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The collection includes scientific articles of participants of the International University Science Forum, the purpose of which is to present significant results of scientific research in the field of humanities, natural and technical sciences; the formation of a modern level of scientific knowledge, experience in transformation of theoretical science into the sphere of practical application of innovations; generalization of research and practical experience. The forum is a tool for establishing sustainable ties, as well as the exchange of experience between teachers and researchers of universities and research organizations.

Le recueil comprend des articles scientifiques des participants du Forum Scientifique International des Universités, dont l'objectif est la présentation des résultats significatifs de la recherche dans le domaine des sciences humaines, de la nature et de l'ingénieur; la formation du niveau contemporain des connaissances scientifiques, de l'expérience de la transformation de la science théorique au champ de l'application pratique des innovations; la synthèse de l'expérience des recherches scientifiques et pratiques. Le forum est un instrument permettant d'établir des liens durables et d'échanger des données d'expérience entre les enseignants et les chercheurs des universités et les organisations scientifiques.

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CRIMINOLOGICAL AND CRIMINAL LAW FEATURES OF TIMIDISM IN THE FRAMEWORK OF THE CRIMINOLOGICAL THEORY OF RELIGIOUS HYGIENE OF THE POPULATION

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Annotation. In this paper, the author proposes to rethink the mass violence that is taking place in the modern world, as well as the transformation of global terrorism into something else – a much more catastrophic phenomenon. The author gives its own term denoting this phenomenon, its definition and a variant of its characteristics in terms of criminal law.

For this purpose, the article presents the definite developmental sequence of events in their historical retrospective, their causes and conditions, which contributed to the radicalization of views in society and led to large-scale tragic events for it.

The origin of any religion has a profound effect on the change of attitudes in society, not only at the level of its spiritual life but also at the levels of its social, social and political life. The combination of the above mentioned factors with a thousand-year confrontation with the invaders in the region, the loss of statehood, the decline of the economy, culture and education, the climax of which are disagreements within the religion itself, civil opposition and the reason for the current events in the Middle East region.

In such cruel and doomed circumstances, society starts to seek for unconventional ways of getting out of the current situation, often entering a civilizational deadlock and isolating itself from the main body of humanity. In addition to that, radicalization of views happens; there arise leaders with radical views, promising a revival of past greatness, punishment of offenders and the triumph of only their views on the world order.

On the other side of the world, we have leaders full of populism, undeservedly disposing of the wealth of past generations, of narrow thinking and acting mainly in their own personal interests. To equate themselves with the greatest leaders of the past those leaders are ready to suffer multibillion-dollar damages in order to win a military victory over a dubious adversary. Doubtful, in terms of their physical and mental health, due to the lack of sufficient medical, educational and cultural care since childhood, which are necessary for the development of a full-fledged personality. That is why I propose among other measures to employ mass medical prophylaxis for this category of persons along with the finding ways to resolve religious conflicts.

Key words: Peace; Security; Religion; Politicians; Spiritual Life; Terrorism; Timidism; Prevention; League; Healing weapons.

The city of Mosul, the second largest city of Iraq with a population of about 1.5 million, fell to the terrorist gunmen from the Islamic State of Iraq and the Levant group, abbreviated as ISIL (the terrorist group banned in the Russian Federation), by summer 2014.

In addition to the city itself, the militants acquired a huge number of armored vehicles and the newest weapons handed over to the Iraqi army by the Americans after 2003 and about 500 million USD from the repository of the Iraqi Central Bank branch in Mosul.

Later, the cities of Baiji with its oil refinery and Tikrit, the center of the Sunni movement and supporters of Saddam Hussein, were occupied, including a nearby military base and a large number of villages situated very close to it.

Within a few months, the terrorist gunmen changed their name to “Islamic State” (IS, this terrorist group was banned in the Russian Federation), and announced the creation of a “caliphate” (Caliphate is a Muslim state under the administration of the Caliph, that is, the successor to the prophet).

The increase in the seized territories and wealth led to the rise of the ambitions of ISIS leaders that in turn led to several renaming of the group, so they conveyed to the world their global plans to change modern geopolitics.

For example:

- Founded in Iraq as the “Islamic State in Iraq” (ISI), during its expansion into Syria, the group added “Ash-Shama’il” to its name – the word which means Damascus, Syria and, in a broader sense, the Levant.
- The English-speaking world call the group ISIS, which means “Is-

lamic State in Syria". The American administration uses the abbreviation ISIL, in which L stands for the Levant. In Russian, the abbreviation ISIL, that is, the Islamic State of Iraq and the Levant, is used. All these names are widely used, though they have already become formally outdated.

- In Arabic, the same abbreviation sounds like Daesh, and in this form is often used in the Arab world. It irritates the terrorist organization, which sees it as the disrespect. Although in Arabic Daesh means nothing, this word is cacophonous and it might explain why Western officials often use this name.

Growing ever wider not only geographically but in their ambitions as well, the group decided to stop using geographic references in its name. This is how the Islamic State appeared. The name that people do not like to use since it sounds like the acknowledgment of the legitimacy of the organization.

- The BBC and other Western media outlets often refer to the group as "the so-called" or "the self-proclaimed" "Islamic state" at first mention and then simply use the abbreviation IS.

By these forms of address, they won the hearts of the extreme-minded part of the world.

Next, the terrorist gunmen continued to move northward, seizing territories, which had been under the Kurdish control, namely Sinjar and its vicinity. The male population of the city was executed and the women and children were sold into slavery. At the same time, the militants began to distribute videos of innumerable brutal executions of journalists, humanitarian workers, officials, military, police and ordinary people.

The initial loyalty of the terrorist gunmen towards local residents quickly changed into atrocities: multiple executions and repressions of people whose ideology differed. Women who previously could have walked with uncovered heads were first forced to wear the hijab and then the niqab. Men had to grow beards and wear shortened trousers. Cigarettes, hoo-kahs, music, cafes, satellite television and mobile phones were banned. A special "police" unit, Al-Hisbah, monitored compliance with these rules and patrolled the streets in search of violators.

Special courts were established with their own officials, records and archives. There was a punishment for every offense: for adultery – violators were stoned to death, for theft – hands were cut off, non-conforming individuals were thrown away from high buildings, spies were shoot, Shi-ites prisoners of war had their heads cut off, etc.

The IS structure included departments responsible for all spheres of life – security, defense, execution of punishment, finance, taxes, agricul-

ture, education, transport, health care, social security, public utilities and other areas.

The school program was changed in accordance with the ideology of the terrorist gunmen, history textbooks were rewritten, all illustrations were removed and the English language was no longer taught.

Historical monuments were looted and then brutally detonated, including the famous Temples of Bel and Baalshamin in Palmyra, as well as the Assyrian cities of Hatra and Nimrud in Iraq.

Not only historical monuments but also Christian churches, monasteries, Shiite mosques and shrines, any images of a person were damaged or destroyed. The terrorists of the organization torn down all decorative elements from Sunni mosques and levelled to the ground the unique Imam al-Baher Mosque built in the XIII century, which survived even the Mongol invasion.

The terrorists of the organization replaced preachers on people loyal to them to impose to the population their ideas about religion and the state.

Similar was their behavior in Syria: an enormous number of human tragedies, completely destroyed infrastructure and discriminatory degradation of the entire region for many years.

Here is some statistics of the destructive activities of the terrorists. Since the declaration of the caliphate in 2014 and up to 2016, more than 70 terrorist attacks took place, they were either directly organized by the IS or inspired by its ideas. Their victims included more than 20 countries and 1,200 people. All these atrocities carried the same message of punishment, intimidation and provocation, like beheading of hostages, and demonstrated the global opportunities of the extremist group.

The group claims 40,000 militants fighting on their side (according to other approximate data, half less).

Over a year, IS branches in 11 countries showed up.

In December 2015, the group lost 2,500 people, several hundred during only one unsuccessful attack in the area of Mosul. Since August 2014, approximately 15,000 militants have died as a result of air strikes of the international coalition.

However, it seems that the extremist group had no difficulty recruiting new members. With about 10 million Sunnis living in Iraq and Syria it is easy.

The Soufan Group, security organization based in New York, estimates that approximately 27,000 militants from 86 countries have joined the Islamic State. More than half are from the Middle East and North Africa.

As a result, more than 60 states had to agree and act together against

radical elements in the region. Before declaring a victory over the IS by the international community at the end of 2018, a tremendous amount of money and resources were spent, not to mention human tragedies.

Now let's imagine that military expenditures incurred by many states to combat radicalism in the Middle East region have in a timely and phased manner been invested in medicine, education, culture and international organizations fighting radicalization in the region. The world would be completely different.

Much has been written about the ideological and religious roots of the emergence of the IS, starting with Ahmad ibn Hanbal (780-855), the founder of one of the main schools of Sunni Islamic jurisprudence, until the Egyptian radical thinker of the twentieth century Sayyid Qutb.

The first half of the twentieth century faced radicalism in political thinking in the medical extent and threatened the existence of civilization. In parallel, in the Middle East there happened significant changes, for example:

- The division of the region by the colonial states 100 years ago, drawing the border between Syria and Iraq;
- The creation of the State of Israel, the UK received the mandate to govern Palestine.

Further, the second half of the twentieth century witnessed:

- Western and Soviet support for dubious political regimes in the region, accompanied by the deployment of regular armies.

The beginning of the twenty first century was marked by:

- September 11, 2001;
- Western intervention into Afghanistan and then Iraq for dubious reasons;
- And in the end, the "Arab Spring", etc.

In my opinion, no "traditional" terrorist group or organization is capable of establishing of such a large-scale anti-state. One can use astronomical terms to describe everything what is going on and to compare it to the black hole, more powerful radical energy without clear boundaries, but accompanied by the sympathy of a significant part of the population.

As a result, the phenomenon that we have received really threatens the existence of modern civilization. It will only intensify over time. The information and technological availability of weapons of mass destruction will only increase the catastrophic nature of this phenomenon.

As time shows, modern world politics is unable to resolve the problems that have arisen before our civilization.

Politicians in various parts of the world are trying to resolve economic

issues, recognizing only them to be vital to the well-being of humanity. At the same time, politicians miss the spiritual sphere and limit themselves only to the cultural one and to declarations of equality. They do not take into account the difference in the fundamental views of representatives of our civilization on religious issues.

As always, world politicians try to use force against the accumulated spiritual problems of the humanity. This method leads us to the dead end, from where there can be no peaceful way out, only the global war. The continuation of force intervention provokes the response on the pyramid principle until the entire system collapses and the whole world is under its rubble.

Politicians are not capable, and should not be capable, to resolve peacefully such a delicate sphere as the spiritual religious life of a person. However, having offered absolute freedom of conscience they exhausted their opportunities. Undoubtedly, it was the proper and necessary step.

The problem is that not all people want, on voluntary basis, to have the choice. This choice scares them, it alarms them, the principle of freedom of conscience is perceived by those people as an invasion into the intimate spiritual sphere, an attempt to take away the faith in God and their identity. They think that this principle will dissolve them in the consumer society of material values. It all causes a colossal mobilization of protest sentiments aimed at the wrong direction. Blatant interference leads to the crystallization of all extreme feelings, including unconscious aggression, and it is normal, it is a simple (or complex) self-preservative instinct.

All sorts of pseudo-leaders very well know this and begin using different motives to exploit the feelings of bewildered people, people in difficult situation, people who are in captivity of their own delusions. Under these circumstances, society find it easy and convenient to discover a leader, shift all responsibility to a leader and collectively refine on an extremist leader merciless to everything alien and incomprehensible.

Modern politicians come from the experience of the Second World War; they correlate themselves and the events, which are currently taking place, with history. That is not enough. Since the end of the Second World War the world has changed, it has changed for the better and worse at the same time. The gradual leveling of views in political and economic ideologies, the lack of large-scale confrontation in this area led us to a certain illusion – the illusion of the safe world. Against that historic background, the vacuum was quickly and ruthlessly filled with more ancient forms of ideology, namely religious and imperial, which has now grown into the mass and cynical cruelty. The phenomenon has covered entire regions,

has absorbed different states, has destroyed infrastructure, production, distribution and consumption processes, as a result people have lost their identity or even died.

As a result, the world has ceased to be predictable. That is the “merit” of the leaders of world powers.

If Jesus were a politician, I would not be a Christian. So, in my opinion, modern politicians have distorted the initial meaning of πολιτική (ancient Greek term for “state activity”).

All of the above problems oblige us to call for other more drastic measures to save humanity, and above all, they call for reflection on what is happening around us.

In my opinion, the process of transforming global terrorism into a much more catastrophic and terrible phenomenon – into timidism (from lat. Timidis – terrible) – is underway (if not already completed).

Timidism is a hybrid war aimed to destroy modern civilization.

As it has already been mentioned, it seems that modern world politics and national law enforcement agencies have exhausted their resources to fight global terrorism. Besides we are fighting a new phenomenon, its symptoms are similar to terrorism, but we are using the old methods. Global terrorism is only a part of timidism. In addition to the force method, it is necessary to develop other alternative methods to combat the new phenomenon.

The alternative methods could be as follows:

- Creation of the World League of Religions on the spiritual security of humankind;
- Development and use of healing weapons.

The World League of Religions (hereinafter referred to as the WLR) on the spiritual security of humankind should function on the permanent basis. The goal is to achieve religious peace and security, through early prevention of timidism.

In proportion to the religious preference of the population in the states, the representatives of all officially registered in the UN member states and religious associations should be included in the WLR. The mechanism of its functioning and making binding decisions can be borrowed from the UN procedures with certain changes.

The main objectives of the WLR may be:

- To discuss extreme and controversial issues of complex interreligious coexistence only on the WLR platform;
- Not to support politicians of extreme views within states. Not to justify their actions by missionary work. To expose all individuals who hold

dangerous views and beliefs for the peace and security of humankind;

- To prohibit all forms of coercion on the grounds of religious differences which aims to undermine spiritual security of humankind in the religious and confessional territories among the followers;

- To prohibit the unlawful violation of religious and religious territories;

- To respect representatives of other religious enclaves on the religious and confessional territories;

- To constantly remind the followers about peace and respect towards those who hold other religious beliefs, about the inadmissibility of using religious beliefs to achieve political goals and about the inadmissibility of using aggressive methods when spreading religious beliefs;

It is desirable for major world and national-state religions to open mutual representations in their territories.

The list may be extended if necessary.

That can lead to de-religiousization of international conflicts and to the absence of a religious component in the confrontation between states (under no circumstances, I suggest the creation of some new quasi-religion).

Any city on our planet may be chosen for the permanent headquarters, but preferably: Jerusalem, Rome, Ottawa, Tokyo, Beijing, Canberra, Moscow, Delhi, Cairo, Riyadh, Istanbul, Doha, London, Tbilisi, etc.

I see further stability and security in the world as the result of the objective of world and national-state religions. Religion is the only power capable to influence public opinion and tear its followers from the abyss of senseless war. It is time for religion to stop being only a carrier of certain traditions for society; it needs to show its purpose, not as the community of the great past, but as a carrier of the ideals of the future and the only truth.

To neutralize any antisocial activities, it is desirable to use medical prevention. For example, healing weapon (hereinafter referred to as HW), an analogue of all types of mechanical tools available – shooting an enemy with medicine in different doses and from different symptoms instead of a lethal substance. The medicines may be as follows: sedatives, vitamins, combined sedatives, etc.

In any case, to neutralize the enemies and to deprive the enemies the capacity to protect themselves are the goals of lethal weapons. For these purposes, our civilization uses primitive methods of physical destruction.

HW will save the most important thing – human lives. In time HW will give us the opportunity to get rid of all types of lethal weapons, even weapons of mass destruction. In places where weapons of mass destruction are used, it will be possible to use mass HW. At the initial stage, law

enforcement agencies could be equipped with the HW for testing.

On the global scale, the implementation of the measures mentioned above will provide for suspending and subsequently significantly reducing the antisocial influence of radical religious elements.

However, measures mentioned above to prevent timidism are not enough; in parallel, criminal law should work to protect civilization from this phenomenon.

In terms of criminal law prevention, the Criminal Code of the Russian Federation may be used as an example; the article on timidism under conventional reference number 362 should be added to Chapter 34, "Crimes against peace and security of mankind".

So, "Article 362 of the Criminal Code of the Russian Federation – Timidism".

"1. Committing an explosion, arson or damage on the state property beyond repair or recovery, as well as committing a biological, chemical, radioactive or nuclear attack, as well as an attack in hyperspace or other actions aimed to destruct a separate ethnic or religious group (or groups), a part of the population, international organizations, settlements, regions of the state, a state, a part of a continent, a continent or all mankind and had particularly grave consequences threatening modern civilization are punishable by a maximum of twenty years of imprisonment or life imprisonment.

Note: Criminal liability is waived if a person involved in preparing or aiding an act of timidism, or at least in one of the crimes specified in this article, gives timely warning to the authorities or by some other means helps to prevent the commission of the act in question, providing that the person has committed no other crime."

Object of the crime – the totality of the vital interests of the society, which guarantee its safe existence on the ground, in water (World Ocean), in the air or in outer space.

The objective side of the crime under article 362, part 1, is characterized by the following non-alternative actions:

a) Committing an explosion, arson or damage on the state property beyond repair or recovery, as well as committing a biological, chemical, radioactive or nuclear attack, as well as an attack in hyperspace implies:

- the disablement of: the state defense complex, power generation facilities, food production (with a real threat of famine) facilities, air fleet coordination systems, railway tracks and communications;

- the destruction of: the mass gathering places of the followers of world and national religions, heads of states, governments of states;

- the mass poisoning;
- the spread of epidemics;
- the massive cloning of historical and religious characters, as well as certain types of flora and fauna, giving them dangerous for humans properties aimed to destroy modern civilization.

b) Committing of other actions implies:

- damage beyond repair or recovery of energy resources, for example, deposits of various minerals in accordance with the above mentioned purpose. The consequences comparable with the significant property damage, loss of life (causing a person's death, serious or lesser injury to health, serious interference with the operating of enterprises and institutions, authorities and governments). Intentional slight bodily injury, insignificant property damage, and other similar effects not covered by the notion "other grave consequences".

c) destruction of a separate ethnic or religious group (or groups), a part of the population, international organizations, settlements, regions of the state, a state, a part of a continent, a continent or all mankind and had particularly grave consequences implies:

- causing the death of representatives of certain ethno-religious groups of the population or the serious threat of death of a part or all population of the state, a part or a whole continent, or continents or making the territories unsuitable for living of the population in accordance with the above mentioned purpose.

d) the destruction of international organizations implies the liquidation of staff and infrastructure of organizations such as the UN and others.

Timidism is considered to be a committed crime running from the time of the commission of an explosion, arson, damage or other similar actions, or from the time the threat of the actions mentioned above is created. Actual inflicting of physical harm, property damage, etc. does not fall within the basic participation timidism offence and is an offence contrary to article 362 and the relevant articles of the Russian Criminal Code, which criminalize such acts.

There are already certain objective changes in the outside world that threaten the onset of the relevant consequences, and therefore they are nothing but the consequences of the actions taken.

Timidism refers to formal and material elements of crimes.

Subject of the crime – a sane person who has reached the age of 14.

The specific nature of the crime itself – the act of timidism – excludes the possibility of its committing by an individual offender, as a rule, such actions involve the efforts of a group of individuals. That is why, the act

of timidism, as a crime, is committed by a group of persons acting in conspiracy. Consequently, timidism is a strictly limited crime and can only take the form of a crime committed by a group of persons acting in conspiracy.

The subjective side of the act of timidism is characterized only by the direct intent. The guilty person realizes that by committing actions prohibited by law, he or she poses the risk of the death for society, the infliction of irreparable property damage or the occurrence of other socially harmful consequences and wants to act in this way. The targeted nature of the relevant conduct is listed in the law as a special purpose: the destruction of modern civilization.

The motives, which guide the offenders, should not affect the legal denomination of the offence. However, it is important to establish all the elements required for the criminal liability, since their criminal and legal significance is connected with the influence on the purpose of punishment.

Note to Article 362 of the Criminal Code contains an amendment that provides legal incentives of a person. This incentive enables the person to voluntarily refuse to commit the act of timidism and make the person sure, that he or she will not be criminally liable; and law enforcement agencies are entitled to implement this norm within the law.

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FEATURES OF TRAINING IN A LEGAL CLINIC

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Abstract. In this article by using the example of the university where he teaches, the author presents the achievements of “Student Legal Advice” under his leadership and explains the advantages of additional tutoring of law students at the organizations providing clinical education.

The range of legal services is quite wide. It includes: consultations in civil, administrative and criminal law cases, the latter being carried out in terms of victimity crime prevention. I would like to separately emphasize the cases of providing legal advice to the people who became victims of non-traditional religious associations of antisocial orientation.

Education in the clinic improves students' legal knowledge in the field of freedom of conscience and religion.

I think that the work within the framework of SLA has positively influenced and still influences the formation of a present day lawyer – a graduate of our university, and the pattern of graduates' successful employment has proved the advantages of additional training within the SLA.

1. Introduction

Student Legal Advice (“Legal Clinic”) of Law Institute of the Federal State Budgetary Educational Institution of Higher Education of Krasnoyarsk Agrarian State University (hereinafter referred to as SLA) started to work in December 2005 at various premises of Krasnoyarsk (Russia) kindly provided to us by the friends and partners sharing our aspirations.

Since 2011, SLA has been working at the university building.

For the period, we received several thousand people, mainly socially vulnerable sections of the population, and several hundred appeals were written to various judicial, state and municipal authorities. The work involved 218 students and 15 teaching staff.

2. Materials and Methods

The main methods were: analysis, statistics, experiment, implementation of innovation, observation, analogy and pedagogy.

3. Results

The range of legal services is quite wide. It includes: consultations in civil, administrative and criminal law cases, the latter being carried out in terms of victimity crime prevention. I would like to separately emphasize the cases of providing legal advice to the people who became victims of non-traditional religious associations of antisocial orientation.

