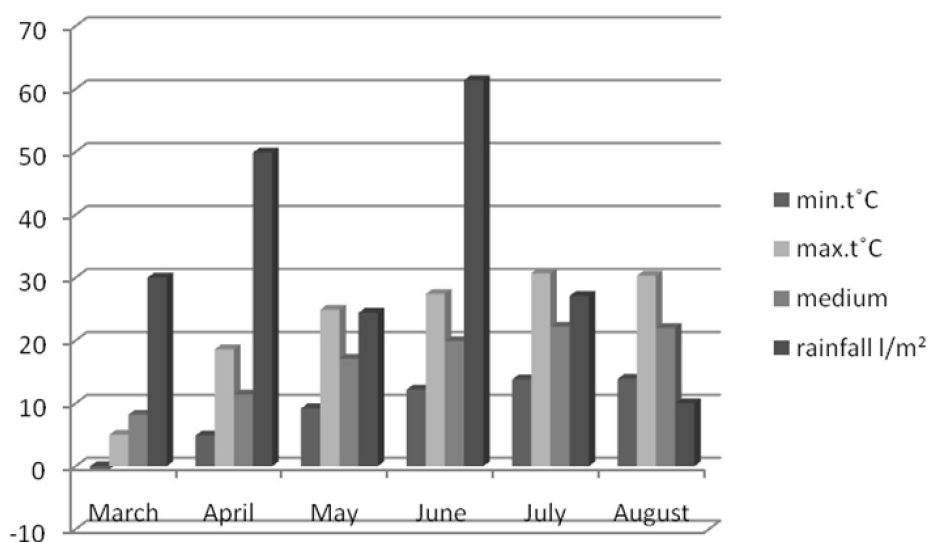


Fig. 1. Values of air temperature and rainfall

Table 1. – Technological operations in the production of seedlings

Process steps in the production of seedlings	Traditional technology of cultivation (Option 1)	Technology of cultivation using bio-stimulator (Option 2)
1. Main fertilization	150 g/10 m ² – NH ₄ NO ₃ , Ca (H ₂ PO ₄) ₂ , K ₂ SO ₄	–
2. Plant protection	Inputted: 2 g/m ² Thiophanat-methyl; 4 g/m ² Mancozeb+Copper oxychloride; 0,3 ml/m ² Napropamide	8 gr/10 m ² Treated by bio-stimulator
3. Sowing rate	8 g/10 m ²	Yes
4. Processing of seeds	Not treated 10 March	No feeds
5. Period of sowing	Yes	10 April
6. Care of seedlings – Watering – Feeding – Plant protection	phase “Crossover” – in 150 g/10 m ² – NH ₄ NO ₃ , Ca (H ₂ PO ₄) ₂ , K ₂ SO ₄ – phase “Raise ears”- in 200 g/10 m ² – NH ₄ NO ₃ , Ca (H ₂ PO ₄) ₂ , K ₂ SO ₄ – made three obligatory treatments against <i>Pythium debaryanum</i> Hesse, <i>Thielaviopsis basicola</i> , <i>Thrips tabaci</i> and two more against <i>Pythium debaryanum</i> Hesse, <i>Thielaviopsis basicola</i>	Did not made PP treatments with pesticides. In the critical phases seedlings are watered with bio-stimulator

1. From the data presented in Tables 1 and 2, are set the following results:

- Option 2 sowing the seeds takes place one month later, which is directly related to the reduction of labor costs in the cultivation of tobacco seedlings.
- Option 2 did not apply fertilizers and pesticides, which respectively reduces the material costs in the cultivation of seedlings.
- It is known that the "bare handle" oriental tobacco type is susceptible to fungal diseases/mikozi/. In Option 1 are made two additional treatments against *Pythium debaryanum* Hesse and *Thielaviopsis basicola*. In Option 2 are treated with bio-stimulator only in the critical phases of the tobacco plants.

2. Technological operations in the cultivation of tobacco on the field shown in Table 2.

The table shows that in Option 1 the planting is done on 17 May. It is made a mainly fertilization with NH_4NO_3 Ca $(\text{H}_2\text{PO}_4)_2$ and K_2SO_4 . It is made three plant-protection treatments on scheme and two additional against *Myzus persicae*. During the vegetation of the tobacco were made five vegetation irrigations. Seedlings have not been processed further.

In Option 2 the planting is done on 30 May. Before the sowing out, the seedlings are treated with bio-stimulator. During the vegetation of the tobacco were made two sprays with

bio-stimulator, on the seventh day after transplanting and in the phase of „intensive growth“. Three vegetation irrigations are made.

The data in Table 2 show shorter seedlings period by 17 days in Option 2. Not using fertilizers and pesticides reduce the labor and material costs. There are made 2 vegetation irrigations less, which automatically show that the plants in option 2 have increased their resistance to drought as compared to the tobacco plants of Option 1.

3. Economic, technological and farm indicators. The data for the cultivation of a "bare handle" oriental tobacco type with the comparative two technologies are presented in Table 3.

The results show that option 2 is with better performance achievable. In this option, the average yield per hectare is 29 % higher compared to the indicator in option 1. The percentage distribution of classes of the dried tobacco is technologically more balanced in option 2. It shows an increased percentage of second class at the expense of reduced percentage of the third class (62 % second class and 15 % third in option 2 against 43 % second-class and third-class 35 % in option 1). The average cost per realization per kg of dried tobacco in option 2 is 12 % higher than in option 1. Option 2 material costs are 47 % less than Option 1. Earnings per hectare in option 2 are 66 % higher compared with income per hectare in Option 1.

Table 2. – Technological operations in the cultivation of the tobacco on the field

Technological operations in the cultivation of tobacco on the field	Traditional technology of cultivation (Option 1)	Technology of cultivation using bio-stimulator (Option 2)
Planting scheme 50/12 cm	17 May	30 May
Fertilization	In the planting are imported:	-----
Plant protection	9kg/dka NH_4NO_3	Made two sprays with bio-stimulator
Processing of seedlings	14 kg/da Ca $(\text{H}_2\text{PO}_4)_2$	-----
Vegetation irrigations	14 kg/da K_2SO_4	Before the sowing out, the seedlings are treated with bio-stimulator.
	Made three plants- protective sprays on scheme and two additional sprays against <i>Myzus persicae</i>	Three

	Five	

Table 3. – Economic, technological and farm indicators

Economic and farm indicators	Traditional technology of cultivation (Option 1)	Technology of cultivation using bio-stimulator (Option 2)
Average yield per hectare	190 kg/dka	245 kg/dka
Percentage distribution of the classes of dried tobacco	First class – 22 % Second class – 43 % Third class – 35 %	First class – 23 % Second class – 62 % Third class – 15 %
Average cost of realization	6,05 BGN/kg	6,78 BGN/kg
Total yield per hectare	1149,50 BGN/dka	1661,10 BGN/dka
Costs for fertilizers and pesticides	210 BGN/dka	Costs for bio-stimulator – 100 BGN/dka
Earnings per hectare	939,50 BGN/dka	1561,10 BGN/dka

From the results of the cultivation of “bare handle” oriental tobacco type in the Struma-Mesta River tobacco area., can set the following conclusions:

The technology of cultivation by using biological stimulator is technologically adaptable and economically justified:

- Reduces the seedlings production period with a positive impact on the technological process and a labor balance.
- The shorter possible period of planting, put out the tobacco from the period of active risk of economically important diseases.
- The agricultural terms and events, affect in the reduction of labor and material costs.

– Non-use of fertilizers and pesticides guarantee limited levels of unwanted substances, which increases the market attractiveness of the raw material.

- The development of the plants on the field demonstrates an increased resistance to drought.
- The economic and farm results are more beneficial for farmers.
- The qualitative categorization of the raw material determined by a market technology assessment of commercial classes proves consolidation of the qualitative level of the type, which is tested.

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Section 13. Physics

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Introducing the concept “entropy” in the course of natural science at the specialized school

Abstract: This article discusses the formation of the general scientific concept “entropy” at the masters and practicing teachers who can conduct the integrated natural sciences courses at a specialized school (profile school) in the future.

The analysis of academic literature leads to a conclusion that the process of introducing this concept at school is the most difficult. The analysis of the existing grants on natural sciences for school pupils has shown that this issue is receiving attention only in the book edited by I. Y. Aleksashina where material is presented from a physical point of view and does not have the integrative nature. In our view, the concept of entropy is much wider and applied in biology and chemistry.

Keywords: entropy, natural sciences, thermodynamics.

The attention to training of specialists in the field of naturally-scientific education has recently increased. This is due to the introduction of such disciplines as “Concepts of the modern natural science”, “A naturally-scientific picture of the world”, etc. in educational programs of higher education and the course “Natural sciences” in curricula of general secondary education. Therefore among profiles of training the masters of the Pedagogical education direction there is “Naturally-scientific education”. This is the results of the fact that the social processes connected with production development, inquiries of the next stage of an advancement of science and technique, caring out nowadays, set new professional tasks for the higher school, make new requirements to vocational training of the modern school teacher, bachelors and masters of education. New tasks of their preparation are: formation of professional competences in the process of realization of naturally-scientific education at the students, teaching the integrated and elective courses. In this regard it is necessary to provide compliance of the subject training of the future teachers to tasks of the modern stage of reforming in the general secondary and higher education.

This article discusses the formation of the general scientific concept “entropy” at the masters and practicing teachers who can conduct the integrated natural sciences courses at a specialized school (profile school) in the future.

The analysis of academic literature leads to a conclusion that the process of introducing this concept at school is the most difficult. The analysis of the existing grants on natural sciences for school pupils has shown that this issue is receiving

attention only in the book edited by I. Y. Aleksashina where material is presented from a physical point of view and does not have the integrative nature. In our view, the concept of entropy is much wider and applied in biology and chemistry.

While studying thermodynamics first of all pupils have to learn that the person is “... an isothermal heat machine” [1, 187]. The mechanism of muscles action has not been fully understood, but the fact that their efficiency reaches 20–30% when the temperature difference between the human body and the environment is only 10–20 K, speaks of the impossibility of considering the body as an ordinary heat machine [1, 187].

The person receives energy at oxidation of food. So, for example one kilogram of oil gives 33 000 kJ., rice kilogram — 12 000 kJ., potatoes kilogram — 3 000 kJ. To maintain the normal activity the person needs on average 7 000–10 000 kJ. a day. It is established that only the 20–40% of all chemical energy is to perform an external work, and the rest part turns into an internal energy (that is why a person is heated doing exercises). Therefore, a person exchanges with a surrounding environment not only energy, but also substance, and the person is an open thermodynamic system. Up to this point the pupils knew only the isolated thermodynamic systems and the concept of a thermodynamic equilibrium. It should be noted that alive organisms tend to resist establishment of a thermodynamic equilibrium. Temperature of the human, a cat remains constant in rather big range of ambient temperatures. «Moreover, life creates also the additive regularity which is shown in a particular structure of

alive organisms. Therefore, life is the least probable condition of a matter and it cannot exist the long time by itself» [1, 86].

Entropy is one of the main thermodynamic functions of a state. It defines opportunity, an orientation and a limit of all processes. “Introduction of entropy allowed generalizing conditions of occurrence of spontaneous and equilibrium processes and to formulate the second beginning of thermodynamics which, as well as the first one, is the postulate not contradicting practice” [2, 31]. Entropy is a thermodynamic function of a state; it possesses extensive characteristics, i. e. it depends on the system mass and has the same dimension, as a thermal capacity: $J/mol \cdot K$, however, it is the only thing they have in common. Then the reasons defining the role of entropy in spontaneous processes are discussed. According to the first beginning of thermodynamics the internal energy of the isolated system remains constant and cannot be the reason of spontaneous processes. In an isolated system the energy is redistributed as a result of its scattering. So, before puncturing a bicycle tire there was a particular order in an arrangement of gas molecules. After a puncture this order has broken as a result of the spontaneous expiration of air from a tire.

In everyday life, we have to cope with order and disorder constantly. The ordered systems are: matches in the box, the ions in the crystal and others. Here the samples of possible systems with a disorder: a crowd in the subway in “rush hour”, an arrangement of molecules in liquids and gases, etc.

It is worth to remember that the entropy growth leading to increasing of a disorder is characterized for all systems, and for the isolated systems it defines a spontaneous process. If there would be no restriction on increasing of entropy in spontaneous processes only for the isolated systems, the mankind would be expected to plunge into chaos and disorder in the future. The reason is that in open systems the conduct of entropy essentially differs from its conduct in the isolated systems. How to define, in what direction this or that process will go and whether will go in general? Further, taking into consideration specifics of humanitarian profiles, we offer to expound this issue in its historical context. Students will be interested to learn that in 1854 the German scientist Clausius introduced the concept of entropy (from the Greek word τροπή — transformation). The prefix «en» is added to the Greek «trope», it turned out — an entropy. In 1909 professor of Jena University F. Auerbach called energy the queen of the world which transition is defined by the first beginning of thermodynamics, and its shadow — entropy which change reflects the essence of the second beginning of thermodynamics.

The concept of entropy is initially introduced within phenomenological thermodynamics and is connected with the analysis of thermal processes. Entropy, as well as energy, is a function of state, i. e. its size does not depend on how, by what processes the system came to this state; value of entropy is uniquely determined by the parameters characterizing this state. Establishment of existence of a special function of state — entropy makes the first part of the second beginning of

thermodynamics. The second part claims: «At real (not ideal) processes an entropy of loop system increases».

In thermodynamics it is proved that given abstract formulation of the second beginning is physically equivalent to some other formulations seemed axiomatic. For the explanation of meaning of the second beginning we will define them here:

1. Heat cannot pass from system with a smaller temperature to system with a larger temperature by itself (R. Clausius's formulation). «By itself» means that in the environment, surrounding the systems which are involved in the heat exchange, should not occur any changes, associated with this process.

2. It is impossible to get work permanently, only cooling a separate body below the temperature of the coldest part of a surrounding environment (V. Kelvin's formulation).

3. The perpetuum mobile of the second kind is impossible, i. e. periodically working car which would lift the load only due to the cooling of the thermal tank (V. Ostwald's formulation).

So, «the law of entropy increasing determines the flow of energy transformations: all of them in loop systems occur only in one direction. Real processes are always irreversible, they can only with a larger or smaller accuracy come nearer to ideally reversible processes» [2, 31].

Achievement by a loop system of the greatest possible entropy corresponds to approaching in it a temperature balance. The temperature differences characterizing separate parts of system disappear, and macroscopic processes become impossible. All energy inherent in system turns into energy of the unregulated, chaotic moving of the micro-particles forming a system, and the inverse transition of heat to work is impossible. From this point entropy acts as the qualitative characteristic of energy showing its ability to transformations. Therefore, the more entropy, the less free energy and the more the total energy is depreciated though quantitatively it remains the same.

Based on the aforementioned, it is sometimes argued that entropy increase means degradation, energy depreciation. However similar comprehension is unilateral: it, in essence, states only the negative part of the second beginning of thermodynamics. Any loop system can evolve only in the direction of entropy increase, but real systems which we meet in nature (and especially in technique), are seldom loop. For open systems the second beginning first of all allows to discover the ways of the most effective use of energy and, consequently, acts not only as the law of depreciation of energy, but as the law of its optimum use. B. G. Kuznetsov absolutely fairly pays attention to this aspect of the issue: «It (the second beginning) indicates only those conditions under which entropy cannot decrease, and accordingly allows to find (and to create!) conditions under which entropy decreases» [6, 123].

Later the authors of the second beginning V. Tomson (lord Kelvin) and R. Clausius spread it to the world in general and concluded about supposedly inevitable heat death of the world. Kelvin in his article «About the common tendency to mechanical dispersion which is shown in nature» wrote: «1. In the material world there is a common tendency to

squandering of a mechanical energy now. 2. Recovery of a mechanical energy in its former amount without dispersion it in more than equivalent quantity cannot be carried out by means of any processes ... » [6, 125]. R. Clausius extremely briefly stated the same thought in a formula: «Energy of the Universe is constant; entropy of the Universe aspires to a maximum».

So, all the processes in nature proceed eventually in the direction of entropy increase that means steady depreciation of energy, bound to its turning into heat, and alignment of temperatures as a result of thermal exchange. Sooner or later it inevitably leads to approach of an absolute temperature balance in the Universe and, therefore, to its thermal death. Though energy will remain quantitatively, but, using words of Engels, «it will disappear in a qualitative aspect».

Such position inevitably leads to an assumption of non-material, super-physical factors. It was shown clearly by F. Engels: «A world watch at first has to be wound, and then they go, until it comes to a balanced state, and only the miracle can bring them out of this state and let it go again. The energy spent for winding the watch disappeared, at least in a qualitative sense, and can be restored only by a pushing from the outside. It means, that the push from the outside was necessary as well in the beginning... » [6, 126].

The following historical fact is interesting: On November 22, 1951 the Pope Pius XII made the sensational speech «proofs of God existence in the light of modern science data» in Pontifical Academy of Sciences. He saw one of the main arguments in favor of God existence in the second beginning of thermodynamics. «If ... the scientist, having taken away the look from the real condition of the Universe, will turn back to the future, even to the farthest, he will have to recognize that the whole world, both a macro cosmos, and a micro cosmos, is growing old, and the matter at the end of its path will be in a state of dormant and stiffened volcano. Everything points to the fact that the material universe some time ago got a mighty initial rise, was filled with incredible amounts of energy reserves thanks to which it, developing at first quickly, then more and more slowly, achieved its present state» [6, 126].

The natural science which is unshakably standing on materialism foundations has never agreed with religious and idealistic interpretation of the second beginning. It was expressed very well by one of the largest physicists-chemists of the XX century V. Nernst: «The scientist-explore will never agree that at a certain moment of time the Universe was in a chaotic state from which then were formed ... the dazzling suns and that eventually it will come to a state at which the formation of the worlds will be already impossible. In other words: the idea that all the events in the world began at a certain time and that all these processes will absolutely stop too in a particular day, is so improbable itself, so any theory, by perforce leading to such conclusions, has to be recognized incredible, and therefore imperfect» [6, 126]. One of the first people who deeply criticized the «theory» of the world thermal death was F. Engels. He pointed to incompatibility of this

«theory» with materialistic outlook. It contradicts the principle of indestructibility of movement and that is why it has to be rejected from the philosophical point of view. But its naturally-scientific refutation (and it is necessary because «theory» of thermal death is given for an inevitable conclusion from laws of natural sciences), certainly, can give only natural sciences [6, 127].

According to the second law of thermodynamics in nature in general and in each isolated system entropy always increases and as the quantity of entropy characterizes disorder degree, regularity always decreases. Therefore it has seemed for a long time that the spontaneous rush to a temperature balance contradicts to the process of structures formation in alive organisms. The first who tried to eliminate this contradiction was E. Schrödinger (1947). He noted that biological objects are not enclosed, and interact with an environment in which there are streams of energy and substance caused by inflow of sunlight. Functioning of an alive organism is a passing through itself parts of these streams and their transformation. Entropy of an open system is to a surrounding environment or as Schrödinger noticed, an organism «eats negative entropy». The existence of open systems with an increasing degree of order is not a paradox from the positions of atheist non-balanced physics. For Schrödinger the organism is «an aperiodic crystal», that is the high-ordered system, similar to a solid body, and deprived of periodicity in an arrangement of elements — cells, molecules, atoms. That is why the phenomena like self-organization are possible in inanimate nature in strongly non-balanced open systems.

Alive organisms constantly create regularity from a disorder. Physical and chemical balance, on which is based the performance of living systems, arises and is supported in them. In the process of individual development (ontogeny) of every living organism as well as in the process of evolution (phylogeny), new structures are formed all the time, i. e., the state of higher regularity is reached. This apparent contradiction with the law of entropy increase is explained with the fact that organisms are not isolated, but open systems, permanently exchanging matter and energy with the environment. It allowed formulating definition of Life from the thermodynamic point of view by the following way: «Alive can be called such systems, which are capable of self-support and increase its very high degree of order in an environment with a lower degree of order» [1, 86]. Accordingly the metabolism as the most important function of living organisms from the point of view of thermodynamics is necessary to prevent the increasing of an entropy caused by irreversible processes in system.

Each alive organism and each cell is a thermodynamic open system which continuously turns the chemical energy enclosed in organic matters into energy of working processes, and, eventually, gives it to the environment in the form of heat. As a result of this exchange of substance and energy with a surrounding environment and alive system there is no thermodynamic balance. «Living system is never in balance and all the time the work is done against the balance due to its free energy

which is established under these external conditions” — Bauer “The general law of biology” (1935). At temperatures characterized an alive organism, its structures are labile and exposed to the continuous disintegration. For compensation of this disintegration “internal work” in the form of synthesis processes has to be made. In other words, working processes are processes with negative entropy (negentropy processes) as they counteract an entropy increase, connected with disintegration of structures, create regularity with the help of chemical energy and a low entropy of the absorbed high-molecular organic matters (heterotrophic organisms) or by means of electromagnetic energy and a low entropy of the absorbed sunlight (autotrophic green plants) [4, 141].

Thus, it is proved by science that non-balanced alive systems submit to the same general laws of thermodynamics to which other non-balanced, but lifeless systems submit, that is why for the characteristic of living organisms the corresponding thermodynamic functions and first of all such as energy and entropy are applicable.

A living organism is an extremely ordered system with low entropy. Existence of a living organism means the continuous resistance to the disordering factors and, in particular, to the factors causing diseases. It may seem that the living organism does not submit to requirements of the second beginning.

This is certainly not the case. It is necessary to consider that any alive organism is the not loop system staying in a significant misbalance. This system interacts with the environment actively, for example in the feeding process living organisms consume high-molecular compounds. Decrease of entropy occurs during synthesis of high-molecular compounds from the low-molecular ones [1, 87]. It is known, for example, that the food has lower entropy, than waste. And at energy exchange there is splitting of glucose into a carbon dioxide and water which is characterized by entropy increase.

The person does not simply live. He works, creates and, therefore, reduces entropy energetically. All this is possible only thanks to the fact that “... a person receives necessary quantity of a negentropy (information) from an environment by two different channels. The first one is bound to teaching process. The second one is connected with the physiological processes of an exchange happening in system (the human + environment)” [4, 141].

The next step would be to present a modern point of view on this issue. We use in our article materials from L. V. Tarasov’s book [5] because we consider that here is the most understandable statement for the students of humanitarian cycle.

“A man understood long ago: initially there was a chaos, various ordered structures, living creatures and, at last, he himself was formed of it eventually. The modern science assigns this part to casual processes; in fact the role of God plays his Majesty the Case”.

“Process of emergence an order out of chaos is not a result of intervention of God, but a result of self-organization of a matter on the basis of a random search” [5, 204]. In the process of self-organization of a matter the initial chaos of the

fundamental particles formed after the Big Bang gradually was organized at first in atomic nuclei and atoms, and later in substance of stars and planets. This process led to emergence of life on Earth, to appearance of the more and more composite species. At first sight, the evolution in wildlife, which is followed according Darwin by the complication of species, contradicts the second beginning of thermodynamics according to which the matter should eventually degrade (an entropy has to increase). “According to the theory of Darwin at first there are spontaneous fluctuations of species then selection comes into force and irreversible biological evolution begins. Like in Boltzmann’s theory, happenstance leads to irreversibility. However the result of evolution at Darwin turns out to be different, than at Boltzmann. Boltzmann’s interpretation entails forgetting the initial conditions, “destruction” of initial structures whereas Darwin’s evolution is associated with self-organization, with steadily increasing complexity” [3, 182].

You can try to get around this contradiction by pointing out that Darwinian evolution is bound to the space and local decrease in entropy due to even more significant increase of entropy in the remaining space. In such explanation there is a particular reason as entropy decrease in the process of creative activity of a human is followed, as we know, by entropy increase as result of growth in waste production, and the formation of combustion products, etc.

Here it is necessary to take into account the fundamental difference between loop and open systems. Increase of entropy happens in a loop system; only the system isolated from world around can come into balance state corresponding to “thermal death”. But in the wildlife, properly speaking, there are no loop systems; such systems are always some idealization, artificiality.

It is necessary to distinguish two types of processes. The processes in loop systems conducting to establishment of a temperature balance are followed by disorder increase; they go in the direction from an order to chaos. Processes in especially non-balanced open systems can go in the opposite direction — from chaos to an order. This is the process of self-organization.

Self-organization is considered in details in the above-cited book by I. Prigogin and I. Stengers. Authors emphasize: “Nowadays we know that far from equilibrium there can spontaneously generate new types of structures. In strongly non-equilibrium conditions transition from a disorder, thermal chaos to an order can be made” [3, 54]. They called the new types of structures arising in the process of self-organization, dissipative structures.

Further: “... Irreversible processes are an order source. Closely related with the openness of the system and the happenstance, irreversible processes generate high levels of organization ... That is why one of the leitmotifs of the present book is a new and unusual interpretation of the second law of thermodynamics, proposed by the authors. According to Prigozhin and Stengers, entropy is not simply unceasing sliding of system to the state deprived of any organization.

Under certain conditions entropy becomes the progenitress of an order" [3, 25].

The word "synergetic" comes from Greek "together" and "act". This term is applied in physiology rather long ago: muscle groups that work together to make a movement, are called synergists. Use of this term as the name of the recent scientific trend was offered by the German scientist G. Haken quite recently. He suggested calling a synergetic area of science the one which is engaged in studying of effects of self-organization in physical, chemical, biological and other systems. In other words, the synergetic is a science about self-organization in non-balanced open systems of various origin, a science about laws of the birth of an order from chaos. At present time such science does not exist yet, it only still starts developing. Then Tarasov L. V. reviews some examples which will be pertinent at a performing of this material.

The first example is cloudiness. Everybody who flew by plane over clouds, could observe their regular, very ordered structure more than once. It is possible to observe the almost exact rectangular and hexagon cells of clouds, the regular shaft, straight "streets". All this geometrical order was formed of chaos of molecular movements, various outbreaks in the air atmosphere and a layer of the water steams caused by the irregularity of their warming up leading to an intensive convection.

The second example is Benar's instability (this phenomenon was discovered by G. Benar in 1900). It is absolutely easy to reproduce the phenomenon. It is necessary to pour a layer of a mineral oil about 5 mm. thick in an usual frying pan, having added to oil (in order the effect was visible more distinctly) little aluminum shavings. Then it is necessary to put the pan on fire. In the beginning, while temperature difference between the bottom of a pan and a surface of oil is still small, the warmth brought from below will extend up due to thermal conductivity. At further heating the convection will begin: heated oil

will rise, and cold oil will fall down. The spatial distribution of these two opposing streams after a while will organize itself — there is an ordered structure from hexagon convection cells — Benar's cells. In the center of each cell oil rises up, and at the edges falls down. "Benar's instability is a very impressive phenomenon. Convective flow of fluid generates the composite space organization of system. Millions of molecules move in coordination, forming convective cells in the form of the exact hexagons of some certain size" [3, 196].