In this paper, I would like to note several innovations that, in my opinion, we can share:

1. The graduates of our university who worked for SLA being students continue working there, at their free time when their working hours permit, the graduates of the first class of SLA including;

2. Unlike other similar organizations, we are engaged in the rehabilitation of the former followers of socially dangerous religious cults. Thus, for example, at the end of January 2012, a minor foreign citizen M. turned to SLA to seek legal advice. He voluntarily left the organization known in Krasnoyarsk region as "The Church of the Last Testament" (more familiar to Russian people as the religious group of the followers of Vissarion). M., turned out to be a forced follower, since, at his young age, his mother took him from the USA, who in her turn had admired Vissarion's "sermons" in New York and had left for Siberia to join the religious group.

SLA provided M. with the full scope of legal advice. In the summer of 2012, partly with our help M. returned to his homeland. At present, according to our data, M. graduated one of the Russian universities and is engaged in tutoring (teaches English).

In order to reach a large audience of our law students and to familiarize them with the basics of antisocial activities of some religious cults, in 2011 the discipline "Criminological Religious Studies" became the part of the curriculum of Law Institute.

The discipline aimed to improve students' legal knowledge in the field of freedom of conscience and religion.

To be precise, the theoretical goal of the discipline "Criminological Religious Studies" is to study non-traditional religious associations of an

antisocial orientation, taking into account their negative impact on society, and to analyze the development of the problems of freedom of conscience in historical perspective as well as to determine their real role from the point of view of the present day legal and social regulation. The applied goal is to identify the rational legislative policy in the field of state-religious relations in order to minimize the antisocial impact on society by the above-mentioned associations and to develop general social and special criminological mechanisms to ensure it.

During this period within the framework of the discipline, the representatives of the traditional religions of Russia as well as the former followers of socially dangerous cults were invited and spoke at lectures.

While studying the role of antisocial religious cults in modern society, we paid special attention to their followers. Those are they, the followers, who suffer a great deal; they are doomed to the role of the victim at the time they take the decision to join one or another anti-social religious group. The follower can be, on the one hand, the object of antisocial impact, the affected party, i.e. victim, and at the same time, he or she can commit antisocial acts, both in relation to himself or herself or in relation to other persons due to the lack of critical attitude to what is going on.

An artificially created environment (a special subculture) attracts some individuals as a place of atonement for their sins, i.e. unjust acts, in their understanding, committed before joining one or another religious organization. Sometimes this process is associated with a lack of attention from the people around them. In such a case, they sometimes come across the representatives of different cults who pay “more” attention to them, take care of them and help to adapt to new “proper” living conditions. A significant part of such individuals feels lonely in their everyday life and expects from their relatives more attention. To attract additional attention the future followers could act in different ways, sometimes they expect their loved ones notice their absence and rush to save. In reality they do not want to join a cult, they just want their relatives suffer. In other cases, “thanks” to the mentors the victims may be triggered by everything that happens to them, the hopeless situation in which they found themselves. Naturally, in such cases, children who do not understand the essence of what is happening suffer most.

At the same time, we consider the victim of an anti-social religious association as a unique person, suffering from the violation of justice (moral and legal ideal), often not realizing moral and legal discrimination against him or her, perceiving the difficult situation as mandatory, necessary and approved by supernatural forces to forgive him or her (otherworldly salva-

tion).

There is no doubt that the main role in the tragedies of these people is played by the negative impact on their psyche by the leaders of the above-mentioned associations, both in the ideological and in the everyday sense.

The antisociality of these associations is expressed in the following:

a) their activities socially degrade people, cause them irreparable spiritual and material harm, practically make them useless not only for society, but also for their loved ones. The psyche of the followers changes and they abandon their children and relatives;

b) they are dangerous when choosing a victim for their cult rituals, and people who are absolutely not involved in the cult may suffer;

c) there are facts of unauthorized use of the latest scientific achievements in the field of biomedicine for religious purposes;

d) society is forced to spend a sufficient amount of intellectual, material forces and means to neutralize their antisocial influence.

The statement that only young people, a poorly educated part of the population or people with great imagination join the associations is incorrect. Having being exposed to this phenomenon, any average person can become a follower and a victim of an antisocial religious organization. Much depends on the emotional state of an individual at the time of contact, presence of religious hygiene and most importantly, in our opinion, not on the level of education, but on the person's self-education mechanism.

The general theoretical relevance of the investigation is in the possibility and expediency of using its results to further investigate the problems of ethno-confessional politics and the spiritual (religious) security of the state and the world, making adjustments to the current legislation, research work in relevant areas to improve certain aspects of state activity, law enforcement including.

The general practical relevance of the investigation is determined by the totality of applied conclusions from the point of view of their use in the work of the internal affairs agencies, prosecutors, justice and state security in identifying religious associations that pose a public danger and preventing their followers from committing crimes and other offenses. The results of this innovation could be used by specialists and students of criminology, criminal law.

Despite the relatively short period of time this innovation was applied in the teaching process, it yielded positive results in shaping the personality of a lawyer and provided invaluable assistance to students in applying

theoretical knowledge in practice (unfortunately, this discipline was removed from the educational process of our institute) [1,2].

The rest of our achievements relate to the implementation of high technology in practice (all copyrights of the examples below are protected under current legislation). For example:

3. Present-day crimes, especially those committed employing the highest technologies, demand an urgent and appropriate response by the scientific community, law enforcement bodies and society as a whole. It is equally true in terms of instinctive behaviour of a potential victim of the crime or accident.

As an effective, safe, fast and inexpensive means of crime and accident prevention I offer the following technical device of my own design which has no analogs in the world:

The product is the mobile application for all types of modern smart phones.

The purpose of “Dr. Zaza” mobile application is to:

- Protect life and health of people;
- Contribute to crime prevention and as well as to rise in percentage of criminal cases solved.

Description of the functions of “Dr. Zaza” mobile application:

- The application is activated by pressing (touching) the red circle with the inscription “CALL HELP”;

- After pressing the red circle (without any additional movements or manipulations) audio and video fixing of what is going on around a potential victim of the crime or accident switches on. This audio and video-based information may be viewed on other mobile devices equipped with “Dr. Zaza” application within a radius of 3 km of where the action is (not full screened, without paralleling of the device main functions). Simultaneously the geographical position of a potential victim and pre-entered into a device text information is transferred. Besides, maximum 3 closest people of a potential victim get an SMS with the text input beforehand.

- Within a radius of 3 km of “other” people’s mobile devices equipped with “Dr. Zaza” mobile application are forwarded with the name of a potential victim, phone number, address and other personal specifications: sex, age, height, weight and blood group;

- The relevant information is input beforehand when installing “Dr. Zaza” mobile application.

“Dr. Zaza” mobile application has three different operating modes: “Active mode” – with the right to send and receive a signal; “Children’s mode” – which is child-friendly with the right only to send a signal for help

without receiving any signals and “Rest Mode” – with zero signal.

- Alongside similar information is forwarded to “Dr. Zaza” mobile app server where it is stored for some time;
- Sending a signal is disconnected by pressing a cross or exiting the mobile application;

In order to avoid any legal catches “Dr. Zaza” mobile application is accompanied by Client Agreement as follows:

“Dear User!

It is our pleasure to provide you with “Dr. Zaza” mobile application as an effective, fast and inexpensive tool of your personal safety and safety of your loved ones.

If you agree to accept the terms and conditions of the present Agreement you need to press the button “Agree”, thus you acknowledge that you have attentively read and understood the ideas behind our mobile app. and accept the terms and conditions of the present Agreement and that you are ready to cooperate with the administration of “Dr. Zaza” Mobile App.

The present user Agreement is applicable to any image and information given by you, as well as audio and visual products (hereinafter the Products), placed by the user (hereinafter the Author) on the server of “Dr. Zaza” mobile application.

Having sent the Products, you, i.e. the Author, transfer the rights without compensation to the Administration of the mobile application “Dr. Zaza” (hereinafter the Administration). The Administration is empowered to supply the Products received from Authors to law enforcement bodies to investigate and prevent crime; physical and legal persons to carry out scientific research of the growing problem of crime to the discretion of Administration.

The author grants the Administration an exclusive license for the use of the relevant Materials by any means, including: by means of reproduction in any material form and via any carriers, distribution, importing, processing, public display and execution, the message via cable, insonification for the aforementioned objectives. Duration of license is equal to period of validity of exclusive copyrights; licensed territory – any country. Thus placing the Products in the mobile application the Authors agree make them public by means of publication, agree to alter or modify the Products, supply them by any texts, illustrations and other materials, place any information of advertising character, as well as use the Products without revealing the identity of the Author.

In case the Author grants the exclusive licence to the Administration

the Author may not transmit the right to utilization of Products to any persons but Administration.

In turn the Administration is empowered to grant the Products received from the Authors to other persons. Having agreed with the present Agreement the Author understands and recognises that in case of any claims connected with use of the Products, the Author bears full responsibility, agrees to pay to the Administrations any damages incurred by it in case any claims and (or) actions come into existence. In this connection the Administration has the right to close access to certain Products, remove them in case any claims from the third parties come into existence.

You come into agreement with “Dr. Zaza” mobile application if you place your Products for the period longer than 24 hours. Agreeing to the present rules, the user (Author) accepts all terms and conditions and agrees with the restrictions imposed on the Author in connection with the present Agreement.

Attention! In case you get the distress signal from a potential victim do not approach the thick of the event, except the case of emergency; make sure of your own safety; immediately address law enforcement bodies and transfer the information. Wait for the arrival of a rescue team.

Remember! Independent and incompetent interference can be regarded by your state as a crime.

Children’s mode” is available with “Dr. Zaza” mobile application. In this mode only distress signal could be sent without receiving signal from a potential victim which could be harmful for children’s mentality. “Dr. Zaza” mobile app. is equipped with the special night mode – “rest mode”. “Rest mode” it available by pressing the corresponding function of the app.

Attention! The given application is not a game, it is intended be used in critical situations. Explain to your children in details the meaning of “Dr. Zaza” mobile app. and instruct them on how and when it is possible to use. Usage without necessity of “Dr. Zaza” mobile app. entails administrative and criminal liability according to the legislation of your State and International law.

“Dr. Zaza” mobile app. could be used by any physical person of legal age and any legal persons to provide collective safety of the employees.

For your safety we will constantly improve our mobile application and add useful functions.

Thank you for your being with us!

May God protect you! ”.

“Dr. Zaza” mobile application comes with the instruction:

“In situations dangerous for you (your loved ones and people around

you), you can use the mobile application “Dr. Zaza”, by simply clicking on the icon with the inscription “Call help”.

After getting to the “Call help” (without any additional manipulations with the mobile device) on your mobile device, audio and video fixation of events happening around you (a potential victim of crime or accident). This information is sent to the mobile devices of the other owners. Holder’s applications with in a 3-km radius of the epicenter of the events, as well as SMS messages sent to people close to you (at the request of the application owner). At the same time, transfer the point of your geographical location (geo position) and the information you entered in advance about you.

If you are within a radius of 3 kilometers from the epicenter of events and you are the owner of the mobile application “Dr. Zaza”, then for your mobile device, which can be for push-notification of the incident, as well as the age and sex of the potential victim. You will receive a notification from the mobile device of the potential victim of information.

The mobile application “Dr. Zaza” has a “child mode” with the function of only an outgoing signal without receiving a signal that shocked the child’s psyche from a potential victim. The mobile application “Dr. Zaza” has a “rest mode”. In the “rest mode” the incoming signal, notifications are not received.

Attention! This application is intended for use in critical situations. In detail, explain the meaning of the mobile application “Dr. Zaza” to children and learn them how and in what situations you can apply”.

Currently the abovementioned information is available on “Play Market” in three language versions (Russian, English and Georgian) free of charge.

In prospect it is planned to:

- forward the information to the relevant law enforcement bodies and “Dr. Zaza” operation control center;
- outside settlements to forward the signal to the first mobile phone equipped with “Dr. Zaza” mobile application and the relevant police district;
- Simultaneous transfer of audio and video-based information via drones (an unmanned aerial vehicle or non-hovering self-propelled vehicle) to “Dr. Zaza” operation control center (primarily to server) and foundation of a special flying squad to protect users of “Dr. Zaza” mobile application.

Other favorable aspects of “Dr. Zaza” mobile application:

In case a culprit tries to put a victim’s mobile phone out of action we

get his or her fingerprints or other biological material, perhaps photo and voice token, tracking of the mobile device of a potential victim before and after the accident; everything what could ascertain the truth.

You can check the reality of this application personally by entering "Play Market" [3].

4. In accordance with the requirements of the Federal State Educational Standard of Higher Education of the RF in the area of training "Jurisprudence" the purpose of the law disciplines is to achieve the following educational results:

- successful application by the graduates in their practical activities criminological recommendations in the development and implementation of various measures to prevent crimes;

- promoting students' scientific views on crime, its determinative phenomena, the identity of the offender and crime prevention activities;

- systematize the knowledge gained;

- classify the structure of the studied phenomena;

- Logically and competently express and justify their point of view on the problems being studied;

- correctly use the indicators of criminal statistics, establish the relationship between the social processes and the level of crime, determine the criminological situation in the state and region/s, master the basic methods of criminological research, predict crime and individual criminal behavior in a specific territory, plan preventive work;

- conduct criminological examination of various objects for their relationship with crime and (or) the phenomena that determine it.

In order to interest students of a higher educational institution, it is necessary to qualitatively present theoretical knowledge to them. Sometimes, to bind the gained theoretical knowledge and practice is problematic; the existing teaching methods require updating and alterations. It is vitally important to adapt the existing teaching methods to modern requirements and conditions without confronting a financial burden to both the student and the university administration. In this case, it is necessary to pay attention to the mass interests of students, which significantly influence their socialization by means of mobile communication devices and games using the same devices.

Putting these two elements together, I concluded that they could be united in favor of science, namely, by means of an intellectual game as a method of binding the theoretical knowledge got during studying law sciences and practice. The game uses mobile communication devices. Not only students but also everyone interested in law can play the game.

It should be borne in mind that the proposed option of getting knowledge should be financially beneficial for the student.

Tentatively, I named the proposed method a criminological game based on mobile communication devices – “Dr. ZN” and created a special mobile application “Mobile Application “Dr. ZN””.

The main goal of the “Dr. ZN”:

Consolidation of theoretical knowledge gained by students and practice with the help of games using mobile communications devices.

The essence of the mobile application “Dr. ZN”:

Finding a person – the so-called agent who is a person with a prize. The agent moves along the route (any location, a building, part of a building) given to him or her by the Administrator of the game. The task of the other participants of the game to find (to catch) the agent using mobile devices.

Description of the function, process and stages of the game with the mobile application “Dr. ZN”:

- The game starts when the mobile devices of the participants (participants of the game can be persons of legal age but not younger than 16, who have installed the mobile application in advance and agreed to the game conditions) receive a sound and light signal, thus informing the participants about the beginning of the current session;

- After entering the participant’s mobile application, the game administrator will familiarize them with the terms and conditions of the current session (“today’s game”):

- Will give the identity of a person who will be “today” an agent and prize holder (several agents may participate in one session);

- Will identify the agent’s criminological structure, namely: bio-physiological, socio-demographic, social-role, moral-psychological, criminal law and criminological characteristics (the last two ones in cases of their imaginary presence with the agent);

- Will announce the password of the current session to receive a prize from the agent;

- Will inform the participants about the start and the end of one game session, which lasts not more than 8 hours.

The above-mentioned information can be transferred to the participants with the help of a message to the mobile devices of the participants.

- After announcing/sending of the information, the game starts; the point is to find (“capture”) an agent with a prize;

- According to the available data, the participants – players – will have to find an agent in the building, part of the settlement or settlement;

- An agent is a person who has agreed in advance with his gaming functions and who participates in the game on a paid or gratuitous basis voluntarily. His or her main task is to freely move along the route previously set by the administrator of the game and avoid meeting with other participants of the game;

- The agent during one session should repeatedly contact other players by means of a direct session using a mobile application and fix his or her location, but should not show his or her face;

- In case the agent is detected by another participant of the game – the player – the agent must transfer the prize when the player correctly names the session password. The agent announces the name of the winner;

- This process is broadcast online to the mobile devices of all participants in the current session of the game “Dr. ZN”.

- The session administrator announces the completion of the current game session by sending the information to the mobile devices of the participants of the session.

- The prize can be any legitimate material or nonmaterial values chosen to the administration of the “Dr. ZN” views;

After the completion of the game session, the students – participants of the game – and the teacher who gave the task analyze the practical application of the gained theoretical knowledge. The teacher evaluates the student’s abilities and awards the appropriate points.

4. Conclusion

I think that the work within the framework of SLA has positively influenced and still influences the formation of a present day lawyer – a graduate of our university, and the pattern of graduates’ successful employment has proved the advantages of additional training within the SLA.

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FUNCTIONS OF ARTIFICIAL INTELLIGENCE IN EDUCATION

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Abstract. The issues of the emergence, development and application of artificial intelligence in the field of education are considered. The characteristics of artificial intelligence (weak, strong, super-strong and friendly) are revealed and some examples of the implementation of its functions are given.

Keywords: weak, strong, super-strong and friendly artificial intelligence, expert systems, machine learning, deep learning.

Introduction

The relevance of the study is related to the problem of training personnel for work in the era of the Fourth Industrial Revolution, in which machines equipped with artificial intelligence (AI) occupy an essential place.

The concept of intelligence emerged at the end of the XIX century when psychologists studied the functions of the brain. Psychology professor Philip Rice (USA, Maine State University) wrote: "Intelligence is defined as the innate ability to learn, think, ..., understand and solve problems" [5, p.194]. By this definition, intelligence is not unique to humans. The adjective "artificial" in relation to intellect is most often associated as machines created by man that replace the human mind, and the phrase "innate abilities" means the ability of machines created by people to independently learn to act according to not only the program originally laid down in it.

French mathematician and philosopher Rene Descartes (1596-1649) wrote in 1637: "If we were to make machines that resemble our bodies and imitate our actions, as far as possible, then ... although such a machine could do a lot just as good and, perhaps, better than we, otherwise it would certainly turn out to be untenable, and it would be revealed that it acts unconsciously"[1, p. 154]. Attempts to create machines capable of solving problems posed by man begin in the middle of the XVII century.

At this time, the French mathematician and philosopher Blaise Pascal

(1623-1662), and later the German mathematician and philosopher Gottfried Leibniz (1646-1717) were engaged in the design and improvement of calculating devices (calculators).

For the first time, the question "Can a person create machines that can ever truly think?" was posed by 19-year-old writer Mary Shelley (née Mary Wollstonecraft Godwin, 1797-1851) in her tale of *Frankenstein* or modern-day Prometheus. Ada Lovelace (1815-1852, daughter of the English poet George Gordon Byron), who collaborated with the creator of the analytical engine, Charles Babbage (1791-1871), believed that the machine could execute any command that a person could ask it, even create complex musical compositions and beautiful drawings for tapestries, but the machine will not be able to independently predict or put forward its own ideas. In the XX century, the English mathematician Alan Turing (1912-1954) in 1947, in a speech at a meeting of the London Mathematical Society, spoke about the possibility of creating thinking machines. "It is believed that computers can only perform tasks for which they are given commands.... They could become like students who have learned a lot from their teacher, but have added much more of their own. I think that when this happens, we will have to admit that the machine demonstrates the presence of intelligence"[1, p. 156].

Technical specialists under the term "artificial intelligence" understand that it is "the automation of intellectual tasks, usually performed by people" [7, p. 27]. Designers and programmers are also interested in the problems of merging biotechnology with information technology in order to achieve a specific task. For the education sector, the disclosure of the functions of artificial intelligence is a response to the technological challenges of the XXI century, the century of "uncertainty, when the old scenarios are outdated, and the new ones have not yet appeared" [6, p. 14].

1. Characteristics of the functions of artificial intelligence in education

The information content of the human brain is constantly increasing. At present, the amount of information is such that no professional can possess the entire volume of knowledge, even within the framework of his specialization. This requires a change in the existing educational process, focused on the transfer and assimilation of knowledge to students, on the educational process aimed at the formation of competencies. Information technology and AI-based robotization come to the rescue. Robots can be trained to perform a well-defined task. And they perform their actions sometimes more efficiently or, in any case, more stable than a person. Robots do not get tired and do not forget the necessary information, which

can be regularly supplemented and updated. However, so far no robot has the human ability to perform a wide variety of tasks that were not foreseen in advance.

AI is generally categorized as weak (or narrow), strong (or general), and super strong (super capable). Since 2015, the idea of friendly AI has been promoted. Quite often, AIs are encased in robots.

1.1. Weak AI – is a computer program that solves a problem in a specific area. Weak AI is created for specific purposes and in education can perform the following functions:

- provide students, at their request and at any time convenient for them, with video recordings of lectures and webinars of the best teachers on a special Internet channel, while students can interrupt viewing the video anywhere, and also repeatedly return to watching lectures or webinars that are difficult for students;
- post the content of lesson plans on a mobile phone through a special application for smartphones, with the help of which pupils or students can find out the topic of the missed lesson and homework with the identification of the date, group or class and the subject of study;
- carry out initial diagnostics of students or schoolchildren in order to form study groups with approximately the same level of initial training;
- provide digital content of varying degrees of complexity and completeness: electronic textbooks, problem books, reference materials and abstracts, animation and video clips on various academic disciplines, which are addressed at the request of the student with his preliminary diagnostics;
- test students on various topics and subjects on special simulators containing both simple tests and tasks with a free choice of answer;
- provide an opportunity for students to independently prepare for control activities, according to the individual or curriculum of the training group;
- collect statistical data on the amount of time spent on the preparation and results of assignments and tests of a particular student, and provide this data upon request to the teacher;
- advise and answer questions about the organization of the educational process for specific students with the identification of their persons, course or group of training in an educational institution;
- to advise students in the library of an educational institution, to help select modern literature in book form or on an electronic medium for preparation for writing a term paper or a thesis project;
- check the provision and implementation of home, abstract and

coursework by students;

- deliver grocery orders to food outlets of educational institutions using a courier robot, which is able to plan its route itself, monitoring the chosen path and bypassing the obstacles that have arisen;
- to help students in the cafeteria of an educational institution to receive their order in a non-contact way, in which a robot arm selects ready-made meals and drinks from a conveyor belt, places them in a special cell, which, thanks to the face recognition system, opens to a specific student;
- track the location of schoolchildren to their parents, thanks to schoolchildren's clothes with a built-in GPS navigator system.