The third example is a chemical watch. We imagine a chemical action in this way: in different directions in space molecules of reagents move and collide with each other randomly. It seems that in such picture self-organization is impossible. But it is not so. Under certain conditions some chemical reactions are followed by periodic changes (in time and in space) of concentration of reagents. Eventually one reagent is replaced by another, then again it is restored and then again disappears. All this occurs through particular time periods. It is a periodic chemical process — chemical watch.

Let us notice that lately it is found more and more such processes; they are called auto wave. It is curious that heart beating, as it turned out, is supported by the whole complex of oscillating chemical reactions. Often used free comparison of healthy heart with watch gets today a specific meaning — it is a chemical watch.

It is possible to find many similar examples within any school subject.

In conclusion we will note that the content of training of masters of pedagogical education on the naturally scientific profile cannot be considered developed and satisfactory as there is only a standard of a new generation, and the main educational program is not completely formed yet. The material offered in the article can be included in the program of students training, as one of its elements.

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Section 14. Philology and linguistics

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«Miterikon»: history of the book in Russia

Abstract: The article presents history of an ancient Greek book «Miterikon». In Russia, the book was reprinted several times with typos, errors and inaccuracies, which is, from scientific point of view, the most important moment in the life of a text and its perception by a reader.

Keywords: Miterikon; primary source; issue and reissue; translation; cultural code; the text's life.

«Miterikon» is a collection composed by a great Christian ascetic, who is believed to have lived in V–VI century. The book (its full name is «Miterikon, the collection of instructions of Abba Isaiah to honorable nun Feodora») is of a big value due to the sacred character of the text, its antiquity and little exploration. The destiny of the book and history of its publication in Russia is interesting.

The following can be said about the structure of the book: it is a text in a text. The spiritual words of female ascetics (Melaniya, Sinklitikiya, Matryona etc.) «frame» the messages and instructions of Abba Isaiah to honorable nun Feodora. In other words, «Miterikon» was drawn up by the author (who also had the name Isaiah, but lived at a later time, tentatively in X century), who made his own comments, current for that time, using the text of V–VI century, ancient legends and words of Abba Isaiah. Thus, the book (or, more precisely, one of its codices (There are several versions of «Miterikon».

1) The manuscript of Xenothonic Monastery on Mount Athos (№ 736, 14–15 century);

2) Lesbos Monastery of John the Apostle (№ 9, 14–15 century);

3) Iviron Monastery on Mount Athos (№ 6685, 17 century);

4) The Public library of Saint-Petersburg (today, the Russian National Library) (Greek № 243, the year of 1450);

5) Paris National Library (1787). The Manuscript of the Public Library distinguishes itself among other codices due to better preservation, which allows reading the text easily. The explanation of the text with miniatures (the book contains 48 miniatures) also distinguishes the manuscript № 243 among other codices. Our article is about the manuscript № 243.) contains the texts of different epochs.

However, other questions arise. For instance, what language the ancient text used by the author of the book was written in?

Supposedly, the ancient text was written in Latin, or, maybe, in Greek, or, which is also possible, in Coptic. It is

quite possible that Abba Isaiah gave the words of female ascetics from memory, because the most known statements of the saints (especially of the primary Christian epoch) were often rendered orally.

However, the manuscript of «Miterikon» (№ 243) that was later found in Russia was written in Greek and kept on Mount Athos till XIX century. The book entered Russia due to George Vasilyevich Govorov, alternatively St. Theophan the Recluse (1815–1894). The «Preface» of the Bishop Theophan to the first separate edition of the book prepared in 1891 makes it clear that, firstly, the book was acquired by the archimandrite Porphyrius; secondly, the book was kept on Mount Athos and was taken to Jerusalem from there; thirdly, the translation of the manuscript was done by the Bishop Theophan in Jerusalem. It was the first translation of the book into Russian, which became known to a wide circle of readers due to its publication in the journal «Sunday reading» («Sunday reading» was a weekly publicly available journal of the Kievan Ecclesiastical Academy published from 1837 to 1912. It was the first journal of spiritual and moral content in Kiev. It was established at the end of 1836 by the efforts of the president of the academy the Bishop Innokenty (Borisov) as well as teachers the archpriest John Skvortsov, Ya. K. Amfiteatrov and the bachelor, hieromonk Dmitry (Muretov) who later became the Archbishop of Kherson and Odessa. Upon the petition of the Metropolitan of Kiev and Evgeny Galitsky (Bolkhovitinov), the journal was given a permit for publication at the beginning of 1837. The first edition was 2500 copies) in 1853–1859.

At the same time, there are many other questions. For instance, who is the archimandrite Porphyrius mentioned by the Bishop Theophan? And why did the Athos manuscript end up in Jerusalem? The «Preface» of the books says nothing about it. We learn about the eminent Porphyrius (Konstantin

Aleksandrovich Uspensky), the keeper of the manuscript, from other sources. Particularly, from the works of the very Father Porphyrius: «This manuscript («Miterikon») was

given to me in Jerusalem. It was in the parvis of Arkhangelsky Monastery where our ecclesiastical mission was located from 1848 to May 1854» [9, 134]. The archimandrite Porphyrius (1804–1885) was a bishop, Russian Orientalist, byzantologist, traveler and translator of the Bible. In 1834, holding the rank of an archimandrite, he was appointed the guardian of the Uspensky Monastery in Odessa. He was the professor of theology at Richelieu lyceum from 1838 to 1841 and the principal of Kherson ecclesiastical seminary in Odessa from 1839.

Simultaneously, Father Porphyrius worked at Odessa guardian council for prisons and, upon the task of the archbishop Gavril, inspected ecclesiastical schools; for a while, he served as the guardian of a Polish church in Vienna. In 1843, upon the decision of the Holy Synod, Father Porphyrius started long expeditions across the eastern countries. His task was to study the needs of Orthodoxy in the Turkish territories and the condition of church communities and monuments. Father Porphyrius visited Constantinople, Syria, Palestine, Sinai, Egypt and Mount Athos. The scientist discovered the ancient

Sinai codex of the Bible (1845) at Sinai Monastery of St. Katherine for the first time. The second travel of Father Porphyrius to the East, which is more important to us in relation to the manuscript «Miterikon», took place from 1848 to 1854. The scientist visited Mount Athos and the monasteries of Greece, travelled to Constantinople, Egypt, Asia Minor and Syria. Father Porphyrius spent total 15 years in the East. He did a lot to acquaint Russian scientists and government with the state of matters in the Middle East. Moreover, Father Porphyrius translated several Old Testament books from Greek into Russian (1869–1873): Genesis, Psalms, Proverbs, Canticles and Maccabees. The review of Lucian of Antioch on the manuscripts discovered at the Athos book storerooms formed the basis of his translations.

Father Porphyrius died on April 19, 1885 and was buried at the temple named after reverend Roman Sladkovevets of the Novospassky Monastery.

Thus, the manuscript of «Miterikon» was acquired by Father Porphyrius in Jerusalem during his second visit to the East, namely in 1848–1854.

Based upon the «Preface» to «Miterikon» (1891 edition), after the death of the archimandrite Porphyrius, the manuscript of the book was found in the Public library of Saint-Petersburg along with other books of the eminent (Currently, the archive of the eminent Porphyrius is kept in the Saint-Petersburg department of the archive of the Academy of sciences (fund 118)). It is also known from the «Preface» to the 1891 edition that the manuscript of «Miterikon» was as of 1450. Father Porphyrius informed us about it. However, another question arises: where is the original source of the manuscript? If the «Miterikon» was drawn up by Abba Isaiah in X century, who rewrote the manuscript in XV century? There is no information about it either in the «Preface», or works of Father Porphyrius. It is only known that the manuscript of 1450 was rewritten for Elena Kateluzina, the «the grand dame of Ainos located opposite Athos» [9, 134].

The history of the book's publication in Russia is also interesting. When «Miterikon» was released in 1891, it turned out that the text of the manuscript was «shortened»: the book ended with the 203rd verse of the ecclesiastical instructions of Father Isaiah. Eventually, the editors emphasized this fact in the remarks to the second edition of 1898 and added that «now, additions were made to the «Ecclesiastical instructions of the monk Isaiah» starting from the 204th chapter till the end» (The Preface to the second edition of «Miterikon»).

Why did the first Russian publishers of «Miterikon» not notice the absence of the end of the text?! They couldn't publish it without the end deliberately, could they? In the «Preface» to the 1891 edition the bishop Theophan wrote that: «Not everything was translated, not because of me, but due to the condition of the manuscript» (From the «Preface» to the first edition of «Miterikon»).

The second, revised edition of «Miterikon» was done at the typolithography of I. Efimov (I. Efimov — Moscow publisher and bookseller of Orthodox literature), at the publisher's own house in Bolshaya Yakimanka St. in 1898 with the permission of the Moscow ecclesiastical censor committee (Ecclesiastical censor committee existed as an institution approximately from the end of XVIII to the beginning of XIX.

By the time «Miterikon» was published, the Moscow committee separated from the Moscow ecclesiastical academy as of December 31, 1897 (the archpriest Ioann Petropavlovsky acted as a censor. Ioann Petropavlovsky (1844–1907) was the protopriest, ecclesiastical writer and professor of the Moscow ecclesiastical academy. But the life of the book didn't stop there).

«Miterikon» was reissued for the first time in 1995 after many years of oblivion by the publishing house of the Spaso-Preobrazhensky Valaam Monastery (M., 1995), which was «the repeated reproduction of 1891» as it was indicated on the title page. In 2001, a new edition of «Miterikon» was released at the publishing house of Svyato-Panteleimonov Russian Monastery in Athos indicating that: «printed according to the 1897 edition». Neither of the facts corresponds to reality. As for reprinting, it is most probable that there was a mistake, if not an obvious error. Reprinted edition is a repeated edition from the printed original without repeating type matter, i. e. «edition without types and spacing, the lines of which are reproduced from the pages of some issue used as a reproduced original-model» [4]. But neither the edition of the Spaso-Preobrazhensky Valaam Monastery nor Svyato-Panteleimonov Russian Monastery in Athos has reprinting, i. e. the text was typed from scratch in modern orthography (with frequent preservation of the elements of old orthography). Moreover, the book of 1898 and not the 1891 edition («shortened») served as the source of publication, i. e. the full text of the book was reproduced (from the 203rd verse to the 430th inclusive).

Today, one copy of the 1898 edition is kept at the Synodal library of Andreevsky monastery in Plennitsa — Stauropegic men's monastery of the Russian Orthodox Church located in

Moscow at the foot of Vorobyovy Gory. Curiously other printed texts were bound to the copy of the 1898 edition.

In one binding with «Miterikon», we found the list of editions of Athos Russian Panteleimonov Monastery, «Lay of seven cheese days» of the saint Tikhon Zadonsky (printed at the Saint-Petersburg synodal typography in 1899 according to the determination of the Holy Synod) as well as instructions of the saint Efrem Sirin «Flowers from the garden of the saint Efrem Sirin» (published in Moscow at the Synodal typography in 1883). Who and why combined these «sacred» texts?! It is clear that the content of an ecclesiastical book for a believer is above formal nuances. The bishop Theophan says about it in his «Preface» (From the «Preface» to the first edition of «Miterikon»: «Not everything is translated, not because of me, but due

to the condition of the manuscript. Nothing significant is lost, though ... »). However, for scientists, a book is a carrier of cultural codes, large socio-cultural space, spiritual memory of the mankind through which we learn history. In this aspect, translators, copyists, publishers and keepers of the manuscript of «Miterikon» played an important role in recreation of the historical truth and in the destiny of a separate book. Yes, copyists make mistakes; translators make mistakes; publishers and editors also do, as we can see. Not only a rare book, a historical document or a valuable manuscript suffers from it, but, primarily, history suffers and, eventually, a man themselves. Another question is whether there is a social historical regularity without which the history of a book wouldn't be a history?! (The word «history» is translated from Greek as «discovering», «inquiring».)

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Comparative in the poetry of Russian acmeism

Abstract: This article is devoted to the analysis of structures “comparative + genitive case of nominal parts of speech” in the language of Gumilev's poetry because he is one of the most typical representatives in Russian acmeism. Comparative in the conjunction with a dependent genitive case of nominal parts of speech is one of the most common means of expressing the intensity of expression in the works of N. S. Gumilev. Examples occupy a special place of use within the meaning of the poet comparatives in the meaning of superlatives.

Keywords: comparative, expressiveness, intensity, intensifier, intensive, superlative.

Expressiveness as one of the properties of a linguistic unit is closely related to the category of emotional evaluation in general and with the expression of the man's emotions.

Genetically a lot of expressive means are fixed by the system of language, including tropes and figures of speech, as well as techniques for forming the verse trace to the peculiarities

of setting the statements in the emotive (effective) speech. This explains the similarity of the arsenal of expressive means and principles of functioning in the languages of different systems. It is typical in the works of a number of linguists that the category of expressiveness and emotion are identified [2]. E. M. Galkina-Fedoruk believes that “expression is a strengthening of significance and increasing the affecting force of what was said” [1]. To convey expressive, language makes resort to split-level means which represent such forming levels of a language as phonetics, lexicology, morphology and syntax. Thus grammatical units interact with lexical. This article attempts to analyze the specific of the operation of comparatives as a means of creating expressive language in Gumilev’s poetry.

Significant place among the comparative structures which can be found in the poetry of N. S. Gumilev takes the constrictions “comparative + genitive case of nominal parts of speech”. In the texts of the poet’s works comparatives with dependent genitive case of nouns are used twice as often than the constructions with a single comparative. It is arguable that the construction of the “comparative + genitive case of nominal parts of speech” is about a third of the total number of examples of using the comparative forms of adjectives in the Gumilev’s lyric. Comparative with the dependent genitive case is constituted by the hidden comparison it includes in its membership three essential components: a noun (to which comparative relates), comparative degree of an adjective and a noun in the form of genitive case as an object of comparison. Such a comparison is more economical in the use of linguistic resources; it reflects the aspiration to compression, pressing statements while maintaining its informative and expressive sides.

Analyzing the lyric poet’s works it should be noted that adjectives of different lexical-semantic groups are used in the construction of “comparative + genitive case of nominal parts of speech”. For example a group that includes constructions in which comparative denotes the outward signs of things “overweight”, “white”, “black”, “ornamental”, “low”, compare: «По болотам блуждают огни, // Черепаха грузнее утеса, // Клювоносы таятся в тени // Своего исполинского носа» (Gumilev. Liberia).

Comparative connects a point of comparison it is an animate noun “turtle” with the object of comparison the inanimate noun “cliff”. The lexeme “cliff” means: “The Rock. High crag” [3]. “Turtle” is a “slow-moving reptile with short limb” [3]. The link between these seemingly incompatible concepts is a comparative “overweight”. Such hyperbolic comparison increases the expression of this fragment of the text. Turtle does not look just like a cliff that in itself can be seen as a bright, strong copyright comparison but it is “more massive than a cliff” which indicates a greater degree of appearance of an attribute in the subject.

In the following examples the poet uses the form of adjectives which denotes the color in the form comparatives, compare: «Краски взяв у пустынных закатов, // Попугаям он перья раскрасил, // Дал слону он клыки, что белее // Облаков африканского неба» (Gumilev. Sudan). Comparative

connects a point of comparison the plural noun “fangs” with the object of comparison “cloud”.

Thus it can be seen that the meaning of these two nouns in the mind of speakers are closely related to some ideal embodiment of white. Consequently it highlights the high degree of intensity appearance of an attribute in the subject of “fangs”.

For Gumilev typical combination contains noun with an adjective, compare: «Кружев узорней аркады, // Воды застыла стеклом» (Gumilev. Venice).

The explanatory dictionary states the following lexical meaning of the word “lace”: “... pattern woven mesh fabric for finishing linen, clothes” [4]. As you can see lace in itself is patterned. Gumilev for even greater intensity appearance of an attribute uses the adjective “more patterned” in the comparative degree which in combination with the inversion increases the expressiveness convoluted comparison “lace more patterned than arcade”.

Similar constructions can be considered very typical for Gumilev’s lyric. For example, in the poem “Liberia” we found the following comparison, compare: « — «Господин президент, ваш слуга!» — // Вы с поклоном промолвите быстро, // Но взгляните: черней сапога // Господин президент и министры» (Gumilev. Liberia).

Animated nouns “Mr. President and Ministers” compared with inanimate “boot” using the comparative “blacker”. Considering this example in the first place it should be noted that these words are pronounced by the servant and he uses colloquial vocabulary for describing the higher lords (President and Minister). The servant says that they are “blacker than boots” referring to the appearance and dirty thoughts of those people who are in power, thus showing their dismissive attitude. “Boot” in the minds of native Russian speakers in the early twentieth century was a kind of tuning fork the incarnation of black and the comparative degree of “blacker” gives this phrase an additional expression. This phrase in the relation to Mr. President and the Minister gives a touch of irony and even sarcasm.

The following examples represent a group of constructs in which comparative denotes internal signs of people or things “strong”, “nice”, “holy” etc. Compare: «Тридцать лет я по лесу блуждаю, // Не боюсь ни людей, ни огня, // Ни богов... но что знаю, то знаю: // Есть один, кто сильнее меня. // Это слон в неизведанных чащах» (Gumilev. Zambezi).

Lyrical hero says that he is confident in his abilities he is not afraid of anyone or anything but the elephant still exists it surpasses him in a strength. This surpassing quality expressed with the help of an adjective in the comparative degree “stronger”.

Considering the constrictions “comparative + genitive case of nominal parts of speech” there is no escape from drawing attention to the examples of using these forms in the meaning of superlative. Using forms of comparative degree in the meaning of superlative is not a rare phenomenon in the Russian language and in most cases it is typical for structures “comparative + genitive case of nominal parts of speech” which is common for example for A. A. Akhmatova [5]. Specificity

Gumilev's creative style is in the language where is the function of superlative represents comparatives in combination with the negation "no", "not", "nothing", compare: «Нет воды вкуснее, чем в Романье, // Нет прекрасней женщин, чем в Болонье, // В лунной мгле разносятся признанья, От цветов струится благовонье» (Gumilev. Bologna).

The author emphasizes that the most delicious water is in Romanija and the most beautiful women are in Bologna, i. e. in these patterns indication of "delicious" and "beautiful" are extreme compared to their same manifestation in all other similar items. Consequently, comparative uses in the mean of superlative, as in the following example, compare: «В целой Африке нету грозней сомаи, // Безотраднее нет их земли» (Gumilev. Somali Peninsula).

The main character of the poem says that he traveled the whole of Africa but could not find something more terrible than Somalia. Thus, the meaning of the word «more terrible» is very close to the meaning "the most terrible" that this sign is manifested in the absolute degree. These forms have bright expression, emotionalism. The possibility of a comparison is denied, a sign is categorically affirmed as absolute in its manifestation, compare: «И про каждого слава идет, // Что отважнее нет пред бедою...» (Gumilev. Liberia).

We find out that there is a fame of a man who is the bravest before misfortune. Although the adjective has the form of comparative degree "braver" it has a sense of the lexical meaning of superlative degree.

The comparative degree in the meaning of the superlative may be act not only in connection with the negation "no", "not" but also with an indicator of the meaning of superlative "nothing", compare: «Есть музей этнографии в городе этом // Над широкой, как Нил, многоводной Невой, // В час, когда я устану быть только поэтом, // Ничего не найду я желанней его» (Gumilev. Abyssinia).

Semantics plays an important role when we use the comparative forms of adjectives in the meaning of superlative, compare: «Страшнее страшных пугал // Красивым честный путь...» (Gumilev. Postal clerk).

The lexeme "scarecrow" has the following meaning: "Scarecrow. Dummy which is exhibited for scaring" [3]. The

noun "scarecrow" is derived from the verb "to fright", i. e. "to instill fear, dread" [4]. Thus the noun "scarecrow" contains in its seme something terrible, frightening and terrifying. On the one hand we see a typical construction which is similar to "comparative + genitive case of nominal parts of speech". However comparative "more frightful" realizes the meaning of superlative acting in combination with the name of "scarecrow" and the adjective "frightful". It achieves a high degree of expressiveness and intensity in the example of the "more frightful than frightful scarecrows".

The same can be seen in the following example: «Грозней громов; внимая им, // Толпа взволнованнее моря» (Gumilev. Oda d'Annunzio).

The word "thunder" contains the meaning of something "terrible, sinister and menacing". However for strengthening the expressiveness of the text N. S. Gumilev uses comparative "more terrible" in combination with a noun in the plural form of "thunder". It draws attention to the high degree of concentration of these means in the poem. The construction "more terrible than thunders" is perceived as a means of expression of a feature which is striving for the highest degree of manifestation, postcontext acts in construction "more excited than Sea" and it performs a similar function.

Thus we can assume that the use of comparatives in the meaning superlatives is typical for the language of N. S. Gumilev's poetry. In these contractures the role of lexical means increases and becomes closer to the semantics of superlatives. The role of microcontext in these examples is much higher than in constructions with typical comparatives.

It should be emphasized that the intensity and therefore the expression in the poetry of N. S. Gumilev is created with the combination of different enhancers. A lot of examples illustrate the author's desire to satiate text with the expressively colored vocabulary. It also necessary to note that the construction "comparative + genitive case of nominal parts of speech" has a greater degree of expressiveness it is more expressive than a single comparative which indicates enhancement of a sign in the subject without regarding to the other items. This also explains the high frequency structure "comparative + genitive case of nominal parts of speech" in the lyrics of acmeism.

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Section 15. Philosophy

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Mass culture and manipulation with consciousness

Abstract: The article gives the definition of such concepts as mass society, mass culture and mass consciousness. Specific examples indicate positive and negative effects of globalization on national culture.

Particular attention is paid to the interest of independent states for the conservation, protection and development of national values in the context of globalization. The conclusion about the relevance of stability provision and protection of the state raised by globalization has been drawn.

Keywords: mass culture, mass consciousness, mass society, national culture, globalization, national states.

Globalization is a natural-historical, that is which is not imposed by anybody and not controlled and regulated by anybody, process of integration of cultures, civilizations, states into certain harmonious whole. Globalism is, as A. A. Khamidov notes, on the contrary, “control and regulation of world-wide and historical processes from the one and only center unilaterally and *only in the interests* of this very Center” [1, 25]. The main goal of globalism strategy and tactics is to appropriate depleting useful resources of the planet. The nature has disposed so that these resources are mainly concentrated in the territories of independent national states. Therefore the national states are among the targets for globalists. The latter try in every possible way to discredit national statehood as being allegedly anachronism in the conditions of “a new world order”. The strong national state relies on original national culture and at the same time supports it in every possible way and creates conditions for development and improvement. “Globalists, — A. S. Panarin writes, — destroy all forms of developed national self-organization in order to build their global order on a “vacant place” [2, 27]. In this article we will consider only one aspect of such impact on national culture, namely imposing of samples and standards of so-called mass culture formed at the turn of the XIX–XX centuries on it.

The mass culture opposed to high, or elite, culture, is inseparably linked with a massification of society and formation of mass consciousness. The post-industrial era nearly turned it into a dominant phenomenon. Globalism strategy and tactics use mass culture as one of the tools of pressure upon national culture passing state filters.

The modern mass culture grasps into its orbit almost everything without exception, penetrating it by its force fields. It certainly leads to a peculiar averaging, “standardization and internationalizations of types of material and cultural consumption, sources and contents of social information, ways of life

and types of leisure activity. A person can live in the center of Europe or on the coast of the Pacific Ocean, have a high or modest level of income, be a worker or a banker, but the real world surrounding him/her, his/her daily life activities and entertainments which keep reflecting his/her financial opportunities, nevertheless, get more and more leveled. Jeans and sneakers, a car or a TV-set are purchased depending on their qualities for very different money still they are the same subjects sometimes representing the same trademark (“Sony” tape recorder can be bought both for 100 and 300 dollars). Even less signs of social-group belonging in rock music and westerns, TV programs and messages of the largest news agencies constituting the main spiritual food of billions of our contemporaries” [3, 92]. All this, certainly, occurs. But the peculiarity of modern, i. e. mass culture of the second half of the XX century – beginning of the XXI century, consists in that unification, standardization, leveling, etc. are already not the goal but the means for decreasing the level of the culture of thinking of billions of people, blocking sober and critical view on global processes taking place on the planet, disguising those who behind the scenes manipulates with historical process deriving multi-billion extra profits from it.

In the course of familiarization with the mass culture mass consciousness which is even more unsystematic, even more saturated by every possible stereotypes and clichés (which besides can quickly be replaced with other ones) than ordinary consciousness is formed in the people. It is formed mainly under the influence of mass behavior. From the mass and a person of mass there is only one step to a crowd and a person of crowd. The known expert in the crowd phenomenon G. Lebon wrote in due time: “Under known conditions the conscious personality disappears while feelings and ideas of all separate units forming the whole, called as a crowd, accept one and the same direction. A collective soul having

certainly a temporary character but very certain features as well is formed" [4, 11]. The modern researcher S. Moscovichi as if supporting G. Lebon's quoted words writes: "Suggestion or influence becomes a phenomenon responsible for so unusual transformation. People have an illusion that they make a decision themselves, and they are not aware that they became an object of influence or suggestion" [5, 41].

Therefore one of solution ways of mass culture introduction problem is control over ordinary and mass consciousness and manipulation with it, and through it, certainly — over mass behavior and familiarization with mass culture. As S. G. Kara-Murza notes, "the people whose consciousness is manipulated are treated not like personalities but like objects, special type of *things*. Manipulations are a part of power technology, and not an influence on the behavior of a friend or a partner" [6, 17]. The means of manipulation with consciousness are various. Let's note the main directions by which the ethno-national cultures are being attacked by globalism.

First, the consciousness is treated toward decomposition of the value level of consciousness and its bringing to utility level is realized, hunger for consumerism is engrafted. Young people of juvenile and teenage age become the object of manipulation more often. They are suggested that usefulness is the high goal which a person should aspire to reach. To achieve the necessary effect from this suggestion the latest technologies of consciousness indoctrination are used. The important role in it is played by advertisement. One does not have to be a specialist to see that TV channels advertise mass produced items, one can never see advertisements of books, new scientific or philosophical ideas, important discoveries, technical achievements, etc.

Secondly, a purposeful campaign for destruction of culture of thinking, ability to independently define and defend one's vision and values is realized which is aimed at and implemented in post-Soviet countries where the test method for checking not only the knowledge of school pupils or students but also as a means of mastering teaching material by them dominates. Such method justified as a third-rate method of checking the level of knowledge but turned into a main one can contribute not to development of culture of thinking but remembering answers to certain questions. As a result, the contents of a studied subject, its integrity and cultural sense remain unmastered. At destruction and even elimination of culture of thinking of a personality the application of various PR-technologies is aimed as well. "The main goal of public relations, — V. A. Lektorskiy fairly notes, — is not development of rational abilities of a person but, on the contrary, dulling his/her critical reflection" [7, 189].

Thirdly, the idea of commercial importance of any phenomenon of culture and replacement of all known to present human motives by economic ones is purposefully and strenuously instilled. But this — only demonstration and universalization of consumer-useful treatment of the world in general. "This leads, — A. A. Khamidov writes, — to stimulation of development of *mistrust* and even *contempt* for everything in

culture and human life that *resists* the ratio *purchase-sale*, qualifying everything not promising commercial profit as *not being worthy* of a person. Thereby all *supreme values* and *shrines* as allegedly illusory and utopian" [8, 29] are discredited. Accordingly, there is an aspiration to extend market, commodity-money relations to the whole human culture.

Fourthly, the mass culture is intentionally exported to ethno-national cultures in its worst forms. In particular, those forms and samples of it are exported where aggressive behavior, bloody fights, violence, sex are heroized. Unisex marriages are advocated, pornography, including also child pornography, spreads.

Porn industry in the XX century turned into a rather profitable business. The researcher of so-called "striptease culture" B. MakNeyr writes: "Process during which the pornography became an economically important subsector of cultural production was dictated by demand and *technologies*. If to speak about the latter, each next innovation in development of devices of mechanical, electronic, and recently — digital reproduction of images simplifies production and consumption of sexually explicit materials lowering from both sides the barrier before the entrance into something that I will further name as *pornosphere*" [9, 83]. Books, movies, videotapes, CDs, DVDs, finally, the Internet — all this is used both in commercial distribution of pornographic materials and export by ideological motives. The Internet is especially convenient for these purposes. "Unlike previous technological jumps which lead to pornosphere's expansion within the borders of a state, — B. MakNeyr notes, — the Internet globalized porn industry and undermined the ability of certain countries to supervise the consumption of sexually explicit materials by their citizens (satellite broadcasting played its role here as well, but much more modest)" [9, 123].

All this is aimed at consecutive destruction of ethnic and national cultures and their values as bases of national and (or) ethno-national statehood. Introduction of the ersatz-culture is called to erode original culture in general, ethnic and national, in particular. It is also called to promote the loss by people of their valid identity and correct orientation in the world, their transformation into amorphous mass and even into a crowd. There is a direct link between national statehood and national culture. The stronger the state is, the more flourished the national culture is, and, on the contrary, the more preserved and more developed the national culture is and continues developing, the more powerful the national state is. But without a developed subject neither the first nor the second will happen to be. Therefore the globalists attack in all three directions and especially — in the third one — the ethnic and national person. And the fundamental purpose of all these efforts of globalists consists in one thing: so that the resources of the whole world would become as soon as possible "global", that is available. In this regard the national states should preserve in every possible way the national cultures and promote their development for not only the national state is the guarantor of national culture, but also on the contrary, high-grade national culture is the guarantor of stability and safety of the national state.

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Significance of spiritual factor and ethnocultural traditions in the development of domestic education

Abstract: In the article important features of ethnocultural traditions within the context of education and personal development are considered. The urgency of preservation of national components of domestic education in the conditions of growing globalization is specified. The positive and negative moments of globalization processes are shown, their threat for national education system, culture, spirituality is noted.

Keywords: spiritual factor, ethnocultural traditions, ethnocultural identity, ethnocultural education, liberal arts education, cultural-ethnic developments, ethnic culture.

Today we start feeling more and more acutely the crisis situation overtaking the whole mankind. And moreover, pushing the boundaries habitual to us, the crisis interferes into the beyondness of our existence — spiritual area of Being. The mankind can survive physically if it only survives spiritually that is as cultural mankind: the first thing is absolutely inseparable from the second one. The development of human spirituality as synthesis of reason and good will, knowledge and responsibility. People can do too much today, and too much can lead to disaster.

This entails ignoring spiritual foundations of national culture — in politics, economy, education — and this is especially dangerous in the conditions of public transformation. Understanding inconsistent experience of reforms allows realizing deeper and better the role of education and first of all ethnocultural education. Unique opportunities for formation of spiritually integral personality and simultaneous reproduction of national culture of the people through a person, his/her system of values and reasons to live allow considering *ethnocultural education* as the most important precondition of spiritual security of society.

Spiritual security is the system of the conditions allowing culture and society to keep their vital parameters within

historically developed norms. Their going beyond the norms influenced by different factors, of primarily cultural, value-normative nature, leads to disorganization and finally to society disintegration as a complete system in connection with destruction of the spiritual foundations structuring it [1, 7–13].

In the conditions of modern civilization globalization and electronic technologies development culture considered by superpowers as the main mechanism of various regions inclusion into the area of their influence becomes the most important factor of world influence. Strengthening of cultural factor in geopolitical strategy is accompanied by a number of negative consequences which should be considered in the development of conceptual foundations of geopolitics. On the one hand, cultural cooperation and dialogue of nations are the guarantee of justice and democracy, condition of prevention of international and interethnic conflicts, violence and wars. On the other hand — the world community enters a new phase where not political or economic disagreements but *cultural-ethnic* differences and contradictions will be the dominant factor of global policy and fundamental source of conflicts. The objective or subjective inequality of cultural dialogue partners is the precondition of geopolitical influences. Non-selfsufficiency of one of the parties of dialogue

and aspiration to copy “another” cultural model reduce the efficiency of partnership in international contacts that deepens national and cultural inferiority complex, opens borders for cultural expansion of countries-leaders.

At present the struggle for spiritual influence and world space division intensifies. Today the strategic objective of geopolitical expansion of world leaders in respect of developing countries is to make them similar to themselves: by political and economic system, social structure, ideology, psychology, culture.

The ethnic culture comprises values and the norms constituting the spiritual kernel of society, represents a peculiar attraction pole, and cases of this attraction violation inevitably lead to disintegration of public organism. And such situation is much more dangerous to destruction of state integrity than external expansion. One of the mechanisms of geopolitical tasks realization in the area of spiritual security is the higher *liberal arts education* — the most important social institute of transmission of cultural values, norms, ideals, a form of national and cultural world reproduction. Namely the education’s possibilities of keeping and confirming sense-making coordinates of cultural system allow considering it not only as system of vocational training but as an effective tool of geopolitics and provision of the nation’s spiritual security [2, 29–30].

Unfortunately, at present the geopolitical potential of education is not only used not to the full, but also it is not comprehended according to the scale of problems and the state’s policy in this area testifies that the power does not comprehend the original role of education, does not realize that without a person, his/her erudition, intelligence the economic wellbeing of society is impossible and pointless.

Ethnocultural education is the most important mechanism of transmission and reproduction of cultural values, ideals and meanings of life which form and content are determined by specifics of “national-cultural world” formed by history, language, philosophy, literature, traditions, psychology. Dialectic interrelation between culture and education, possibilities of the latter to exert significant influence on the condition of spiritual atmosphere in society make the study of theoretical and methodological foundations of its reformation especially important today. The comprehension of education as a factor of spiritual security of the nation is conditioned by its major role in preservation of cultural continuity and spiritual development of a person.

Education provides complete reproduction of a person — according to those ideals of his/her which are formed in culture depths, religious-philosophical, ethical and pedagogical systems and concepts. If training transmits and reproduces only a certain private, specific fragment of culture the education produces and reproduces integral subject of culture and activity — a person in his/her existential and ontological completeness.

Unlike tool-oriented training providing transmission, reproduction and mastering of knowledge, skills, technologies and consequently being secondary in relation to processes

of personality formation and development, education forms complete “image” of a person. Namely the education’s possibilities of domestic culture specifics preservation allows considering it as the most important condition of spiritual security of our state as the “loss of spiritual identity of the people leads to the loss of one’s special place in the worldwide family of cultures and civilizations, and finally — to essential weakening of economic and geopolitical positions. In these conditions the important priority of education is its *ethnocultural feature*” [3, 127]. Unfortunately, it should be noted that in the context of this feature globalization it is not given due consideration. We should not forget that from the viewpoint of state policy and national ideology the education is a means of national consciousness formation, cultural and language interests realization. *Ethnocultural education* fulfils the function of revival, preservation and development of national culture, helps to reveal national and cultural needs of a person, as well as provides interchange and mutual enrichment of cultures.

Each people have national features. It is necessary to consider them during education modernization for if this component is ignored the essence of the nation is distorted. Today the education became an important weapon in the policy of states. In this context the education system should be built on those fundamental values, ideas and priorities which developed on our earth throughout its thousand-year history, rely on the general cultural heritage of Turkic ethnoses, spiritual and moral traditions of the Kazakh people, the values accumulated by world civilization.

The state policy in the area of education should be aimed at developing national spirit and patriotism in pupils. It is well known that this activity is inherently connected with *the state language*. Strengthening national bases of education should be closely connected with providing unconditional priority of native language and culture. This policy is realized in many countries. The language issue and ethnocultural education are in a dialectic unity. As the great son of the Kazakh people Akhmet Baitursynov told: “Sozi zhogalgan zhurttin ozi de zhogalady” (“*The people who have lost their language get lost themselves*”). Is it possible to imagine a Japanese, a German or an Uzbek not knowing native language? It’s certainly impossible. Meanwhile our language situation causes the feeling of uncertainty. Certainly, with years the state language should occupy the position it should occupy. Speaking about this, at the XIV session of the Assembly of the People of Kazakhstan the President has reminded again that during the years of totalitarian regime the history and culture of the Kazakh people happened to get under the pressure of ideology. This has had a catastrophic effect on the Kazakh language as well which by the end of the XX century was on the verge of extinction. Therefore today the aspiration of the Kazakh people to restore the lost is absolutely natural.

The most advanced people always understood that the future of mankind, nation entirely depends on education and personal development of rising generation. Unfortunately, in

our state little attention is given to the spiritual aspect. We constantly speak about economy. But we should not forget that the development of economy is possible only when there is the development of sciences, education, high culture, while it should be the culture which is based on humanity.

Before all subjects taught for the Kazakh people has educational-informative value, direction. The duration of study was generally 4 years, from 9 to 13 years. Each aul had a mosque. The mentioned 4 years were distributed like this:

Year 1 — ALIP BI, ABZHET, ADEP, ARKEN were studied.

Alip bi — studying alphabet consisting of 28 letters (twenty eight Arab letters);

Abzhet — solution of problems with four-unit actions of arithmetic;

Adep — different types and forms of respectful attitude, honoring relatives, inner circle were studied. Respectful relations between younger and senior. Meeting and farewell to guests, different types of relationship and communication with them.

Arken — a section which teaches the beautiful. This includes: self-care, dressing tastefully, taking into account the age, occupied position in public system, ability to produce and preserve various things for a farm and their esthetic decoration. In respect of people and all living things — be humane, especially during care of animals, sick people, etc.

Year 2 — АПТИЕК was studied — understanding, mastering of words content and meaning. Training correct, logic speech and ability to listen. Simultaneously at this stage shakirts (*pupils*) get general information about the Koran by studying small (*i. e. short*) suras. In other words it is an initial way to studying and mastering Koran.

Year 3 — MUSANNAFTER, MUNNAZHIM were studied.

Musannafter (*poetry, dastans (epic works)*) is the study of lyric eposes, eposes about batyrs (heroes) and biiys (leaders) and other poetic works of the people of the old Turkish, Arab-Muslim worlds; **Munnazhim** (*Astronomy*) — studying this subject pupils obtain complete knowledge of the sun, the moon, stars, seasons, weather change and reasons of these phenomena. Other heavenly bodies are studied as well. Pupils also receive general information about geographical sciences, natural history. They get to know about the nature, distinctive features of localities and reservoirs, their suitability for different areas of activity, how to find the way at night by means of stars, *i. e.* were taught observation, etc.

Year 4 — МУКХТАСАР was studied — kind of synthesis of abovementioned subjects having expanded and systematized

appearance. Mainly the pupils study the laws of the Sharia from the viewpoint of morality, etiquette, etc.

As we see, from the mentioned 8 (*eight*) subjects, except for Mukhtasar, 50 percent are directly or indirectly aimed at studying *education problems*. This humane, respectful attitude to people around, humanity (*imandylyk, inabattylyk, korgendilik, parasattylyk*), aspiration to the beautiful, etc. All subjects are subordinated to daily need, their need is continually felt, they are far from learning by heart [4, 14–15].

Among the main reasons of fading of creative potential of the people most important is the weakening of intellectual and spiritual traditions as a result of national education system destruction and training of a layer of intellectuals alien to the people, its history, traditions, culture. Consequently, the development of nationally and culturally oriented education is a leading precondition of activation of creative powers and abilities of the nation, mobilization of its spiritual resources. Such understanding of the role of education objectively puts today the problem of reorientation of its philosophical and culturological foundations, need in development of educational paradigm which would avoid eclectic connection of concepts and ideas of other national schools. In particular, copying of western models of education focused on human subjectivity development or transfer of maximum volume of knowledge and development of technologies can cause in the conditions of Kazakhstan the crisis of socio-cultural and personal self-identity as the tool nature of these models belittles the value of spiritual and moral component of educational process, emasculating thereby the original essence of this social institute.

We are deeply convinced that there is no more important task for the nation as education and personal development. Namely the nation which will manage to create today more perfect education system will become the leader of the XXI century. I think that the leader of the third millennium will be presented not by the country having today a high standard of living or the most perfect electronics by the nation that will manage to provide the baton pass of knowledge and culture, find that relationship with the surrounding nature which meets modern requirements of development of the society and the nature.

The considerable part of the Kazakh population is however focused though to a different degree on ethnocultural values. In order to save this fragile socio-cultural system of the Kazakhs the moral and spiritual reorganization of our impoverished being is necessary.

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Section 16. Chemistry

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Distribution and sources of polycyclic aromatic hydrocarbons in surficial sediments of the Caspian Sea in the vicinity of the Absheron peninsula

Abstract: The study explores the distribution of 16 polycyclic aromatic hydrocarbons (PAHs) in surficial sediments of the Caspian Sea in the vicinity of the Absheron peninsula. PAHs were extracted with solvent and analyzed by gas chromatography with mass selective detector. The calculations were carried out using deuterated PAH standards. Total concentration of 16 PAHs in the samples varied from 2.1 to 26,6433 ng/g dry weight. In order to determine the source of contamination, the ratios of various individual PAH were calculated. The results showed that PAHs in the studied area were presented by both pyrogenic and petrogenic sources of pollution.

Keywords: Caspian Sea, sediment, polycyclic aromatic hydrocarbons, chromatography.

1. Introduction

In recent years, the focus of many environmentalists has been the deterioration of the marine environment of the Caspian Sea as a result of pollution from various sources due to human activities. Environmental problems of the Caspian Sea have emerged due to extensive economic development in the countries of the region.

One of the sources of pollutants in the sea is the industrial and domestic effluents from the settlements located along the shoreline. The Caspian Sea shores are home to large cities with more than 220 sources of water pollution. Every year 39 km³ of wastewater, of which 8 km³ is contaminated, is dumped into the sea. About 30 tons of petroleum hydrocarbons are discharged into the sea along with wastewater [1]. The nature and amount of organic substances in sediments depend on deposition conditions.

The content of persistent organic pollutants, including polycyclic aromatic hydrocarbons, is affected by metabolism between sea water and sediments. According to available research, organic substances, including oil, accumulates in sediments and remains there for many years [2]. Anthropogenic sources dominate natural resources in many areas affected by human activities [3]. The study of the hydrocarbon composition of sediments may reflect the degree of anthropogenic pressure, as well as provide information about the sources of their entry into the environment [4; 5]. Offshore oil and oil

spills, industrial waste, sewage discharges flowing from the river water are considered the main sources of anthropogenic hydrocarbons in the marine environment [6]. There are two types of anthropogenic sources of hydrocarbons: pyrogenic and petrogenic sources [7]. Pyrogenic sources of hydrocarbon compounds form by incomplete combustion of organic substances such as oil, wood, coal, stone, etc. [3; 8; 9]. Crude oil and hydrocarbons of petroleum are the petrogenic sources of pollution [10;11]. Oftentimes, to assess oil pollution of the marine environment, polycyclic aromatic hydrocarbons (PAHs) are used [12; 13]. Polycyclic aromatic hydrocarbons of pyrogenic origin are mainly represented by high molecular weight compounds with a high number of cycles. Pyrogenic PAHs are relatively stable to weathering. This allows using them as markers for identification of oil sources [14]. High concentrations of low molecular weight PAHs in the samples indicate the petrogenic origin of major pollution [15].

Many international conventions and environmental legislations, including Environmental Protection Agency of the United States, the Helsinki Convention (HELCOM 2008), and the World Health Organization recognize some PAHs with unsubstituted rings as priority pollutants. These compounds are known for their carcinogenic and mutagenic properties [16]. The carcinogenic properties of PAHs were found in 1933 with the release of hydrocarbons from coal tar [17].

Solubility of PAHs in water medium decreases with an increase of the number of aromatic rings. During the sedimentation process in marine environment, selective extraction of high molecular weight hydrocarbons from dissolved forms occurs with suspension by means of adsorption. Due to their hydrophobic properties, the majority of PAHs get adsorbed by the particles, transported from the surface of the water into the water column, then settle on the seabed [18]. Being a source of a large amount of particles, phytoplankton also plays an important role in the transference of PAHs from water column to sediments [19]. Due to their ability to retain pollutants, sediment serve as a reservoir for PAHs [20]. Settled PAHs affect the tissue of benthic organisms [21]. PAHs detected in sediment are considered to be resistant to bacterial biodegradation. The accumulation of PAHs in sediments or soil leads to the decrease of their bioavailability for bacteria that slows down the process of biodegradation [22; 23]. However, it is worth noting that in comparison with high molecular weight PAHs, low molecular weight PAHs, such as naphthalene and phenanthrene, can degrade in marine sediment more rapidly [24]. An important factor influencing the behavior of PAHs (migration, deposition, transformation) when released into different natural environment, is the particle size distribution of precipitation [25]. The reasons for the accumulation of PAHs in sediments may be either anthropogenic or natural. Being an integral part of higher plants, polycyclic aromatic hydrocarbons of biogenic origin

are formed during the stages of sedimentation and early diagenesis at biochemical bacterial transformation of the original organic matter [26].

The main purpose of our work is a study of the distribution of PAHs in surficial sediments of the Caspian Sea by methods of gas chromatography-mass spectrometry, as well as identifying the source of their income in the studied area.

2. Materials and methods

2.1. Study area and Sampling

As part of a research program to study the patterns of the quantitative distribution of PAHs, as well as to establish the level of contamination in the period from 2012 to 2013, a monitoring have been organised in the coastal territory of the Absheron Peninsula. Research materials were sediment samples collected from west to east in the Baku Bay area toward the western shore of Absheron State Reserve. The sampling points were selected on the basis of environmental condition in the study area.

Baku Bay and Absheron State Reserve are located along the Apsheron Peninsula, opposite to each other. They differ from each other both on economic, social, as well as hydrochemical parameters. Baku Bay is located in the south of the Absheron Peninsula. It is the dirtiest area of the entire Caspian region. This is facilitated by a limited water exchange with the open sea, as well as a release of a huge amount of municipal waste for many years, resulting in the formation of a thickness of anthropogenic soils [27].

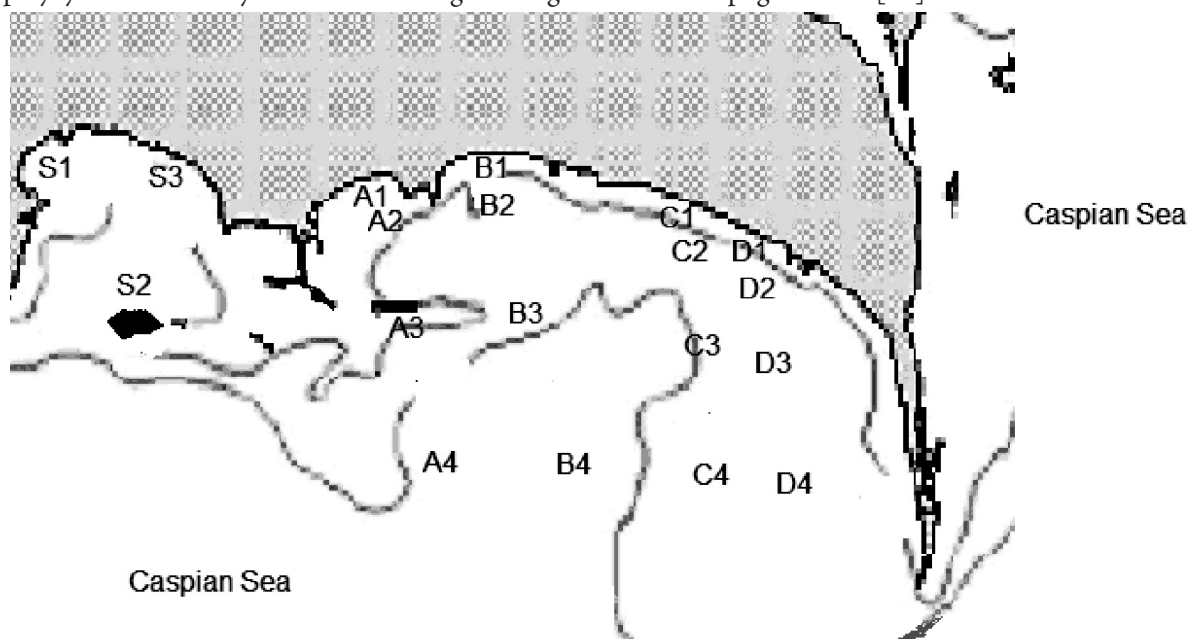


Fig. 1. Map of study area and sampling locations in the Caspian Sea

The location of sampling points is shown in Figure 1. A total of 19 samples were collected and analyzed. Three of these were collected in the vicinity of Baku Bay from points lying far from each other, in order to obtain the average PAHs content in this coastal part of the Caspian Sea (Fig. 1). After Baku Bay, 16 samples were collected in the area all the way to the western shore of the Absheron State Reserve. In this area, sampling points were positioned on four sections. The sec-

tions extended from the sea shore, with depths of 0.5 meters towards the central part of the sea, with depths up to 14 meters. Four sampling points were located along each section (Fig. 1). Sediment samples were collected by means of Van Ween grab from the surface of the bottom at a depth of about 10 centimeters into pre-cleaned aluminum cans. The samples were delivered to the laboratory, frozen at $-20\text{ }^{\circ}\text{C}$ and kept frozen for subsequent analyses.

2.2. Sample extraction and clean up

Analyses were performed by gas-chromatography methods. Sediments were homogenised and shells were rejected prior to analysis. As internal standard, five deuterated PAH compounds were added to the sediment samples prior to the extraction. The samples were extracted by 50 ml. portions of methylene chloride using an ultrasonic bath three times for 30 min. each time. 50 ml. of methanol was added into extracts before starting the first extraction. After each extraction and sample settle down the solvent was decanted through a glass fiber filter into 1-liter separating funnel containing solvent extracted deionized water. The separating funnel was shook for 1 min.; organic layer was run off into a flask. All three extracts were combined and concentrated on a rotary evaporator at temperatures below 35 °C reducing the volume to about 2–2.5 ml. Concentrated extracts purified by column chromatography using a pre-activated silica gel (Silica gel 60, 0.063–0.200 mm. for column chromatography, Merck). Silica was activated overnight in a 200 °C oven. For extract clean up a glass column was filled with 5 g. of silica. The extracts were transferred into the column and elution was performed using 35 ml. of eluent. A mixture of pentane: dichloromethane with the ratio of 2:1 was used as an eluent. Cleaned extracts were concentrated first on a rotary evaporator and then under a gentle stream of nitrogen, and transferred into GC vials (1 ml.). Activated elemental copper was used for the desulfurization of the extracts.

Chromatographic purity grade solvents methylene chloride (Rathburn, Scotland), methanol (Promochem, LGC standards GmbH, Germany) and n-pentane (HiPerSolv for HPLC, BDH, England) were used for the analysis.

2.3. Analytical methods

Quantitative analysis of PAHs was performed on GC Hewlett Packard 6890N with Hewlett Packard 5975 mass selective detector, GC-MS (Agilent, USA), equipped with

splitless injector and capillary column (fused capillary column) ZB-5 (Phenomenex, USA). Specifications of column ZB-5 are — 5 % diphenyl 95 % — dimethylsiloxane copolymer, length — 60 m., inner diameter — 0.32 mm., film thickness — 0.25 µm. Selected Ion Monitoring (SIM) mode was used for identification and calculation of 16 individual PAHs. Helium was used as a carrier gas at a flow 1.5 ml/min. Temperatures were maintained at 270 °C for the injector and at 230 °C for the ion source. Oven temperature programmed as follow: 60 °C for 2 min., 60–120 °C at 15 °C/min, 120–320 °C at 6 °C /min. Detector temperature was 300 °C. Injection volume was 1 µl. Extracts were injected using an auto sampler.