A weak AI computer program can keep statistics on the number of calls to specific lectures of specific teachers, determine the rating of teachers based on calls, identify the most interesting topics and calculate the time spent by students to study specific topics. For robot consultants of the educational process, the collected statistics of questions can improve the organization of the educational process of an educational institution. The statistics of library robots-consultants will help to update the library fund, as well as suggest identifying the need for foreign sources of information and its translation from the original language. The statistics of the built-in GPS-navigator system can tell a lot to parents of schoolchildren or students about the leisure time of their children outside the classroom.

1.2. Strong AI – is a computer program that is capable of making a technical device perform intelligent actions inherent in humans. The development of such programs forced programmers to pay close attention to the knowledge underlying human expert activity. The subject of the theory of expert systems is the methods of constructing human-machine systems in some specific areas. Attempts to introduce such AI into the learning process began with the creation of expert systems that "should embody the knowledge and intelligence of specialists" [4, p. 71].

At the same time, the main efforts were aimed at creating highly effective programs for specialized subject areas. So back in 2011, AI was created based on the IBM Watson computing system, which is designed to train doctors, since it has instant access to a huge knowledge base on medicine, thousands of times superior to the knowledge of any professional. Such an approach when creating AI at the level of expert systems assumed that "if the programmer is given a sufficient set of explicit rules for manipulating knowledge" [7, p. 27], then the AI can reach the level of a human expert. This approach did an excellent job of solving well-defined logical problems. But it turned out that it was impossible to set strict rules for solving complex, but "fuzzy" problems. The boom of expert systems

did not last long due to the high cost of maintenance, difficulty in scaling, and limited use. This required the creation of a new approach to solving the problem that had arisen, namely, machine learning.

"The field of machine learning arose from the question: can a computer go beyond what we ourselves know how to do, and independently learn to solve a certain task? ... Can a computer, without the help of a programmer who sets the rules for data processing, automatically determine these rules by examining the data?" [7, p. 28]. In machine learning, the system is learned rather than explicitly programmed. For training, large amounts of data are required that are related to the problem being solved, in which the input and output parameters of the problem are matched. The essence of machine learning is the transformation of input into results, which are revealed by examining many examples of input data and results.

Recently, deep learning is gaining more and more popularity. "Deep learning is a special section of machine learning: a new approach to finding a representation of data, emphasizing the study of sequential layers (or levels) of increasingly meaningful representations" [7, p. 31]. In deep learning, such sequential layers are learned using models called neural networks. The term "neural networks" is borrowed from neurobiology, since formally their structure resembles the structure of the brain, although it is not a model of it.

The most impressive features of strong AI are achieved precisely through deep learning. it

- speech recognition at the human level,
- image classification,
- recognition and comprehension of the meaning of handwritten text,
- learning to drive a car, taking into account various changes in the rules.

Great opportunities for describing the functions of strong AI can be achieved where there are large training datasets. Deep learning has yet to reveal all the features of strong AI. The first attempts to apply it beyond machine perception and understanding of natural language appeared in areas related to formal reasoning. This means the beginning of the use of AI to implement the function of teaching the execution of design work and methods of managing production processes.

In addition, the latest developments in the field of deep learning make it possible to fairly accurately reproduce some of the features of human intelligence. Already now there are machines capable of understanding human emotions as a product of the body's biochemical processes. Sensors installed on the surface of the human body transmit biometric data,

and the machine learning algorithm, analyzing them, allows not only to use the function of determining the personality type, but also the function of tracking the emotional impact on new information or setting a new task. These new functions are able to record and determine the degree of terrorist or suicidal tendencies of a person.

Matthew Lynch, PhD in Education Consulting at the Lynch Consulting Group, proposed seven options for using AI in the educational process [8].

Firstly, this is *adaptive learning*, when AI tracks the progress of each student and notifies the teacher about the difficulties that have arisen in understanding the material being studied.

Secondly, this is *personalized learning*, when the AI sets an individual learning rate for the learner, inviting everyone to choose a comfortable pace for presenting material and tasks of increasing complexity.

Third, it is *automatic grading*, where the AI mimics the behavior of a teacher reviewing homework. The AI system automatically assesses the learner's knowledge, analyzes his answers, reports the assessment results at the level of individual feedback and creates an individual plan to eliminate the backlog in the subject taking into account the characteristics of the learner.

Fourthly, this is *interval learning*, when the AI determines that the student has forgotten new information after some time, and recommends repeating it to obtain stable knowledge or competencies.

Fifth, it is the *teacher's assessment by students*. To study the opinions of students about their teachers, AI offers *chatbots* that use an interactive interface and filter out rather rude comments or personal insults.

Sixth, this is a *smart campus* - a special computer program that allows you to find an answer to any student's request related to study and life in a hostel.

And finally, the seventh option for using AI in the educational process is the *control of the educational process*, as a mandatory component of it. AI is designed to eliminate deception. It launches control systems that determine the identity of the examiner and his independence in completing the mandatory tasks.

Enhancing the functions of strong AI in education has several aspects. In educational activities, the use of robots equipped with the functions of recognizing the faces of students and able to read the emotional mood of the group, responding to questions, has a positive result. It is convenient to use such robotic teachers, for example, to set the correct pronunciation in foreign language lessons. The robot, as a teacher's assistant, can really carry out individual work with students, adapting and explaining new ma-

terial several times, as well as checking the already explained material using individual tests and with the obligatory analysis of the mistakes made.

Teaching without the physical presence of a teacher with the help of special educational programs is possible in online learning or in the transition to a tutoring format, with the abolition of the classroom teaching system. Communication with students in chats and forums is also possible using bots. Of course, for people who are not motivated to study and who simultaneously communicate in different chats and social networks during an online lesson, the beneficial effect of their presence is minimal.

1.3. Super strong AI – is a computer program that exhibits a high intelligence not found in most human society. Yuval Noah Harari, one of the most original thinkers of our time, speaking about the technological challenge of the XXI century, made an assumption that the world would change dramatically. "In a hundred or two hundred years, the fusion of biotechnology and artificial intelligence can lead to the appearance of physical and psychological traits that hominids do not have" [6, p. 158]. (A man, like *Homo Sapiens*, still has a body structure, physical capabilities and mental capabilities about the same as the great apes from the hominid family.)

Yu.N. Harari believes that already in the near future "we may witness a complete separation of intelligence from consciousness, and the development of artificial intelligence will lead to a situation where the world will be ruled by beings endowed with superintelligence, but completely devoid of consciousness" [6, p.158].

The elements of AI used in education will in the future be combined into networks, which super-strong AI will use to implement the functions of exchange and accumulation of information, as well as for automatic control and activation functions. Over time, the field of education can become a place where decisions will be made by an active set of interacting devices of superintelligent machines, striving to effectively fulfill certain goals set for them.

Stuart Russell, professor of computer science at the University of California (Berkeley, USA), is of the opinion that the functions and actions of superintelligent machines "by definition, will be unpredictable for us, their vaguely defined goals will contradict our own, and their motivation to prolong their existence in order to achieve these goals may be more important than any other" [2, p. 54].

So far, these concerns are theoretical. In the near future, education is planned and is already being carried out in some places with the use of various robots, that is, devices based on weak AI with the introduction of

elements of strong AI.

Improving digital communication allows a part of the robot's "brain" to be kept in a central computer that can be located remotely. Combining one robot with hundreds of similar devices creates a collective intelligence. And the human world can become a place where decisions are made by an active set of interacting AIs. Therefore, humanity is concerned about ethical issues in the implementation of strong AI.

1.4. Friendly AI – is the concept that when creating AI, a system will be built into it, the functions of which will be: caring for a person, providing information support to people aimed at their benefit. Scientists' studies have shown that if a robot looks like a person, then it evokes empathy in a person up to a certain limit. The Japanese are trying to make robots look like children with round faces, big eyes and smiles.

2. New professions

New professions, which will replace those that will be replaced by AI in education, requires reflection. "Instead of competing with artificial intelligence, people can focus on maintaining and improving it. ... However, new professions, most likely, will require high qualifications, which means that the question of the employment of unskilled workers remains open"[6, p. 51-52]. It is possible to create teams consisting of humans and artificial intelligence. In chess competitions they are called "centaurs". In the field of education, a person can control a robot that conducts classes or use its resource.

In addition, there are proposals to expand the "range of occupations attributed to "work." Today there are billions of parents raising children ... but ... it doesn't count as work. Perhaps we should switch something in our heads and realize that raising a child is perhaps the most important and difficult job in the world"[6, p. 61]. Of course, the question arises as to who will evaluate and pay for such work.

More than 100 years ago, Petr Krapotkin, one of the main Russian theorists and practitioners of anarchism, wrote: "Education? - says the state. - Fine, gracious ladies and gracious gentlemen, we are very glad to give it to your children! To ease your worries, we will even forbid you to interfere with education. We will draw up programs - and please, so that there is no criticism!" [3, p. 6]. But this opinion existed 100 years ago. The new century requires new solutions.

Conclusion

AI began to evolve based on human needs. In education, AI helps to activate the learning process, make it adapted and personalized for each student, determine the degree of forgetting of the material learned, and

offer interval learning. For teachers, AI facilitates the tedious process of checking students' homework, allows them to automatically assess the knowledge of students in the process of completing control activities. AI informs the teacher about students' opinions about his work, teaching style, appearance and personal qualities, which helps the teacher to change his image or behavior, if necessary. For an educational institution, AI allows you to more fully learn about the interests of students and their problems by launching various polls and analyzing the responses and requests of students.

Of course, information technology, robotization and AI are turning into helpers of the human brain, and people's participation in the field of education will be different from the one that exists today. Changing the role of a person and his job responsibilities in education and upbringing requires government reflection.

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ETHNOMATHEMATICS OF MONGOLIAN SPEAKING NATIONS: THE SUBJECT AND CONTENTS

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Abstract. The article briefly presents the results of the study of the mathematical heritage of the Mongol-speaking peoples (Buryats, Mongols, Kalmyks), introduces the concept of ethnomathematics "zurkhay", presents its subject and brief content.

Keywords: ethnomathematics, ethnomathematics of Mongol-speaking peoples (Buryats, Mongols, Kalmyks, etc.), history of mathematics

The mathematical heritage of peoples is attracting more and more attention of researchers, which is caused by the growing global influence, blurring the boundaries between cultures, increasing the loss of languages and identity. As a result, there is a loss of cultural values that reveal the history of the origin of primary mathematical concepts and ideas of various peoples of the world, i.e. the history of mathematics itself. Hence, a new area of scientific research arose - ethnomathematics, which studies folk mathematics and the possibilities of its use in modern education (the term was introduced by the Brazilian scientist Ubiratan d'Ambrosio, 1977).

The "Mongolian-Russian Dictionary" edited by A. Luvsandev (1957) gives the following translation of the words *zurkhay* and *zurhaichlakh*: "*zurkhay*- 1) astrology; 2) obs. mathematics; 3) stroke, line; *zurhaichlakh*- 1) do astrology; 2) obs. do mathematics". Researcher V.B. Tsyrempilov in his work "Mathematical culture in medieval Mongolia" (p. 128) writes: "The term "*zurkhay*" means an algorithm of computational operations (literally: mathematics)". Linguistic studies of scientists S. Chagdurov and G. Sukhe-Bator show that the term *zurkhay* is raised to the term of the number *zurgaa* (six) and reveals the root of the term *zurag* (figure), *bichig* (letter), meaning ancient sacred writings on the rocks of Transbaikalia and Mongolia. On the basis of linguistic studies of the terms *zurkhay* and *Bichig*,

scientists come to the conclusion that "both terms, on the one hand, were related to the cult of ancestors, and on the other, were associated with the foundations of ancient folk mathematics" (Chagdurov, 1984). B. Batjargal, who studied the content of ancient Mongolian, Tibetan, Sanskrit, Chinese manuscripts and woodcuts, believes that the method of calculating time that appeared earlier in the East (China, India and Tibet) spread among the Mongols in ancient times and later turned into a special Mongolian *zurkhay*. According to B. Batzhargal: "The narrow meaning of the Mongolian word "*zurkhay*" is astronomy, but this concept includes astronomy, mathematics, and mathematical calculations" (Batzhargal, 1976). Based on the analysis of the above definitions, we come to the conclusion that the mathematics of the Mongolian peoples is called *zurkhay*. *Zurkhay* is a set of mathematical knowledge and ideas of the Mongolian peoples, transmitted from ancient times orally from generation to generation and in writing, since the creation of Mongolian writing (XIII century). We believe that the more accurate name for oral mathematics is *aman zurkhay*, and the written name is *zurkhain too* ("too" from Bur., Mong. - "number").

Zurkhay is the subject of study of the science of "ethnomathematics", acts in two aspects. First, the ethnomathematics of the Mongolian peoples is a theoretical comprehension of the mathematics of the *zurkhay* of peoples belonging to the Mongolian superethnos (Buryats, Mongols, Kalmyks, etc.); secondly, the ethnomathematics of the Mongolian peoples studies the pedagogical conditions for the use of mathematics of these peoples in modern mathematical education.

By the subject of ethnomathematics of the Mongolian peoples, we define folk mathematics - *zurkhay*, in the content of which we include: 1. a system of counting and numbering, 2. measurement of quantities, 3. mathematical concepts and terms, 4. mathematical folklore (riddles, rhymes, proverbs, sayings, fairy tales, poems with mathematical content, folklore mathematical problems), 5. mathematical and geometric information and their expression in everyday life and folk applied art, 6. monuments of ancient folk mathematics (ancient written sources, mathematical instruments, etc.), 7. personalities of scientists (Dugarzhapova, 2018).

We found out that the development of mathematical thought in Baikal Asia was far from uniform. We have identified two major periods in its development in accordance with the generally accepted periodization of the development of mathematics proposed by A.N. Kolmogorov. First period. 30-25 thousand years BC to the V-VI centuries BC, when the emergence and accumulation of mathematical concepts took place on the territory of Baikal Asia. Second period. Until the XVII- XVIII centuries AD, there was a

period of elementary mathematics, when mathematical and astronomical knowledge represented a set of computational practices.

In *aman zurkhay*, the oral part of ethnomathematics, we introduced the concept of "mathematical folklore", by which we mean such folklore materials from the spiritual heritage (rhymes, proverbs, sayings, poems, fairy tales, songs, riddles, problems), in which they are modeled using mathematical concepts: numbers, figures, units of measurement, relations, equations, inequalities, arithmetic, geometric progressions, percentages and other real situations from the life of Mongolian nomads. For example, let us dwell on the early forms of mathematical problems in the widespread Mongols, Buryats and Kalmyks riddles "*Negen yum?*" ("What is one?"). In them the questions: What is one? (What is two? ... What is ten?) The answers are "Sun", "two hands", etc. This type of folk art confirms the meaning of the verbal names of numbers: numbers-words were originally needed to establish the equivalence of two aggregates or to establish a one-to-one correspondence between the objects of the aggregates (Dugarchapova, 2008). It was found that the verbal names of numbers, similar to words - numbers from "*Negen yum?*" were used later in the Mongolian medieval written sources "*Merged garakhyn oron nert tol bichig orshivay*" ("The source of the wise men"), 1742, Rolbiidorj and D. Ishbalzhir "*Khar garigiin zurhain shim echykhnen erdeniyyg huraasan byhniyg todruulagch tol bichig*" (1755) (Batjargal, 1976). They used the positional principle, in which the same word, depending on the place, had a different numerical designation; the names of the categories were omitted. Instead of the number 1025, it could be written: "sun" - "empty" - "eyes" - "arrow". In some sources of the second half of the XVIII century. various variants of recording such numbers were used that the number 1958, for example, was written either using Mongolian numbers, or using numbers-words "*Tenger-sum-yazguur-saran*" ("sky-arrow-root-moon"), or using bitwise recording of the number with consecutive digits "*Negen-yusen-taban-naiman*" ("one-two-five-eight"). So, the entry: "*nadiyg avdraar arivjuulzh olohdо ger bolno*" meant that "if 2 multiplied by 6, then we get 12 (Batjargal, 1976).

An important point is that the verbal numbers, examples of which we find in "*Negen Yum?*", Are evidence of the interaction of the cultures of India, Tibet and Mongolia. So, from the history of mathematics it is known that in Indian mathematics, along with digital notation, a verbal designation system for numbers, similar to the Mongolian, was widely used. In this case, zero was denoted by the words "empty", "sky", "hole"; unit - objects available only in the singular: Moon, Earth; two - the words "twins",

"eyes", "nostrils", "lips"; four - the words "ocean", "cardinal points", etc. (Yushkevich, 1970). As you can see, in the Indian system of counting, the numbers were originally given names according to the same principle of one-to-one correspondence, which is observed in "*Negen yum?*"

At the same time, in *Negen yum?* along with the ancient verbal names of numbers, there are the names of the first ten numbers of the natural series: 1- *negen*, 2- *khoer*, 3- *gurba*, 4- *dyrbe*, 5- *taba*, 6- *zurgaa*, 7- *doloo*, 8- *nayma*, 9- *yuhe*, 10- *arba*, which form the basis of the decimal positional number system, traditional for the Mongol-speaking peoples, which arose due to the use of fingers when counting. For example, the number "tav" - "five" is derived from the same stem as the word "tavgai" (paw, hand, five). The scientist N. Poppe connects the origin of the numeral "seven" (doluyan) with the name of the index finger doluyabur (Boreal lobebor) and states that "the index finger is to some extent the second, and therefore the number denoting it may well serve as a numeral" two "resp. "Seven", because $7=2+5$ (two fingers to the whole hand) "(Poppé, 1936). Our acquaintance with the work "Huns' language" / "Languages of the world" by the linguist E.R. Tenischeva confirmed the early count of the Mongol peoples in groups of five. It was found that the Mughals of Afghanistan are considered in groups of five - the descendants of the garrison soldiers left by Genghis Khan since the XIII-XIV centuries. They use special numbers, composed of five and units: 6- "one hand and one over", 7- "one hand and two over", 8- "one hand and three over", 9- "one hand and four over". Among the Mughals, "ten" means "two hands", fifteen means "three hands", twenty means "four hands", and twenty-five means "five hands" (Tenishchev, 1997).

The division of the finger into fingers and joints contributed to the expansion of methods for measuring quantities. Some Buryat folk length units are derived from the fingers and joints of the hands (feet), for example, *khuruu* - the average width of one finger, *tokhoi* - the distance from the elbow joint to the end of the hand clenched into a fist, *ald* - the distance between the tips of the middle fingers when extended to different sides of the hands (swinging fathom) (Damdinov, 1984, Dugarzhapova, 2008). Finger-counting - *hurgaar bodolgo* preceded the developed oral counting - *seezheer bodolgo*, characteristic of the folk mathematics *zurkhay*. As you can see, the Buryats used body parts as counting tools, which is typical for the numerals of many peoples. A similar account exists in many European countries: dozen-12, gross- 12^2 , mass- 12^3 ; In French, the tradition of counting by twenty, derived from counting on the toes and hands, has been preserved in the numerals "eighty" - "four-twenty", "ninety" - "four-

twenty-ten" (Glazer, 1970). Among the Circassians of Russia, the basis of the account is the twenty-digit system; thus, the numbers 40 (60, 80) are read as 20 two (three, four) times (Merlina et al., 2012). Consequently, giving the number a special positional arrangement on the fingers was the most important prerequisite for the emergence of the decimal counting system among the Mongol-speaking peoples. On the outstanding value of the decimal system A. Blum and M.V. Ostrogradsky wrote in the brochure "Reflections on Teaching": "It seems to us that after the invention of writing, the greatest discovery was the use of the so-called decimal number system by mankind" (Gnedenko, 1982).

Ethnic mathematics of Mongolian-speaking peoples - *zurkhay* received the greatest development during the Middle Ages and developed mainly as a set of computational algorithms. One of the main motives for the development of *zurkhay* was the need for a unified time reckoning system, determining the timing of Buddhist religious holidays that have Indo-Tibetan origins. The first calendar system of the Mongols was compiled by Yelyu Chutsai in 1215 in Samarkand (Damdinov, 1984). This was followed by many calendar developments, the success of which was facilitated by the adoption of their own Mongolian writing based on the Uyghur, the introduction of decimal positional numerals and verbal names of numbers up to 10^{66} , original metrology with the smallest unit of time *densen* equal to $9 \cdot 10^{-5}$ sec, *zurhain sambar* counting devices (*zurkhay* board), *zurhain sampin* (*zurkhay* abacus), invention of astronomical instruments, etc. (Batzhargal, 1976). Wide international interaction of scientists from the Central Asian region within the framework of a single Mongolian state contributed to the development of *zurkhay*. The general pattern was the study of Chinese, Indian, Arab scientific traditions. According to D. Kara, xylographic books containing translations of various sources from other languages, multilingual dictionaries: Sanskrit-Tibeto-Mongolian-Manchurian-Chinese dictionary of Buddhist terms, Manchurian-Tibeto-Mongolian-Turkestan-Chinese dictionary "Five-lingual mirror of the Manchurian language" and others (Kara, 1972).

The process of the formation of mathematical knowledge in a vast state took place in large scientific centers at astronomical observatories in the conditions of the adoption of other religions and languages by the Mongol-speaking peoples, and the acquisition of scientific knowledge of other peoples. A great contribution to the development of science was made by Kublai Khan (1215-1294), who founded the Mongol Yuan dynasty in China, when "on the 6th moon of the 28th Chzhi-yuan (1292), Kublai Khan created in all lu (*counties* - *ed.*) Astronomical schools" (Dalai,

1983). In the scientific center of Hanbalgasun (near modern Beijing), the scientist Guo Shou-jing in 1281. the work "*Tsag uliralyn huanli*" (Mong.) - "Shou-shi li" (Chin.) ("Table of the seasons") was published, in which the length of the year was 365.2425 days. This was the greatest discovery: the year differed from the Gregorian year, which appeared 300 years later, by 0.0003 days (Oganesyan, 2002). The second observatory with the largest scientific center was erected by Khan Hulagu in 1259 for Nasiraddin at-Tusi ("Nisbu" - in Mong.) In the city of Maragu. The main work of the scientists of this center is Ilkhan tables ("ils" or "els" - sand, Mong.). A group of Maragou scientists laid the foundations of modern trigonometry (Batzhargal, 1976, Borodin, Bugay, 1987). The third observatory was erected by Ulugbek, the grandson of Khan Tamerlane ("Dogolon Temur", in Mong.), In Samarkand in 1417-1420. By the work of Samarkand scientists, the positions of 1018 stars were determined, tables of planetary motion were compiled. Ulugbek described the chronology systems of different peoples with tables of transitions between them, the geographical coordinates of 683 cities in Europe and Asia, etc. The works of ar-Rumi, al-Kashi, al-Kushchi - scientists from the scientific centers of Maragu and Samarkand (2). The main work of Samarkand scientists is the "Gurgan" zidzhi "(Rybnikov, 1974).