Five deuterated PAHs Naphthalene-d₈, Phenanthrene-d₁₀, Pyrene-d₁₀, Crysene-d₁₂ and Perylene-d₁₂ (Cambridge Isotope Laboratories, Inc., Andover, USA) were used for the quantification of individual PAHs. A mixture of 16 PAHs (TCL PAH MIX, Supelco, USA), containing 2,000 mg/L of each component (Acenaphthene – Ace, Acenaphthylene – Acy, Anthracene – Ant, Benzo (a) anthracene – BaA, Benzo (a) pyrene – BaP, Benzo (b) fluoranthene – BbF, Benzo (k) fluoranthene – BkF, Benzo (g, h, i) perylene – B (ghi) P, Chrysene – Chr, Dibenzo (ah) anthracene – DBA, Fluoranthene – Flu, Fluorene – Fl, Indeno (123) pyrene – Inp, Naphthalene – Nap, Phenanthrene – Phen, Pyrene – Pyr) was used as a standard solution. The calibration standard samples were prepared by dissolving a mixture of PAHs in dichloromethane. External calibration curve was used to determine the PAH quantification of extracts. Calibration curve was plotted on eight points. Continuing calibration was performed daily and relative percentage differences between the eight-point calibration and the daily calibrations were within allowable limit for all of the target compounds. Quantitative data were determined by comparing the peak area of the five internal deuterated standards (Fig. 2) with an area of compounds of interest

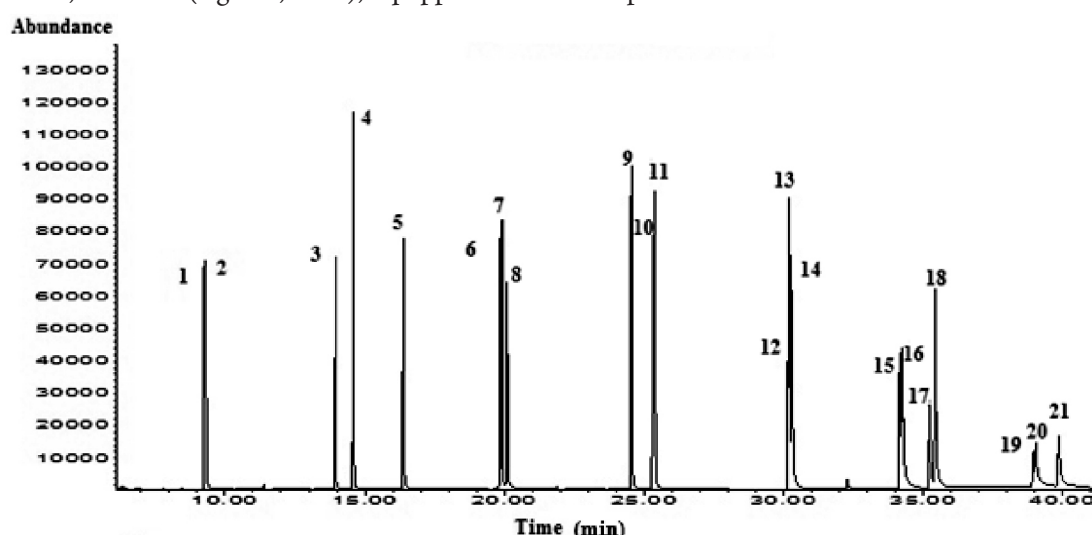


Fig. 2. GC-MS selected ion chromatogram of sixteen PAHs and five deuterated internal standards: 2 - Naphthalene, 3 - Acenaphthylene, 4 - Acenaphthene, 5 - Fluorene, 7 - Phenanthrene, 8 - Anthracene, 9 - Fluoranthene, 11 - Pyrene, 12 - Benzo(a)anthracene, 14 - Chrysene, 15 - Benzo(b)fluoranthene, 16 - Benzo(k)fluoranthene, 17 - Benzo(a)pyrene, 19 - Indeno(123)pyrene, 21 - Benzo(g,h,i)perylene, 20 - Dibenzo(ah)anthracene; 1 - Naphthalene-d₈, 6 - Phenanthrene-d₁₀, 10 - Pyrene-d₁₀, 13 - Crysene-d₁₂, 18 - Perylene-d₁₂. Detection limit for PAH analysis was 0.5 ng/g

Table 1. – Concentration of PAHs in the Caspian Sea sediment samples, ng/g dw

Station Code	2-ring		3-ring				4-ring				5-ring			6-ring		Σ EPA 16 PAHs
	Nap	Acy	Ace	Fl	Phen	Ant	Flu	Pyr	BaA	Chr	B (b+k)F	BaP	DBA	Inp	B (ghi)P	
S1	32.6	8.1	16.8	26.7	101	66.6	209	633	237	864	217	132	28.8	66.7	81.3	2720
S2	9.3	51.3	30.4	22.4	24.0	241	258	1304	846	683	794	605	143	225	385	5621
S3	1980	3135	2744	7483	40631	8148	7084	22107	35164	91158	21779	9188	6670	2737	6437	266443
A1	1.8	5.4	2.3	10.2	20.8	13.5	16.6	44.2	24.7	97.2	31.5	12.8	9.8	10.4	22.7	323.8
A2	<0.5	1.6	<0.5	1.2	1.7	4.1	1.0	2.0	2.2	6.1	5.0	1.7	2.3	5.2	6.8	40.9
A3	1.6	6.2	1.3	5.1	11.4	28.0	9.4	40.2	28.3	20.8	73.1	36.8	28.3	60.0	76.2	426.7
A4	3.3	4.5	1.2	3.4	10.3	26.8	7.0	50.2	18.9	15.2	73.4	46.0	26.8	65.2	70.9	423.0
B1	11.5	2.6	4.4	29.4	42.2	7.1	10.7	31.6	14.2	48.1	12.3	5.5	3.2	6.8	9.3	238.9
B2	19.7	0.9	6.6	6.4	20.9	5.9	18.4	14.4	13.2	17.0	18.9	9.9	3.1	11.4	6.3	173.0
B3	1.6	4.4	1.4	4.6	19.9	22.2	15.0	22.4	21.3	27.0	48.8	24.4	21.6	42.9	47.6	325.2
B4	6.2	2.1	0.6	2.9	9.1	12.6	7.9	11.4	12.4	18.1	29.5	13.3	12.5	22.9	25.1	186.6
C1	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.8	2.1
C2	<0.5	<0.5	<0.5	<0.5	2.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	3.3
C3	1.4	5.9	1.0	4.2	12.2	24.6	10.1	15.8	16.3	17.7	34.7	18.9	17.7	44.6	55.2	280.3
C4	0.7	1.1	<0.5	1.2	2.1	5.2	3.0	3.8	3.9	4.7	11.2	6.0	5.8	15.7	18.4	82.9
D1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
D2	5.2	2.3	<0.5	2.5	6.2	8.2	4.6	7.8	6.6	8.6	14.7	6.6	6.4	15.7	22.7	118.2
D3	9.9	7.4	1.0	6.7	20.7	16.2	18.7	34.6	22.6	25.1	32.6	24.8	10.8	33.6	44.8	309.6
D4	2.3	0.9	<0.5	1.9	3.9	2.7	3.1	4.0	3.8	5.1	6.5	2.9	2.6	3.9	6.0	49.7
Max	1980	3135	2744	7483	40631	8148	7084	22107	35164	91158	21779	9188	6670	2737	6437	266433
Min	0.70	0.90	0.60	1.20	0.60	2.70	1.00	2.00	2.20	4.70	5.00	1.70	2.30	0.70	0.60	2.10

Note: Nap — Naphthalene, Acy — Acenaphthylene, Ace — Acenaphthene, Fl — Fluorene, Phen — Phenanthrene, Ant — Anthracene, Flu — Fluoranthene, Pyr — Pyrene, BaA — Benzo (a)anthracene, Chr — Chrysene, B (b+k)F — Benzo (b+k)fluoranthene, BaP — Benzo (a)pyrene, Inp — Indeno (123)pyrene, B (ghi)P — Benzo (g, h, i)perylene, DBA — Dibenzo (ah)anthracene

2.4. Quality Control

The analyses included Laboratory quality control procedures. Appropriate method blank and duplicate samples were analyzed with each batch of sediment samples.

3. Results and discussions

3.1. PAHs in sediments

A total of 16 PAHs compounds were used for identification and calculation. GC-MS of representative sample S1 is presented in Fig. 3. The distribution of individual and total ΣPAHs in Caspian Sea sediments is presented in Table 1. Taking into account the fact that the Baku Bay has limited water exchange with the open sea, as expected, the distribution of PAH concentrations in the samples collected in this area are much higher than in the samples collected in the area after the bay toward the Absheron State Reserve. As seen from the Table 1, minimum and maximum concentrations in samples collected in the bay vary between 2,720 ng/g to 266,433 ng/g dry weight, whereas in other samples, the concentration ranges from 2.1 ng/g to 426 ng/g dry weight. The highest concentration was found in station S3.

In this sample, the highest concentrations of crysene (61,158 ng/g dry weight), phenanthrene (40,631 ng/g dry weight), benzo (a) anthracene (35,164 ng/g dry weight), and pyrene (22,107 ng/g dry weight) were detected. This sample was collected in the area of the Baku Bay at a distance of approximately 1 km. from the coastline. Total concentrations of PAHs for stations S1 and S2 were 2,720 ng/g dry weight and 5,621 ng/g dry weight respectively. Such concentrations are typical for highly industrialized areas [28; 29]. The lowest concentrations were detected in stations C1 and C2. Total concentrations of 16PAHs were 2.1 ng/g and 3.3 ng/g dry weights respectively. PAHs were not detected in a sample D4, which has been collected at a distance of 10 km. from the shore.

Due to resistance to biodegradation, high molecular PAH compounds with a large number of rings were represented in the samples at higher concentrations than low and medium molecular PAHs. This factor may be indicative of a dominant presence of pyrogenic sources of contamination in the study area.

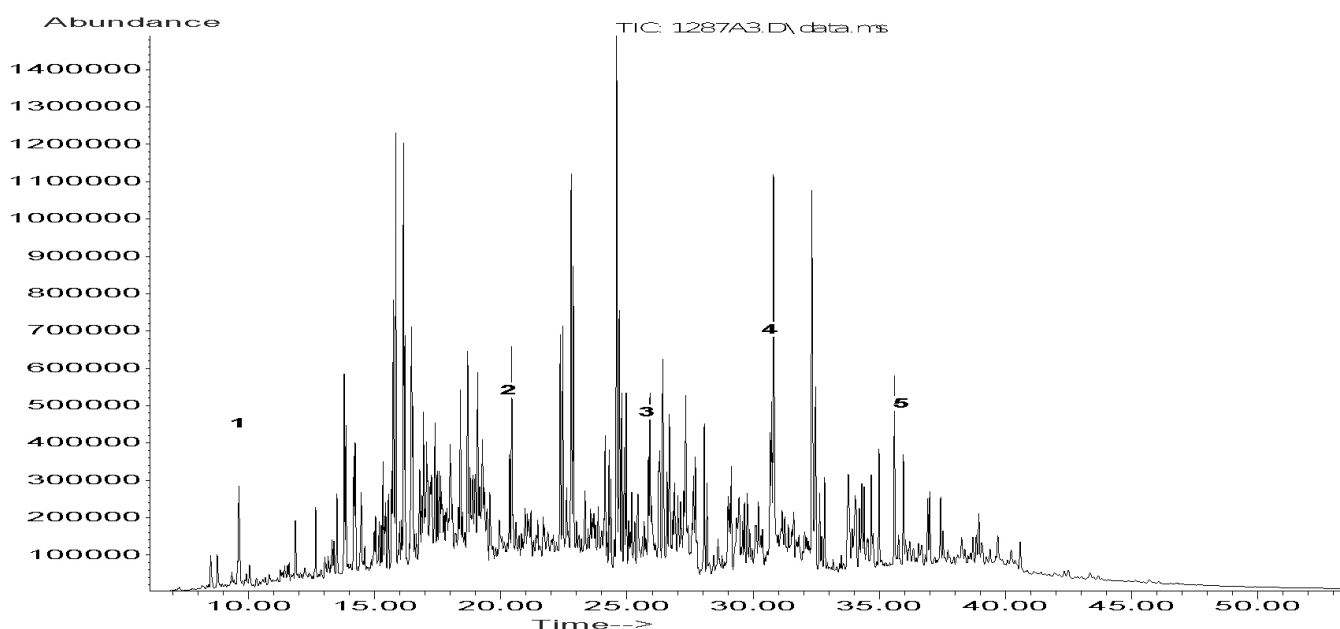


Fig. 3. GC-MS chromatogram of representative sample S1 in SIM mode:

1 – Naphthalene-d8; 2 – Phenanthrene-d10; 3 – Pyrene-d10; 4 – Crysene-d12; 5 – Perylene-d12

3.2. Sources of PAHs in sediment

Anthropogenic sources of PAHs can be oil spills, as well as the products of combustion of organic matter. According to various researches, in most industrialized countries PAHs in aquatic sediments are presented by pyrogenic sources [30; 31; 32].

To identify the source of contamination, the ratios of concentrations of various individual PAH are commonly used. The most common ratios used for this purpose are ratios of anthracene to anthracene + phenanthrene $Ant/(Ant + Phen)$, fluorentene to fluorentene + pyrene $Flu/(Flu + Pyr)$, benzo (a) anthracene to benzo (a) anthracene + chrysene $BaA/(BaA + Chr)$ [33; 25; 34; 35; 36; 29; 5]. The values of the ratio of $BaA/(BaA + Chr) > 0.35$, $Ant/(Ant + Phen) > 0.1$,

$Flu/(Flu + Pyr) > 0.5$ indicate a pyrogenic origin of PAHs in samples and are characteristic for the products of combustion of coal or wood. Contamination has a petrogenic origin in case if ratios are $Ant/(Ant + Phen) < 0.10$, $Flu/(Flu + Pyr) < 0.4$, $BaA/(BaA + Chr) < 0.2$. It should be noted, that although the ratio of 0.5 for the $Flu/(Flu + Pyr)$ is a border of major transition from a petrogenic to a pyrogenic source, this value is less accurate than the ratio of 0.1 for $Ant/(Ant + Phen)$ and may vary. If a ratio $Flu/(Flu + Pyr)$ is between 0.4 and 0.5, the pollution source probable combustion products of petroleum origin. The value of the ratio for $BaA/(BaA + Chr)$ between 0.2 and 0.35 serves as the evidence of a mixed pyrogenic and petrogenic nature of the source [37].

The ratio values of individual PAH concentrations for the Caspian Sea surface sediment are presented in Table 3.

As can be seen from Table 3, the ratio of Ant/(Ant+Phen) changes in the range from 0.14 to 0.91. The lowest ratios of Ant/(Ant + Phen) were calculated for three samples: S3, B1 and B2, with values 0.17, 0.14 and 0.22 respectively. These values are very close to the transition border from petrogenic to pyrogenic source. For all other stations the values were higher than 0.39. All ratios of BaA/(BaA + Chr) were higher than 0.35 and varied in range of 0.42 to 0.80. These results suggest that contamination in the studied samples has mainly a pyrogenic nature, which is the result of the pyrolysis process. The ratio of Flu/(Flu + Pyr) for samples B2, B3, B4, C4, D4 varies in the range from 0.40 to 0.56, suggesting the presence of combustion residues of petroleum origin products in these samples. In other samples the ratio of Flu/(Flu + Pyr) was less than 0.4. From these results, it can be concluded that in the studied samples contamination presented by products of mixed, pyrogenic and petrogenic origin (Fig. 4).

Table 3. Values of PAH ratios in the Caspian Sea surficial sediment samples

Station Code	Ant/(Ant + Phen)	Flu/(Flu + Pyr)	BnA/(BnA + Chr)
S 1	0.40	0.25	0.78
S 2	0.91	0.17	0.45
S 3	0.17	0.24	0.72
A 1	0.39	0.27	0.80
A 2	0.71	0.33	0.73
A 3	0.71	0.19	0.42
A 4	0.72	0.12	0.45
B 1	0.14	0.25	0.77
B 2	0.22	0.56	0.56
B 3	0.53	0.40	0.56
B 4	0.58	0.41	0.59
C 3	0.67	0.39	0.52
C 4	0.71	0.44	0.55
D 2	0.57	0.37	0.57
D 3	0.44	0.35	0.53
D 4	0.41	0.44	0.57

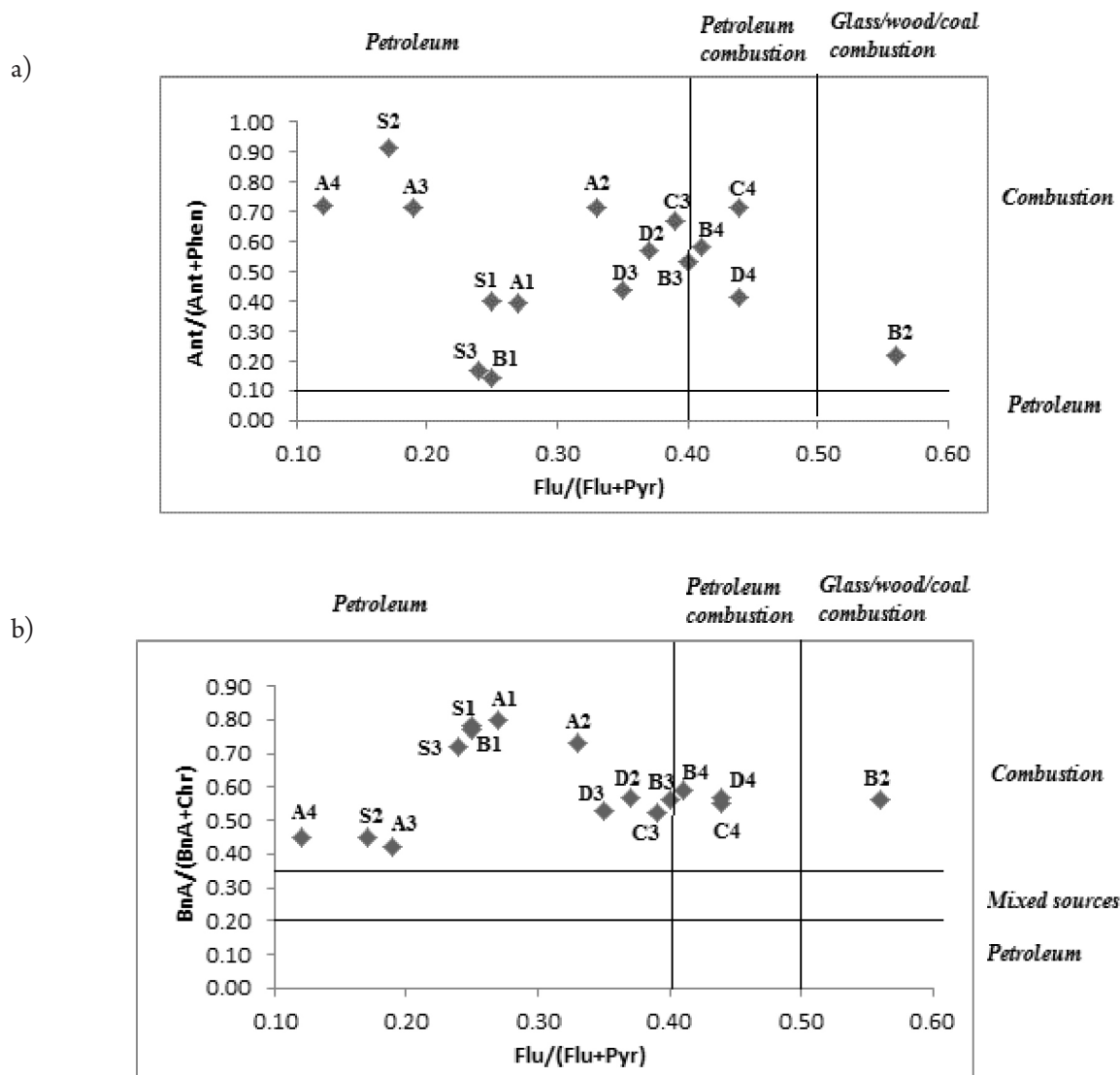


Fig. 4. Plots of PAH ratios for source identification in the sediment: a) Ant/(Ant + Phen) versus Flu/Flu + Pyr; b) BaA/(BnA + Chr) versus Flu/Flu + Pyr

4. Conclusion

The present comprehensive study outlines the distribution and origin of PAHs in the Caspian Sea surficial sediment along the Absheron Peninsula. The results of the studies showed that oil pollution is still a problem in some areas of the sea. PAH compounds with a large number of rings were represented in the samples at high concentrations. Concentration of total

PAHs is important and alarming in some parts of study area. The most polluted surface sediments were in the coastal areas of the Baku Bay. Samples collected in the area after the bay toward the Absheron State Reserve were relatively clean. Considering the concentration ratios of individual polycyclic aromatic hydrocarbons, we can conclude that the pollution in the study area has both a pyrogenic and petrogenic origin.

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Section 17. Economics and management

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System of small and medium entrepreneurship as the foundation for economic growth of Russia

Abstract: current paper presents the interconnections between national economic growth and sustainable development of the system of small and medium entrepreneurship. There are substantiated the paradigm of sustainable development of the system of small and medium entrepreneurship and implementing principles in the contemporary conditions. The major directions of development of entrepreneurial system are identified in accordance with the long-term forecast of social and economic development of the Russian Federation.

Keywords: system of small and medium entrepreneurship, developmental sustainability, paradigm of sustainable development of the system of small and medium entrepreneurship.

In the conditions of globalization of international economy, provision of a new quality level of economic growth becomes one of the overriding priorities of macroeconomic policy and business of any state. Within this framework, the objective necessity of a deep theoretical interpretation and practical provision arises towards a transition to sustainable development as a new type of economic growth based on qualitative changes and innovations. Basically, there happens a shift to a new paradigm of economic development. Furthermore, the task goes beyond a GDP growth. Shift to a sustainability of a new quality of economic growth becomes the imperative of an economic policy. In case the economic downturn or volatility of growth rates in Russia continue, the backwardness of economic development may become stagnating, longstanding and deep. That is why the concept of a shift to sustainable economic growth on a new qualitative basis may become a foundation of a new economy and show an effectiveness of the given paradigm for strengthening of national economic development and business.

Longstanding transformation crisis in Russia in the 1990s, volatility of growth rates after the default in 1998, and global financial and economic recession in 2008–2009 convinced of the instant need for a transition to an innovation-driven economy as a new system of economic relations. In the circumstances the pressing need of national economies for a new quality of economic growth is obvious [4]. In this context such qualitative factors of economic growth as knowledge, innovations, intellectual potential, scientific-and-technological advance, and development of related social and economic institutions gain prominence.

In this regard, research of economic processes on the level of small and medium enterprises is of a key importance.

Namely entrepreneurship has to identify those opportunities, which every business entity has for achievement and maintenance of sustainable (steady) and effective development. It is necessary not only to ensure sustainability and achieve an effective sustainability of every small and medium enterprise, but also to ensure sustainability of new qualitative characteristics of modern economic growth in the conditions of changing external and internal environment, uncertainty and risk.

Category of new quality sustainability of economic growth of small and medium enterprises is under characterized. Until now both its theoretical and methodical foundation and practical issues have not been investigated. Relevance of this research direction increases steadily in conjunction with the objective requirements of entrepreneurial development, related to the amplification of business links and changing external environment. Ensurance of economic sustainability with due regard to new qualitative requirements of economic growth demands of small and medium business comprehensive incorporation of market requirements, actions of competitors and suppliers, and conditions of macro- and micro- business environment.

In spite of a general successful recovery of economic growth in Russia, it is important to increase the quality of this growth in future and, above all, to impart stability. Vladimir Putin, when defining the key directions of national economic policy for the next few years, acknowledged the major task of identification of those new growth drivers, which would help to achieve the desired goals. Over the next ten years the national economy has to grow faster than the global GDP. In addition, he emphasized that the country needs not only volumes, but higher quality and content of growth. In fact, to win the competitive struggle for direct investments and create the most attractive business conditions means to win the

struggle for the effectiveness of the Russian economy, for the new quality of growth [7].

It is to be noted that small business in Russia has a relatively sustainable and steady character. Furthermore, over recent years there has been observed the dynamic sustainability with respect to a number of small enterprises, share of employed at small enterprises, and, importantly, GDP added value — indicator, which completely and purposefully describes the level of new qualitative characteristics of economic growth at small enterprises. At the same time, tendencies of sustainable growth rates are minimal. Small business in Russia falls behind on a range of qualitative characteristics in comparison with foreign countries, where entrepreneurship is a traditional and long-standing occurrence. For example, according to the Ministry of Economic Development of the Russian Federation, as of the end of 2013, the contribution of small and medium business to the national GDP was 21 %, while in the USA — 50–52 %, in France — 56–62 %, and in Japan — 52–55 %. As of the employment in small and medium business to total employment ratio, in Russia it was 25.2 %, while in the USA and France — 54 %, in Germany — 46 %, and in Japan — 78 %. Target of this indicator, declared by the Russian Government, is 50–60 %.

All the above caused the development of a new paradigm of sustainable development of small and medium entrepreneurship. In our opinion, in the contemporary conditions of national economic development, the paradigm of sustainable development of small and medium entrepreneurship has to be considered as the three-factor model of integration and interconnection of dynamic sustainability, growth rates and new quality of growth, and measurement of system performance in the long-term. In the contemporary conditions of development of small and medium entrepreneurship, the primary focus has to be maintained on qualitative changes of development. By qualitative changes and developmental sustainability of the system of small and medium entrepreneurship we mean, on the one hand, well-balanced and long steady production of qualitative and competitive final product, on the other hand, qualitative transformation of production factors (land, labour, capital, entrepreneurial skills, information resources, know-how, including of innovative character) on a basis of scientific-and-technological advance and the latest sixth wave of innovation, as well as relative social and economic relations. There should be ensured well-balanced rates of sustainable growth and economic and social effectiveness of development of entrepreneurial systems [2].

Consequently, new paradigm of system development of entrepreneurship is considered as a process of ongoing development of science and technology, improvement of subjects of labour, forms and methods of production engineering, and economic relations.

The given paradigm is to put development on a sustainable, long-term and dynamic course, which is dedicated to qualitative improvement, not to quantitative increase of range

of business. The former may be founded on the following major principles:

- goal orientation of sustainable development of entrepreneurial system on qualitative change in values, which ensures continuous operation of entrepreneurial structures. Long-term impetuses to sustainable and effective business development have to be persisted;

- as far as the entrepreneurial activity is an open system and in such a manner it interacts with external environment, the interaction of such a system has to be sustainable, balanced and adaptive. Besides, each source of external impulses in an entrepreneurial structure has to be in compliance with elements of a new quality of economic growth;

- coherence of interrelations, interactions, sustainability of economic growth rates, new qualitative characteristics and effectiveness of development of entrepreneurial structures. In such a case the coherence of an entrepreneurial structure is achieved based on the integrity of the following functions: capacity for renewal (reproduction) and conversion to a qualitatively new system, keeping the financial and economic balance;

- agility of sustainability. It is about the balanced proportionality of various elements of economic and financial activity of entrepreneurial structures, which means: maximum return is available only in case of dynamic sustainability of economic growth rates, new quality of economic development, and business performance effectiveness;

- flexibility of sustainable development of entrepreneurial structures. This owes to the fact that a system exists as long as it operates. Operation of separate components determines operation of a system as a whole, and vice versa. Proceeding from the presented paradigm, the goal setting of sustainable development of small and medium enterprises may be presented in the form of a logical open system with entrance and exit. That is why in a dynamic system of entrepreneurial activity it is necessary to revise the condition of output information and introduce required changes in compliance with changes in quality of external and internal factors [3].

Paradigm of sustainable development of small and medium entrepreneurship has a hypothetical approach. It may have a development power in the creation of certain operating conditions for small and medium business in a favorable external environment and new economic policy of growth. Implementation principles of the paradigm have the categorical imperative and represent the system of unconditional behaviour of entrepreneurial system in the contemporary economic conditions, which may ensure not merely maintenance and survival of entrepreneurial structures, but also their successful, steady and sustainable development on a basis of new qualitative economic relations and new qualitative factors of steady economic growth.