The works of zurkhay contained a variety of information: mathematical, astronomical, astrological, religious; among them there are few works devoted to purely mathematical questions. On the basis of a study of 74 manuscripts and woodcuts, Mongolian scientist B. Batzhargal revealed that the most interesting are "*Solbitsan barikh bodorol bichig*" ("Theory of calculation using interconnected values"), "*Merged garakhyn oron*" ("Cradle of ancient sages"), "*Bodgolyn usgiyn yalgasan taybar bichig*" ("Recommendations for solving problems") and others. He gives examples of Zurkhay drawings and calculations, unique star maps, information about the calculations of 12-year and 60-year calendar cycles. The scientist notes that, unfortunately, the works mentioned in the manuscripts have not been found: "*Ikh taamlal*" ("Great hypothesis"), "*Solbitsan barikh zurkhay*" ("Zurkhay coordinates"), etc. (Batzhargal, 1976). S. Chagdurov believes that "zurkhay" had impressive traditions and very deep roots in the past. It is enough to refer to the fact that at the time of the Xiongnu, at the turn of our era or earlier, the ancestors of the Mongol-speaking tribes used boards on which calculations were made using the Zurkhay method" (Chagdurov, 1974). Information about *zurkhay* is set out in the works of the scientists Yelyu Chutsay, Ishbalzhir, Rolbiidorch, Guushling, Myangat, Luvsandanzanzhantsan, Luvsanbalzhir, etc., written in Mongolian, Chinese,

Tibetan, Sanskrit, Arabic, 1976 (Batj).

Researcher Ts. Shagdarsuren suggests that due to the adoption of other religions, some scientists created languages under other names, not Mongolian (Shagdarsuren, 2003). This also applies to Ulugbek, the grandson of Khan Tamerlane, a Mongol of the Barlas tribe, who is considered an Uzbek scientist in the modern scientific world. Although, according to B. Batzhargal, D'Alembert considered Ulugbek the founder of the Mongolian astronomical school (Delambre. *Histoire de l'astronomie de moyen bde.* Paris, 1819. p. 204) (Batzhargal, 1976). This opinion is confirmed by the scientific biography of Myangat (1685-1770), whose nationality was revealed by a special commission of Chinese scholars on the documents of the history of the Qing Empire. The question of the nationality of the scientist was raised in 1957 in Hohhot (Inner Mongolia, China), when the Chinese state announced a period under the motto: "Tsetseg bokhniyg delgeruulzh, erdemten bokhen urlana" - "Let all flowers bloom, let all scientists create." The scholar Qian Bao Chun said about the results of his research in the History of Mathematics of China (Beijing, 1964): "Myangat is a Mongol and his reverent name is Qian Yan. He comes from the Mongolian khoshun Shuluun Tsagaan"(4, p. 21). The main scientific work of Myangat is the four-volume "*Toirgiyg ogtolzh pitoog khalbar arga*" ("Brief method for determining pi through the intersection of a circle") (1712-1722), known in Chinese mathematics as "nine methods for determining pi through the intersection of a circle." Myangat's work "*Mathematiciyn huuliin nariin hurimtal*" ("Detailed development of mathematical laws"), 53 volumes, is devoted to the study of the mathematical achievements of Western Europe. From the 100-volume work "*Dui toglgyn bureн eh surwalzh*" ("Complete source of regularities"), 1723, performed jointly with Mei Jue Cheng and He Guozhong, the Japanese were first introduced to European logarithms. The developments of Myangat, set out in "*Tsag ulirlyn uzegdliig shalgazh buteesny dara nairuulsan*" ("Essays on the verification and knowledge of natural phenomena") were used as the basis for the calculations of the annual calendar of the Qing state, as well as the Japanese calendar Kansa (introduced by Assad Koritsa, 1734-1799) (Damdinsuren, 1978).

Thus, the study of the content of the initial folk knowledge showed that the first stage in the development of ethnomathematics *aman zurkhay*, when knowledge was transmitted orally from generation to generation, was the longest. The early emergence of mathematical knowledge was widely developed during the Middle Ages. The general pattern of medieval *zurkhay* was the study of Chinese, Indian, Arab, and later European

scientific traditions, their assimilation and development. The interaction of scientists from the Central Asian region contributed to the fact that Indian science spread to the countries of Islam, and through the Arabs, elements of Chinese and Indian mathematics later penetrated into medieval Europe. Therefore, the use of ethnomathematics of the Mongolian-speaking peoples of *zurkhay* is in demand and necessary in modern mathematical education.

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THE ROLE OF CRITICAL THINKING AND PHILOSOPHY IN MODERN EDUCATION

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Abstract. The article is devoted to the analysis of the problems of modern education, which are due to the peculiarities of the development of the post-industrial information society. The growth in the volume of information, the spread of fakes and other trends pose the task of education for educating a person capable of critical thinking. New educational standards aim at the formation of cognitive competencies in students who are able to navigate in the flow of information. Philosophy has great potential for the educational process, the main task of which is the development of thinking competencies. As a result, the author comes to the conclusion that the technology for the development of critical thinking should become a necessary element of modern education, the purpose of which is the formation of independent thinking, a self-critical and educated personality.

Keywords: education, information society, critical thinking, educational standards, learning outcomes

The Universal Declaration of Human Rights (1948) proclaimed the right of every person to education [4]. This right was then declared in several UN documents on education (1964, 1990, 1997, 2001, 2011). The international community has confirmed the importance of education as a social institution for the development of all mankind, for solving global problems, for overcoming emerging crises. In March 1990, UNESCO held the Education for All World Conference, which adopted the World Declaration on Education for All. Significant social goals of education were formulated in the Declaration: it can be aimed at the development of a safe, developing world, at movement towards progress in the social, economic and cultural spheres, tolerance, fruitful international interaction; education can be considered as one of the most important factors in the improvement of man and society [3]. The goals set by the World Conference were accepted by

the international community by the leadership for action and were partially achieved. Despite this, education still worries not only representatives of international organizations (UN and UNESCO), teachers themselves, but also scientists. The latter actively discuss the goals and functions of education, new methods of teaching and upbringing, the problems of developing competencies in students. Interest in the problem is also caused by the fact that quality education is one of the most important goals of sustainable development.

Modern society is developing intensively, technologies are changing at a rapid pace. The fourth industrial revolution is associated with the increasing automation of production. Information overload of people is becoming an urgent social problem. According to the calculations of specialists who have established the dynamics of the growth of information, it turns out that the volume of information has doubled in recent decades, and this process has been intensifying: "From 1950 - every 10, from 1970 - every 5 years, from 1990 - annually" [6] and cannot but to influence people. The increased role of the Internet and social networks in society leads to a change in social ideas about expertise, the spread of fakes, the use of new information technologies not only by fraudsters, but also by extremist and terrorist organizations of various directions. A person who does not have the skills to analyze information, who does not know how to check it, can easily become a victim of malefactors, an object of radical pseudo-religious propaganda, be recruited, etc.

In addition, the existing freedom in the information space contributes to the dissemination of not only scientific objective information, but also the growth of pseudoscientific theories and concepts. The latter actively attracts the attention of people who hardly distinguish science from its imitation, and are happy to discuss pseudoscientific "discoveries" and predictions, spreading them on social networks. A significant place in this process is occupied by some television channels demonstrating parascientific phenomena (Battle of psychics) and sensational discoveries, supported by the opinion of the so-called experts. An uncritical attitude to this kind of information, believing it, contributes to the spread of ignorance and delusion among people. The indicated tendencies of the information society indicate that the goals of modern education should be associated with the development of critical (independent, substantive) thinking in the younger generation. The above-mentioned fact of information overload leads humanity to the need to revise approaches to education in general, to its goals and objectives, methods and technologies. The increase in the flow of information becomes one of the reasons for the transition in the

education system from one standard to another.

The traditional approach to education, which requires students to acquire knowledge, abilities and skills (the famous KAS), is no longer relevant. The volume of existing and constantly added information makes it almost impossible to achieve "final" knowledge at this stage, which was determined by final attestations in educational institutions and was confirmed by the establishment of qualifications or the issuance of a state-recognized document. It is impossible to know everything - this idea was expressed in antiquity by Socrates. At the same time, the educational systems of different countries of the world determined the necessary standards - the minimum of knowledge that young people who graduated from school, technical school, university, etc. had to master. At the same time, in recent decades, the volume of scientific information has also increased, forcing to revise the content of school / university textbooks, increasing the amount of information necessary for an educated person for a successful life and activity in society. It is assumed that a student who received a set of textbooks at the beginning of the school year will receive a replenished stock of knowledge at the end of it and will be able to use it in the future. But is it? Often, a schoolchild / student "drowns" in the flow of information, uses working memory, focusing on "reporting activities" (control, tests, exams), then safely then erasing the knowledge gained due to its uselessness. Their long-term memory "works" less often, reacting to topics of interest to the student.

A. Einstein said that education is what remains after everything learned in school is forgotten, the same will be relevant for other levels of education. The new standards of primary, basic, higher education (FSES) take into account the trend of increasing information, set other tasks for educational organizations, for participants in the educational process. The so-called competence-based approach that orientates teachers not to mastering KAS, but to the formation of competencies in students. The goal of education in universities is the formation of universal, general professional and professional competencies, and in schools - the achievement of personal learning outcomes, the formation of ULA (universal learning actions), cognitive, developmental and communicative competencies.

Another trend has become the introduction and dissemination of the Unified State Exam (hereinafter - the USE), which is regularly criticized by teachers, parents, and public figures. "Focus" on USE, according to many participants in the discussion, leads mainly to reproductive, uncritical reproduction of information, as a result, students are less able to analyze incoming information, identify trends and patterns, and think independently.

In this regard, USE assignments are being finalized and processed by the teams of the FIPI (Federal Institute for Pedagogical Research). Currently, the emphasis is not on choosing one correct answer from those available in the closed test, but on tasks that test the formed competencies associated with the use of acquired knowledge (cognitive tasks, compositions, essays, etc.).

That is why what is now becoming of great importance in pedagogy is called a new educational technology - the development of critical thinking. The technology was developed in the late 1980s by American educators: J. Steele, C. Meredith and C. Temple. As well as the new educational standards, it focuses on student-centered learning. In the development of critical thinking, R. Paul distinguishes 3 waves, starting the history of technology from 1970.

Representatives of the first wave (1970-1982: M. Lipman, S.I. Veksler, H. Ortega y Gasset, E.V. Ilyenkov, J. Piaget and others) studied practical logic, considering it the basis of critical thinking. The latter was compared with the Socratic method of thinking and learning, where the main thing is to pose the question and check the logical grounds. The authors of the second wave (1980-1994: K. Popper, J. Steele, K. Meredith, C. Temple) were distinguished by their polydisciplinary approach, they considered critical thinking as a panacea for all difficulties in the educational process; they were interested not only in creativity, but also in intuition, emotions, imagination. Since 1997, the third phase of research and development begins. The authors (D. Halpern, D. Kluster, M.N. Dudina, S.V. Borisov and others) try to overcome the excessive narrowness and superficiality of the approaches of the first two waves, trying to maintain their strengths. At the present stage, it is customary to indicate the traits of a critically thinking person.

How is critical thinking defined in socio-humanitarian knowledge? D. Dewey wrote that "critical thinking is analytical, creative, reflective and understanding, capable of interpreting and evaluating what is hidden in the message, as well as taking a position in relation to it" [5]. Modern researchers A.U. Beadle, D.H. Clarke understands critical thinking as "the process by which the mind processes information in order to understand established ideas, form new ones, or solve problems that have arisen; D. Brookfield believes that this is "a process aimed at assessing, checking the assumptions of the foundations of thought, actions, at the formation of alternative ways of making decisions." D. Halpern defines critical thinking as "directed thinking, which is distinguished by balance, consistency and purposefulness, the use of such cognitive skills and strategies that in-

crease the likelihood of obtaining the desired result" [cit. by 2]. E. Glasser, S. Norris, R. Ennis understand critical thinking as the sum of skills and abilities to use logical procedures that allow you to think rationally, reflecting and controlling the thinking process itself. In the studies of J. Kurfis, V. Stern, P.P. Vakhterov, critical thinking is defined as the highest stage of understanding, obtaining and mastering knowledge in the process of cognition.

Thus, critical thinking is one of the types of human intellectual activity, which is characterized by a high level of perception, understanding, objectivity of the approach to the information field surrounding him. Learning focused on the development of critical thinking skills involves not just an active search by students for information to assimilate, but something more: correlating what they have learned with their own experience, as well as comparing what they have learned with other research in this area of knowledge. Students have the right to question the reliability or credibility of the information received, check the logic of evidence, draw conclusions, construct new examples for its application, consider the possibilities of solving the problem, etc.

Many philosophers have made a great contribution to the development of ideas about critical thinking, because one of its most important characteristics is the method of R. Descartes: rejection on faith of what is obviously not sure. Even in antiquity, Socrates urged thinkers not to trust, not to rely on authorities, maieutics and Socratic irony served as a fairly effective way of moving towards truth. Gradually, the idea was formed that truth is a process, and not once and for all given knowledge (N. Kuzansky). Fr. Bacon and R. Descartes turned to the question of what prevents the knowing subject from receiving true knowledge? The answer lay in delusions (or Bacon's idols), which hindered the subject in comprehending the truth, so he had to get rid of them. Doubt in what is called truth, indisputable authority, tradition becomes a habit, such a mind uses analytical operations, is able to draw logical conclusions, is ready for independent judgment.

In 1765/66 I. Kant wrote about the importance of teaching a person, about the development of his thinking in his "Notice on the schedule of lectures for the winter semester": scholarship. From the point of view of Kant, it turned out that such an approach is more effective, that not every student can become a scientist, but he can become sane, this will give a person more experience, which will positively affect the development of not only the person himself, but also the whole society. At the same time, the thinker warns, if you break the sequence in the development of the

mind, a person will not learn to reason, but will master various scientific information. This is fraught with a lack of independent thinking, the use of someone else's opinion, an undeveloped soul. Such specialists are not so rare even now. Therefore, Kant believed that the teacher should not teach thoughts, but think; "The listener should not be *led by the hand*, but he should be *guided* if they want him to be able to walk on his own in the future" [8, p. 192-193]. Thus, the gradual and consistent development of the human mind contributes to the formation of the ability to think and act independently. The upbringing of a thinking personality should become, according to Kant, not only the goal of education, but also a part of the learning process.

E.V. Ilyenkov also spoke about this, who wrote a number of works in 1960-70, devoted to the education of the younger generations ("The school must teach to think", "Learn to think from a young age" and etc.). He believed that philosophy can be viewed as a spiritual need, a need for the mind, which helps a person to survive in the rapid flow of information. What helps the development of the mind as a result of the socio-historical development of a person? Learning truths hinders this. Ilyenkov believes that it is necessary to promote the development of a person's ability to think independently; in this process, different methods and technologies can be used. Disputes and discussions that aim at comprehending the truth have tremendous potential, this needs to be taught, you need to foster a culture of dispute and discussion in the student, and develop self-criticism. The absence of the latter makes a person dependent on someone else's opinion, susceptible to any influence [7]. The way out for the philosopher is the dialectic of thinking, which, in particular, means a critical attitude to everything, even to the already learned truths. Therefore, he considers it necessary to return the foundations of philosophy, ethics and logic to schools that contribute to the systematization of the mind, create the potential for the development of independent thinking and self-critical mind of a growing person. Dialectics of thinking as a specific logic of human thinking should, in his opinion, be brought up from childhood.

In the middle of the twentieth century, thinkers focused on the characteristics of thinking, which is capable of obtaining objective truth. According to H. Ortega y Gasset, man is doomed to thinking. He proposes to consider the level of independence of thinking as a kind of criterion that speaks of how close a person's consciousness is to dogmatism and is capable of showing intolerance. It should be borne in mind that the lack of independent thinking and intolerance are not identical. Not a thinking person, not an independent person is sure of one thing, this is his strength,

but this is also his weakness, therefore, without independent thinking, one cannot stop being intolerant, become free. Then a natural consequence is the need of society for philosophical education, that people should learn to think, this will lead not only to the development of independent critical thinking, but also to the formation of tolerance and moral qualities of the individual [10, p. 490-493].

One of the reasons for addressing this question was the results of a study of the authoritarian personality of the Frankfurt school (T. Adorno et al.) [1], which stated that the phenomenon of an authoritarian personality was also associated with a lack of independent thinking. It was then that they began to think about how a person's thinking is developed, how independent a person's mind is and whether it can resist social pressure. Separately, it is necessary to mention the experiments on social influence in social psychology, which were aimed at studying the characteristics of human behavior undergoing various kinds of social influence / pressure [9]. The experiments of S. Asch (conformism, 1951), S. Milgram (obedience to authority, 1960), F. Zimbardo (Stanford Prison Experiment, 1971) showed that a person can hardly resist social influence, that he is inclined to go on the occasion of the group that he is not always independent in his actions and judgments. This indicates the importance of developing independent thinking in every person from an early age.

Since 1970, they began to discuss the need to introduce philosophical education for children (primarily logic and ethics), since it is they that improve the quality of thinking, contribute to the success of mastering all school disciplines, and the development of critical thinking in combination with education can reduce the level of intolerance in society. A new tendency in education has emerged - humanitarization, associated with an increase in the role of humanitarian disciplines in the preparation of students. The basics of philosophy, sociology, political science, economics and law are taught in the school social studies course, where students learn to think, draw conclusions, identify trends, and formulate assessments. The development of critical thinking, scientific worldview, independence of judgment of the individual continues in universities, where a person can formally complete his education. However, another modern trend is the continuity of education (education throughout life), which suggests that the education process does not end with the receipt of a diploma or license, a person is constantly studying, processes information, improving his own qualifications and education. And in this regard, the presence of critical thinking as a tool in any activity will increase the efficiency of a person, will contribute to his success, and can protect him from the nega-

tive consequences of information overload, which was discussed at the beginning of the report.

Thus, the formation of critical thinking is a guarantee of active education, the development of not only the student himself, but also society. A person develops intelligent reflective thinking, focused on making decisions about what to believe or what to do. It is distinguished by purposefulness, self-regulation, interpretation, analysis, conclusions, logical criteria, the desire to find the truth, the search for information, a reasonable choice of criteria, a set of questions, the achievement of a result; the result is an inquisitive mind, well-informed, open, flexible, fair in judgment, honest without prejudice. In addition, a person with critical thinking is able not only to logically, adequately and objectively comprehend the incoming information, but also can make the right moral choice, prefer strategies that work not only for the survival of humanity, but also for its development, its progress.

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MELODICS OF LULLABIES (FROM THE COURSE "ETHNIC WELLNESS ART-PRACTICES")

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Abstract: At the beginning of our report, I would like to say that the author has repeatedly raised the issue of studying lullabies [Zaporozhets 2012, Zaporozhets 2019, Zaporozhets 2020]. The theme of lullabies is very interesting, multifaceted and very little studied. Previous reports were devoted to the symbolism of lullabies and their harmonizing factor. In this report we will consider the melody of lullabies, the regularity of pitch, rhythm, tempo..., and just appreciate their unique beauty. (The ethnographic material presented in the report was recorded in 1998-2000 in the Yaroslavl, Vladimir regions and in the village of Dinskaya, Krasnodar region).

Keywords: lullaby action, lullaby melodies.

The author has repeatedly raised the topic "Lullaby as art therapy in the traditional culture of the Slavs." An article is currently being prepared on the importance of rocking an infant while falling asleep. When immersed in research, the theme of Lullaby appears to be an inexhaustible storehouse of knowledge. More and more new nuances are constantly coming to the surface, which cannot be ignored. In this talk we will consider the melody of lullabies.

In general, singing, as such, returns a person's memory during the period of the prenatal period of his life, when he swam in the amniotic fluid, since all sounds in the water are heard in an extended form, that is, like singing.

Singing itself, like all music in general, refers to a passive principle that "connects" a person to an "otherworldly" space, the world of spirits, to the world where the human soul stays before its birth and where it goes later. Sleep is also one of the least studied human states and music is one of

the guides of the soul to the world of peace. In folklore, epic epics, one of the brightest examples of the connection between music and the world of the fantastic is the epic "Sadko". For this reason, the people have always considered musicians "knowledgeable", "wizards" who can heal, protect from damage and the evil eye (for this purpose, they are still invited to weddings, for example, in Uregionne). There are many examples of music and singing as a magical act and as music therapy. This is also the myth about the Centaur Charon, who gave the satire Pan and the entire musical tribe an idle life ("From now on you will neither plow nor sow, but when you start playing instruments, everything will be forgiven you"), for the fact that the satyr playing on flute temporarily drowned out the Centaur's pain; and the myth of Orpheus and Eurydice; and the legend of the Jericho trumpet; and the story of how King David healed by playing the harp...

Singing has always been regarded as a magical act, because among the people there were a lot of prohibitions associated with singing:

1. you can not (not on holidays) to sing a lot in the house - you will be poor;
2. you can not sing after sunset - you will lose your voice;
3. you cannot sing when you are alone in the house, you need someone to be present, otherwise you will go through life alone;
4. you can not sing at the table not on holidays - you will be poor;
5. the bride cannot sing at her wedding - there will be no happiness;
6. you can not sing while bathing in the bath (option - in the shower) or near the river - not on holidays, not on ritual days - you will be a beggar, water will take away all happiness with singing;
7. and in general, you can't sing a lot all the time - you sing a beat (just as you can't often guess - you will lose the beat), etc. ...

Singing itself consists of two components: vocals and lyrics.

The musical part of lullabies is subdivided into:

1. Metro-rhythmic structure,
2. Melodic,
3. Dynamic.

1. Metro-rhythm consists of:

a) Rhythm; b) Meter; c) Pace.

2. The melody consists of:

a) Mode; b) Tessitura; c) Range.

1. *Metro-rhythmic structure:*

a) *Rhythm.*

The rhythmic pattern dominating in lullabies - two eighths and a quarter (the so-called rhythm of the dance "Three legs") - "trans-meditative

rhythm".

b) *Meter*.

The size of the lullabies, which fixes the metric structure, is dominated by four quarters, although there is also a three quarters...

c) *Pace*.

The tempo of lullabies is usually slow, which is appropriate for the situation described.

So: at the physiological level, the metro-rhythmic structure coincides with the effect of the baby's oscillation in the cradle, therefore, psychologically it has a calming effect, helping the child fall asleep as soon as possible.

At the energy level, the size of four quarters, a slow pace and a rhythmic pattern, balance two principles: active action - two eighths, and passive, lack of action - quarter, which contributes to the rapid achievement of a trans-meditative state and complete tranquility.

2. *Melodic structure*:

a) *With interval*.

The fret is dominated by the minor one. There are melodies with a "shimmering" third (notes № 10), as well as very archaic diatonic structures (notes № 2).

b) *Tessitura*.

The tessitura of the performance (with rare exceptions) is mostly low, but this is due to the vocal characteristics of a certain age censor of the performers, and not by the regularity of traditions (grandmothers in most cases sang in a low voice).

c) *Range*.

The range of performance is not large, the predominant interval is a fifth.

The sound component, like the rhythmic one, interacting with the swinging moment, also has a calming effect on the psyche. Energetically, the third instability emphasizes the fragility of the transition state: (note examples № 2, 10); in rhythmic pattern № 2 - two eighths and one quarter (passivity) - the sound freezes on a *minor* third).

3. *Dynamic structure*.

The dynamics of the performance are naturally not loud, which corresponds to the described situation.

I would also like to note the emotional background that accompanies the performance. The grandmothers who performed lullabies spoke with such warmth and tenderness about the very moment of the baby's motion sickness, used such amazing and beautiful epithets of common speech

that do not exist in classical literature. For example, in a lullaby it is sung about how the pigeons flew in, sat on the cradle and began to sing so beautifully, as if embroidering a melody with silk! That is, singing doves is compared to knitting silk lace! It's a miracle! And all this creation of musical silk lace is called with one word, which is absent in classical speech - "songs began embroidering with silk". The tunes of the songs are also amazing with their really lacy tunes! The author decided to give as many musical examples of musical folk art dedicated to young children as possible. These are the masterpieces.

$\text{♩} = 60$

1. А ба-ю-шки, ба-ю, бай,

2. При-дёт де-ду-шка Ва-вай.

3. При-дёт де-ду-шка Ва-вай

4. Ска-жет: «Де-ту нам да-вай!»

5. А мы де-ту не да-дим

6. О-на на-да нам са-мим.

7. О-на на-да нам са-мим:

8. При-дёт м-то бу-дет мать,

9. При-дёт ле-по бу-дет мать,

10. Бу-дет сно-ви-ки вь-зять.

№ 1.

$\text{♩} = 92$

1. А ба-и-ньки, ба-и-ньки,

2. Ва-ля м-ти-ки ва-ля-нки

3. Не бо-лим-е ма-л-ньки

4. На Ко-ли-ну по-теку

5. Бе-зья по до-ро-жку.

№ 2.

$\text{♩} = 84$

1. А да-и-ньки, да-и-ньки,
2. Все ку-ре-ни-и ра-де-ньки.
3. Пе-ту-шок мо-ло-де-нькай,
4. Гре-бе-шак зо-ло-тне-нькай.
5. Со-ты ра-но-во-го-ди,
6. Не-ткан спат не до-ди?
7. А я ра-но-во-го,
8. Не-ткан не-се-ни по-ю.

№3

$\text{♩} = 72$

1. А лю-ли, лю-ли, лю-ли,
2. При-ле-те-ли к на-м гу-ли,
3. Се-ли гу-ли на к-ро-ваць,
4. На-чи-на-ю-т то-п-ко-ваць,
5. На-чи-на-ю-т то-п-ко-ваць:
6. А на-м де-ти-ге-к ни-таць?
7. Од-на гу-ля го-во-риць:
8. Бу-де-и ка-шку ва-риць. А
9. гу-ля го-во-риць:
10. Мо-ло-ти-м бу-де-и то-иць. А т-
11. е-ть-я гу-ля го-во-риць: Бу-
де-и на у-ли-цу но-сць.

Транспонировано на 0,5 тона вверх.

№4

$\text{♩} = 100$

1. Баи, ба-и, ба-и, баи,
 2. Ты, со-ба-чка, не лай.
 3. Ты, со-ба-чка, не лай,
 4. Мо-го Ва-сю не пу-сти.
 5. Спи-ко, Ва-ся, до у-тра,
 6. Я у-кра-ви-ва о-дна.
 7. Спи, Ва-ся, до ве-че-ра,
 8. Те-бе де-ла-ть не че-го.
 9. При-дѣй, Ва-се-нь-ка, по-ра
 10. Ра-збѣ-ну те-бѣ са-ма:
 11. "Вот-а [вай], Ва-се-нь-ка, с по-сто-ли,
 12. При-бѣ-те-ни по-сто-ли!"

№ 5

$\text{♩} = 48$

1. Баи, баи, баи, баи,
 2. Спи, А-лѣ-на, за-сы-най,
 3. Баи, баи, баи, баи.
 4. Спи, А-лѣ-на ми-ла-я,
 5. Я ка-хатъ бу-ду те-бѣ.
 6. Спи, А-лѣ-но-чка, у-спи,
 7. Те-бѣ кре-пкий сон бу-де-ти,
 8. Баи, баи, баи, баи.

№ 6

$\text{♩} = 48$

1. О, дай, о, дай

2. Бог зго-ро-вас те-бе дай

3. дай, дай, дай, дай

4. Бог зго-ро-ви-ца

5. Бог-го-мо-ви-цо

6. дай, дай, дай, дай

№ 7

$\text{♩} = 48$

1. ба-и-ньки, ба-и-ньки

2. Ку-ню те-бе ва-ле-ньки

3. Ку-ню са-по-теки

4. Бе-вать по го-мо-теки

5. дай, дай, дай, дай

6. ба-и-ньки, ба-и-ньки

7. Ку-ню те-бе ва-ле-ньки

№ 8

$\text{♩} = 48$

1. Лю-ле-ньки, лю-ле-ньки

2. При-ле-те-ли гу-ле-ньки

3. При-ле-те-ли гу-ле-ньки

4. Се-и-пря-мо в лю-ле-ньки

5. Ста-и-гу-и-во-рю-вать, А

6. -ле-на ста-и-за-со-и-ть

7. дай, дай, дай, дай

№ 9

$\text{♩} = 84$

1. Пе-ту-шок, пе-ту-шок

2. Зо-ло-те-стый гре-бе-шок

3. Ма-ся-на го-ло-ву-шка

4. Ше-лю-ва до-ро-гу-шка

№ 10

List of performers.

1. Grishina K.M., born in 1926, a peasant. Recorded by Zaporozhets V.V. in Vladimir region, Sudogodsky district, Shustovo village in 1998. № 1.
2. Smirnova A.E., born in 1920, peasant. Recorded by Zaporozhets V. V. in Vladimir region, Sudogodsky district, the village of Sinitsino in 1998. № 2, 3.
3. Kovshova O. G. , born in 1910, peasant. Recorded by Zaporozhets V.V. in Yaroslavl region, Pereslavl district, village Vorontsovo in 1999. №№ 4, 5.
4. Zaitseva P. N., born in 1927, originally from the village of Arkino., Working. Recorded by Zaporozhets V.V. in Yaroslavl region, the town of Poshekhonye in 2000. № 6 – 9.
5. Zaporozhets A.P., born in 1925 (nee Vasilieva, in the first marriage of Shipilova), originally from the Orenburg region, Ivanovo district, village Yegoryevka. She moved to Kuban in the mid-1950s as an accountant. (Author's mom). Recorded by Zaporozhets V.V. in the village of Dinskaya, Krasnodar region in 1999. № 10.

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IHARA SAIKAKU - THE FOUNDER OF A NEW STYLE IN THE POETRY OF GENROKU PERIOD

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Abstract. This article examines the poetry and its features of one of the leading representatives – the poet and prose writer of Japanese literature of the 17th century, in particular, the era of Genroku Ihara Saikaku. Also reveals the essence of "dokugin" and "yakazu" haikai – short verses in the "Holland style" introduced by Saikaku to the Japanese poetry during the heyday of urban literature.

Keywords: Genroku period, Ihara Saikaku, "haikai no renga", "Holland style", "dokugin haikai", "yakazu haikai", "Japanese poetry", "urban literature"

Introduction

The most prosperous period of Japanese urban culture in the 17th century coincided with the years of Genroku (1688-1704). The great writers and artists created their works inspiring each other during these years in Japan. The novelist Ihara Saikaku, the poet Matsuo Basho, the playwright Chikamatsu Monzaemon, the master painter Hishikawa Moronobu, and the sculptor Enku were among them. Despite the differences in the understanding of the function of art, the creators of Genroku period had one thing in common - a conscious desire to reflect new feelings and thoughts in art. One of the most important achievements in the art of that period was the expansion of the boundaries of artistic perception, the search for new artistic means of perceiving reality. Such a general tendency of the period was manifested in the literature of the 17th century, which reached its peak of perfection with the work of Ihara Saikaku, with a peculiar fullness and precision. In this regard, the study of the legacy of Ihara Saikaku, as a poet and novelist of the transitional period, is important not only for a full understanding of the essence of medieval but also modern Japanese

literature. Coverage of the poetic legacy of the poet Saikaku and the issue of his artistry provides an opportunity to further explore his unique features as an innovator of the Genroku period.

Main part

Like most creators of Genroku period, information about the life of Ihara Saikaku is very scarce. However, the author's biography can be reconstructed with the help of his works that have come down to us, the opinions of his contemporaries, as well as the research works of Japanese researchers.

Only the date of Saikaku's death is known, and according to the records written by his disciples Hojo Dansui (1663-1711) and Shimoyama Kakuuey on the tomb of his master in Osaka, the writer died in 1693, the sixth year of the Genroku period. In the famous verse haiku that he wrote before his death, however, he himself states that he lived two years longer than the usual fifty years reserved for man [1, p. 479]. If we exclude these years from the date of his death, Saikaku's birth years will be 1642. On the question of where he was born, Hojo Dansui writes in the preface to 心葉 ("Leaves of the Heart", 1706) dedicated to the thirteenth anniversary of Saikaku's death: "He was born in Naniwa (Osaka), Settsu Province. His friend and colleague, the poet Takarai Kikaku (1661-1707) in 句兄弟 ("Poems of the Brothers", 1694) also gives similar information: "He was born in the port city of Naniwa and used to praise the moon of Sumiyoshi (a temple in Osaka)" [2, p. 3].

Despite the fact that Saikaku worked under more than one pen name, along with many other creators of his time, he published all his works under the surname Ihara. In the work of historian Ito Baiu (1684-1745) 見聞談叢 ("Stories of what we saw and heard", 1738), Hirayama is mentioned as Saikaku's surname, and Togo as his real name. In general, all the rest of the information about the life of Saikaku can be obtained from this source, which contains the following notes about the creator:

"During the Jokyo-Genroku periods (1680's-1690's), in the seaport of Osaka, Province of Settsu, there was a townsman by the name of Hirayama Togo, who was of comfortable means. His wife died while still young; though he had a daughter, she was blind, and she, too, soon died. Giving over his house-name and business to an employee, though he did not go so far as to enter the priesthood, yet he spent his days freely, unconcerned with the worries of the world. As though on a pilgrimage, he set out in Buddhist garb and after a half-year or so of traveling about the country, returned to his home. He was greatly devoted to the composition of haikai verse, and followed the style of Issho. Later, however, he developed a new

style of his own, and adopted the name "Saikaku." He it was who wrote such works as the *Eitaigura*, *Nishi no umi*, and *Sejo shimin hinagata*. He understood well from his own experience the lights and shadows, the remorse, the hardships, the joys and disappointments of this world. He was a man who, by nature, understood the human heart. And though seemingly Taoistic, his was actually an original philosophy of life.³, pp. 4-5].

Baiu's information that Saikaku was in fact an urban and wealthy businessman is not found in other sources. However, the fact that he embodied the townsmen as the protagonists, and the nature of his works created mainly from the point of view of the townsmen, indicates that Saikaku represented this stratum. The early death of his wife (at the age of 24) is recorded in the temple records of the Ihara family, which dates back to 1675 and the death of his daughter to 1692 [2, pp. 34-37]. The author himself mentions this in his collection of poems 俳諧独吟一日千句 ("Thousand Verses Composed Alone in One Day", 1675). Saikaku's extensive travels in Japan are based on his profound and detailed geographical knowledge, as well as collections of short stories, fairy tales, legends and myths from different parts of the country. In particular, 西鶴諸国ばなし ("Saikaku's Stories from All Provinces" 1685) and 懷硯 ("The Journey Pen", 1685), a collection of magical fiction novels, and 一目玉鋒 ("A Look at the Road") the work of the travelogue was precisely the result of these long journeys.

On the question of the poet's activity in poetry, Baiu's claim that he was a disciple of the poet Haga Isshyo (Kazumasa) (1643-1707) leaves doubt in the mind of the researcher. In fact, Isshyo was not Saikaku's mentor, but his friend and colleague [2, p. 5]. It is now believed that Saikaku was a representative of the Danrin haikai school in Osaka, led by Nishiyama Soin [3, p. 3]. The following passage in 俳諧破邪顯正 (The Rejection of Lie and the Decision of Truth in Haikai, 1679), written by the poet Nakajima Zuyryu (1629-1708), once again confirms this idea: "Recently, Soin's school has gained a lot of students and followers. The most talented among them ... is the poet Saikaku, who lives in Osaka". [4, p. 5].

The books listed by Ito Baiu as Saikaku's works raise an entirely different issue. There is some confusion in this list as well. Only one is known as Saikaku's collection of novels, 日本永代蔵 (The Eternal Treasures of Japan, 1688) among them and information about the other two works is unknown in Japanese literary studies. However, it is possible that these works were originally created in printed or manuscript copies and later were lost without publication. Nonetheless, this puzzling moments in the Baiu records should not surprise us. In the opinion of Ito Baiu, a repre-

sentative of Confucius, all of Saikaku's works, especially his numerous love novels about human emotions, may not have been found worthy of special recognition. This is because it is precisely romantic feelings that contradict Confucian views that have the ability to disrupt the order established over the centuries and therefore make them unreliable.

From the above analysis, we conclude that it is not an easy task to fully evaluate "Stories about what we saw and heard" as the most important historical source about the life of Saikaku. Despite the existence of some controversial points, it still remains the primary source for the restoration of the writer's biography.

No information about Saikaku's youth has preserved, except for comments in his works relating to the last years of his career. His deep knowledge of literature was the result of his more education than that of an ordinary urban child, which in turn indicated that Saikaku lived a financially prosperous life. Regardless of his level of theoretical knowledge, it was Saikaku's eagerness to learn haikai poems from an early age that served as the basis for his subsequent achievements in literature.

In the history of literature, Ihara Saikaku has made a name for himself as a writer, author of collections of novels mainly on the theme of urban life of his time. However, his career began with the creation of poems in the genre of "haikai no renga" - "linked haikai". It is one of the most widespread genres of poetry in 17th -century Japanese literature, based on serious "renga" - "linked verse" in medieval poetry. In terms of form, renga is a series of tercet, which are mostly written sequentially by different poets and linked each other by following the specific strict rules of the genre formed in the fourteenth century.

Saikaku began to learn the art of haikai at the age of fourteen [5, p. 376], and information about his poetic maturity can be found in 石車 ("Stone Carriage", 1691) - a collection of poems and criticisms of a number of poets. Saikaku writes about himself there: "... it has been more than thirty years since I entered the path of haikai. I worked as a haikai judge for thirty years. There are countless collections of poems that have been judged by constant pain [2, pp. 34-37]. Based on this passage, the fact that Saikaku was awarded the title of "tenja" - "judge of the art of haikai composing" at the age of twenty, is a testament to the fact that he was recognized by his contemporaries as a talented poet. In this sense, it is interesting that not a single poem of the poet to this period has survived. The occurrence of Saikaku's first known verse in the collection of short stories "Long and Near Collection" created by the poet Nishimura Choyshi in 1666 confirms our belief that he received his first knowledge in

poetry from the school of Teymon.

Although originally he was the part of the Teymon School, Saikaku tied his entire later work in poetry to the Osaka Danrin School, which focused on urban poetry. He was, in fact, the great representative of this movement, which sought to renew poetry by introducing new themes and images into poetry. The poet's close ties with the Danrin school date back to 1673, when the poem 万句俳諧 ("Ten Thousand Stories") was published. During the twelve-day event at the Ikutama Temple, Saikaku published a collection of 生玉万句 ("Ten Thousand Poems Composed in Ikutama", 1673), comprising about one hundred and fifty of the poet's more than two hundred participants and three hundred of his own.

In the collection, Saikaku emphasizes the homogeneity of the poetry of his time, its rigidity within the framework of old stereotypes, and promotes new principles of creativity free from traditional canons. These views are most clearly expressed in the introduction to the collection, in the following sentences: "Someone asked: Why do you prefer haikai poetry to the generally accepted rules? I replied: The world of poetry is dim. Only I am transparent. Why should I drink this dull soup and lick its sediment again? Sometimes from some poets you have to hear, your ear gets moldy and your tongue is covered with moss. They are worthless and are reminiscent of the mutterings of old men" [2, p. 45].

Following the publication of Ten Thousand Poems in Ikutama, Saikaku, who opposed the Teytoku school by using new methods of linking verses and unconventional elements of colloquialism, and all the poets who published their poems in this collection were severely criticized by traditionists as representatives of "oranda ryu" ("Dutch stream"). Saikaku's style, which brought innovations to the language of poetry, became known as the "Oranda", or "Dutch" style.

The use of the term "Dutch" in relation to Saikaku's poetry, which was foreign to the Japanese in the vocabulary of Genroku period, did not conform to generally accepted norms, and expressed all unusual phenomena, was an attempt to take his work out of art. For, in the opinion of conservative poets, true art could not exist without the aesthetic traditions of the past. The fact that Saikaku was criticized by representatives of traditional haikai schools shows that he has become well-known.

Although the epithet "Dutch style" was originally applied to the whole Danrin school in general, it soon became a term to refer only to the Saikaku style. Indeed, as his position as a poet grew, Saikaku took the term as a compliment, calling his style "Dutch style", emphasizing the use of unique and unusual expressions in his work.

Soon, instead of haikai in a collective order at Danrin School, unlike medieval poetry, the spread of a type of work called "dokugin haikai" (translated as "solo composed haikai") allowed all members of the school to create their own style and individual poetry.

Although haikai originally emerged as a genre that meant the collective poetry, it was like a game that could be played alone in strict adherence to rules such as chess. The fact that the participant, who took part in the poetry contest alone, was able to determine the theme and content of the poems completely independently, to use ready-made phrases, caused him to deviate from the rules. In solo haikai, there was an opportunity to create poems at a much higher level in terms of art than traditional haikai poems. However, due to the need to ensure the smooth running of team competitions, the fact that consistently developed rules are maintained even in solo performances had become a real obstacle, which had no reason other than tradition.

俳諧独吟一日千句 ("Thousand Verses Composed Alone in One Day") dated 1675, is the first major collection of poetry by a poet who began to write solo. As another valuable source of information about Saikaku's life, the collection includes thousands of haikai written by the poet in a single day dedicated to his wife's funeral. Most of the poems in the collection are dedicated to a common theme - the early death of his wife, and are filled with a sad sense of loss in mournful tones. However, it is based on haikai that illuminate the colorful scenes of ordinary people's daily lives through the free association of themes, ideas and images specific to the Danrin school, rather than pointing to human subtle emotions through images of nature like traditional renga.

One by one, like a kaleidoscope, the haikai of the collection, which illuminate the pages of the daily life of that period, remind the reader of small fragments taken from certain places of prose work. Saikaku, on the other hand, is portrayed in his "chain poems" not as a lyric poet, but as a storyteller. Despite the fact that the collection "Thousand Verses Composed Alone in One Day" was in a state of catharsis and in a short time, it is surprising that the poet was able to quickly write a very wide range of haikai of such content.

Adherence to the principle of speed led to the emergence of a new form of the art of haikai composing in the work of Saikaku - "yakazu haikai" ("arrow - counting haikai") [2, p. 49]. In poetry competitions organized at the Ikutama Manku Temple in 1677 and 1681, Saikaku first applied the terms of the samurai's archery competition to the haikai process, first creating 1,600 haikai and then updating his results to 4,000 haikai. The

poems of the poet, written in two competitions, are preserved in the form of a collection with the titles 俳諧大句数 (“ManyVerses of Haikai”, 1677) and 西鶴大矢数 (“Great Number of Haikai”, 1681).

The reason why the yakazu haikai is essentially a quantitative contest is that the emphasis is not on the quality of the poems, but on the volume they are written at a given time. In this regard, the poet concludes the collection “Great Number of Haikai” that it is useless to spend long months, sometimes years, to polish the poems. In his opinion, the high talent of the creator is manifested only in the intense improvisation. Improvisation and the pursuit of speed allowed Saikaku to use a wide range of intelligible spoken language and syntax, sharp phrases, rather than subtle word play.

Rejecting the canons of medieval renga and focusing on the creation of a new poetic language, he went ahead of many contemporary poets in this regard. In this sense, it is not surprising that most of the poet’s poems are not considered to be works of high art in comparison with the masterpieces of classical poetry. However, he set himself the task of creating poems that would delight readers, not works of high art. Focusing on the depiction of the universe and man in real life, Saikaku was more interested in the reality, vitality and impact of haikai than in the depth of his poetic background.

The themes in Dutch Saikaku poetry were indeed far from the themes of traditional renga and even earlier classical poems, all of which originated from everyday life in major cities. While birds, flowers, and the autumn moon were as common themes as ever, the poet’s works were the dedications to the gay quarters, the lovers of daimyos, kabuki actors, the price of rice, court cases, rents, pawnshops, bankruptcies of merchants, and so on. topics. These themes were later covered more broadly in the work of the novelist Saikaku, and it was at this stage that the creator realized that haikai was a very limited means for him to express his talent.