Maintenance of synergies between various components of the sustainable development paradigm of small and medium entrepreneurship and adherence to its implementation principles will let to put into action the major direction

of the state support of small and medium entrepreneurship in 2013–2030:

- decrease of financial loading due to excessive administrative barriers on small and medium business entities;
- expansion of financial support of small and medium business entities;
- expansion in the number of infrastructural facilities of support of small and medium entrepreneurship;
- reduction of financial costs of small and medium enterprises, related to entrepreneurial activity;
- simplification and cheapening of access to public utility objects;
- improvement of labour legislation in the sphere of small and medium entrepreneurship.

By means of implementation of the abovementioned priority state actions towards small and medium entrepreneurial structures the following results (in line with innovation-driven development of Russian economy and new quality of economic growth of entrepreneurial structures) are expected to be achieved by 2030:

- share of average number of employed at micro-, small and medium enterprises and self-employed entrepreneurs has to achieve 32.2% of the total number of employed;
- number of small and medium enterprises per mille may reach 15.7. Number of self-employed entrepreneurs per mille will reach 38.2;
- forecast supposes the growth of number of small and medium entrepreneurial entities by 2030 in 1.3 times — up to 7.7 mln. subjects, including 5.4 mln. — self-employed entrepreneurs. Such an increment will be provided by the system state support of small and medium entrepreneurship,

development of infrastructure, including special technological development and innovation zones [6].

In conclusion, it is necessary to note, that in the light of the foregoing requirements and suggested operating principles of entrepreneurial structures, the point at issue is about more than economic growth, but about the improvement in quality of this growth, which creates competitive foundation for entrepreneurial structures. The task is how to combine in an effective manner the progressive structural changes and growth of deep structural shifts, which usually dampens business development. By doing so, the functioning mechanisms of new economy of qualitative growth of entrepreneurial structures have to be characterized by the leading importance of scientific-and-technological advance and intellectualization of major production factors. Introduction of new technologies becomes the key factor of market competition, the major tool to increase production performance and improve quality of goods and services. This is the basis of the sustainable tendency of falling costs of customer appeals, which ensures welfare gain of entrepreneurs and improvement of living standards. The important feature of sustainability of new qualitative growth is the transition towards the continuous innovation process. It simultaneously increases relevance of the state scientific, technological, innovation and education policies, which determine the general condition of scientific-and-technological advance and its four important sub-systems: science, engineering, technology, and economics of production and management. Besides, we suppose, that the primary element of sustainability of small and medium entrepreneurship in the contemporary economy is a cognitive sustainability, supported by intellectual resources.

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Standardization and Pull System: basic methods for the improvement of labour productivity and the development of production system

Abstract: The principal criteria for the availability of operational system is repeatedness of operations, i. e. standards or standardized work. The article considers company's transition from a manageable chaos to a pull-out system with the stages of its implementation.

Keywords: standardized work, pull-out system, production system, kaidzen.

Introduction

With an increasing competition and a permanent increase in client demand machine-building companies are forced to constantly improve organization of work. Production system development puts this process in place and, in end aims to meet consumer satisfaction and enhance efficiency and results business processes. Standardized work creates a background for production system development that motivates the process of constant improvement. Currently we see the scarcity of both theoretical basis and practices in standardization of machine-building enterprises. Another crucial issue to be discussed is the implementation of pull-out system. A number of isolated experiential works are hardly built up in a completed rigorous concept. In this connection it is essential to look on standardized work and pull-out system as constituent elements that provides efficiency of production system.

Standardized work

To achieve goals it is crucial for a company to be able to solve problems as they incentivize improvements. The most difficult issue to be solved is the lack of an algorithm of actions that will be shared by both company's leaders and operators. In case of a leader we can hear an argument for non-standardized handling. Eventually it implies that typical problems are approached with non-standardized solutions, however it prevents company's management from a comprehensive standard search of solutions. Above all, interim partial decisions regularly pull the problems out to another developmental level. In contrast, effective problem-solving will help to break down this "vicious circle" and find root causes and standardized decision to the problem.

With an operator work, standard sequence of tasks should be observed in each cycle. That's the standard sequence of operations which shows up whether lean production is put in place in a company. Standardization implies precise sequence of operations made by a worker in a single timeline so as to produce quality goods in an efficient way.

Based on a suggested approach the most efficient solution to a problem is withheld in a standard fashion. Disappointedly few publications on standardization of handling problems can be found [1; 2], whereas standardized operations lay a basis for permanent improvements.

As a result of our survey we suggest the sequence of operations that can be implemented into companies practices and allow effective problem-solving and goal-achieving.

Stage I. Target group training

Objective: to present the information of production types and standardized operations. As a result the group is aware of the role and content of standardized operations in production.

Stage II. Set a task for the group

Content: to appoint each group member to a particular operation, arrangements (handing out stopwatches, training), and filling out "Time estimation check-list". Timing of a single operation is most important and required condition for standardization, for we have to be client-oriented to meet their requirements.

Stage III. Set up a basis for standardization

Fieldwork (in a workshop), timing of each allocated between group members operations, time check of conveyor (trucker, front-end pickup-) cycle, filling out "Observation" sheet (form) and "Standardized worksheet".

Importantly, this stage is characterized by timing without identifying elements (cycle rotations, cycle time fluctuations etc.). This allows to identify larger problems at workplaces, focus on them and find solutions.

On top of this we measure elements in such sequence as an operator do and compare the sequence with that in approved technologic list. Since the sequence of operator's action cannot always match the technologic list, it is seen as a problem to be solved.

Stage IV. Error analysis. Supplies timing. Supermarkets

The fourth stage is for error analysis based on the revision of forms filled out at the previous stage. Then, operators are to fill out "Observation" form and "Standardized work" list. Fieldwork, timing of operations, timing of supplies, supermarket locations.

Stage V. Fill out "Micromanagement (handling) observation" sheet

In contrast to the third stage, this stage deals with identifying losses at workplace, in particular, double-tapped parts; rotations in a cycle; time losses, connected with workplace organization; cycle idle time (stand-by time), a division between cyclic and periodic work of an operator.

To identify losses it is necessary to define types of work that an operator fulfills daily: value-added work or losses. Value-added work takes insignificant time, ideally, an operator should make only significant work.

Yet it is important to organize workplace so as prevent arms from over pressure by measuring it and to allocate the load proportionally for both left and right hands. Alongside with building up and monitoring the sequence and it is advisable to undertake a set of steps to arrange parallel performance to substantially improve labour productivity.

Stage VI. Measuring a number of operators and supportive staff size

Fill out “Supervision of regular work” form. “Integrated card of standardized work”, “Balanced work scorecard”, measuring staff size (operators, foremen, supply handlers, truckers).

Stage VII. Kaidzen offer

Fill out “Improvements checklist” and “Kaidzen offer”, generation and implementation of kaidzen-offers.

Stage VIII. Re-timing

Re-timing and refilling out in the forms from the previous stages.

Stage IX. Designing standard

This stage is made up of standardizing operations and standards for a trucker in regard with safety, quality, tools etc. This stage results in a completed, officially approved and administered standards, workplace visualization.

Stage X. Summarizing and finalizing

Final presentation has a strong focus on achievements. Positive results disseminations, and informing those

concerned. That helps to provide company’s synergy effect. This stage presents standards at workplace, sample ground, potential for other divisions, kaidzen, efficiency and productivity improvements.

Push system

The initial state in most production companies is manageable chaos. Why chaos? Because it is unclear what is happening as there is not enough information and this creates difficulty in management decision-making and in coordinating activities. Why do we call this as “manageable chaos? It is because that plan is magically fulfilled by the end of the month. Manageable has several characteristics:

1. There is not enough space to store parts.
2. Parts, materials and containers are located chaotically.
3. Materials are not marked, it is difficult to identify parts.
4. Inter-operational control.
5. Time losses; parts are under waiting control.
6. Lack of space at workplaces to temporarily store uncompleted production.
7. Problems with containers. It is not clear what kind of containers are required and how spacious they are.

If we can observe these a company should transfer to more efficient management system.

Push system which is traditional for mass production, implies task production, no matter whether a product is required or not (fig. 1).

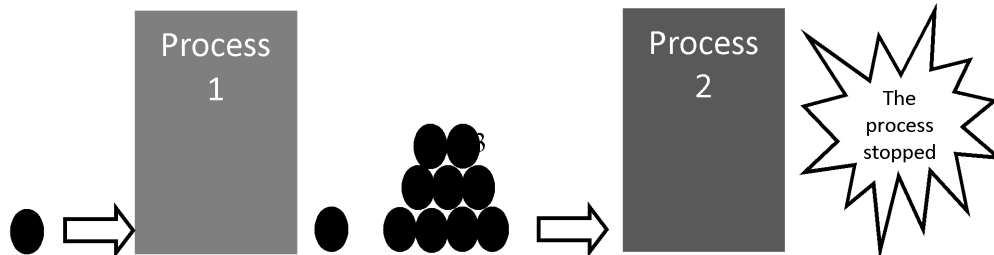


Fig 1. Push system

Push system has the following specifics:

1. The product is pushed out further and stored as uncompleted to the next operation.
2. Complex, multi-leveled system of planning dispatching, and transporting.
3. The storage of uncompleted production is increasing.
4. Current assets are “frozen”.
5. Money is unlikely to be reimbursed in case of client’ refusal.
6. The information, whether product is processed at the next stage is ignored. Or what purpose the workplace is used for, whether it is ready for processing the product or to fulfill another task.

Pull system implies production in the quantities, required by internal or external clients. In this case it makes sense to decrease supplies so as to identify and solve problems. To solve the problem through over exceeding supplies is increasingly destructive for a company and its administration. Pull system allows minimizing supplies level and provides production with really required tools (fig. 2).

Pull system has the following features:

1. The work is made only in case of receiving orders with the follow-up operation.
2. Works is discontinued if there are no orders.
3. Supplies from uncompleted production are restricted.

Consider different types of pull out system illustrated on Figure 3.

In “A” type goods from supplier workplace are transferred to buyer workplace through supermarkets of a supplier and a buyer. In “B” type production is transferred from a supplier to a buyer through supplier’s supermarket. In “C” type production is transferred from supplier directly to buyer’s workplace (fig. 4). Work practice shows that “D” type is most usable as it represents combination of all three types in pull out system. It embraces “A”, “B”, “C” types according to a production rate and level of pull out implementation.

“A”, “B” and “C” pull systems can be combined and applied to create mixed system. The use of mixed system makes a point in the case of 60/30/10 rule, that is — a small amount of components (approximately 10 %) makes the

biggest part (approximately 60 % and 30 %) of production output per day. The analysis is occasionally carried out so as to group components according to their amounts: "A" type (high volume), "B" (medium volume), "C" (low volume and few orders). Such combination allows to selectively apply

both A, B and C types. Above all an enterprise will take the advantages of each system, even though the demand is fluctuating.

Material supplies are fulfilled within fixed time and fixed amounts.

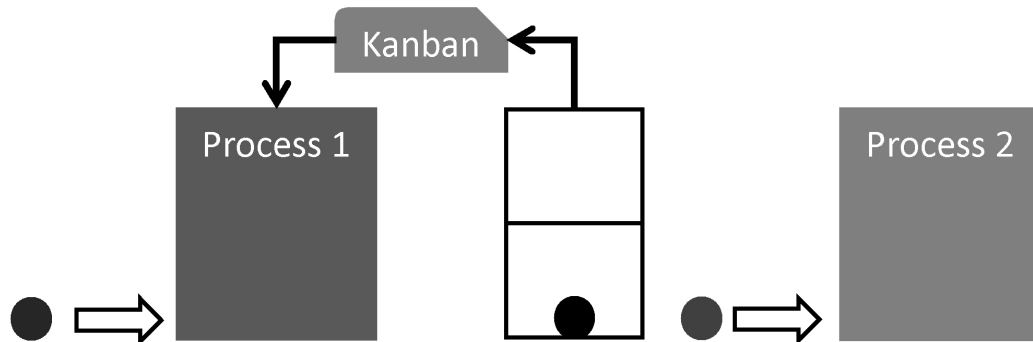


Fig. 2. Pull system

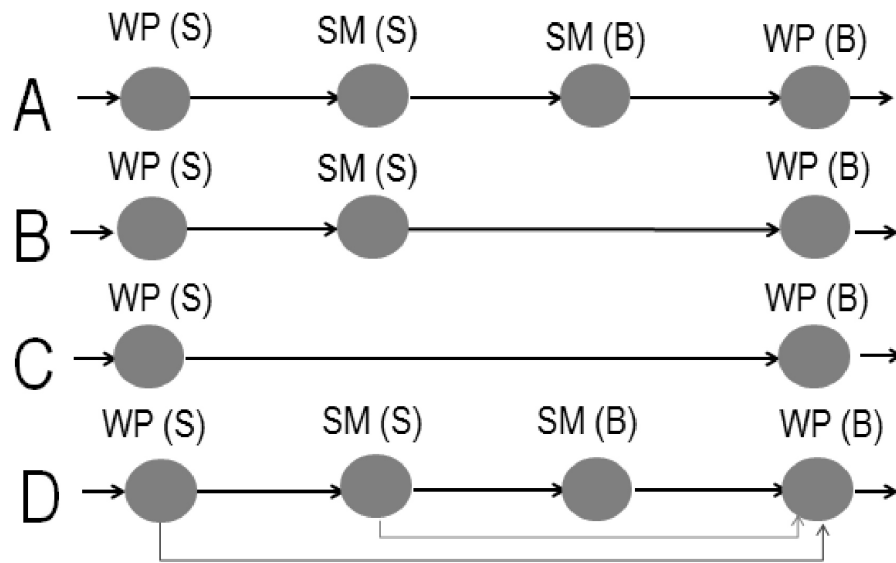


Fig. 3. Types of pull system. Supplier workplace (WP (S)), Supplier supermarket (SM (S)), Buyer workplace (WP (B)), Buyer supermarket (SM (B))

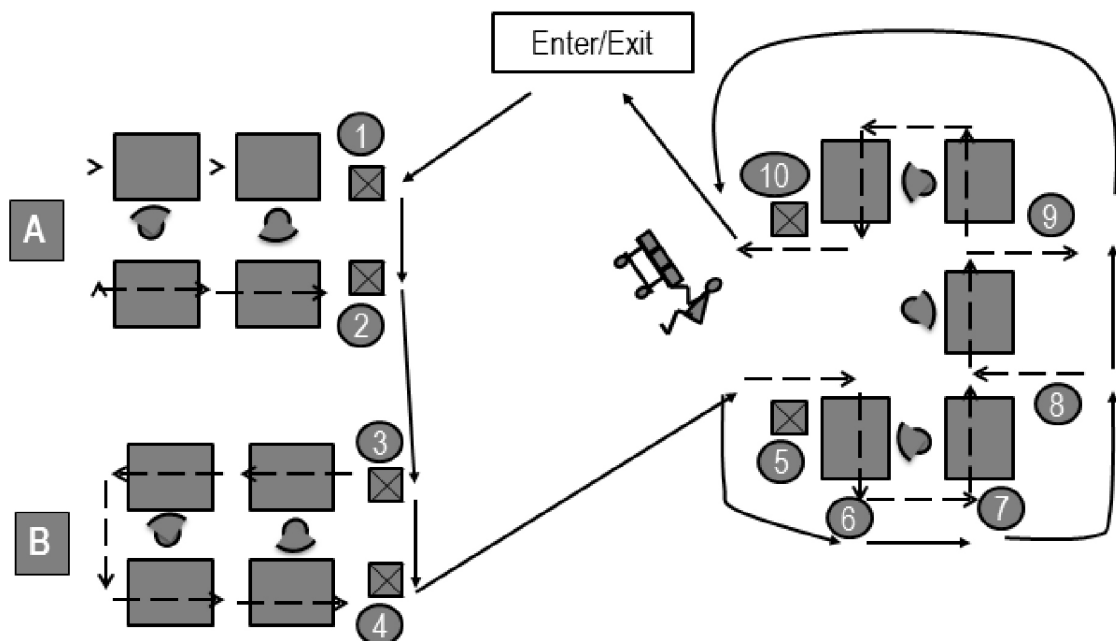


Fig. 4. Pull types. Type "C"

Implementation stages of pull out system:

1. Stabilize the process (equipment, quality, well-trained staff, and assembled parts).
2. Select materials that would work within pull out system and what principle is applicable (fixed amount or fixed time).
3. Estimate trucker cycle time (fixed amount of supplies) or fixed cycle of supplies — schedule of trucker runs (fixed time of supplies).
4. Estimate material supplies according to estimation standards.
5. Design the model of material supplies based on fixed amount and fixed time principles.
6. Design and make containers, slides, kanbans, storage stands and devices based on FIFO system.
7. Train the staff into pull out system.
8. Start working in-line with materials supplies.

How to overcome resistance to change?

Any change in enterprise may cause a resistance from personnel, managers of different levels, e.g. a transition from chaos to pull out system. This is a natural response since the processes of production system change requires a lot of personal efforts and self-development. In this connection each stage of the suggested methodology engages explaining and clarifying, training and constant communications with personnel so that no one is left behind with their work problems. The philosophy of transformation that we develop in a company lay a ground for this change. As to operator's work our task is to persuade a person that we can work more productive with less exhaustion. This objective is approached through by changing a stereotype of "traditional and conventional is more convenient", we should illustrate that conventional way of operation performance may not always be most comfortable and beneficial whereas we may find most efficient way of operations performance that later will have to be standardized. Thus we take an operator to a

new way of doing things that may be unusual but comfortable that eventually bring a person to constant improvement of his/her performance. Gradually an operator starts to be aware of an advantage of the approach and is actively engaged in transformation process.

Results of the suggested approach

In compliance with the suggested methodology "Rimera" corporation implemented a number of projects aiming to company's developmental goals. See the example of Izhneftemash" plc (table 1) as a ground for the projects implemented by "Rimera". "Sukhar" project aimed to enhance technological efficiency and minimize costs. In one of the workshops work cell was designed to decrease labour intensity and improve productivity twice as much. As a result of the project implementation storage was decreased in approximately four times as much; a number of staff was reduced three times as much, (bit should be noted that the staff were not made redundant but retrained for another job).

Another project was implemented in a reducer gears assembly section. It resulted in improvement in labour conditions; out of 7 assembly stocks there were two left providing more space for set supplies. Another advantage was that there was a space for parts visualization; productivity was increased as two and half times much.

One more project was realized in the section of clutch production. The outcomes of the project were seen in production cell development it allowed cost decrease and productivity increase in approximately three times.

Some outcomes of the projects realized in "Izhneftemash" plc are that the company managed to enhance production processes and increase labour productivity by 37.7 % for one year.

Thus standardized work enhance management effectiveness in machine-building enterprises and, consequently, growth of labour productivity. In addition, pull out system is one of the constituent elements to providing efficient development of production system.

Table 1. – Project efficiency indicators

indicators	was	now
"Sukhar" project		
Supplies, items.	1080	285
Distance	175 m.	3 m.
Number	3 persons	1 person
Timing	15.7 hours	4.1 hours
Reducer assembly		
Number of assembly stocks	7	2
Number of operators	4	3
Uncompleted production (reducers), items	7	2
Timing, min	180	90
Operators workload, %	50	90
Clutch production		
Capacity, items	450	960
Average monthly issues, items.	24.5	50.6
Direct costs, rubles	204.4	194.2
Average monthly salary of workers, rubles	30 154	37 678
Number, persons	24	18

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Industrial dominance: analysis of influence on small companies in Russia

Abstract: Russian economy is characterized by the presence of a number of single-industry towns, where one or several companies influence the development of other firms. The results of author's research on measuring the influence of industrial dominance are presented. It is found that while dominance has an impact on labour and services availability in the region but not on the availability of capital.

Keywords: single-industry town, industrial dominance, agglomeration effects.

One of modern economy's characteristics of Russia (and the CIS countries as a whole) has become the existence of a large number of single-industry towns — settlements, in which the driver of economic activity appears to be only one (major) company. Some Russian scientists note that one-industry town — is specific to the formation of post-Soviet countries [1], but the analysis of foreign (outside CIS) research shows that conceptually similar questions have also been studied — in particular, through the study of the dominant firm' impact on the industry and the region's economy.

The founder of the "dominance" analysis in the economy can be considered B. Chinitz — US scientist engaged in research of US cities in the 1960s. The analysis of Pittsburgh allowed Chinitz to characterize the influence of the industrial dominance — companies whose presence in the region influences the development of other firms [3]. Based on studies of Pittsburgh, he gave a description of the main characteristics of the regional economy with a dominant company:

1. Tendencies to entrepreneurship activity are low, due to the lack of positive examples of creating your own business, compared to availability to achieve career growth within the existing (large) companies.
2. Access to capital for new companies is also limited: on the one hand, investors tend to invest in the industry already presented in the region; on the other hand — the dominant companies' investments usually directed to the maintenance and development of its own integrated production chains.
3. Labour resources have little motivation to mobility, because a large company is able to keep a relatively higher level of pay. Furthermore, many businesses exhibit significant restriction of working conditions, which eliminates part of the population of economic processes (e.g., metalworking industry and related businesses usually hire men and vice versa).

4. Infrastructure attractiveness of the region is also low, due to the vertical integration of dominant companies. In addition, a great impact on the region's attractiveness may have its environmental conditions (eg, air or water pollution).

The above leads to the goal made by the author of research: the need to understand how the presence of a dominant enterprise in the region's industry impacts the economic potential of small businesses operating in similar conditions.

Measuring the impact of industrial dominance to the agglomeration effects in the industry

Firstly, the analysis of scientific literature devoted to the study of the impact of industrial dominance in the individual effects of agglomeration was performed. The results of the analysis can be divided into three categories, corresponding to the three A. Marshall agglomeration effects:

The first of the three ways in which industrial dominance may have an impact on economic activity is a reduction of risk-behaving activity. B. Chinitz suggested that the desire to open new business, taking the risk is reduced in the presence of large, profitable companies that offer stable attractive working conditions [3].

Subsequent researchers have extended this hypothesis. People working in large corporations have skills that are suitable for a particular type of activity and are less likely to acquire skills related to entrepreneurial activity [11]. Large firms are more stable, offer greater compensation package and additional bonuses, reducing the desire for a change of career path [8].

Industrial dominance also has an impact on the occurrence of agglomeration effects due to access to specialized assets and services. Region dominated by one or several companies is usually limited to the ability to produce a wide range of goods and services; also, large firms are usually vertically

integrated, making it difficult to enter the market for smaller companies — potential partners of a large enterprise [12]. Resources that dominant company buys often come from own structure, not purchased from local suppliers [10]. The manufacturers of specialized assets and services prefer large customers as buyers which can provide larger sales [9].

Finally, capital funding is a third way to industrial dominance influence on the industry. Large companies are usually able to obtain loans easier because lending institutions prefer more security of a potential credit, rather than new enterprises whose activity requires deep evaluation [4]. Costs of informing potential investors for small businesses is generally higher than for existing business relationships with a wide network [2]. H. Gorg analyzed the economic results of joint ventures with TNC for the host country [6]. It was found that only 40 % of the examples resulted in positive economic effects, while in other cases the economic result was either partially negative or economic stagnation. Among the main factors contributed to negative economic effects stood no horizontal.

In accordance with the selected factors, the author developed a model for a statistical analysis. The modified Cobb-Douglas model describing the dependence of group revenues of small enterprises in the industry on the following factors: a) the borrowed funds of enterprises; b) the cost of production; c) selling expenses is used. Model specification is shown in Table 1.

As a source of information statistics database “SPARK-Interfax” is used: it contains information on each company performing in the selected region of Russia; in contrast to the use of aggregate statistics, this approach allows us to assume that the results have a high degree of certainty.

Table 1. – Description of model variables

Category	Variable abbreviation	Description of variable
Dependent variable	Q	Revenue
Standard variables	K	Loans (long- and short-term)
	L	Cost of sales (salary)
	A	Commercial expenses
Agglomeration effects	LP	Labour availability
	SP	Services availability
	KP	Capital availability
Industrial dominance	D	Herfindahl-Hirschman index

Assessing the impact of industrial dominance in the food industry of the Omsk region

The object of the analysis is the food industry of the Omsk region. The factors influencing the decision to choose this industry are follows:

- the industry presents a relatively high share in the region's economy (up to 7 %) during the period under review; in this case, it consists of a relatively

large number of companies meeting the criteria of sampling;

- enterprises in the industry have relative freedom to choose their location, since depend not only on the availability of resources, but also the efficiency of logistics operations;
- the studied firms have relatively homogeneous business processes. Compared with other industries (eg. petrochemicals), the production and sale in the food industry has a number of similar stages (purchase of agricultural inputs, processing, logistics and distribution), which minimizes the risk of inclusion in the sample companies with incorrectly specified NACE.

The main characteristics of the sample are presented in Table 2.

During 2005–2012 food production industry is characterized as middle-concentrated p (Herfindahl-Hirschman index approx. 800–1200). Based on the variables presented above, the sample was prepared for the analyzed period for the two groups of companies — the 5 largest (dominating) and other (dominated). The results are presented in Table 3.

The results allow us to draw the following conclusions:

Variable L^{LP} can be described as “the availability of labour”. A negative sign, standing in front of the variable coefficient indicates that in the period under review, the larger availability of labor resulted in less revenue for the dominated companies. Thus, small and medium-sized companies did not receive additional economic benefit in the case of the entry of new workforce involved in food production.

Variable K^{KP} in the presented model describes the availability of capital resources. Given the fact that the variable part of the equation of the model has a positive sign, the presence of large firms in the period had no significant impact on the offer of capital resources to small and medium-sized companies. In other words, agglomeration effect here was not offset by the presence of industrial dominance.

Variable S^{SP} describes availability of services (in this analysis — transport services). The level of significance at this variable does not allow making certain conclusions.

Finally, factor analysis of industrial dominance suggests that in the studied period, the growth of industrial dominance was accompanied by a decrease in economic efficiency (revenue) of the dominated companies. Thus, industrial dominance played a negative role for the companies in the industry.

The results of calculations lead to the following conclusion: given the fact that the coefficient squared (R^2) is greater than 90 %, and the level of significance (p) was within the established norm of 10 %, it can be argued that this model reflects the impact of industrial dominance on the economic efficiency of enterprises (in particular, the availability of agglomeration effects) in the region with high reliability. Since the model was applied to test for heteroscedasticity, it can be argued that there are no statistical errors. The absence of autocorrelation in the present model suggests that these results can be used in the analysis.