Conclusions

Considering that Saikaku was mainly successful in prose, it seems that much of his creative activity was spent on shaping him as a poet. Nevertheless, it was the experience and knowledge he gained in haikai poetry that played a major role in his decision to become a prose writer. A clear sense of reality, chosen as the object of artistic analysis, is a key aspect of the poetic work of the innovative poet Saikaku, who decided against the principles of traditional poetry and advocated the abandonment of artistic methods in classical literature. Saikaku advocated the right to see the world as he wished and to write about it in a new way. The desire to reconsider traditional means of imagery, to create a new artistic language

that can accurately and convincingly express the specific features of the reality that surrounds it, is fully reflected in Saikaku's prose.

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MODERN TRENDS IN THE TRANSFORMATION OF THE FAMILY AS A SOCIAL INSTITUTION

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Abstract. Today, the family, like society as a whole, is going through a transitional period, accompanied by negative phenomena: instability of marriage relations, a decrease in the social responsibility of spouses, a high level of their individualization, etc. At the same time, there is every reason to consider this transformation as a natural evolution of a traditional family into a modern one, with new connections and relationships.

Keywords: family, marriage structure of society, social institutions, youth

Modern Russia is going through difficult times: along with political and economic problems, there are a lot of social problems, there is a devaluation of the spiritual and moral qualities of our society, a change in its values and morals, the views on many established institutions of society and, in particular, on the institutions of marriage and family are changing. This social phenomenon cannot but affect the attitudes, values and preferences of marriage and family relations of modern youth [1]. The transformations taking place in the social sphere make their own adjustments to the social institutions of the family and marriage and entail: an increase in the number of divorces and, consequently, single-parent families, a decrease in the value attitude towards the institution of family and marriage in the youth environment, the priority of professional and career values over marriage and family values, etc. [2].

In addition, a common psychological and pedagogical problem among young people is their lack of knowledge about marriage issues: when starting a family, they rely only on the power of feelings. The family is a significant unit of society. The family is the basis of all social institutions. It is only in the family that a person begins to learn social roles, acquires the

primary basis of education and receives behavioral skills for further socialization in society. It is difficult to overestimate the role of the family both for an individual person and for society as a whole. Thanks to the family, the basic value orientations of the individual are laid. The family also performs other functions, ensuring the sustainable development of society, exerting a regulatory effect on many processes and phenomena of social life.

The stability of the family is determined by the state of its stability as a social institution. It is influenced by both internal and external factors. Internal factors include the value attitudes of the spouses, the distribution of roles, the nature of interpersonal relationships in the family, and, in addition, the level of conflict between husband and wife. External factors: social status of the family, economic environment, etc. The opposite judgment of the stability of the family is its disintegration, under which the gap between the spouses is perceived, or rather divorce. In the USSR, everyone's family life was strictly controlled and was in plain sight among others, in this regard, the number of divorces was minimal. After the collapse of the Soviet Union, Western trends had a significant impact, and a problem arose related to the disintegration of the family as a unit of society. Thus, one of the social problems of modern society is divorce in young families, which determines the need to identify and analyze the factors of marriage and divorce in the youth environment.

The Russian Federation firmly holds one of the leading places in the world in terms of the number of divorces. The tendencies of growth and decline in the number of births in Russia quite consistently repeat the changes in the number of registered marriages, although they are formed against the background of the preservation of a rather high proportion of children born among women who are not in a registered marriage, and a periodic increase in the number of registered divorces. The wave-like change in the number of marriages and the number of births is based on the wave-like deformation of the age composition of the population, the alternation of small and numerous generations of different years of birth.

Now the age of the most active mating and reproductive behavior is reached by the relatively small number of generations born in the 1990s. At the same time, the share of couples who do not register their marriage and the share of children born out of a registered marriage increased. If in the 1970s and in the first half of the 1980s the share of children born out of a registered marriage was about 11%, then since the mid-1980s it has steadily increased, having risen to 30% in 2005. Then the growth trend was replaced by a rather rapid decline - to 21.1% in 2016 and 21.2% in 2017.

The number of registered divorces per 1000 registered marriages fell to 509 in 2011, but then began to rise again, increasing to 620 in 2016 and 640 in 2018. At the same time, one should not forget that only a small part of the divorces recorded for the year refer to marriages concluded in the same year, and for the most part - to marriages concluded in previous years.

The number of registered marriages and divorces and the corresponding general coefficients give only the very first and rather "vague" idea of the ongoing processes. More detailed data appear in the course of the annual development of current accounting information, as well as the results of continuous censuses and sample surveys. In particular, a fairly wide set of characteristics of mating behavior was obtained in the course of a sample survey of the reproductive plans of the population (RPN-2017). The survey results confirmed, for example, that unregistered marriages (partnerships) are becoming more common among the younger generations.

According to statistics, every second registered marriage is dissolved in Russia. In every second divorced marriage, the spouses had minor children. In 80% of cases, the initiators of divorce are women. The marriage structure of the Republic of Bashkortostan is almost identical to the marriage structure of the country.

Let us consider separately the marriage structure of youth in Belarus. According to the 2015 microcensus, the majority of young people aged 16 to 34 have never been married - 61%, officially married - 29% (in Russia - 27%), and those who indicated the status of officially divorced/broke up - 3.7% (in Russia - 4.2%). The share of unregistered marriages in the marriage structure of youth in Belarus is 5.6%.

There are differences in the structure of marriage among young people in urban and rural areas. According to a sociological study ("Strategy for the Socio-Economic Development of the Republic of Bashkortostan until 2030", 2015), the share of single people prevails in the marriage structure of both urban and rural youth of the republic, while among rural youth there is an 8% higher share of registered marriage. Late marriage registration and informal marriage cohabitation are more typical for urban youth.

The tendency for marriage is an increase in the average age at first formal marriage. This change is typical for both the Russian Federation and the Republic of Bashkortostan. According to statistics for 2016, in the Republic of Bashkortostan, the average age of the conclusion of the first official marriage union for men is 28.3 years, for women - 26.1 years.

Late marriage registration is associated with the adaptation of young people to socio-economic conditions. The age of obtaining general sec-

ondary, vocational and higher education is growing. Young people try to get independent experience of economic activity, financial independence before the official registration of relations. Women also have work experience before going on maternity leave. A loyal attitude in society towards unregistered marriages and cohabitation also influences the development of this trend.

Analyzing modern behavioral and value realities, it is possible to predict further aging of first marriages and an increase in the age at which the first children are born. According to the results of a sociological survey ("The Strategy of Socio-Economic Development of the Republic of Bashkortostan until 2030", 2015), the family occupies one of the first positions in the value system of young people: more than 80% of respondents under 30 put it in first place among other important spheres of life. However, we cannot talk about preserving traditional family values for young people. The republic is characterized by all-Russian trends in the statistics of marital behavior: a decrease in the marriage rate, an increase in divorces, an increase in unregistered marriages.

In a study carried out within the framework of the "Young Family" project by the method of focus groups, one of the tasks was to study the goals and reasons for creating a family. The respondents identified the following motives for creating a family and making a decision to register a marriage:

- love, a subjective desire to constantly be together;
- making a decision on the birth of children or already an actual pregnancy. Compliance with the norm - the birth of children must take place in a registered marriage;
- for self-realization, self-affirmation, the family gives motivation and inspiration for development, a registered marriage increases social status, gives respect in society;
- family life as a motive and value in itself - building one's own family life, living together with a partner, having and implementing joint plans (feeling the family as personal property) (more typical for women);
- family is a criterion of happiness, that is, they created a family in order to be happy in the full sense of the word (the fullest realization of their female or male needs and resources);
- seeking protection, leaving the parental family (often dysfunctional), avoiding risks in a difficult situation: antisocial behavior in the parental family, shelter in a new family from the outside world;
- marriage as a stage in developing relationships, the next level;
- marriage as an obligatory social norm, a tradition that must be fol-

lowed ("so it is customary");

- the meeting of "their own" person (similarity of interests, the presence of a common idea between young people) prompted the decision-making directly;

- pressure from society (parents, relatives, friends) [3].

To study marital attitudes and ideas about family life among young people, focus groups were conducted with single girls and single young people (participants 21 to 32 years old). In their opinion, the criteria for a young person's readiness for marriage, for creating a family are:

- psychological maturity, formed ideas about responsibility and awareness of the decision made ("grow with brains"), while age does not always play a role. There are examples of early marriages that turned out to be strong, while the marriage of mature, adults can be fragile;

- material readiness, financial independence: to have their own home, car, or at least a steady income (especially important for men);

- obtaining higher education and work experience before marriage and childbirth (especially important for women);

- the presence of a partner, "his" person (comfort of communication, a sense of support and full acceptance, understanding and trust). Some participants spoke about the need to see a spouse as a real partner, with whom one can do complex "projects", of which there will be many in family life.

For the participants in the focus group "bachelors", the family is a "value-goal", since there are quite definite requests and criteria, a strong motivation to create their own families. In the future, the family is seen as a haven of peace and tranquility, an environment for further gradual development. Associated with calmness, warmth, comfort, delicious food; place and people who are waiting for work.

Having children is also one of the important stages in the life of men and women, for which you need to be ready. Moreover, men talk more about material, financial readiness, and women - about psychological readiness. Young unmarried girls said that it was important for them that the process of upbringing, caring for children was not a burden, there was no feeling of deprivation. This cannot arise formally, at some point when the right age comes or a person becomes financially ready - we are talking about psychological maturity and a conscious desire to devote all his time to this.

Young people who have already registered their relationship at the stage of their student life consider this particular model (student marriage) to be more justified, since after graduation, when it will be necessary to

look for work, solve housing problems, etc., is not the best time for a wedding. and developing relationships. Opinions were voiced that student families are stronger, as they have more experience of living together, solving difficulties, they know how to negotiate, they know each other's characters and interests well.

The starting point for creating a family, in the opinion of all participants, is a meeting, the realization that he has met "his" person. The feeling of passion and love fade into the background. First of all, there should be a feeling of a best friend nearby, a partner in all matters, who has a similar worldview and interests, is ready to support ("with this you can create a team, a family is also, in a sense, a project, and it is important that you do it with a like-minded person").

In the conditions of modern society, the interests of young people, for the most part, are focused on educational or scientific activities, on a career, communication with friends and entertainment. At present, young people can observe a frivolous attitude towards marriage, since in modern Russian society, ideas about family and family relations are deformed into a denial of the latter. Most young people do not seek to create a family and register their relationship.

A modern family is a family with one or two children. And of course today the role of the family in society is undergoing changes. The formation of family relations today is influenced by many factors: social, economic, spiritual and moral. More and more often, statistics give examples of an increase in the number of divorces, the creation of civil marriages, which do not bear any responsibility to each other [4].

Most families choose to adapt passively to difficulties. They continue to focus mainly on extra earnings to basic wages. The incomes of most Russian families provide only a minimum level of physical existence. Sociological studies show that in the current social situation, most families rely on internal resources. The authority of the state and society as a guarantee of social protection tends to zero.

In addition to everything else, a negative role in this process is played by such a social phenomenon of our time as the mythologization of the family and the processes of its development. Myths, persistent social stereotypes, distort the ongoing changes in the family as a socio-cultural institution, lead to its devaluation, due to which they act as a tangible obstacle to the creation and functioning of a harmonious family. The most widespread as a result of the total collapse of the social system in the 1990s are the myths about "the collapse of the family as a social institution" and "the degeneration of real men" and "masculinization of women"

[5].

The first myth about the failure of family relations is based on the facts of the family's gradual transfer of its functions to other social institutions and the increasing effectiveness of the implementation of family functions by each of the spouses separately, independently of each other. Indeed, in today's conditions, each of the spouses can successfully independently carry out household functions. The implementation of the educational function by parents is facilitated by the social education system, and often with the participation of grandparents. Spiritual communication can be easily reduced to a circle of colleagues at work. And even the reproductive function can be successfully realized without the participation of a spouse by means of artificial insemination or the involvement of a "donor mother".

The sad statistics of divorce, the increase in the number of people who do not marry, give rise to gloomy forecasts about the elimination of the family as a social institution. An additional destructive factor is the new forms of organizing relations between partners: "civil marriage" or, for example, the version of the "Sunday (coming) father".

Two other myths about the widespread feminization of men and the masculinization of women are closely related and mutually reinforce each other's negativity. This conventional wisdom is supported by the orientation towards a new trend in fashion - unisex - in clothing, behavior, lifestyle, habits, leveling the fundamental differences between men and women. The reason for this is the hypertrophied opposition of masculinity and femininity, up to their absolute opposite. In reality, there are no "purely masculine" or "purely feminine" personality types. In essence, the human personality is androgynous, that is, it combines feminine and masculine qualities, only in a different ratio for men and women. The latter, expanding the boundaries of the social space traditionally assigned to them and asserting themselves in new social statuses, are forcing society to take a fresh look at their social role and purpose.

It would be extremely misleading to associate these alarming tendencies with the collapse of the family as a social institution. Myths about the decline of the family reflect the inability to see real changes behind negative external symptoms - namely, the formation of qualitatively new relations within the framework of the institution of the family, conditioned by a change in the place and role of women in production and society, relations based on mutual respect for the rights of each of the spouses to individualization and complete personal self-realization in the professional and social spheres. The development of the family is going through a crisis at this historical stage, the resolution of which will lead to the emer-

gence of a new type of family - with a new functional hierarchical structure and qualitatively different (equal and partner) relations between spouses.

Despite the difficulties that the modern family is going through, the institution of marriage and the importance of family values have retained unconditional importance for the majority of Russians. In recent years, there has been a clear, undoubtedly positive, shift in favor of choosing a family as a form of partnership that is optimal to ensure the necessary conditions for personal growth and self-development. The value of the family and its rating are definitely growing. The family, like society as a whole, is going through an adaptation period, passing into a new quality and developing new ways of interaction.

People understand that the strength of a marriage depends not only on themselves, but also on their spouses, whose behavior is unpredictable even with a kind and caring attitude on their part [6]. The family crisis is manifested not only in frequent divorces, but also in the fact that the number of legal marriages themselves is decreasing. They are being replaced by cohabitation, which in everyday life is called "civil marriages." Many men and women refuse to register their relationships with partners with the registry office. In the event of a break in the informal union, they may not be afraid that they will sue part of their house or apartment, as former spouses often do [7].

Many sociologists and demographers believe that the very model of a traditional family based on a strong marriage with several children is outdated and does not fit into modern society. It is being replaced by a new, "multivariate" model described in the theory of the "second demographic transition" [8], which is based on the paradigm of family modernization as a result of social progress and democratization.

The adherents of the paradigm of "modernization of the family" believe that in modern society everyone has the right to a free and socially acceptable choice between marriage, cohabitation and loneliness, childlessness, family and extra-family life [9] and that all this is one of the human rights.

With this freedom of choice, natural families of the traditional type, which used to have a lot of children [10] and compensated for the childlessness and few children of families of other types and single people, remain in the minority. This leads society to extinction.

To prevent the country's population from shrinking, the state must financially and morally support full families, consisting of lawful spouses with several children, by means of family and demographic policy. They should be provided with more and more benefits and benefits, as well as

make their way of life with the help of the media more prestigious in the eyes of public opinion than among people who have chosen a different path for themselves, although someone considers it more modern and progressive.

For the preservation of families and the prevention of divorce, such a form of work as the prevention of this phenomenon is also important. Prevention of divorce is a set of measures that contribute to the full functioning of the family, the prevention of possible problems. In general, prevention of divorce in young families can include:

1. Psychological assistance in solving family problems and conflicts (diagnostics, testing of problems, correctional psychological work (individual and group));
2. Work with divorcing couples (correctional and psychological work (individual and group), diagnostics, testing of the causes of the conflict);
3. Teaching family life without conflict (trainings);
4. Development of special training and educational programs. Education of spouses as an element of prevention can take place in the process of trainings, which allow them to form their skills to overcome difficulties, regulate relationships.

The young family is one of the most vulnerable groups in the population. Many young marriages are registered due to pregnancy or childbirth. Young people have a distorted view of family and marriage.

Also, the spiritual and moral guidelines of young people for their future life have changed: the need for education, building a career, the age of marriage is being pushed further and further. The orientation towards the emotional sphere of the individual, his aspirations, feelings, moods, grows.

The socio-economic crisis in the country and in the world, the weakness of state policy, which aggravates the already unstable position of marriage and family relations, leads to the fact that the largest percentage of divorces is recorded in families that have lived for less than 3-5 years.

The demographic crisis can be traced to the example of a young family: a decrease in the number of registered marriages, the search for alternative forms of family and marriage, an increase in the number of divorces, an increase in illegitimate births, the number of single mothers, the number of underage mothers.

Despite the disappointing divorce statistics, the instability of modern society, housing and financial problems, young people still strive to create their own families, therefore the state should help strengthen young families by developing programs and projects aimed at improving the quali-

ty of life of spouses and contributing to the further development of their families.

The family is an integral part of society and it is impossible to diminish its importance. Not a single nation, not a single civilized society can do without a family. The foreseeable future of society also cannot be conceived without a family. For each person, the family is the beginning of beginnings. The concept of happiness - each person connects, first of all, with the family: happy is the one who is happy in his home.

The family should be preserved as an institution of relations capable of preserving a civilized society, because "the family is a society in miniature, on the integrity of which the safety of the entire human society depends" (F. Adler).

Today, the family, like society as a whole, is going through a transitional period, accompanied by negative phenomena: instability of marriage relations, a decrease in the social responsibility of spouses, a high level of their individualization, etc. At the same time, there is every reason to consider this transformation as a natural evolution of the traditional family. into a modern one, with new connections and relationships.

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**ALL-RUSSIAN PHILHARMONIC SEASON: SPRING OPENING IN THE
REGIONAL PHILHARMONIC****Redko Anatoly Maksimovich**

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Abstract. *The article assesses the artistic impressions of a professional musician attending philharmonic concerts, which resumed as part of the anniversary season after the vaccination company among the local population during the weakening of a contagious disease that kept all people in fear and nervous tension.*

Keywords: *symphony concert, violinist and orchestra, violin concerto and symphony, performing skills, anniversary of Perm CMS № 1, Shevtsova violin school.*

After a long break during the year associated with the severe epidemiological situation in the country (Covid 19), the Perm concert organization, represented by the regional philharmonic society, within the framework of the 85-year season, on March spring day presented music lovers with an unforgettable gift – an amazing symphony concert¹ of the famous group: the state academic Big Symphony Orchestra (BSO) named after P.I. Tchaikovsky, artistic director and chief conductor/(see: photo1).

1 With the support of the Ministry of Culture of the Russian Federation, within the framework of the All-Russian Philharmonic Seasons program, with the initiative of the Governor of the Perm Territory D. N. Makhonin, it was broadcast to the virtual concert halls of the Perm Territory, on the philharmonic website.



Photo 1. Maestro Vladimir Fedoseev.

Conductor, laureate of the All-Russian, International competitions who are familiar to amateurs from performing with the Russian National Orchestra (RNO, artistic director and chief conductor, maestro M.V. Pletnev) at the International Matsuev Festival (Perm, 2020)/see: photo2).



Photo 2. Dimitris Botinis².

² The Permians were the first to congratulate D. Botinis on the title of laureate of the presidential prize for young cultural workers for 2020, greeting him with a thunderous ovation, since it became known on the day of the concert. Participant of President Vladimir Putin's teleconference with cultural and art workers, winners of presidential awards for young cultural workers, as well as in the field of children and youth for 2019-2020. The Day of the Cultural Worker is a professional holiday (23.03). In a broader sense, it includes people of creative professions, artists, as well as custodians and promoters of cultural heritage.

According to European critics, who noted that the talented conductor bewitches the audience with an unusual, dynamic and intuitive style. Thanks to his original technique, he seems to sculpt and spiritualize music at the same time, using an amazing, fantastic palette of gestures. "D. Botinis has repeatedly proved that he is a rising star in the demanding international arena of conducting art. We have good reasons to believe that the figure of the conductor will leave its mark in the decades to come "(music magazine" Politonon "). "Enthusiastic, charismatically gifted, great musician with conducting art in his blood! The culmination of his performance was the performance of The Firebird by F. Stravinsky: the depth of knowledge and feeling of this score in his interpretation seemed unlimited, "wrote the Polish press.

A famous violinist³, leading a rich concert and pedagogical activity, performed as a soloist: he tours in Europe, Japan, South and North Korea, China, Brazil, in many Russian cities with leading Russian and foreign symphony groups and conducts master classes. The demanded violinist⁴, was applauded on the prestigious concert stages of the countries: Austria, Belgium, Germany, Hungary, Switzerland, Italy, Spain, Finland, Sweden, Greece (photo 3).



Photo 3. Pavel Milyukov.

³ Bronze medalist of the XV International Tchaikovsky Competition (Moscow, 2015), laureate of the International Competitions named after N. Paganini (2007), named after D. Oistrakh (2008), named after A. Khachaturian (2012), winner of the Order of Friendship Pavel Milyukov, (soloist of MSF since 2012).

⁴ He played the Ex-Sigeti violin by PD Guarneri, provided by the Swiss Neva Foundation. He now plays the Stradivari "Joachim" violin. I learned the basics of learning to play the violin in CMS № 1 from the teacher: Honored Worker of Culture of Russia T.A. Shevtsova.

Before the Perm tour, the performers honed their virtuoso technique in combination of musicality during the period of weakening of the virus with a series of concerts in solo performance and in an instrumental ensemble⁵.

On my own I would like to express my admiration for his performing manner, which is close to the reference one manifested in the performance of all violin concertos of the listed Soviet composers: D. Shostakovich and S. S. Prokofiev. It can be seen that the musician is constantly studying, keeping the concert form, and also improving it, because there is no limit to the peak of skill. As D. Matsuev said, to the machine, study, study, and study again, and so every day, constantly maintain a concert form, your professional resource given from God.

And only then they came to us in order to please the audience in their penates, which received true musical pleasure and a great outlet from what they heard in the performance of the masters of the performing arts.