Table 2. – Comparison of economic indicators dominant group of companies with other companies in the sector in 2012

Group	Number of objects	Assets, krub.	Revenue, krub.	Cost of sales, krub.	Profit, krub.
Dominating	5	17 543 274	21 146 977	16 802 731	2 252 392
Other	110	11 481 967	14 861 467	12 322 953	108 268
Share	4,54 %	60 %	59 %	58 %	95 %

Table 3. – The results of regression analysis of the companies' efficiency with regard to the factors of dominance and agglomeration

Variable	Coefficient	Standard error	T-statistic	Level of significance
L^{LP}	-0,000103	$4,41 \cdot 10^{-5}$	-2.327361	0.0805
K^{KP}	$1,89 \cdot 10^{-5}$	$7,24 \cdot 10^{-6}$	2.612450	0.0593
S^{SP}	-0,068289	0.038245	-1.785553	0.1487
D	-0.008898	0.000882	10.08384	0.0021
C	0.134791	0.037241	3.619459	0.0224
R^2			0.940753	

Resume

According to the results the following conclusions are made:

Firstly, the empirical results support the hypothesis that companies operating in the sector in which it one or more dominant firms operate are less productive. Based on the results, the food industry of the Omsk region was had a negative impact due to the presence of industrial dominance.

Secondly, the analysis does not provide an unambiguous confirmation of the hypothesis that the effect of regional domination limits the possibility of using the effects of agglomeration. It is revealed that in some cases the presence of industrial dominance did not have restrictions on the use of agglomeration effects. Since we have not received unequivocal results, other explanations are also possible. In addition, the obvious limitations of this conclusion due to use of statistical data should be mentioned (due to the fact that agglomeration effects themselves are small quantities, the lack of identified strengths laws is understandable). Overall, it may be

concluded that the dominance in the industry has a partial negative impact on the availability of some agglomeration effects, but its influence is not limited to this area.

Finally, the results from the analysis point out that the development of effective strategies for economic development of any industry requires an understanding of interaction mechanisms between large and small businesses within the industry. Excluding this factor, governmental economic support programs, at best, give mixed results, at worst — will be ineffective. Moreover, since the industrial dominance is not a short-term phenomenon, and often becomes the result of long-term trends, the exclusion of this factor from consideration of policy programs might lead to the fact that the minimization of the negative impact by regional policy instruments exclusively would be impossible. So, even the simple understanding that industrial dominance is a problem that influences the economic efficiency of the industry should be enough to encourage the search for new methods of development and refinement of economic policy instruments.

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The role of state regulation in the innovative development of the regions of Kazakhstan

Abstract: The role of the state in the industrial development of regions is shown. The emphasis is put on the innovation component.

Keywords: Kazakhstan, state regulation, policy of industrialization, region.

Kazakhstan defined its way of large-scale industrialization as a basis of the transition to innovative economy. The state support of innovations defined them as a strategically important direction of the industrial development of the Republic of Kazakhstan [1; 2; 3].

State innovation policy realized in Kazakhstan presupposes the development of innovative clusters, formation of innovative environment, commercialization of scientific and technological development with the use of different tools of state and private partnership in the sphere of development and promotion of innovations at all levels.

The effectiveness of innovative component from the point of interaction and cooperation of authority and business is mainly determined by the level of development at which the state and private partnership is and how the cooperation between state regulation bodies and representatives of business community goes on. High hopes are related to the implementation of a German program on development of small and mid-sized innovative business ZIM in the practice of Kazakhstan.

The international experience shows that the dynamic development of a state and its economy as well as strive to achieve high positions in the world rating is primarily determined by the level of competitiveness of its regions and the results of actions on improvement of business climate at regional level.

In order to realize and implement the managerial solutions regarding the enterprises of different industries and forms of ownership, there is a need for a clear coordination of interaction between the representatives of small and mid-sized business on the one side and state bodies and enterprises on the other side.

But, as the studies show, the innovative activity at the level of regions in Kazakhstan still remains very low. Only few enterprises can independently perform scientific and research works related to innovations. Granted that around 30% of companies conduct project and construction developments

and activate technological activity, i. e. they master new technologies and the technologies that are already used by other enterprises that are more active in innovative activity.

As a result of the author's researches and analysis conducted by him, it was possible to find out the key problems, which are inseparably associated with the innovative activity of regions in Kazakhstan:

- a situation when the state order for innovations is not fully agreed and, consequently, not fully financed;
- production (real) capacities of operating enterprises are not loaded enough;
- a low level of business activity of enterprises in the sphere of innovative and investment activity is observed;
- imbalance between the operating technological structures of the primary production and the requirements of the new production is observed;
- deterioration of scientific component of the innovative process, reduction of financing of scientific works, both budgetary and extra-budgetary, drain of professionals from scientific and research institutions due to low salaries.

Currently, the principles of state and private partnership are gaining ground as a new mechanism of active inclusion of business representatives in the innovative managerial decision-making is being developed with their help. High hopes are associated with the innovative managerial technologies and their growing role in the management of a region. They allow reaching new higher qualitative characteristics in the sphere of innovation management at regional level.

Managerial technologies aimed at the improvement of innovative development of an industrial region allow strengthening the role of regional economy, increasing the scope of enterprises and other regional subjects and attracting them at the expense of the scale of participation in the innovative processes.

Currently, when the economy of Kazakhstan is developing dynamically and there is a need for a transition to an innovative path, the goals of innovative development and accelerating scientific and technical progress became dominant; they gradually put state policy and economy into their subordination. Today, innovation appears as the condition of economic growth and progressive development of the society and innovative development is viewed as the combination of conditions, internal and external factors ensuring the production of new goods and services, technologies, effective managerial decisions in all spheres of regions' activity and subjects representing them.

When developing an innovative strategy, it is important to take the level of development of scientific and technological sphere into account. Herewith, it is taken into consideration that science, technique and technology refer to the most important factors of the state's development. It is explained by the fact that scientific and technical potential plays a crucial role in the increase of competitiveness of Kazakhstan in the world arena, in the integrational processes. Moreover, scientific and technical products are aimed at taking into account the geopolitical aspects with the interests of each state and its place in the economic globalization.

Nowadays, the steps to form a new model aimed at managing science are taken in Kazakhstan. This model will ensure the transition from financing of the projects at the level of different scientific establishments to managing those scientific and research projects, which are considered promising. It is planned to annually augment the size of financial means provided for scientific researches and developments. It is planned to reach the correspondence to the level of financing accepted in the industrially developed countries. National laboratories will function in Kazakhstan. These are the laboratories of open type equipped with modern unique equipment. They will be created at leading universities (national, state and regional) on the base of laboratories with engineering profile.

To mobilize the efforts of the state and business in order to solve different technical problems oriented to long-term period, the Council on technological policy was established affiliated to the government of Kazakhstan. In 2012, as per decision of the Council, ten pilot target technological programs were started. These are the projects on the development of catalyzers for oil and gas refining; development of new technologies contributing to the growth of oil recovery and other projects.

Innovative attractiveness of a certain region fully depends on how high the economic effectiveness of the enterprises' activity in the sphere of innovations is. Innovations are very sensitive to a concrete product and significantly dependent on the investment activity of a region. In the whole, the innovative activity of enterprises is still low in Kazakhstan and regions of the country, but it is gaining pace gradually. I. e. events oriented to attract external investors should be implemented at the very regional level.

One can measure the innovative potential of a region by indicators used to position the innovative activity and the growth of economic effectiveness in the long view. They are important to achieve concrete indicators of an enterprise's activity (to assess the effectiveness of the innovative potential during an earlier agreed time interval; evaluate the use of labor, material and financial resources; determine and circle the potential problems that one can face during the realization of a project).

In order to perform a quality monitoring of the execution of an innovative project, one should analyze: the entire period during which the company shows its innovative activity; the period when it survives effectively; the period when it creates innovative products; innovative component of scientific researches and developments of the company; effectiveness of sales of innovative products; relatively high indicators of economic and social effectiveness of innovative researches and developments; the indicators of the innovative activity of the staff; components of an individual process of development and implementation of new products; effectiveness of the innovative income per one employee of the company; the level of concrete private investments in the new production the indicators of different profitability from the implementation of innovations at different departments of the company.

The quickness and effectiveness of implementation of innovative developments at the level of a concrete region are determined by the level of their sensitivity to external changes [4]. There is a need for constant search of factors of internal and external environment and establishment of the sensitivity class to which an enterprise refers to. Enterprises that are included in different classes of sensitivity of implemented innovations have very different and complex requirements for potential innovative projects. In case when an innovation intended for implementation in the production meets the requirements of different sensitivity, to the risk of the enterprise, there is a high probability that all expectations of consumers related to the implementation and use of innovations are not delivered.

All processes, which are tightly connected with a concrete development and making of scientifically-grounded managerial decisions at industrial enterprises are inseparably associated with the solution of issues on how the organizational structure impacts the real innovative process.

When one starts modelling and implementation of an organizational structure of the enterprise in practice, the methods common for systematic diagnostic are used widely. Particularly, the analysis of dynamic development and establishment of enterprises is conducted.

New platforms on organization of innovations should meet the requirements of development of innovative potential and cyclic development of a concrete enterprise. These platforms can be created at the level of state (or subjects functioning in the Republic of Kazakhstan) and city-forming and large enterprises, which form real competitiveness on internal and external markets. From the side of the state, the key elements

supporting the effective use of the innovative potentials of enterprises or creation of already formed effective organizational structures in order to develop the innovative activity and potential of an enterprise can be formed. Later on, as the given enterprise develops, the need for regular support and stimulation will reduce, which will contribute to oversupply of different forms for development and promotion of innovative developments, which, in turn, will have a positive effect on the establishment of the regional economy.

The effectiveness of development of the innovation activity of the region primarily depends on the effectiveness of the organizational structure that ensures and supports the innovative activity and activity of the enterprises. This structure presupposes the presence of two interrelated complexes: one of them forms innovations and realizes them, and the other one manages them with the help of procedures determining the close interrelation of these two complexes at the level of enterprises engaged in the implementation of the innovations.

In the strategy of formation and development of the innovation activity of the region, one should take into account the requirements of harmony and achievement of proportionality, particularly between the enterprises participating in the innovative activity (presence of functions in them, absence of duplication, achievement of continuity in the management of concrete innovations, compulsory presence of both direct and opposite relation).

The following is required for a rational management of the innovative activity of the enterprise at regional level: goals, planning and organization of an innovative activity; control of the innovative activity.

To manage the processes of the innovative activity of regional enterprises, the following tools are used: different procedures, concrete rules and normative materials, plans, innovative programs, budget for innovations, cost sheet.

The biggest number of problems related to state regulation of the processes reflecting the innovative policy in the Republic of Kazakhstan can be narrowed down to the following: firstly, the clear coordination of all processes; secondly, active financing of the innovations; and thirdly, all-sided development.

It is very important for competitive regions to achieve the permanency of innovations. Today, it's one of the ways to achieve the stability on the market and prevent bankruptcy. To manage the enterprise from the position of its innovative activity, it is required to follow the principle of permanency with regard to innovations. This principle is based on the connection of three different properties:

- long-term continuity, which presupposes such development when all the new can preserve old, already tested elements;
- continuity in development that presupposes sufficient continuous absence of time intervals when the enterprise does not perform innovative scientific developments, which leads to the disruption of the scientific technological cycle;
- adherence to the sequence means that there are stages or their combination and they are strictly subject to a goal or goals.

All the above listed properties have the systematic character, which is achieved by modelling in the sphere of innovative activity from the point of solution of strategic tasks. Herewith, they correspond to the common logical structures of the model and presuppose a very close connection between the elements, achievement of integrity and homogeneity in the sphere of development of innovations. The systematic approach in the improvement of innovative activity is aimed at the elimination of one-sidedness in the process of corporate management, achievement of the required agreement and clear balance in decision-making.

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Section 18. Science of law

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International cooperation in the fight against cybercrime

Abstract: This article discusses the issues of cybercrime.

Keywords: criminal law, cybercriminal, computer system.

In accordance with the recommendations of UN experts, the term “cybercrime” means any crime that can be committed through a computer system or network, within and against a computer system or network.

Council of Europe’s Convention distinguishes four types of computer crimes related to violation of confidentiality, integrity and availability of computer data and network. The rest of the crimes of which the computer is a tool or means of committing crimes should be treated as traditional crimes, but legal mechanisms of their investigations should be adequate means of committing these crimes.

The main aim of cybercriminal is computer system that manages various processes, and the information that circulates therein. Unlike ordinary criminal, which acts in the real world, cyber-criminal doesn’t use traditional weapons such as a knife or a firearm. His arsenal includes information weapons, all of the tools that are used to penetrate the network, cracking and software modification, unauthorized information or to block the operation of computer systems. To cybercriminal’s weapons we can add computer viruses, backdoors, various types of attacks that make possible a more effective and unauthorized access to a computer system. In the arsenal of modern computer criminals there is not only the traditional media, but also the most modern weapons and equipment information. All issues, which related with solving computer crime, have crossed national borders and have gained international significance for a long time [1].

Today the usual and ordinary user of computer technology and network can easily print out on the printer documents of various kinds, forms, certificates, stamps, certificates, etc. To prove the involvement of a person in committing a crime is

not easy. The national contact points are being established for the system control with crimes of this kind between European and Asian countries. Today exchanging of information and experience is being realized with the countries of the former CIS and foreign countries.

As previously mentioned, computer crime is very often international, that is, the criminals are in the same state, and their victims are in a different state. So that the particular importance for fighting against such crimes is international cooperation.

Council of Europe’s Convention on cybercrime information was signed on 23 November 2001 in Budapest. It is open for signature by both states — members of the Council of Europe, as well as non-member States which have participated in its elaboration. In particular, it was signed by Russia, the USA and Japan.

Council of Europe’s Convention on Cybercrime classifies the crimes in this area for the next groups.

1) Offences against the confidentiality, integrity and availability of computer data and systems, illegal access (Article 2), illegal interception (Article 3), the impact on computer data (wrongful intentional damage, deletion, deterioration, alteration or suppression of computer data) or system (Article 4, Article 5). Also in this group of crimes included illegal use of special technical devices (computer programs developed or adapted to commit crimes, computer passwords, access codes, their peers, through which can be accessed by the computer system as a whole, or any part thereof) (Article 6).

2) Crimes which related with using computer tools. They include forgery and fraud with the use of computer technology (Articles 6, 7 and 8). Forgery using computer technology includes malicious illegal input, alteration,

deletion or suppression of computer data, entailing inauthentic data with the intent that it be considered or acted upon for legal purposes as authentic.

3) Manufacturing, offering or giving of using, distribution and purchase of child pornography and possession of child pornography in a computer's memory (Article 9).

4) Crimes which related with infringements of copy-righting and relating rights [3].

According to the Convention, each State Party must provide the necessary legal conditions for the provision of the following rights responsibilities of the competent authorities to combat cybercrime: seizure of a computer system, part or carriers; manufacturing and confiscation of copies of computer data; to ensure the integrity and security of stored computer data relating to the case; destruction or suppression of computer data in a computer system.

The Convention also requires to create the necessary legal conditions oblige ISPs to collect and fixation or intercept the information you need with the help of available technology, as well as contribute to this law enforcement. It is recommended to oblige providers maintain complete confidentiality about the facts of this cooperation.

At the beginning of 2002 the Protocol № 1 was adopted № 1 to the Convention on Cybercrime, which adds to the list of crimes of dissemination of racist and other expressions, incitement to violence, hatred or discrimination against a person or group of persons shall be based on race, nationality, religion or ethnicity.

In many countries of the world in order to suppress the fact the information crimes in recent years, computer security experts began a collaboration with psychologists, who make up the profile of the so-called hackers, that is criminal in the sphere of computer information and technology, which allows to identify the level of skills and technical training. But it should be noted that while computer experts can tell a lot about hackers and its methods of work, but they will never be able to understand the psychology of his criminal thinking. These issues are dealt clinical psychologists, forensic experts and other specialists together with the police. This practice is widely used in the United States, Europe and other countries where cybercrime is widely developed. But due to the fact that under current conditions a significant portion of the fight against cybercrime, as well as with other international crimes, belongs to the domestic jurisdiction of each state, it is necessary to develop parallel and national legislation aimed at combating computer crime, coordinating it with the international standards Law and relying on existing positive experience.

New information technologies should be not only a tool, a means of committing crimes violators of the law, but should be an effective offensive tool in the fight against various threats, including crime in all its manifestations. In this connection it needs to attract highly qualified specialists state structures that equally qualified and practical level could cooperate and work productively cooperating at the international space against cybercrime.

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Some features of the tactics of certain investigative actions during the investigation of acquisitive-violent crimes in hot pursuit

Abstract: In this article discusses the concept and the basic elements of the investigation. Also points out some features of the tactics of separate investigative actions during the investigation of crimes.

Keywords: investigative actions, crime, crime scene investigation, the victim, witnesses, suspects, examination, investigation of crimes.

The history of the fight against crime shows that the problem of disclosure of committed crimes has been one of the most difficult. Remaining unsolved crimes create the conditions for making new, sometimes more than dangerous acts. One way to prevent crime is their complete disclosure. Detection of crime is one of the tasks of law enforcement, in particular of internal affairs bodies and the overriding duty of authorized units. In this regard, the importance of rapid and full disclosure of the crime is difficult to overestimate. In practice, the effectiveness of the disclosure of crime continues to be low.

It is known that the less time passes since the offense was committed before the commencement and completion of active work on its disclosure, the more effective of investigative and operational search activities in the case. Prompt disclosure of crimes — “hot pursuit”, as they say practice is the key to the success of the investigation as a whole. If a crime is not revealed and not investigated in the near future after committing a crime, afterwards have to spend much more effort and means to establish the truth of the case.

The process of solving crimes in hot pursuit takes place in specific conditions, which impose a special stamp on law enforcement activities. Such conditions, above all, are the suddenness of investigative situation; lack of time to organize and conduct investigative and operational search activities; high dynamic acquisition, processing and realization of evidentiary and investigative information. Analysis of such activities shows that in modern conditions the effectiveness of the disclosure of crimes in hot pursuit depends on the level and timeliness of technical and forensic support.

Now been developed and put into practice many private criminalistic techniques, one of which is a method of investigation of crimes in hot pursuit. Its structure and content is determined by a number of factors, the primary of which should be called the factor of time. As a general rule, the less time elapses from the time the crime was committed before the commencement and completion of active work on its disclosure, the more effective of investigation and operational search activities in the case. If a crime is not revealed and not investigated in the near future after committing a crime, afterwards have to spend much more effort and means to establish the truth of the case.

The initial stage of investigation of profit-violent crimes in hot pursuit characterized by the production of investigative actions such as: inspection of the scene; inspection of objects, documents; examination; questioning of victims, witnesses; detention and interrogation of the suspect; confrontations between these parties; presentation for identification; search; examination appointment. In cases of murder for mercenary motives, murder for hire, or murder during a robbery conducted as examination of the corpse.

In some cases, information about who was killed, his relationships, job, his position, positions, methods of making (getting) cash, conflicts, his participates in criminal gangs, criminal records or his involvement in criminal cases as a witness or victim, and other information of a similar nature may give grounds for promoting the release of assassinations.

During the inspection of the scene that is different from the individual action is more informative when investigating in hot pursuit is primarily used information that facilitates the rapid identification, locate and detention of suspects.

On examination the scene, carried out during the investigation in hot pursuit, the priority is to survey areas of the scene that can be focused most important traces of the crime and other objects. It is necessary to examine separately consistently to get on the scent, to compare them with each other and with the environment before, during and after the commission of the crime, i. e. to conduct so-called situational analysis the scene, which will allow drawing conclusions about the mechanism of crime.

The acquisitive-violent crimes are distinguished by the fact that most of the victims or witnesses can describe the perpetrators of these crimes. With any data about the person who committed the crime, operational staff on behalf of the investigator or on its own initiative using information about it, discovered during inspection of an instrument of crime, documents and other articles belonging to the offender, to find it through the search operations and organizational measures. Particular attention is given to examination the place in which the offender was waiting for his victim, as the offenders often leave there traces of their hands, shoes, vehicles, forget, lose, or left in place a “ambush” any items belonging to them or their parts, which in the future may be relevant evidence. Inspection of the place can help the investigator to submit fuller picture of the attack and the way it was committed.

If the victim or witness indicates that the offender was resisted, then the inspection of the scene must pay special attention to the place of the immediate struggle to detect criminal lost objects or documents, traces of blood, hair, bits of clothing, etc.

If while questioning the victim indicated that they had suffered offender injuries and other injuries, you should contact the medical institutions in order to determine whether someone did not address them with specific injuries and to warn of the need to report such persons and their possible detention. In the investigation in hot pursuit is necessary after receiving such information to send operational group to “carding” the surrounding areas to detect persons with characteristic lesions, i. e., a possible offender.

In case of absence information about criminal examination preceded the application of search dogs to determine the direction in which the perpetrator hid, his prosecution and detention and detection of objects, things that have preserved olfactory information about the offender. This is especially useful when it detects a contract killing, as the culprit in such cases often leaves the scene weapons, ammunition, masks and other evidence. A number of forensic scientists pay special attention to the fact that searching and use of such traces primarily as micro traces, the smell of a man, a variety of selection of his body (saliva on cigarette butts, homo-fatty substance, hair), etc. – the success of disclosure and complex investigation of murders of non-obvious [1, 22].

Next, you need to spend directly on the spot up-expert research revealed traces. Results of preliminary studies immediately used to check the corresponding objects on criminal records. In addition, during the inspection must be defined, which should be most likely could stay on the body and clothes of the offender. Establish such facts and their assessment immediately used in the implementation of operational and search measures.

During the interrogation of the victim and witnesses during the investigation crimes in hot pursuit the main objective, as well as in the inspection of the scene, will receive necessary to establish the circumstances of the crime, search and capture of offender information as soon as possible. Such questioning conducted without delay, especially when the victim is in critical condition, life-threatening. In this case, the interrogation conducted with the permission of the doctor directly at the crime scene or in a hospital, which will be delivered the victim. When investigating the profit-violent crimes in hot pursuit more appropriate examination of the scene and interviewing the victim and (or) eyewitnesses carried out simultaneously. This is necessary for numerous reasons:

- 1) the victim or witness can give the initial information necessary for offender investigation in hot pursuit;
- 2) the victim or witness can point during interrogations data that is useful to consider when inspection of the scene (where the attack took place, where the main struggle with the offender, in what place offender waiting for his victim, etc.);
- 3) if the victim or witness will be forced to wait for the inspection of the scene, they may forget some important details of the investigation;
- 4) the victim or witness may simply not be able to wait for the inspection of the scene, which may take several hours [2, 5].

If the victim or witness saw the offender, but doesn't know him, then, as already noted, special attention is paid to verbal description. To produce verbal portrait can be used standardized forms with images of silhouettes and the album "The types and elements of appearance". Victim, moreover, should be questioned, who could be an eyewitness to the crime, i. e. those persons who can be witness in the proceedings.

Due to the fact that after the crime victim or witness, an eye-witness may be in a state of psychological shock, the data of a witness may be incomplete. In this case it is recommended to interrogate him again in two or three days, because human memory is subject to reminiscence, i. e., ability to eventually restore all lost images.

Due to lack of time on evidence given by the victims or eyewitnesses, it is advisable to record on tape. Most often, a tape recording used in the interrogation of the wounded, sick, young and foreign citizens and persons leaving to another location.

As the acquisitive-violent crimes involves the commission of their selfish motives, the main purpose of the search is the detection of money, things, gilt-edged securities, jewelry, etc., illegally obtained and is the proof of the case and weapons and other weapons offenses and of course, the offender. During the search can be detected and other objects that are

relevant to the search and locating fugitive offenders, for example, traces of shoes, clothes or other objects, even if the objects themselves will have been destroyed. The search in hot pursuit is frequently instituted at night, as the delay in its production could affect the entire investigation [3, 87].

During the arrest of a suspect in hot pursuit, it is subjected to a body search and examination to detect on his clothes or body signs that he committed the acquisitive-violent crime. This, as noted above, can be the next victim resistance, physical harm or damage to clothes of criminal; traces of blood of the victim, his hair, etc.; under committed murder or armed holdup — weapons, gunpowder on his hands and clothes, cartridge cases that offender could carried off the scene of the crime after the murder; in the commission of a robbery or holdup — things, documents, etc.; when making extortion — money or valuables belonging to the victim. If there is evidence of the alleged offender, obtained during the interrogation of a victim or witness, it checks for these victims and witnesses given signs.

After the detention of the suspect must be immediately interrogate him not to allow the offender to prepare, think about his answers, tactics and behavior. If the detainee claims of alibi, during interrogation in which the investigator finds out evidence for the validation of such a declaration, or immediately after operational staff on behalf of the investigator or he checked this alibi.

Order to hereinafter state the suspect is not a false alibi (if it has not already done so), the initial interrogation must be installed where it was at the time the crime was committed and who can confirm it. If during the arrest the offender was seized weapons, it is necessary to clarify where it came from to him, and when it was used for the last time. When detected on the body of the suspect or his clothing should be possible resistance must ask how on the body and clothes of the detainee data damage [4, 57].

As already noted above, if the offender is not familiar the victim or witness, but there are tentative information about who they might be, the presentation can be carried out to identify the photos from archive files or cards passport offices, military registration, etc. if the offender detained, it is necessary to present it for identification in nature. Often after the crime criminals are trying to change their appearance or, on the contrary, in the commission of the acquisitive-violent crimes change their appearance. If the victim or witness is reasonable to assume that the attacker was a specific person, it urgently needed to conduct a search of the residence or detention of a person to prevent him to escape by changing the appearance, or destroy the object of his disguise.

Immediately, after the presentation for identification and interrogation would be best to hold a confrontation, for not to allow the offender to think carefully about his defense. In this case it is necessary to take into account the mental state of the victim or witness and its relation to the detainee. Since these crimes are not only physical, but also mental violence against victims, it is necessary to conduct a pre-conversation with him and clarify whether he is able to testify, to adequately

respond to the detainee and can even participate in the confrontation. If the victim or witness does not wish to participate in a confrontation due to the fact that very frightened, you should try to calm him, to convince of the need for confrontation and try to obtain the consent of its implementation [5, 14].

Problem disclosing of crimes in hot pursuit is closely connected with the problem of unsolved crimes of the past years,

recidivism and overall crime detection. The more crimes will be revealed in hot pursuit, the less will be suspended cases for failure to identify the perpetrator of a crime will be less possibility of criminals to commit crimes again, etc. consequently, the investigation of crimes in hot pursuit leads to an increase in the total number of solved crimes and reduce the level of crime in the country or in a particular region.

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Features of the search and the personal search tactics

Abstract: In this article it is considered problems of tactics of carrying out search at investigation a crime.

Keywords: process, internal situation, the personal search tactics.

In the process of disclosure and investigation of crimes there appears a necessary for such investigative action as a search that bears a distinct the coercive nature with respect to the persons with whom he performed.