The author of an article⁶ on professional activity (titled according to the results of creative activity⁷, who celebrated his 60th birthday, 36th anni-

5 Orchestra conducted by V.I. Fedoseev with a program of works by P.I. Tchaikovsky; P. Milyukov with the Ryazan Provincial Symphony Orchestra conducted by S. Oselkov with S. Prokofiev's concert No. 2 for violin and orchestra; with A. Knyazev and the State Symphony Orchestra of Russia named after E.F. Svetlanov with a concert symphony for violin, viola and orchestra (arranged for violin, cello and orchestra) by V.A. Mozart. Conductor A. Tkachenko.

6 Graduate of CMS № 1 in piano (class of the Honored Worker of Culture of Russia M.S. Antropov).

7 Redko Anatoly Maksimovich: Honored Artist of the Russian Federation; Honorary Diploma of the Ministry of Culture of the Russian Federation; Honorary Diploma of the Ministry of Culture, Youth Policy and Mass Communications of the Perm Krai; Honorary Diploma of the Head of Perm; assistant professor; candidate of pedagogical sciences; Master of Business Administration (MBA) in Culture and Arts Industry; manager; postgraduate studies; two higher educations; Master of Business Administration (MBA) (London, UK); "Digital for Executives"; departmental certificates of honor; excellent student of the Ministry of Culture of the USSR; excellent student of education of the RSFSR; member of EAPPM "Science"; member of "ENO"; member of IBIMA (USA); participant of the 30th IBIMA Conference (Madrid, Spain); member of the organizing committee of the V International multi-genre competition named after A.P. Nemtin; member of the organizing committee of the XIII Krai competition-festival of musical art of children and youth named after P.I. Tchaikovsky-D.B. Kabalevsky "Our Perm Krai"; member of the selection committee, the main commission for scholarships of the INF "New Names" named after I.N. Voronova (Perm region); Diploma-recipient, prize-winner of the International contests of educational methodological, educational, scientific literature, scientific publications in the field of economics and education; personal diplomas, certificates of International, All-Russian, Regional scientific-practical conferences, International scientific-thematic congresses, symposia; publications in periodicals from the list of VAK/5 articles/, SCOPUS (management, choral specialization)/3 articles/, DOI/15 articles/, RSCI/25 articles/, articles in scientific journals with International Science Citation Indexes, indexing articles in eLIBRARY.RU; publication of articles with translation into foreign (English, Chinese) languages; collective, author's monographs; According to Google

versary of his creative activity in the concert senior choir "Melodia" of the City Palace of Children's Youth Creativity (CPCYC) in Perm) also attended an unforgettable festival of classical music⁸.

The concert program was designed in such a way that this performance marked several dates at once: a tribute to the memory of the 250th anniversary of the German composer L. Beethoven/1770-1827/; tribute to the memory of the 130th anniversary of the Soviet composer S.S. Prokofiev/1891-1953/. The musical masterpieces of the great composers⁹ were performed by the orchestra, which celebrated its 90th anniversary this season and to whom the Soviet composer himself (meaning S.S. Prokofiev) entrusted the premiere of his compositions.

The only violin concerto was performed in the first part¹⁰. This piece appeared in the musician's repertoire two years ago, and now P. Milyukov calls it his favorite: "Honestly, without a drop of irony, I can say that today it is not just my favorite concert, but also the deepest one. If you like, this is the most important book I have read in my life. And, of course, there was no thought to bring something else to my hometown" (see: photo4).

Analytics, copyright articles were read 18,994 times; laureate of All-Union, All-Russian, laureate of diplomas of I-III degrees, diploma winner of III-II degrees of International choir competitions, festivals; laureate of the III degree diploma of the V International Polygenre Competition named after A.P. Nemtin (Perm, 2017); laureate of the 1st degree diploma at the XXII International Festival-Competition of Choirs "Rainbow" named after I.V. Roganova (St. Petersburg, 2019); winner of the Krai awards; a laureate of Krai, city competitions of author's programs of additional education for children.

8 The tickets were not cheap, at two and a half thousand rubles, but the place was convenient. From there it was comfortable to contemplate the musicians on the stage.

9 Concerto for violin and orchestra, D-dur, comp. 61 (1806): /1. Allegro ma non troppo; 2. Larghetto 3. Rondo. Allegro/; Symphony № 5, B-dur, comp. 100 (1944): /1. Andante; 2. Allegro marcato; 3. Adagio; 4. Allegro giocoso/.

10 The composer wrote a concert for his friend and colleague F. Clement, a famous violinist and composer of those times, director of the Vienna Theater, which premiered many of Beethoven's works. The premiere of the Violin Concerto took place at Clement's benefit performance on 23.12.1806 at the same theater. The first printed edition of 1808 was also dedicated to him. It is believed that Beethoven completed the solo part right before the concert, so that Clement read some parts of it right from the sheet during his performance. There is a legend that in between the first and the rest of the piece, Clement decided to entertain the audience by performing variations on the themes of the concert, turning the violin upside down. The premiere was not successful and the concert was forgotten for several decades. The work got a second life in 1844, after his death, when the concert was performed by 12-year-old J. Joachim with an orchestra conducted by F. Mendelssohn. Since that time, the concert has become one of the most important and frequently performed works of the violin repertoire, which played an important role in the development of the violin repertoire in the XIX-XX centuries, and the followers of Beethoven's traditions were: I. Brahms, P. Tchaikovsky, J. Sibelius.



Photo 4. Cadenza of 1 movement of Beethoven's violin concerto: violin solo. BZPF.

Pavel recalls with gratitude his first music teacher: "I lived then in Perm, Tatyana Aleksandrovna, who works a miracle with young children¹¹. She, in fact, was my second mother, because I spent 11 years with her, starting at four and a half, until I left for Moscow to study at the Moscow School and the Moscow Tchaikovsky Conservatory. With her (i.e. Shevtsova), so much material was covered that I still use it."

Exactly a year ago (2020), the graduate was supposed to play at the anniversary concert of his native school (100 years)/see: photo 5/.



Photo 5. Building of CMS № 1, Perm.

¹¹ Shevtsova's violin school of professionalism and skill was attended by laureates of All-Russian and International competitions: E.M. Korzhenevich (violin), R. Filipov (violin), A. Koryagina (violin), A. Ivanov (violin), V. Nelyubina (violin).

On the night before the show, Russian concert halls were closed. Then the Perm Philharmonic organized an online broadcast of the concert, which took place in the organ hall, in which there were no listeners on its website with the program performed: R. Schumann Sonata № 1 for violin and piano in A minor, op.105; S. Frank. Sonata for Violin and Piano in A major, FWV 8; B. Stravinsky. Divertissement for violin and piano (from the ballet "Fairy Kiss"). Pianist: Laureate of International Competitions E. Martirosyan.

"I remember this day as it is today," recalls Pavel Milyukov. - It was the first day of the Russian lockdown. It was on the night before that concert that we received an order to close the concert halls. In the next second, I decided not to cancel the concert. I don't think it's worth saying that I probably played with even greater dedication, because it was the very first day of the most incomprehensible event in the history of mankind. And no one could answer the question of what will happen tomorrow. I remember that first step into an empty hall. I think in the future many musicians felt this, but I honestly admit that I clearly understood that one of the first in the world to do this. I understood that on the other side of the camera, thousands and thousands of Perm residents were chained to the screens. I can't even tell you how exciting it was. Each note played was experienced with a special feeling. Therefore, today I am doubly happy to go on stage, because my world, like the world of any musician, is communication with the audience, which we have not had for too long. A year has passed, and we still cannot fully exist, "the violinist summed up, answering the local media at a press conference.

That evening, the Perm audience greeted the musician with special warmth (see: photo 6).



Photo 6. Paved Milyukov is grateful to the Permian public. BZPF.

The hall was attended by the leadership of Krai: the Perm mayors¹², who during the break went behind the scenes of the concert hall¹³, to thank, congratulate for the brilliant performance, and also to touch on the topic of the construction of an elementary school-music school, curated by P. Milyukov himself. After graduating from this professional institution, talented graduates, having honed their mastery of musical abilities, can immediately enter the conservatory of our country.

The bosses did not deign to stay in the second section, which caused disrespect for the guests, apparently there were more important things than listening to the famous world-class orchestra. We believe that 50 minutes of symphonic music of the Soviet classic did not prevent them from solving more demanded urgent matters. In the Perm Philharmonic, as there was no local symphony orchestra in the past, and in our time there is no local symphony orchestra. But this, by the way, for reflection, God bless them, this is their right if they did not want this.

Vyacheslav Markovich spoke about the project for the construction of a children's music school with a boarding school for gifted children, which is being implemented in Perm together with Pavel Milyukov, one of the initiators of the idea: "Krai secondary school with a musical bias at the design stage. It is designed to train 350 people. At the exit, the guys will receive a professional education at the level of a music college. The school will have a boarding school, which will select the most talented children from all over the Perm Krai and give them the opportunity to study at the best music school in the region. We expect to train professional musicians in the system of the currently demanded two-level education. The building is designed specifically for this type of education. We work with serious project consultants who are trying to find a balance between general education and special education. An acoustic concert hall for 400 seats is also planned. The school will be located in the neighborhood of the House of Culture of Railway Workers/HCRW/, where a large residential complex is being built¹⁴. Now the project is undergoing examination. Construction will begin this year. It is planned to commission the school in 2023, and this will be another gift for the 300th anniversary of Perm." - commented Vyacheslav Markovich.

12 Governor of Perm Krai D. N. Makhonin, Deputy Chairman of the Government of Perm Krai D. I. Samoilov, Minister of Culture of Perm Krai V. M. Torchinsky, Minister of the Department of Culture and Youth Policy of the Perm City Administration V. V. Golovin.

13 Although, there is a nuance to which you can pay attention. DI Samoilov, Deputy Chairman of the Perm Krai Government, expressed his attitude to what was happening. You can pay attention to this, or you can skip it.

14 It is located close to the functioning regional home for children and youth creativity in Perm.

On my own behalf, I will say that enrollment will suffer. Unprepared children with poor musical abilities will study at the music colleges of Perm, Berezniki, Tchaikovsky. Competitive rivalry as there was not in the past, and will not be in our time and in the future. Everyone will be taken by whoever comes and the performing level will slip into the weaker side.

It is not worth guessing whether there will be a competition, the building itself, even its foundation, is not yet there. How long the construction will take is not known. To turn into the second Central Music School, where only visitors from far away will study, especially since there is a hostel. These are those who could not enter the prestigious music schools in Moscow and St. Petersburg and other centers of Russian culture. The visiting teachers will have their favorites, whom they will lure here, and then back to their native land. An educational institution that will train visiting prodigies who will leave for those centers of our country where there are symphony orchestras can be abroad or still educate their homegrown people who will glorify their art while living in our region.

This is helped by the annual Krai competition "Russian Fantasy", aimed at identifying and supporting young gifted performers and preserving and developing the musical traditions of the national vocal and instrumental performing school and musical culture of Perm Krai (founded in 1994).

Competitive annual selection of scholarship holders of the I. Voronova "New Names" Charitable Foundation, implemented using a presidential grant for the development of civil society provided by the Presidential Grants Fund (founded in 2018).

It is not known what it will look like. Here, many factors can be taken into account that can have both positive and negative effects. Let's see where this leads in the future.

Pavel Milyukov said that he plans to act as a guest teacher¹⁵ at the future school with a series of master classes: "This is what we dreamed of when I was little and studied in this city. Many have already responded (see: photo 7) and want to come specially to teach. "

With regard to the teaching staff, an explanation was given from Vyacheslav Markovich, who explained to the press in the media that we will not expose teachers in Perm music schools.

15 Since 2016 P. Milyukov has been teaching at the Tchaikovsky Moscow State Conservatory (MSC) at the violin department of the orchestral faculty. At this department as an assistant E.M. Korzhenevich.



Photo 7. E.M. Korzhenevich - assistant at the violin department of the orchestral faculty of the Moscow State Conservatory (MSC) named after P.I. Tchaikovsky.

In the second part of the concert, the orchestra performed a bright, large-scale work¹⁶, which the composer considered the best work. Heroic images in it coexist with tender and passionate ones. Serious reverie with mischievous humor. And the symphony ends with a stream of festive and jubilant sounds. S.T. Richter said about the composition: "In the Fifth Symphony, he rises to the full extent of his genius" (see: photo 8, 9).



Photo 8. The State Academic Bolshoi Symphony Orchestra (BSO) named after P.I. Tchaikovsky. Conductor, chief conductor of the Academic Symphony Orchestra of the North Caucasus State Philharmonic Society named after Safonov D. Botinis. BZPF.

¹⁶ Written during the Great Patriotic War. In the first performance in 01.1945, the orchestra was conducted by the composer S.S. Prokofiev.



Photo 9. The conductor's final gestures. BZPF.

The one-year pandemic benefited the rested musicians. The works announced in the program, which had previously lost their freshness due to often performed in concert halls, sounded with a certain energetic positive aura to the audience, 50% filled, large philharmonic hall.

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CONFLICT COMPETENCE AS THE BASIS OF INTERPERSONAL COMMUNICATION IN THE “DOCTOR-PATIENT” DYAD

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Abstract. The article discusses the formation of conflict management competence as an integral part of the professional skills of a doctor, ensuring effective interaction between a doctor and a patient. The authors demonstrate the results of studies aimed at determining doctors' own level of conflict, choosing, in accordance with the situation, the most constructive tactics of behavior in conflict and effective approaches to the implementation of communication strategies and tactics. The factors leading to conflicts and peculiarities of communication in the medical environment are described; methods of forming communication skills and their implementation are discussed. Based on the results of research and testing of the program for improving conflict and communicative competences, approved by mathematical and statistical methods, a possible approach to solving the problem under study is proposed, which allows the doctor to prevent and constructively resolve conflicts, build behavioral tactics and speech strategies, and also solve communication problems, which will reduce the risk of professional burnout.

Keywords: conflict management competence, communication skills, effective communication, doctor, patient, speech strategies and tactics, level of conflict, conflict tactics.

The conflict potential of modern health care is associated with the in-

creasing burden on medical officers and with new requirements for the healthcare system. Organizational changes lead to increased tensions and create conditions for the emergence of conflicts in the “doctor-patient-society” triad. The potential for tension is contained in various types of relationships in this triad, such as informational, economic, legal, and ethical, as well as in types of social interaction, including competition, cooperation, etc.

The current state of communicative interaction in the “doctor-patient” dyad is characterized by an increase in the number of cases of lawsuits in which the defendants are medical officers. A significant part of the patients' claims refers to the indifference and formalism of doctors, which trigger conflict situations in the relationship with the patient. Conflicts in a medical organization can be caused by a variety of factors, as well as differences in resources, including organizational ones, values, beliefs, interests, needs, etc. Communication failures between healthcare providers and patients may be due to differences in communication styles or poor organization. For example, misunderstanding between medical professionals, according to various sources, leads to serious medical errors (up to 80%) [1]. An important factor influencing the onset, development, course and completion of a conflict is communicative competence, considered not only as a person's ability to verbal and non-verbal interaction [2], but also as one's cognitive capabilities, which allow individuals to carry out effective interpersonal communication and “to exercise social and psychological control in a communicative situation” [3, p. 101]. It is also a complex of communication skills, including social perception, and features that affect the quality of the communication process [4].

The effective communication in health care determines the quality of care provided to patients and facilitates the interaction of the organization's management and employees. Medical officers who are in contact with the patient (doctors, nurses, paramedics) are in the most difficult stressful conditions, and as a result they are at risk and prone to conflicts. Some of the conflicts most likely lead to positive results and act as an interpersonal way of developing health care as a social institution, but most still have the opposite effect, are destructive and not always solvable. Destructive conflict can negatively arise at various levels, including the quality of patient care, employee satisfaction and well-being. Unscrupulous communicative behavior can be based on erroneous perception and misinterpretation of information, which provokes the potential for uncooperative behavior, which, in turn, generates negative mutual perception and reflection by participants and inaccurate interpretation of the

communicants' intentions, and, as a result, dissatisfied patients and their complaints. Interpersonal relationships that underlie social relations, on the one hand, and are their reflection, on the other, affect the structure of interaction of medical officers not only with each other when making joint professional solutions, but also with patients. Changes in the relationship between employees can lead to transformations of behavior between employees with each other and in the "doctor-patient" dyad, and reducing the conflict potential of communicative behavior will reduce the risk of medical errors, optimize the interaction of medical employees, and reduce the material and emotional costs of managing and resolving conflicts.

In the 1990s, during the period of Russia's transition to a new economic format, the issue of determining the level and structure of professionalism in various spheres arose; the components included not only special skills (Hard Skills), but also special personality traits, which would allow a specialist to obtain the desired results [5]. Later, the professional qualities of a doctor, determined by the specific features of their professional work, was repeatedly discussed [6, 7]; attitudes towards patients and treatment outcomes were recognized as the most important; however, patients did not consider personal doctor's qualities and education to be of the highest priority in the list of professionally important qualities [8, 9]. A number of foreign studies in the 1980s described this basic indicator of the doctor's general competence as "medical manner", which implies effective doctor and patient communication, identifying three main components, such as fostering supportive interpersonal relationships, facilitating information exchange, and involving patients in decision-making. According to some researchers, "effective doctor-patient communication is a central clinical function, and the resultant communication is the heart and art of medicine and a central component in the delivery of health care" [10]. Today, the issue of the formation of the so-called Soft Skills is increasingly being raised. This is a complex of non-specialized, super-professional skills that are not related to a specific profession, but which are cross-cutting and play a leading role in the effective performance of professional functions and ensuring high labor productivity. Thus, in the medical field, first of all, they should include communicative competence and conflict potential, since the ability to speak well, be convincing and even possess, to a certain extent, the skills of active listening, can be leveled by the doctor's conflicting behavior, the use of conflict factors in speech, not recognized by the speaker himself, or the wrong choice of tactics in the conflict.

The quality of health services is influenced by many organizational and social factors. In particular, the current epidemiological situation and re-

strictive measures as a response to the pandemic challenged the professional skills of the doctor, exacerbated the emotional stress of the population and even provoked hotbeds of social tension. In this regard, organizations of any type are even more in need of specialists able to demonstrate effective communication skills and use constructive solutions to conflict situations. Therefore, the peculiarities of doctor-patient communication are based on such important professional skills of a doctor as the ability to establish and maintain contact with patients - sick and healthy - of different ages and social status for a long time, and the ability to determine and apply the most constructive tactics of behavior in a conflict.

All this testifies to the need to form communication skills and skills of constructive behavior in a conflict at the university stage. However, given the challenging social and emotional environment, efforts should also be made to develop these skills in practitioners and healthcare professionals who are currently at risk of burnout and worsening mental health.

The formation of speech literacy and the development of communication skills in simulation centers do not give the level of proficiency in effective communication skills that are in demand in the real practice of a doctor. Speech development, implying a complex of communicative competencies, involves the use of a variety of technologies based on a kind of intellectual training, involving step-by-step and consolidated learning, which awakens personal potential and facilitates creative skills, allows individuals to work out styles of behavior, including behavior in conflict, and to gradually replace ineffective strategies with productive ones in order to solve real communication problems in various professional situations.

To date, most studies on the communicative competence of doctors are mainly focused on determining the patient's satisfaction with communicating with a doctor, identifying the correlates of the communicative competence of the doctor, and treating the patient. We believe that the most important aspect of the problem under study is the determination of the communication strategies preferred by the doctor, as well as the tactics of behavior in conflict, which will allow us in the future to build the process of training professionals and choose the most effective pedagogical technologies and methods.

To determine the depth of the problem - the level of the communicative competence and conflict potential of doctors - and in order to determine the range of techniques aimed at the formation of these skills, the authors conducted a study based on a set of psycho diagnostic techniques, which included: a survey method; sociability level test (V.F. Ryakhovsky); test for assessing communicative skills (A.A. Karelin); a methodology for

studying the communicative attitudes of a person (A.N. Ivashov, E.V. Zai-ka); a method for diagnosing self-control in communication (M. Snyder), a method for determining the level of communicative competence (L. Mikhelson, translation and adaptation by Yu. Z. Gilbukh), a questionnaire by K. Thomas for determining ways of regulating conflicts; test by A.Ya. Ankstsupov (MCA); self-assessment technique of conflict by S. Emelyanov; methods of statistical and mathematical analysis: factor analysis and Wilcoxon's T-test. The study involved 102 general practitioners.

The choice of research methods is due to the purpose of the study, which involves identifying the ability of research participants to evaluate the interlocutor, determine his strengths and weaknesses, as well as the ability to establish relationships with the opposite sex, create a friendly atmosphere, understand the interlocutor's problems, show the ability to sincerely open up in communication, anticipate the impression on others, to control the expression of their emotions, to determine the conflict factors in their speech and their level of conflict, and also to choose the most constructive tactics of behavior in the conflict.

The participants were divided into two groups - control and experimental. The study was carried out in several stages: initial diagnostics of the level of the learned skills, carrying out a specially designed program for their formation and development of the learned skills, re-diagnostics of the level of communicative and conflict competence after the program for the participating doctors. In the control group, the program did not include a set of techniques aimed at the formation of conflict competence.

At the first stage, 40% of doctors revealed the indicator "Interlocutor with some shortcomings". This suggests that doctors are critical of statements, they lack some of the advantages of a good interlocutor and allow themselves to jump to conclusions. 45% of the respondents revealed the indicator "Good interlocutor", which means that doctors sometimes refuse to give their partner full attention. 10% of doctors showed an "Excellent companion" indicator. In the study of the prevailing method of conflict regulation, the style of cooperation was identified as the most common (47%), since 25% of the participants chose adaptation, another 21% - compromise and 7% - competition. When studying the level of conflict, a weak level was found in 49%, a pronounced conflict was found in 19%, an unexpressed one in 17%, and 15% showed no conflict.

As a result of a comprehensive study, it became possible to determine the preferred communicative strategies of doctors and a method for resolving the conflict, which made it possible to formulate some recommendations for the formation of communicative and conflict competencies of

doctors. The program was also aimed at the formation of stress resistance and the development of organizational culture. We have compiled a set of psychological and pedagogical methods, which are effective and give quick enough results aimed at the formation of communication skills. The methods help optimize and structure communication, provide the necessary calmness in the dispute and correct evaluation of the interlocutor, the alleged event and facts, understand how conflicts arise (in order to prevent them), think about the correct decision, reduce conflicts and decide on the choice of behavior in the conflict and exit from conflicting behavior. As teaching methods, we used mini-lectures, case-studies, cinemalogy, business and role-playing games, trainings, the method of developing lateral thinking, mini-discussions, simulations, sharing, etc. ; forms of work - group, in pairs, and individual.