The search — this investigative action, aimed at compulsory inspection sectors of terrain, placement, of the human body, his clothes and personal things, is authorized by the person carried out within the law of criminal procedure with respecting guarantees of the rights and legitimate interests of citizens and legal entities in order to find (detection) and seizure (arrest) concrete sources of evidentiary information (material objects) that may be relevant to the case. Search in the course of the investigation can be carried out even when the object of the search is the person, the corpse or parts thereof [1]. The search is performed in order to detect and seizure of objects or documents relevant to the case. The basis for conducting a search is the existence of sufficient evidence to assume that these items or documents may be in a particular placement or elsewhere, or of a particular person. The search can be performed for detection of wanted persons and corpses [2, 230].

The immediate objectives of the search actions are: the detection of the desired object; fixing their places of concealment; capturing general, private and special signs of the detected objects; familiarizing of claimed objects to the case.

By the number of objects being searched simultaneously the search divided into single — survey undergoes a single object and the group — made simultaneously in several places. The latter is necessary in cases where there is reason to assume that the required objects are in several of the accused in the same case, familiar with each other, or at one person, but in different places (apartment, villa, in the office, personal transport). In these cases, the search assumes the character of tactical operations. To exclude mistakes in the group search involved several investigators, one of whom is responsible for all tactical operation; he also coordinates the activity of all search teams.

Also vary primary and repeated searches. The last produced in special cases:

1) when the primary search was made unprofessional, without elaborate preliminary preparation, without sufficient understanding of the signs of the unknown objects that may

be relevant to the case, and therefore did not give a positive result, etc.;

2) when some parts of the placement or area were not thoroughly investigated, without the use of scientific and technical means;

3) when the search was conducted under unfavorable conditions (poor lighting), by virtue of which could not be obtained positive results;

4) when scours person or his family, hushed result of a failed primary search, begin to return hoarded things, values, etc. in the previous examination of the premises.

The objects of the search can be a living room, an apartment, individual house or garden area, street facilities household buildings, service or utility rooms, vehicles, garage, yacht, private jet, any property (shop, cafe, kiosk, agency, etc.) as well as people.

Range of subjects, which may be a desired during the search, is very wide: it's alleged means of crime (e.g., weapons, tools of hacking, instruments, explosive devices and other material objects that makes footprint, leaving a trace at the scene (micro-objects, paint, blood, soil particles, explosives and others.), objects and values obtained by criminal means or capable of being used and to ensure that compensation caused by criminal acts, possession of which is prohibited by applicable legislation or requires a license. The unknown objects can act fugitive (volunteer 11 hours and forced) and the corpse or part thereof.

Along with these are also subject to confiscation objects (items and documents), indicating the planned crime or indicating possible storage of other sources of evidentiary information and, in some cases, and those that can later be used as samples for carrying out comparative search. For example, if the investigator suggests that in the case may require that the handwriting examination, the forensic specialist is invited to collect free samples of handwriting. In order to ensure the effectiveness of search, the investigator granted the right to open locked premises and storage, if the owner refuses to do so voluntarily. The method used for opening the store, is recognized in the protocol of search. The investigator should avoid unnecessary damage of locks, doors, objects.

As a general rule, the search is not performed at night. In exceptional cases of urgency, this action can be performed at night. Search in the premises that occupied by legal persons, made in the presence of a legal entity [1].

Features of the search tactics on the premises. Searches in residential and utility rooms derived from the survey of separate parts and components of the building and inspections of the domestic situation: furniture and other movable items.

Search of the premises, it is desirable to start with measurement. Attention is drawn to the uniformity of the materials from which built the walls and interior partitions. Voids and the foreign inclusions are detected by knocking. Should be inspected carefully ventilation vents, tile trim, window and door openings.

Examining the objects of internal situation, it should be remembered an immutable rule: the search should be

carried out on all sides, and with special care inspected parts that are normally hidden from the observer: the area, facing the walls, ceiling, floor, and the inner surfaces of furniture. Particular attention should be paid to small details. For example, in the cache under the floor surface (most often it is located near the walls or under pieces of furniture) may indicate: opening plinths; dents between the planks or parquet planks; board, consisting of several parts; absence between the boards or parquet planks slot mud; strengthening boards with large number of nails, sometimes with a different character of bonnets and similar symptoms. Area of the floor with these characteristics examined with a metal detector and magnifying glass with a large field of view, knock and if there are sufficient reason to reveal.

Carrying out of the search in the service space is much more difficult than in residential: it is usually a large area, and there are a lot of hiding places. Inspection of production facilities and mechanisms requires some special knowledge of seekers and knowledge of safety rules. These supplementary difficulties must be considered in advance. Thus, during examination of the computers necessary to invite a specialist, because it is a very convenient place to hide the small items. At the same time unauthorized entry into the computer can lead to the destruction of valuable evidentiary information.

Features of the search tactics of terrain sectors. Getting searched to the open countryside, it is necessary to break the territory into separate sections, limited natural boundaries or wands. Searched area is investigated systematically, focusing on water bodies, piles of firewood, woodpile, etc. There can bring great benefit the use of search dogs and the above mentioned technical means.

Features of tactics of personal search. Such a search is made, typically in a standing position. To the person offer to keep everything in his hands, and do not move. To avoid the danger of a sudden attack (the resistance), searched person is facing to the wall, on which he relies his hands up, separated at the level of the head, feet shoulder width apart. In this position, he should stay until the end of the search. Person who searching makes a survey of searched person, staying behind him. Precautionary measures are observed and first of all, it is checked do this person has weapons.

Most often, a personal search is made from top to bottom. At first examined headwear, then outerwear etc. Each thing should be assessed on all sides, turned inside out, felt. Suspicious location is tearing inside out. Look carefully shoes, especially home-made and orthopedic shoes.

In this case necessarily examined hat, gloves (mittens) and, if possible, footwear (offer to remove from the legs). It is necessary to check all the pockets of clothes, turning out the ones that can be turned inside. Winter clothes overtures at least two times. Often, knives and other tools put behind a belt or hung on the midline of the chest and from the back along the line of the spine. Sometimes guns hidden in the sleeves, which holding back with the hand, and often sewn to the inside of the jacket (coat) shoulder straps (resembling soft

sheath). Sometimes they hang it between their legs or fastened to the inside of the lower leg with a partial seizure edge of the shoe. Tools and materials that can be used for an attack, need to confiscate from the detainee immediately. If during the search there are found other items that may be relevant to the case, they are also subject to withdrawal.

The personal search is completed by inspection of body. To the searching person offer to undress, to enable detection of objects on his body, including tied and glued and embedded in interdigital spaces of feet. Examination of the body of being searched person is done visually, through a review of its surface and orifices ears, nose and mouth, available for review, without the use of special techniques and instruments adopted in medicine.

In verification of the searching person shall be taken all the items: bags, briefcases, wallets, umbrellas, walking sticks, etc [3].

The personal search is carried out only by a person of the same sex of being searched person, and the presence of witnesses and experts of the same sex. The personal search can be carried out without making a special resolution and without a warrant if:

1. There is sufficient reason to believe that a person in a room or other place in which is carry out the search, is concealing documents or items that might be relevant to the case;
2. It is produced during the arrest of the person or his detention. In this case, the personal search may be conducted without of witnesses [2, 233].

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The fight against terrorist actions

Abstract: In this article it is considered questions of fight against terrorism in the Republic of Kazakhstan.

Keywords: terrorism, against, attacks, radicalism.

In our time, the media and many politicians evaluate terrorism as a catastrophe of the 21st century. But it may be caused due to the outbreak of thought. In fact shown in its high-end roots are deep. The President of Kazakhstan Nursultan Nazarbayev said: «When the dragon of terrorism and their rivals, who are constantly stabbed cunningly. However, it is seen today as an open and scalable. International terrorism so far, and out of all the existing global and regional security» [1, 21].

Ideas are in compliance with detonation potential spread of terrorism, racism and nationalism feed. Any type of nationalism is no doubt that the reason for the spread of terrorism. One of the nation's second nation to establish the rule of nationalists likely to the terrorism.

The truth of the stoppage of a destructive act of terrorism and political radicalism was that one of the consequences of his party groups are not being equally not be any political softer. And since then, the test of political radicalism, terrorism can be killed [1, 32].

In K. Sadiev's scientific article «The fight against terrorism and consolidation efforts could have a positive impact on the dynamics of the world economy» was a terrorist attack in the United States to explain the impact on the economy of the United States in a comprehensive way: «Immediately after the terrorist attack in the international stock market index fell. Reduced cost of the dollar against other world currencies. US dollars to keep the chickens are some measures. Therefore, the international financial institutions worried. Stock

market is not developed. Therefore, we notice a change in the investment in less» [2, 34].

At the same time, terrorism has become a way of achieving political goals, terror if terror do not spread, and on the need to combat the problems of religious extremism in Central Asia on the policy of combating religious terrorism many scientific articles have been published: «Central Asian republics of thousands of religious structures came to life again, theological education have been discovered. meeting many discrepancies in the development of religion in modern society. Religion in Central Asia, the fight for religious believers into their ranks. amplified the effect of the Islamic countries of the world» [2, 37].

XX century to the present situation in the absence of increased level of state terrorism. Choke the illegal actions of its citizens from terrorist state in the country, their weaknesses and powerless was always sensible. For the state to change it's out of order in the border areas of the country. As a historical example of fascist Germany. In recent years, many US actions in the international arena, it's very close to the nature of the attacks. Terrorism looks different and its scope has become the most dangerous form. Its social and political consequences and moral problems of people cannot tell. XXI century, humanity is becoming such a danger. Terrorism and extremism different view, a threat to the safety of the citizens of many countries and their increasingly threatens. It is the political, economic, moral costs will lead to strong psychological pressure to the general public, killing innocent people. 60s of XX century by distance potential terrorism. Was filled with terrorist groups and organizations in many areas of the world. At present, more than 500 secret terrorist organizations operating in the world. In 1968–1980 they were made by the 6700 terrorist attacks, resulting in the death of 3668 people, 7474 people have been injured. Currently, in the case of extremist strong individuals, groups, organizations and complexity of the nature of the terrorist activity, complication of acts of terrorism, are not subject to inhumanity is growing from day to day. According to the scientists of Russia and foreign research centers in the field of terror every budget year will reach 5 billion to 20 billion [3, 48].

Wide spectrum of acts of terrorism in the recent period, due to a lack of communication between state borders and international terrorist centers and organizations inaction, strict organizational structure, management and operational level, the intelligence center, material and technical equipment, personnel and other select numerous human characterized by the provision of all necessary things. Having all of the available information for the period of war, international terrorism, the idea of their understanding of the people and the desire to understand their own situation. This result is not. Not to mention the specialized mercenaries, many young people attracted to them. Terrorist ideological-confessional organizations, military, commercial and co-operates with a different basis. In most cases, terroristic groups, especially

the heads of his arms, one another, to segregate the functions, operations area and other issues of mutual co-operate. For example, in the situation in Afghanistan and Libya. International Association of terrorist forces and various maneuvers with the password used to create the channels have a large number of weapons and equipment. Chechnya and Dagestan parts of Afghanistan, Pakistan, Saudi Arabia, Turkey, Albania and instructors from other countries, international terrorist organizations emission, propaganda, weapons so.

Some of today's terrorism Commando, and do not attempt to murderers bought the plane. Equipped with the latest achievements of modern terrorism with a wide armed with great structure. His arguments Afghanistan, Tajikistan, Kosovo, Chechnya. It is happening in the present is capable of terrorism, sabotage and terrorist warfare, are able to take part in armed conflicts in the region. Terrorism "in the labor market" (mercenaries, etc.) associated with the development of the global business and investment (arms sales, drug sales, etc.) became a source. For example, every year during the war in the territory of the former SFRYu Croats, Muslims, Albanians sold \$ 2 billion in weapons and military equipment. At the present time, the world market drugs and raw materials for terrorist groups, leading to it. It will be several billion dollars.

Terrorism in modern Russia distinctive features: a different direction and color (nationalist, religious, left-wing, right-wing, neofascistik, etc.) have a wide range of terrorist organizations. Law enforcement forces are not ready to deal with it; different opinions terrorism and terrorists, depending on the regions and subjects of the federation; terrorism «clean» failure to distinguish the type of imperfection and Russia to combat terrorism law. Integration terrorism and organized crime in Russia. Russia terrorist groups themselves the same evident act together with the international organizations. For example, in the territory of the Chechen Republic of the UNA-UNSO training, «Grey Wolves» Turkish terrorist organization fighters participate in military operations in the North Caucasus, Khattaba training camps on the territory of Chechnya [4, 11].

According to the Summit of the final act, the fight against terrorism, in part or in a non-discriminatory terms, in terms of its global knowledge and all-round activity must be carried out regularly. In this regard, the preparation of a comprehensive convention on international terrorism, support for good. In this regard, there is other positive results value. In particular, the CICA Summit in relations between India and Pakistan provoked sharp South Asia was held in Almaty and the President of Pakistan and India after the meeting with the Prime Minister «in their battle» noted significantly slowed worldwide.

At least, the fight against terrorism and efforts to improve the accuracy of the international effort in the activation of the anti-terrorist arrangements at the regional level, it would not be enough. At the same time, the Commonwealth

of Independent States, the Shanghai Cooperation Organization (SCO) and the Collective Security Treaty Organization on the services required. Each of these organizations that are directly involved at the present time, to the full extent of the international institutions, whether or not contributing to the strengthening of regional organizations as the most impressive structures in the world today, regardless of what is taking steps to enhance the status of the anti-terrorist significant and real [5, 4].

The problem of terrorism is one of the main cooperation goal between the countries of the CIS. In June 2000, during the period till 2003 Moscow Summit of heads of states of the Commonwealth of the fight against international terrorism and other extremist scenes CIS approved by the participants of the program, the decision was made to create as well as anti-terrorist center.

CIS Anti-Terrorist Center (ATC) provides for specific anti-terrorism act within the framework of the Commonwealth Institute of spin. At present, its main strength consolidates analytical tasks. While certain activities carried out under the direction of the center, while it's organizational and practical situation did not show a unified entity.

One of the CIS countries in the fight against terrorism, «the United anti-terrorist measures in the territory of the CIS member-states of the Regulations on the procedure for organizing and conducting» will be taken. ATO-drafted documents of the CIS, now that the project is classified at the level of experts of the CIS member states.

US and NATO allies and antiterrorist coalition forces in Afghanistan, there is really affect the future of the SCO. However, in spite of him, which was held in June 2002 in St. Petersburg, pessimism about the future of the SCO meeting dispersed [6, 50].

This just in front of the Embassy of India in Russia SCO summit expressed their views on the future of the access point. If you are in such a situation, this organization is a complement of the number of broadband subscriptions in India, where the SCO's most powerful security structure, there is no reason to doubt that the logic of the Eurasian continent. It will mark the future of the regulation

of relations with ASEAN countries in the South-East Asia, the SCO is becoming significant.

United States condemned the terrorist acts of September 11, 2001, were the first Russia: live an hour after a terrorist attack in the country's President Vladimir Putin: "As was the case in New York, dropped out of the national borders, it is all humanity, especially in the civilized world abandoned call is" the source said [7, 28].

The President of Kazakhstan Nursultan Nazarbayev expressed condolences to the American people, stressed the need to fight terrorism and expressed willingness to help the US fight against terrorism. After this incident, one of the plant in civilized countries set of specific measures to combat terrorism. In particular, the "fight against terrorism and other manifestations of extremism and separatism in the Republic of Kazakhstan on the state program for the years 2002–2003" was adopted. Therefore, in accordance with the international fight against terrorism and extremism in the near and far abroad interaction is carried out joint preventive measures are taken. In April 2002, the city of Almaty operational-tactical "South-terror" — was the second round of the 2002 exercise. In addition, in May 2002, the SCO in Astana "Bishkek Group" meeting, where the structure of the SCO Regional antiterrorist (AATK) shock agreed.

Kazakhstan President Nursultan Nazarbayev problems with the state in the international fight against terrorism became a Home. In June 2002, the city of Atyrau Developing a wide range of measures to prevent acts of terrorism in the air «alarm» joint exercise was conducted in July-American «Balance Bars» was Kapshagai training. In addition, together with the Kazakhstani and Russian military men in the Mangistau region on the Caspian Sea by «Peace-2002 can be a large military exercise in the Sea» [8, 5].

No state will not be able to avoid the appearance of what is powerful and terrorism. Many countries, especially developing countries, poor development of the economy, unemployment, Poverty does not raise a protest. Therefore, the most important thing is to fight poverty in the world. The elimination of terrorism, in advance, it may not be immediately at the start of the removal work. He is strong, and in the long process.

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The urgency of establishing uniform standards and achieving interoperability of peacekeeping contingents in peace and security operations

Abstract: The paper deals with the standardization of the Armed Forces of Ukraine during international peacekeeping operations. The concept “interoperability” units are part of international peacekeeping forces. Revealed the need for further implementation of standard operating procedures in peacekeeping Ukraine.

Keywords: international peacekeeping operations, operational standards, standard operating procedures, interoperability.

Ukraine’s participation in international peacekeeping operations considered in the context of two critical issues: national security and combat readiness of troops. High business acumen, professionalism, willingness to work in difficult conditions — is only part of the features that are becoming Ukrainian peacekeepers while serving in missions. It depends on their interaction interoperability in international peacekeeping missions.

In June 2012, the Decree of the President of Ukraine № 389/2012 enacted new edition of the National Security Strategy of Ukraine. The Strategy defines the task of reforming the defense and security sector as an integrated system “based on the further implementation of the standards — members of the European Union” and, consequently, to the Armed Forces of Ukraine raised new challenges [1]. These challenges are fixed and detailed in the Military Doctrine of Ukraine [2] Concept of Reform and Development of the Armed Forces of Ukraine for the period up to 2017 [3] and in other documents. One of the main challenges is to build a model of the Armed Forces military standardization as an example of European standards, the basis of which, in turn, is a NATO standard.

It is important that Ukraine in previous years has gained significant experience implementing NATO standards. The basis for this is the active participation in international peacekeeping and security, the NATO Response Force and the Planning and Review Process (PARP) within the international program “Partnership for Peace”.

In order to meet the challenges of the development of military regulations, guidelines, methods of evaluating military units and summarize the experience of combat training in December 2012 in Ukraine the Center of operational standards and methods of the Armed Forces of Ukraine was established. As noted by Major General Victor Nazarov, “Major efforts we focus on optimization, simplification and standardization of methods, algorithms and procedures of the authorities in the planning and conduct of operations (combat), the organization of work at border controls, and the list of forms that tested” [4, 71].

However, of course, is only the first step and therefore certainly should recognize that the full standardization system in

Ukraine is not yet established. For example, in Poland standardization documents issued at three levels: 1) state, 2) the level of ministries and 3) at the military level. At the state level standards and state standards in military and civil defense sectors published by running the Polish Committee for Standardization and its Technical Committee № 176. Standards in the military and defense sectors, reference Defence Standardization and results of analytical studies developed by the Military Committee for Standardization and published Minister of Defense. Military Standardization, Quality and Codification acts as the executive department of the Ministry of Defence, managing the standardization process [5, 89–90].

Other operational rules have the form of so-called “executive documents, writs”. Depending on the functional areas covered by the executive documents such document issued by heads of departments of the Ministry of Defence / General Staff or the relevant heads of the armed forces. Considering the different spheres of legal regulation, following documents have the following forms: doctrine, guidelines, regulations, instructions, manuals and instructions. In turn rules for the development of appropriate standards approved by the Minister of Defence, Chief of Staff and the commanders of the armed forces. Land, sea and air components corresponding commands are processed armed services [5, 89–90].

For example, in order to adapt to the new security environment Swedish Armed Forces are also in the process of transformation in the expeditionary force high availability. As the commander (navy) Bjorn Marcusson, “the main drivers of transformation began to move away from military service and maintain large army mobilization type, focused on the distribution of costs and burdens cooperation in the form of participation in international security efforts” [6, 114]. He also stresses that the balanced properly interoperability with NATO makes Swedish Armed Forces interesting partner in peacekeeping missions and operations. The standardization process will not only logistical but also standards for administrative and organizational area. The armed forces will become cheaper and easier to hold, if meet common standards [6, 114].

As noted in methodical manual Armed Forces of Ukraine for the preparation and conduct of peacekeeping

operations “participatory peacekeeping contingents and personnel of the Armed Forces of Ukraine in international peacekeeping” interoperability in international peacekeeping and security is achieved in doctrinal, operational and technical levels. Doctrinal interoperability — a readiness units involved in the operation, and their ability to deliver interoperable operations at the operational and tactical levels. Operational interoperability — the ability to agreed joint actions with military units of other states in the operations of the multinational force. Technical interoperability — is the use in operations of the multinational force uniform standards needed to effectively controlling the use of troops and weapons, arms and military equipment and material and technical means [7].

“At the lowest level of technical information is exchanged for a common conception of operation. To characterize this level can or availability of information exchange, or lack of it. At the cognitive, level the exchange of knowledge to achieve understanding. An example of measurement at this level is — a common perception of the enemy, its capabilities and intentions. At the highest organizational and doctrinal level the exchange of working to achieve synchronization (unity of effort). An example of measurement at this level is considered the efficacy of the armed forces, namely, purposeful, coordinated by Concept, place, time steps and the use of resources”, said S. Gatsenko and other co-authors [8, 29].

We believe it is important that the level of interoperability is largely dependent on the quality of standard operating procedures (SOPs) that govern peacekeepers. Each country is trying to develop and harmonize procedures laid down in the following procedural rules.

Standard operating procedures are a kind of statute separate process and determine the functioning of all components of international peacekeeping operations. Based on SOP international peacekeeping operation headquarters peacekeeping contingent develops its own SOPs that determines (specify) task subordinate units and the order of execution.

The issue of legal status, content and performance standards operating procedures in international peacekeeping and security are covered in the order of the Chief of General Staff — Chief of the Armed Forces of Ukraine dated October 22, 2012 № 220 “On approval of the systems operational standards of the Armed Forces of Ukraine (System documents Management, application, training and support)” [9]. In addition, these issues also contains draft Doctrine of the Armed Forces of Ukraine participation in international peacekeeping and security [10].

It should also be noted that the minimum sufficient legal status, content and order of performance standards operating procedures covered in the User involvement of peacekeeping personnel and the Armed Forces of Ukraine in international peacekeeping operations, approved by order of the Minister of Defense of Ukraine of May 10, 2006 № 252 [11].

For example, item nine entitled “peacekeeping contingents and personnel problems of international peacekeeping

operations” and provides that peacekeepers and staff perform tasks of international peacekeeping operations based on:

- The current legislation of Ukraine;
- Mandate of international peacekeeping operations;
- Defined by the command of the international peacekeeping operation tasks;
- Standard operating procedures (SOPs);
- Implementing rules and capabilities of their capabilities;
- Rules of engagement (if these rules are not in SOPs) [11].

This rule is almost the first time in practice implementation Armed Forces of Ukraine peacekeeping tentatively determines the hierarchy of regulations of international character (i. e. not issued national institutions), the prevailing peacekeepers and staff. The main feature of these regulations is their extraordinary legal status.

On the one hand, since virtually level operational/operational plans (or, as stated in the User — defined command of the international peacekeeping operation tasks), such acts mandatory formally implemented in national legislation.

But on the other hand, the actual transition Ukrainian peacekeeping personnel in subordination or multinational command requires that our military is absolutely clear and complete picture of the legal nature, content and structure of such acts.

Moreover, the fact of the peacekeepers in an area where being fighting, they require an understanding of the hierarchical structure of all acts; they should be guided, as national legislation and international/coalition, their value and scope.

Instructions still gives peacekeepers minimum level of understanding of the legal nature of such procedures. The paragraph 9 specifies that when performing tasks peacekeepers guided by the requirements of standard operating procedures, rules of use of force and other regulations of certain international peacekeeping operations.

Typical content of standard operating procedures peacekeeping contingent in Annex 3 to the Regulations. Its content mainly consists of the following components: command and control; organizational aspects of the transaction; basic requirements for order of operations; information procedure for collection and analysis; action in the air, at sea; financial support; personnel and logistics; relations with civilian institutions, mass media.

The modern world peacekeeping covers a wide range of tasks: preventive diplomacy, humanitarian assistance, negotiation, peacekeeping, peace enforcement, peacebuilding and sanctions. Staff missions include not only military but also civilian personnel, police. Accordingly, at the national level in the task of peacemaking involves many agencies, especially the Ministry of Foreign Affairs and the Ministry of Defense. Coordination of all stakeholders and the general management is a major issue administering peacekeeping Ukraine.

We must recognize that today in the structure of the armed forces of Ukraine there is no single unit responsible for organizing the training of peacekeepers. This unit would, in particular, fast off projects necessary legislative and regulatory documents

efficiently formulate the requirements for training in the form of standard operating procedures samples operational plans (orders) or functional responsibilities for peacekeeping.

We believe it would be appropriate to issue a regulation on preparing forces for peacekeeping operations for the short and medium term. This document must specify the purpose of training and the result of each operation, the achievement of which it is directed (taking into account national and international experience). It should also indicate how much, what kind of units and personnel involved in the preparation, as well as training requirements, standards used, and which values of training (standards) are the goal.

Important features of peacekeeping operations are sudden actions of the parties, the dynamic change of scenery. These circumstances lead to a reduction in the time for making decisions on the contingent commander of the task and the time for planning and setting goals.

The existing system of peacekeeping contingents do not meet the requirements for compatibility, efficiency of management and sustainability performance. The principal tool in solving this problem is to unify staff procedures, standardization of technology and communications for NATO samples, development and creation of automated control system contingents. These measures will tie together these management requirements as compatibility, efficiency and stability of their implementation by improving management at a higher level that corresponds to the nature of international peacekeeping operations. Promising research in this direction, we believe consideration and development of standard operating procedures as part of a successful decision-making and implementation of practical actions individually peacekeeping personnel and military peacekeeping forces as part of units.

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Legal means of countering terrorism in modern society

Abstract: The article analyzes the problems of legislative regulation and improving the legal framework to combat terrorism. Modern terrorism has acquired an international character, respectively, and the struggle must be carried out with them at the international level. Since there are difficulties associated primarily with the specific national regulations — so it is the task of determining the unification of these standards. It should be noted that most countries understand this and go to the rapprochement of their legislation in this area, which, in combination with other forms of struggle against terrorism, can reduce the level. Since there are difficulties associated primarily with the specific national regulations — so it is the task of determining the unification of these standards. It should be noted that most countries understand this and go to the rapprochement of their legislation in this area, which, in combination with other forms of struggle against terrorism, can reduce the level of this universal threat.

Keywords: terrorism, countering, legal means, legislation, crime.

Modern society is faced with many kinds of terrorism, and the term has lost a clear semantic meaning. Under terrorism meant purely criminal kidnapping for ransom and murder on political grounds, and the brutal methods of warfare, and the hijacking and blackmail, ie, acts of violence against property and interests of citizens. There are more than a hundred definitions of terror and terrorism, but none of them is sufficiently definite. Word terror occurred from Latin: terror — fear, terror. Indeed, any terrorist action (not even related to the murder) always involve violence, coercion, threat. The main means of achieving the goal for any terrorist — is bullying, creating an atmosphere of fear and insecurity, prompting horror. Taking into account the extreme danger to the public acts of terror and violence, their antisocial and inhumane, terrorism can be defined as a social phenomenon, which consists in the unlawful use of extreme violence or threat of violence to intimidate opponents in order to achieve specific goals.

Domestic terrorism is an activity specially organized terrorist groups or lone terrorists, whose shares are intended to achieve various policy objectives within a single state. Terror can be called violence, consciously directed towards gosudarsvu. Violence appears in two forms:

- 1) direct violence, which is reflected in the direct use of force (war, armed rebellion, political repression, terror), and
- 2) indirect (hidden) violence, which does not involve the direct use of force (various forms of spiritual, psychological, pressure, political interference, economic blockade), but is only the threat of force (political pressure, diplomatic ultimatum). As noted in the legal literature, to state terror often resort unstable regimes with low levels of legitimacy of power, which can not maintain the stability of economic and political means.

When state terrorism goes beyond the boundaries of individual countries, it takes on the character of the international. Recently, this type of terrorism has gained unprecedented, global scale. International terrorism undermines public and political foundations, causing enormous material damage, destroy cultural monuments, undermines international relations. Like any other form of terrorism, international terrorism is manifested in indiscriminate violence, usually directed against people indiscriminately to create the masses of the idea that the end justifies the means: the terrible crime, the better from the point of view of the terrorists.

International varieties are transnational and international criminal terrorism. The first is the various actions of non-state terrorist organizations in other states. However, they are carried out independently and are not aimed at changing international relations. The second is manifested in the actions of international organized crime, whose members may be far from any political goals and their actions can be directed against rival criminal organizations in another country.

Terrorism appears when society is experiencing a deep crisis, especially a crisis of ideology and the state legal system. In such a society there are various opposition groups — political, social, national, religious — which is questionable legality of the existing government. Terrorism tends to grow it in the transitional periods and stages of the life of society, when it creates a certain emotional atmosphere, and the instability is the main characteristic of base relations and social ties. This is fertile ground for the cultivation of violence and aggression in society and leads to the fact that this or that economic, ethnic, social, religious or other group is trying to impose its will on society, using this as a tool to realize their aspirations violence.

The problem of terrorism is particularly acute in the period of social conflicts that are provoking factor terrorist behavior. In turn, the cause of the conflict is a transitional period, a radical change in the socio-political and economic structure of society. Conflicts of different duration, the degree of severity of the contradictions methods permit. Terrorists use any form of conflict because there are favorable conditions for them to achieve their goals by committing crimes.

Legislation to combat terrorism are also at the national and international levels. After the terrorist attacks that occurred in the United States on 11 September 2001, many countries have found that their legislation or does not contain a special law on the fight against terrorism, or these laws do not meet the requirements of today.

In the European Union only a few countries have laws providing for liability for terrorism. According to experts, the best law on combating terrorism is the United Kingdom, adopted in 2000. The law defines terrorism as “a threat to the action in order to influence the decision of the government or to intimidate people for political, religious or ideological reasons”. Among the actions falling under the Terrorism Act, “a threat to life, serious threat to public health and safety, serious damage to property”.

Despite the fact that terrorism as an international phenomenon emerged relatively recently, the international community has already gained some experience in the field of legislative support to combat it.

Even before the Second World War under the auspices of the League of Nations was developed Convention on the Establishment of the International Court of Justice (1937). For various reasons, the agreement is not implemented, but have been developed such concepts as “international terrorism”, “mechanism pursuit of terrorists across national boundaries”, “the extradition of terrorists”. The Convention on the Prevention and Punishment of Terrorism terrorist action was first pointed out the need for a combination of international law and national legislation to combat terrorism. The main attention was paid to the protection of the life of heads of state and politicians, leaving without due attention to protection from terrorism in the general population.

At the European level was signed in 1977 and entered into force in 1978. Regional Convention on Suppression of Terrorism. The traditional form of terrorism the world community considers the taking of hostages and invites the international community to take measures to combat it, including through the relevant national laws. The international community has the merit of recognizing terrorism in all cases, regardless of the political motives illegal. The Declaration on Measures to the intersection of international terrorism, adopted at the 49 session of the UN General Assembly in 1994, it was emphasized that “no ideological, racial, ethnic, religious or any other considerations can not be used to justify criminal acts aimed at creating an atmosphere of terror among the general population”. Especially active international legislative activity after the

attacks of September 11, 2001 As soon as September 12, the UN Security Council adopted a resolution in September 2001 1368.28 Security Council adopts resolution 1373.

Kazakhstan signed a number of international agreements in the field of combating terrorism, for example, the “Agreement between the Republic of Kazakhstan, Kyrgyz Republic, Tajikistan and Uzbekistan on joint action to combat terrorism, political and religious extremism, transnational organized crime and other threats to stability and security of the Parties” (Tashkent, 21 April 2000).

Thus, we can see that the international community pays great attention to the legal framework to combat terrorism and extremism. Since terrorism has acquired an international character, and the struggle must be carried out with them at the international level. In this way, there are difficulties associated primarily with the specific national regulations — so it is the task of determining the unification of these standards. It is encouraging to note that the vast majority of countries understand this and go to the rapprochement of their legislation in this area, which, in combination with other forms of struggle against terrorism, can reduce the level of this universal threat. It is necessary to bring national legislation in line with international.

Criminal legal regulation is one of the most important components of the whole range of measures to combat terrorism, it must have a clear vision, be clear and understandable, capable of effective implementation of, finally, it must have a preventive effect and serve as a safeguard against arbitrary enforcement.

Since terrorism, as mentioned earlier, is generated by many social, political, psychological, economic, historical and other reasons, then the fight against terrorism is a very complex task. We must assume that these reasons and should be subject to preventive intervention, but to make it very difficult in practice, as most of these reasons is related to the possession of the state power, the distribution of property, the triumph of one ideology or another, the change in the national and social structure.

Today it is quite obvious is the need to identify and analyze the causes of the problems, the nature and trends of terrorism, as soon as possible to develop the forms, methods and effective means of combating it.

The main directions of the prevention of terrorism should include:

- prediction of terrorist activity with its possible subjects;
- the impact on the basic phenomena and processes in society, contributing to the growth of terrorism;
- suppression commit terrorist acts against the state and public figures, arrest the perpetrators and bring them to justice, and punishment is extremely important not only ordinary performers and collaborators, but also the organizers and instigators of terror, as well as those involved in the financing of terrorist activities;

- preventing and combating terrorism similar crimes (the taking of hostages, genocide, sabotage et al.);
- cooperation of international organizations in the prevention and suppression of terrorist activities.

Important to join efforts in combating terrorism of all the forces of the state and society. This upper echelons of representative government, and legislators, and intelligence agencies, and law enforcement agencies, and the media, religious and other associations.

Increasingly recently heard saying that it would be appropriate to apply to terrorists rules on liability of collaborators that applied for Nazi war criminals, that is, each member of a terrorist organization should be responsible for all of its criminal activities.

The fight against terrorism requires a comprehensive approach, which should include measures and economic, political, social and legal nature. This long-term program, which depends on many factors.

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The factors promoting crime of minors

Abstract: In this article the author considers the main reasons of crime of minors. The crime of minors is a consequence of the certain negative phenomena existing in our society.

Keywords: crime among minors, prevention of crime, juvenile justice.

Each government interested in having children, who in the future will become real person and worthy citizen of the country.

The crime of minors is one of the global problems of modern time, and all world community interested in solution of this problem. It is explained by an important role of younger generation in ensuring viability of society and its development. Even in most democratic and economically developed states exists the rise of crime of minors. It is impossible to solve a problem of crime of minors only by national means and also it is necessary to combine efforts of all society, as causes emergence and development of system of standards, the norms directed on the solution of this problem [1].

Teenagers are one of the unprotected categories of society. Their dreams of easy and fast enrichment conduct to various offenses and crimes. Their desire quite often brings them into the criminal sphere.

In structure of crime of minors serious crimes (more than a half) prevail, and the most part is made by robberies, burglaries and assaults. The quantity of the crimes committed by minors under the influence of alcohol or drugs grows. Spiritual life of teenagers is deformed owing to penetration into their environment of the standards of daily behavior not compatible to traditional valuable reference points of our society through mass media, household contacts. Force, cruelty, drugs as "norms" of life of younger generation are cultivated.

According to teachers, the television is dangerous to teenagers. There is an interrelation of violence on the screen with growth of crimes among minors, the television imposes as examples for imitation a cult of violence, roughness, cruelty, drugs: everything that the minor watches on TV, he tries to embody into the reality. Mental development of minors is harmed by computer games as they cultivate tendency to cruelty.

Parents began to take care less of children, seeking to shift the educational functions to school, the street, mass media.

It is noticed that family viewing of the TV replaces communication of parents with children. If parents couldn't reconstruct the relationship with children in time, the conflict situation which not only has an adverse effect on formation of personal characteristics of pupils is imperceptibly created, but also generates requirement at them for replacement of intra family communication with extra family contact [2]. On the other hand, negative influence from contemporaries on formation increases sense of justice of the teenager. Informal groups also promote distribution of alcoholism, drug addiction in the teenage environment.

Thus, it's necessary not to forget that character bases, vital installations, values are initially put in a family. At early age, the main moral requirements, rules of conduct and decencies take root to children in a family. And in this regard all further process of education (at school, at work, in public organiza-

tions, etc.) already has certain bases of the moral principles put in character of the person by a family. Therefore defects of family education is one of the main reasons of crimes and other offenses of minors.

Adults for the growing person are certain "the psychological center". It is known that when "the psychological center" in the person of mother, father or other person replacing them doesn't carry out assigned to him/her by the nature and society of function, the child has a feeling of concern, uncertainty and the vulnerability. It forms child's mind a personal position of rejection of environment, misunderstanding. The child even starts expecting threat from society.

Now in the most difficult situation in society there are children and teenagers who aren't protected from negative influence of a dysfunctional family therefore considerable part of children and teenagers receive an example of an immoral way of life, are deformed in the development, gaining negative personal qualities.

One of the incentive reasons of commission by teenagers of offenses is unfair, ill-treatment of adult family members with them. Teenagers who constantly are exposed in a family to ill treatment, have a belief that roughness is a norm of human relations. They easily fall into a condition of anger, and their anger most often streams on weaker: younger on age, old, sick people, animal. Often the unfair attitude towards to teenager causes desperate desire at any cost to revenge the offender and conducts to commission of crime.

It should be noted that in families where the violence is a lever, at children the animosity against parents remains for the rest of life.

One of the specific reasons of crime of minors at the present stage of life of society is catastrophic situation with the organization of leisure of children and teenagers in a residence. The youth does nothing [3]. Because of high prices the majority of forms of leisure is inaccessible to teenagers. Many child care facilities, the organizations stopped the existence, and the rooms belonging to them are leased to commercial structures. In the summer the younger generation is provided to itself. Many improving camp for children and teenagers are closed, children from incomplete needy families can not always get in existing camp because of the high cost of permits.

Therefore attics, cellars became favorite pastime of teenagers. In many cities there are no youth centers, sports grounds and sports clubs. And after all sport is that tool by means of which it is possible to fight teenage crime.

Thus, we came to a conclusion that the main reasons promoting commission of crimes by minors are lack of due control from parents, the low level of social financial position of families, weak organization of free leisure of minors, not employment by socially useful work in free time from study time, weak control from administration of educational institutions, weak scheduled maintenance of law enforcement agencies.

In normal conditions the teenager will never become a criminal. It is necessary not to forget that the minor criminal is a child who as a result of the wrong education and a bad example became a criminal. This is the child who didn't feel support of parents, societies and the governments in due time.

Proceeding from it, it's necessary to build a prevention of deviant behavior of teenagers which could help him to adapt to the social environment.

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Computer fraud

Abstract: The article tells about such form of plunder as a computer fraud. The article gives the analysis of norm recently included in the criminal code of Russian Federation which provides responsibility for such an act. The author notes its imperfections and shows the ways of their elimination.

Keywords: criminal law; computer fraud; computer information; plunder.

Rapid development and widespread implementation of the Internet lead to the appearance of new ways of its use. However, it inevitably lead to the expansion of the "domain" for criminals and the appearance of new types of law violation including computer fraud. According to the statistics for

the first six months of 2012, 5696 cybercrimes were registered in Russia — that is 11 % more than for the same period of 2011. The majority of them are made up by crimes connected with the creation, spread and use of malicious software as well as fraud in the Internet. For six months of 2012 –

1443 (+44%) of such crimes were registered. In addition to that, according to the experts, real number of internet fraud is several times higher as such crimes are characterized by high latency [1]. Therefore, many researches today are studying the problem of criminal responsibility for computer fraud.

The discussion about fraud with computer information has been going on for a long time already; ideas of including the corresponding articles into the Criminal Code of the Russian Federation have also been expressed [2, 157–161]. However, only several years ago such crimes were criticized, and fraud with computer information was qualified cumulative with Chapter 28 of the Criminal Code of the Russian Federation norms. According to A. A. Komarov Chapter 28 of the Criminal Code of the Russian Federation is a sufficiently stable construct as imputing articles cumulatively in some cases allows avoiding ungrounded alterations to the Criminal Code, linked with marking out several types of computer crimes, in particular components of crime or widespread implementation of qualificatory signs. Law enforcement practice followed that path [3]. Paragraph 12 of the Decree of the Plenary Session of the Supreme Court of the Russian Federation of 27.12.2007 No. 51 “On judicial practice on fraud, misappropriation and misapplication” says that fraud with use of computer information shall be qualified cumulatively with article 159 and article 272 or 273 of the Criminal Code of the Russian Federation correspondingly [4, 14].

In foreign practice, criminal legislation of some countries already has such components of crime. The Criminal Code of Estonia, for example, contains Section 14 “Crimes in the sphere of computer information and data processing”, the article 268 of which stipulates responsibility for such computer fraud, i. e. for the acquisition of other person’s property, property or other advantages by introducing computer programmes or data, their modification, elimination, blocking or other types of interference in data processing, influencing the result of data processing and conditioning direct property or other type of damage to the other person. Criminal code of Germany also provides criminal responsibility for computer fraud (§ 263a). Computer fraud means that fraud is directed not at a person but at a programme as the property is damaged by influencing data processing process and by improper programme installation, use of incorrect or incomplete data, and by unauthorized influence on data processing processes. In the European Union Convention on cyberfraud adopted in Budapest on 23.10.2001, which the Russian Federation rejected in ratification, Art.8 called “Computer fraud” implies fraudulent (intentional) and illegal dispossession of other person of his/her property by: a) any type of entering, altering, deleting or blocking of computer data; b) any type of interference in the computer system operation with fraudulent or dishonest intention of illegal economic benefiting for himself/herself or for another person [5].

In time the above stated position of the Supreme Court of the Russian Federation changed drastically; Plenary Session Decree № 6 of 05.04.2012 “On putting forward to the

State Duma of the Federal Assembly of the Russian Federation a draft of the Federal Law “On changes in the Criminal Code of the Russian Federation and other legislative acts of the Russian Federation” offered to introduce six new articles to the Criminal Code of the Russian Federation providing responsibility for different types of fraud [6]. Art. 159.6 “Fraud in the sphere of computer information” was one of them. The draft was supported by the legislative body and by Federal Law No. 207-Φ3 of 20.11.2011 “On changes in the Criminal Code of the Russian Federation and some legislative acts of the Russian Federation” corresponding changes were made in the Criminal Code of the Russian Federation. In our opinion the introduction of this article does not solve the existing problems, moreover, it may even aggravate them. First, the name of Art. 159.6 itself is not correct. Phrase “in the sphere of computer information” (which was repeatedly asked for changing in case of Art. 28 of the Criminal Code of the Russian Federation) is vague, as there is no clear definition of what is implied under this sphere and what it covers. Therefore, a question arises, what type of acts shall be deemed as crime in computer information sphere. In articles and researches on the topic apart from the term “computer fraud” such terms as “cyberfraud” and “fraud in the Internet” are used. We may suggest that terms “cyberfraud” and “computer fraud” are synonyms. Due to the fact that the current legislation does not define the notion “computer fraud” it is understood as having criminological nature and means stealing other person’s property or obtaining the right for other person’s property by fraud or abuse of trust, committed with the help of computer tools [7]. As for “fraud in the Internet”, it presupposes a whole aggregate of crimes characterized by the similar means of committing them (use of technological and communication facilities of computer systems, connected to the Internet for committing fraud of a person or a computer system) and by the mercenary motives of the crime [3, 13]. Thereby, fraud in the Internet is a type of computer fraud. Bank cards fraud shall be noted specially. It does not mean stealing the card itself and getting money in the ATM (which makes up another type of theft). To commit bank card fraud it is sufficient for the criminal to know its number and a secret code. Fraud with mobile communication tools (“telephone” or “mobile” fraud) which is widely spread in our country shall be noted as well. Mobile phones can process and store computer data; people can access the Internet via their mobile phones. Besides, there are other devices which function similarly to computers and may be data carriers. Therefore, it is important to speak not about computer data, but about electronic data, which includes data processes on computers, mobile phones and other devices functioning similarly. Second, speaking about computer frauds in general, we may divide them into two groups. The first group consists of the crimes where computer data is the target of a crime. The second group includes the crimes where data is the means of committing the crime. Computer fraud belongs to the second group. Therefore, the term “fraud with use of computer information” would be more reasonable.

According to the disposition of part 1, art. 159.6 of the Criminal Code of the Russian Federation fraud in the sphere of computer information shall mean stealing other person's property or obtaining the right for other person's property by of entering, deleting, blocking, modifying of computer data or any other interference in the operation of computer information storage, processing or transferring devices or information-telecommunication networks. In our opinion, this point needs to be clarified. The notion "computer information" given in notes to art. 272 of the Criminal Code of the Russian Federation, does not stand up to criticism and shall be studied and changed in the future. Enforcement practice has already faced the problem of what shall be considered as "means of storing, processing or transferring computer information". Sometimes even cash registers are referred as such. The phrase "any other interference" in the operation of the abovementioned devices is very vague as well. We also believe that it shall be clarified to avoid broad interpretation. Article 159.6 also provides for aggravated components. Part 2 of art. 159.6, for example, establishes responsibility for these acts committed by a group of people by previous concert, as well as with extensive damage to a person. Under part 3 art 159.6 criminal responsibility is imposed on a person who committed a crime in the sphere of computer information using his/her official position, as well as grand theft. Part 4 of art. 159.6 provides for responsibility for the same acts, committed by an organized group or grand theft. It shall be noted that in the context of art. 159.6 of the Criminal Code of the Russian Federation "grand larceny" shall be deemed as the cost of property exceeding two hundred fifty thousand rubles; especially grand larceny is for one million rubles. In respect to art.159.6 of the Criminal Code of the Russian Federation grand larceny shall be deemed the cost of property exceeding one million five hundred thousand rubles, and especially grand larceny — six million rubles, that is in both cases six times more than under art. 159 of the Criminal Code of the Russian Federation. As of sanctions of art.159.6, they are practically coincide with the sanctions of art.

159 with one exception: part 1 of art. 159.6 does not provide for custody as the punishment, but art. 159 provides for this punishment for the term of two years. In the sanctions of parts 2 and 3 of art. 159.6 custody as the punishment is provided for and may be imposed for the term to four and five years, against five and six years of custody stipulated in sanctions of parts 2 and 3 of art. 159. Based on the analysis of sanctions of these articles, we may conclude that computer fraud is less socially dangerous due to less strict sanctions for its commitment. At the same time it is important to underline that fraud and computer fraud differ only by the means of stealing of other person's property or obtaining the right for other person's property. Moreover, if deeds punished under art. 159.6 of the Criminal Code of the Russian Federation are committed by an individual entrepreneur in the course of his business activity, or by a member of a management body of a commercial organization in the course of exercising his/her authority of the organization management or in the course of the organization's economic activity, legal proceedings may be instituted only on the ground of the statement of the victim or his authorized representative. Therefore, if there is no statement of the victim party, a person may avoid criminal responsibility even if he commits fraud of especially grand larceny, which, as noted above, makes up the sum of more than 6 million rubles. It is evident that such a situation does not stand up to criticism.

Summarizing, we may come to the conclusion that the aim pursued by the legislator in including art. 159 in the Criminal Code of the Russian Federation is not clear. The Criminal Code of the Russian Federation may soon be overloaded with useless computer components of a crime. We believe that the most logical solution would be including the most widespread means of committing fraud including electronic information fraud — which shall mean stealing other person's property or obtaining the right for other person's property by entering, copying, deleting, modifying, blocking of electronic information, in art. 159.

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The problems of differentiation of criminal responsibility in the Criminal Code of the Russian Federation

Abstract: The article analyses current condition of Criminal Law in Russia in the area of differentiation of criminal responsibility. The article also shows the directions of its improvement, connected with crime classification; the article suggests legislative consolidation for criminal infraction.

Keywords: Criminal law policy, differentiation of criminal responsibility, criminal infraction.

Differentiation of criminal responsibility is a part of legislative process and, in general, it reflects directions of development of state criminal policy. Differentiation of criminal responsibility is constantly developing process of searching interrelation between content and current condition of criminal activity and the actions, which should be taken by legislator

for correction of legal responsibility according to new impartial facts. Studies show that the condition of criminal activity in Russia is unstable: it increases and decreases. Absolute and comparative figures of criminal activity in Russia reached maximum point in 2006, then according to statistic data, it decreases (table 1).

Table 1. – The number of registered crimes in Russia

Years	1980	1991	1999	2006	2014
The number of crimes	1.0 mln	2.1 mln	3.0 mln	3.85 mln	2.17 mln

However, according to expert point of view these data do not reflect latency of criminal activity. Thus fighting against criminal activity cannot be reduced. One of the methods for the decision of this problem must be differential approach to people who commit crimes.

In Russia 75 percent from all registered crimes are the crimes of little gravity and medium gravity, the rest of them are grave offence and especially grave crimes. As the study has shown, in recent years about $\frac{3}{4}$ of all number of registered crimes are the crimes of little gravity and medium gravity, what is more during two last years crimes of little gravity showed stable dominance. Obviously, the problems of fighting against crimes of little gravity and medium gravity require comprehensive solutions, but fighting against grave offence and especially grave crimes must not be reduced; differential methods of responsibility must be developed.

Criminal activity is changing phenomenon, it is qualitatively variegated; this explains different approach to fighting against its separate kinds. That's why some statements about differentiation of criminal responsibility, appeared to be indemonstrable not so long ago, now require scientific specification in connection with essentially changed facts of fighting against criminal activity.

Nowadays in criminal policy of Russia can be observed two opposite tendencies: on the one hand, strengthening of repressiveness of criminal law and criminalization of actions, on the other hand, its humanization. Precisely differentiation of criminal responsibility must provide some balance between these two tendencies, balance between severity of criminal

responsibility for commitment of grave offence and especially grave crimes and leniency of punishment in case of commitment of crimes of little gravity and medium gravity.

Studying of differentiation of criminal responsibility is important today because it is also one of the methods of providing constitutional principle of justice. Implementing principle of justice differentiation of criminal responsibility reflects in the content of Criminal legislation. Effective solution of problems of differentiation of criminal responsibility helps implementing this principle, reducing to minimum subjectivity during decision-making process about punishment for committed crime.

As the result of the conducted study some problems were determined, they influence effectiveness of differentiation of criminal responsibility and can be separated into three groups. What's more, named problems are connected with each other and attach conditions for each other.

The first group of problems is connected with insufficient attention of criminal law science to questions of differentiation of criminal responsibility.

Among them:

- weak scientific development of methodological base of studying about differentiation of criminal responsibility;
- the lack of studying foreign experience of differentiation of criminal responsibility in conditions of integration of legal systems;
- the lack of attention to questions of relation differentiation and individualization of criminal responsibility;

- weak development of criteria for differentiation of criminal responsibility;
- the lack of clear classification for means of differentiation of criminal responsibility.

The second group of problems is connected with legislative regulation of differentiation of criminal responsibility. It includes:

- social and criminological inconsistency of some criminal laws which differentiate criminal responsibility;
- unbalance of legislative consolidation of some features which differentiate criminal responsibility; their insufficient criminological consistency;
- incompleteness and divergence of system which includes criminal law sanctions;
- the lack of clear criteria for making the difference among crimes and other violations of law;
- the lack of category criminal infraction in the criminal law of Russia.

In addition, the third group of problems is that differentiation of criminal responsibility does not provide the constitutional principle of justice to the full extent. Mainly, it is the result of wide borders of sanctions, which were made by Criminal Law of Russia. The confirmation of this you can find in sanction p. 4 art. 111 of The Criminal Code of the Russian Federation, which contemplates punishment as imprisonment for the duration from two months to fifteen years. The similar situation can be observed with other kinds of punishments, for example, there are no low borders for amounts of most punishments as fines.

This leads to contradictory precedents, which reflect in the sentences of courts, when courts give different sentences for similar crimes committed under similar circumstances.

Significantly changed for the last two decades Criminal Law of Russia is on the stage of reforming today. The reforming process should be based on scientifically proved and practically tested studies of differentiation of criminal

responsibility problems.

Further improvement of Criminal Law of Russia in the area of differentiation of criminal responsibility can happen in the connection with reconsideration of some provisions about categories of crimes. In particular, there is a necessity to include and define such category as criminal infraction in the Criminal Code of the Russian Federation.

Nowadays, when in some documents which reflect basic directions of development in criminal, criminal and penal and criminally — remedial legislation and also law enforcement system of the Russian Federation we can see course on the humanization of criminal policy, the question of legislative consolidation of the category criminal infraction is very important today.

In our opinion, legislative consolidation of category criminal infraction can help solving many problems connected with differentiation of criminal responsibility, thereby optimization of fighting against crimes with little gravity, the amount of which is around 40 percent from all crimes registered in Russia, and acts which are not crimes because of their low significance.

At present moment, The Criminal Code of the Russian Federation includes around 40 percent components of crimes with little gravity. Taking into consideration the conducted study based upon criteria referring wrongful acts to criminal infractions, we concluded that 25 percent components of crimes could be referred to criminal infractions.

Among positive moments of consolidation of criminal infractions, it needs to be observed that this measure will allow reducing the number of people who receive the sentence for imprisonment in average on 12 percent. This number of people in average are annually sentenced for imprisonment because of commitment of crimes of little gravity.

Taking into account given here and other factors, it is obvious that criminal legislation of Russia will experience deep important changes and in this connection scientific development of appropriate doctrinal objectives connected with differentiation of criminal responsibility, gets exceptional theoretical and practical meaning.

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