In the experimental group, re-diagnosis of conflict management methods showed that 83% of doctors chose the cooperative style as preferred, only 1% continued to resort to the competition style, 6% continued to use adaptation, and 10% continued to use compromise. The level of conflict has also changed: a pronounced level decreased from 19% to 9%, a weak level also decreased from 49% to 39%, and an unexpressed level was demonstrated by 37% of doctors.

Re-diagnosis of communication skills in both groups showed different results. In the control group that did not undergo training on conflict competence, the indicator "Interlocutor with some shortcomings" was found in 35% of doctors, "Good interlocutor" - in 49% of respondents, and "Excellent interlocutor" - in 16%. In the experimental group that took the classes on the formation of both communicative and conflict skills, the following results were obtained: "Interlocutor with some shortcomings" was identified in 21% of doctors, "Good interlocutor" - in 59% of respondents, and "Excellent interlocutor" - in 20%.

The results of the study give grounds to assert that the set of psychological and pedagogical methods aimed at the formation of communicative and conflict management skills in doctors contributes to the formation of communicative competence at the reflexive level, and its level significantly depends on the formation of conflict competence. The identified correlation allows us to say that a decrease in conflict level has a positive effect on the choice of constructive ways of behaving in a conflict and getting out of it and shows differences in the level of communicative competence of doctors, i.e., the communication skills in the experimental group gave a greater increase in comparison with the control group.

Thus, the formation of super-professional skills has a positive effect on

the professionalism of a doctor, the psychological climate and relations between employees improve, which increases professional performance. A high level of conflict potential in healthcare institutions requires the development of the targeted conflict management skills and communicative competence in medical officers, and the organization of events to form these competences is of particular importance.

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NATIONAL FEATURES OF THE PROFESSIONAL IMAGE OF A DOCTOR IN THE MIND RUSSIAN, ARAB, INDIAN AND AFRICAN STUDENTS

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Abstract. This article presents the results of an experimental study of the national characteristics of the professional image of a doctor in the minds of Russian, Arab, Indian and African students. The purpose of the study was to identify the main factors of motivating the choice of the profession of a doctor and factors of professional self-determination in various national groups of students.

Keywords: professional self-determination of personality, professional self-awareness, factors of motivation

The topic of a person's becoming a professional in any field occupies an important place in public consciousness, and in the formation of professionalism it is impossible not to take into account social, psychological and, of course, national factors. It is very important to understand that the formation of a professional image of a person is based on such an important process as professional self-determination, which is not limited to the act of choosing a profession, but is a process of spiritual development of a person, the essence of which is finding the meaning of the chosen job [1].

In addition, one of the most important components of the professional

image of a doctor is professional self-awareness, which includes such components as: self-knowledge, emotional-value attitude to the chosen profession, self-regulation. The study of these components can serve as criteria for assessing the formation of the level of professional self-awareness among students.

In the course of the study, we developed a questionnaire that reveals the features of professional self-determination and professional self-awareness, which together determine the professional image of the subject's world. In order to identify professional self-determination, the following questions were formulated. What influenced your choice of the profession of a doctor? When did you first think about yourself as a future doctor? Would you like to change your choice? What do you see as the meaning of your chosen profession? What is your personal attitude towards the level of medical care in your country? Questions that help to reveal the features of the formation of professional self-awareness were asked as follows. What properties do you think you possess that are necessary for the profession of a doctor? What character traits, necessary for your chosen profession, would you like to develop in your future? Who do you think can be called a successful doctor?

In turn, the text of the questionnaire was translated into English and French using the double translation method, which later made it possible to conduct a survey of students in the Russian, Arabic, Indian and African classrooms (20 first-year students in each classroom).

Based on the results of the analysis of the answers received from **Russian students**, the following can be stated. The determining factors in motivating the choice of the profession of a doctor are the satisfaction of their needs and inclinations related to medicine (64%), as well as the popularity and prestige of the profession in society (28%). 43% of the surveyed respondents decided on their choice of the profession of a doctor in the upper grades of secondary school, while the overwhelming majority of them, namely 79%, are confident in the correctness of their choice. For future specialists (57%), the meaning of the medical profession is to help people. "Saving the lives of others" is the noblest profession - a thesis that is not disputed, perhaps, by any society in the world. Analyzing the level of medical care in Russia, students rate it as low (43%) or as average (28%).

Russian students possess a number of qualities that, in their opinion, are necessary for the profession of a doctor, among which the qualities that contribute to the formation of a disciplined and responsible personality, communicative, as well as moral and ethical qualities prevail [2]. But at the same time, students realize that for successful professional

self-realization they need to develop hard work, organization, willpower, composure, patience and perseverance, attentiveness, clarity and speed of response, the ability to communicate with people and a good attitude towards them. According to the respondents, the image of a successful doctor is associated with a professional with the necessary knowledge and skills. [3] A successful doctor is a specialist who constantly works to improve his professional level, has good communication qualities, is merciful and selfless in relation to his patients, and most importantly, he must love his profession.

The results of a survey of **Arab students** indicate the following.

The prestige and popularity of the profession of a doctor determined the choice of a future specialty by Arab respondents (33%), along with the moral motivation to benefit and help people (26%), as well as the desire to realize their inclinations and abilities in the field of medicine (46%). The majority of Arab students made their professional choices during their college years (40%), and some of them dreamed of a future profession since childhood (33%). It should be noted that all Arab respondents are unanimous in the correctness of their choice and do not regret it at all. According to Arab students, the meaning of their future profession is to help people and treat them (53%), since the mission of a doctor is noble (13%) and humane (13%). The assessment by foreign students of the level of medical care in their homeland is ambiguous: it varies from "good" to "unsatisfactory".

For successful self-realization in the field of medicine, Arab students consider it necessary to further work on the formation of a number of moral, ethical and communicative qualities, such as discipline and a sense of responsibility, competence, education, understanding of patients, courtesy, tact, patience, humanity, kindness, honesty. From the point of view of Arab students, a successful doctor is a competent specialist who loves his profession, striving for further professional growth [4]. Arab respondents emphasize that the activity of a successful doctor is not characterized by material motives; rather, he is driven by disinterested concern for people in need of help, regardless of their religion and race.

The choice of the profession of a doctor by **Indian students** (76%) was influenced by the opinion of parents, which shaped their attitude to the future profession from early childhood, which is explained by Indian traditions, according to which the main role in the family belongs to parents who have indisputable authority with children. It should also be noted that many students, 24%, want to be useful to their society and help disadvantaged and poor people who are unable to pay for medical services.

None of the Indian students would like to change their professional choice, which is associated with such a character trait of Indians as inflexibility to their choice, and is conditioned by a great sense of purpose, the desire to achieve the intended goal, not to deviate from it. The overwhelming majority (60%) see the meaning of the medical profession in serving people. As a religious people, the Indians perceive the profession of a doctor, which they are ready to serve all their lives, through a religious prism, the more the significance of this profession is expressed for them. In addition, paying great attention to a person's status in society, 41% of respondents base their choice of profession on its prestige and remuneration.

Indian students note the following qualities in themselves, which in the form of prerequisites can positively affect the performance of their future work: 44% are human qualities - love and kindness, 31% are the weight of professional qualities: innovation, composure, curiosity, 25% are moral and volitional quality (responsibility, patience, perseverance). At the same time, they would like to form in themselves properties aimed at self-development (quick decision-making, accumulation of professional skills), as well as properties aimed at interacting with the outside world, namely at improving it (love for people, promoting the development of medicine, dedication). A successful doctor, according to Indians, is one who loves his profession, his patients (42%), is recognized by patients (25%). Many see a successful doctor in their father, and for some, Mother Teresa is an example of such a doctor.

The medical profession *in Africa* is prestigious, the meaning of which for African students (Ghana, Zimbabwe, Nigeria) is to treat and maintain people's health (60%). The choice of a profession is greatly influenced by the desire of modern youth to take place as an individual, that is, to realize themselves in the profession, in order to help people solve their health problems and improve the quality of life in their countries, since many of Africans are not satisfied with the quality of medical care. To carry out such tasks, a doctor, according to Africans, must have human properties that meet the norms of ethics and morality: care, patience, love, and at the same time be a strong-willed person - decisive, courageous, disciplined, enduring. A successful doctor for an African is one who knows how to do his job with high quality at all costs: make the right diagnoses, overcome any difficulties, while showing concern and patience with his patients.

Thus, the study of national characteristics of consciousness is an important step towards establishing mutual understanding and effective cooperation in a multinational world on the one hand. On the other hand, the identification and consideration of the leading professional needs and in-

clinations of students of different nationalities within the intercultural community of the university is the key to successful education and respectful international cooperation necessary in modern society [5].

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GENERAL DENTAL EXAMINATION OF CHILDREN WITH CONGENITAL LIP AND PALATE IN A REGION WITH PETROCHEMICAL ECOTOXICANTS

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Annotation. Dental examination and identification of the features of the dental status of children with congenital cleft lip and palate, born and living in the region with industrial ecotoxics. To study the dental morbidity in children with congenital cleft lip and palate living in a region with industrial ecotoxics, compare the data with a group of children with congenital cleft lip and palate from an ecologically safe region. The article presents the results of a dental examination of 195 children with congenital cleft lip and palate, including 108 children aged 3 years, 87 children aged 6 years. Children were divided into two groups depending on the place of birth and residence: 113 children were born and lived in regions with a developed petrochemical industry, 82 children from relatively ecologically safe regions.

In the examined children, the prevalence and intensity of dental caries, malformations of hard dental tissues, periodontal diseases, dentoalveolar

anomalies, and the hygienic state of the oral cavity were assessed. To determine the intensity of dental caries in children of 3 years old, the index "kpu" was used, in children of 6 years old - the index "kpu + kp". The hygienic state of the oral cavity was assessed by the Fedorov-Volodkina index (1968), the periodontal condition in children of 6 years old was assessed by the KPI index (Leus P.A., 1988).

Our data indicate that children from regions with the petrochemical industry have higher rates of dental caries intensity in the age groups of 3 and 6 years, there is a decrease in the resistance of the tooth enamel, and periodontal diseases are more common.

The results of the study made it possible to obtain clinical and dental data characterizing the negative impact of industrial petrochemical ecotoxigants on the condition of the dentition in children with congenital cleft lip and palate, which is the rationale for the development of methods for optimizing and increasing the effectiveness of therapeutic and prophylactic measures in this group of patients.

Keywords: congenital cleft lip and palate, petrochemical ecotoxigants, petrochemical industry, dental status, enamel resistance, caries, periodontal disease

Relevance

In regions with a developed petrochemical and oil refining industry, foci of ecological and hygienic problems have formed over the decades, which negatively affects the quality of life and health status of the population [1, 2, 3, 4].

Environmentally hazardous components of a chemical nature that can persist for a long time, migrate and accumulate in biotic and abiotic substances are combined with the term "ecotoxigants". Ecotoxigants in concentrations exceeding the natural level have a toxic effect both on the environment and on human health. The ecotoxigants, which are of priority importance in terms of the degree of danger to the environment and human health, include heavy metals from inorganic ones, and oil and oil products, polychlorinated and polycyclic aromatic hydrocarbons from organic ones.

Domestic scientists have found that children born and living in regions with a developed petrochemical industry and exposed to chemical factors contained in the environment in concentrations exceeding the maximum permissible values are reliably more often observed deterioration in physical development, a decrease in the overall resistance of the body [5, 6, 7]. There are higher rates of diseases of the respiratory system,

digestive tract, sensory organs, skin, anemia and infectious diseases. Also, the inhibition of the hematopoietic system was revealed, the factors of nonspecific immunity were significantly reduced [8, 9, 10].

The toxic effect of petrochemical products on the body of the expectant mother and on the formation of the fetus during pregnancy is one of the risk factors leading to congenital malformations of the fetus. The second place in terms of frequency of occurrence in the group of congenital malformations is occupied by congenital cleft of the upper lip and palate and constitutes from 18 to 30% of the total share of congenital malformations according to various authors. In regions with a developed petrochemical industry, the proportion of children born with congenital cleft lip and palate is 1: 200 live births [11-17].

The data from the analysis of the literature indicate the need to optimize the tactics of dental monitoring of children with congenital cleft lip and palate and further targeted development of special therapeutic and prophylactic measures aimed at improving the dental status of children living in regions with a developed petrochemical industry.

Purpose of the study: to study dental morbidity in children with congenital cleft lip and palate living in a region with petrochemical ecotoxics, to compare the data obtained with a group of children

Materials and methods

We carried out a dental examination of children on the basis of the Children's Republican Clinical Hospital of the Republic of Bashkortostan of the Department of Maxillofacial Surgery and in the office of the maxillofacial surgeon of the polyclinic, where dispensary observation of children with congenital malformations of the maxillofacial region is carried out.

There were examined 195 children with congenital clefts of the upper lip and palate, including 108 children at the age of 3 years, 87 children at the age of 6 years. 118 children with this malformation had an isolated cleft palate, and 77 children had a combined cleft of the upper lip, alveolar ridge, soft and hard palate. Children with isolated cleft upper lip were not included in the study.

Children were divided into two groups depending on their place of birth and residence: 113 children were born and lived in regions with a developed petrochemical industry, 82 children from relatively ecologically safe regions.

Tab. 1. Distribution of children into groups.

A total of 195 children with congenital cleft lip and palate in the study			
113 from the region with the petrochemical industry		82 from ecologically safe region	
age 3 years	61	age 3 years	47
age 6 years	52	age 6 years	35

The distribution into groups depending on the level of maximum permissible concentrations of substances in the atmospheric air formed in the course of the activity of petrochemical enterprises (benzopyrene, nitrogen dioxide, nitrogen oxide, hydrogen chloride, ethylbenzene) was carried out according to data from the State Report on the State of Natural Resources and the Environment. Wednesday of the Republic of Bashkortostan in 2019.

To assess the dental status, we studied the state of the hard tissues of the teeth, the state of the periodontium according to the KPI index (Leus P.A., 1988).

The selection criteria for the study was the following: The presence of written informed consent of the parents / adoptive parents / guardians of the child to participate in the study; Age: 3 years old and 6 years old; Gender: male, female; The established diagnosis is congenital cleft lip and palate or congenital cleft palate.

The criteria for excluding patients from clinical groups were: Age: any other than 3 years and 6 years; Refusal of the patient to participate in the study. The presence of acute or exacerbation of chronic infectious diseases (including AIDS, hepatitis B and C, syphilis), autoimmune diseases, allergic reactions, cancer, long-term hormonal therapy with corticosteroids, mental illness, diabetes mellitus, and other congenital defects.

Examination was carried out in a dental chair under artificial lighting using a conventional examination set of dental instruments. At the same time, the state of the regional lymph nodes, the state of the oral mucosa, the depth of the vestibule of the oral cavity, the frenulum of the upper, lower lip and tongue, the peculiarities of the bite, the presence of crowding of teeth, three, diastemas, changes in the dental formula were noted, the performed surgical interventions, postoperative cicatricial changes in tissues.

The study of the dental status of 195 children with congenital cleft lip and palate was carried out according to the following parameters:

1. Dental status: external examination, condition of regional lymph

nodes, temporomandibular joint, red border of the lips.

2. Examination of a congenital defect, dimensions, surgical interventions performed, postoperative scars, remaining defects.

3. The state of the vestibule of the mouth, the color of the mucous membrane of the oral cavity, depth, attachment of the frenum of the lips, bite.

4. The mucous membrane of the tongue.

5. The intensity of the carious process - the "kpu" index in children aged 3 years and the "kpu + kp" index in children aged 6 years.

6. The condition of the gums (edema, bleeding, periodontal attachment, exposure of roots, tooth mobility, presence of dental plaque).

7. Condition of periodontal tissues - KPI index.

Results and discussion

We examined children aged 3 and 6 years. In the age group of 3 years, children diagnosed with isolated congenital cleft palate underwent uranoplasty in 92% of cases. Children 3 years old with a diagnosis of combined cleft of the upper lip, alveolar ridge, soft and hard palate in history underwent cheilorinoplasty and uranoplasty, but the oral-nasal fistula and alveolar ridge defect remained. Postoperative defects and fistulas of the palate were noted in 22% of children with combined cleft after uranoplasty. In the age group of 6 years in children with isolated congenital cleft palate, uranoplasty was performed in 100% of cases. In children with a combined cleft of the upper lip and palate, postoperative palate defects were closed in 89%.

1. When studying the state of hard tissues of teeth in preschool children with congenital cleft lip and palate, we found that 86 (79.6%) 3-year-old children with this pathology have teeth affected by caries.

Carious processes were observed in 52 (85.2%) children from the region with the petrochemical industry. While in children from an ecologically safe region, a similar indicator was observed in 34 (72.3%) children.

The prevalence of dental caries among 6-year-old children with congenital cleft lip and palate was 100%; there was no significant difference between the groups.

The data obtained on the incidence of dental caries in preschool children indicate the presence of a high incidence of dental caries in children with congenital clefts of the lip and palate. At the age of 3 years, the incidence of caries was noted higher in the group of children from the region with the petrochemical industry.

Carious cavities have 98 preschool children with isolated clefts of the palate, that is, the prevalence of dental caries in children with this clinical

form of clefts was 83.0%. Caries was noted in 66 children with combined clefts of the upper lip and palate, which amounted to 85.7%. Thus, there were no significant differences in the prevalence of dental caries in children with isolated and combined clefts.

2. The intensity of caries of deciduous teeth according to the "kpu" index in 3-year-old children with congenital cleft of the upper lip and palate was 3.92. The intensity of caries of deciduous teeth according to the "kpu" index in 3-year-old children from the region with the petrochemical industry was 4.76. The intensity of caries of deciduous teeth according to the "kpu" index in 3-year-old children from an ecologically safe region was 3.08.

In 6-year-old children with congenital cleft of the upper lip and palate, the intensity of dental caries according to the KPU + kp indices was 9.41. The intensity of dental caries according to the index "KPU + kp" in children 6 years old from the region with the petrochemical industry was 10.81. The intensity of dental caries according to the index "KPU + kp" in children of 6 years old from an ecologically safe region was 8.01.

Thus, the intensity of dental caries in children with congenital clefts of the lip and palate is characterized by high. The level of intensity of dental caries in children 3 and 6 years old from a region with a petrochemical industry is higher than in children of similar age groups from an ecologically safe region.

The study of the intensity of dental caries, depending on the type of cleft, showed that in children with an isolated cleft, on average, 4.68 teeth were affected, and in children with combined cleft, 6.34 teeth each. Thus, the intensity of dental caries in children with combined congenital clefts of the upper lip and palate is higher than in children with isolated clefts of the palate.

3. The periodontal tissues were assessed. Periodontal diseases in 6-year-old children with congenital cleft lip and palate were observed in 80 children (91.95%).

In 6-year-old children with congenital cleft lip and palate, born and living in the region with petrochemical ecotoxigants, periodontal diseases were observed in 49 (94.23%) children. Periodontal diseases in children from an ecologically safe region were observed in 31 (88.57%) children.

When determining the structure of the KPI index in 6-year-old children with congenital cleft lip and palate, it was found: the risk of periodontal disease - in 7 (8.05%) children; mild severity of periodontal diseases - in 80 (91.95%) children; the average severity of periodontal disease was not observed; severe severity of periodontal disease was not observed.

The average value of the KPI index in 6-year-old children with congenital clefts of the upper lip and palate was 1.81, which corresponds to a mild severity of periodontal diseases. In children aged 3 years, the assessment of periodontal tissues was not carried out, since the periodontal tissues in this age period are in the stage of formation.

Findings

Our data indicate that children from regions with a petrochemical industry have higher rates of dental caries intensity in the age groups of 3 and 6 years, there is a decrease in the resistance of tooth enamel, and periodontal diseases are more common.

Conclusion

The results of the study made it possible to obtain clinical and dental data characterizing the negative impact of industrial petrochemical ecotoxigants on the condition of the dentition in children with congenital cleft lip and palate, which is the rationale for developing methods for optimizing and increasing the effectiveness of therapeutic and prophylactic measures in this group of patients.

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FEATURES OF THE INFECTIOUS SAFETY CHARACTERISTICS IN MEDICAL ORGANIZATIONS

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Abstract. The components that are essential for programs to combat HAI in relation to the effectiveness of reducing the risk of infections at the national level or at the local level of the treatment and prevention organization have been identified.

Keywords: healthcare-associated infections, infection safety, prevention

Healthcare-associated infections (HAI) are widespread throughout the world. Unfortunately, the problem of HAI prevention in our country is still not well understood. There is no opportunity to document, analyze and learn lessons from the accumulated negative and positive experience, the methodology for detecting HAI and assessing the effectiveness of infection control measures has not been developed, there are no unified schemes for collecting reliable information on the real scale of HAI.

The results of periodic epidemiological inspections to assess epidemiological well-being, as well as plans/programs in medical organizations (MO) to combat HAI, indicate significant deficiencies in this area. These include: the lack of a full HAI record, sufficient logistical capacity at MOs to implement HAI prevention activities, and the lack of resilience of many members of infection control commissions/committees. WHO experts believe that countries, regions and health care facilities with active infection control programs will be able to better respond to changes in the epidemic situation compared to MOs that do not have such programs [7].

In the available literature, only a very small number of publications [2, 11, 13] provide reliable epidemiological data that can be used to determine which components are essential for HAI control programs in relation to the effectiveness of infection risk reduction at the national level or at the local level of a medical and prophylactic institution.

The most important criterion for the quality of medical care is the infectious safety of the treatment and diagnostic process. The list of infectious diseases accompanying the treatment and diagnostic process is in a state of dynamic changes. Currently, such infectious diseases as viral hepatitis with blood-borne transmission mechanisms, HIV infection, and infectious diseases caused by multidrug-resistant hospital microflora are widespread [1, 6, 9, 16]. The spread of these diseases is facilitated by a number of factors: population expansion into previously inaccessible areas; development of transport infrastructure, leading to the acceleration of the spread of infection; the growing aggressiveness and invasiveness of medical procedures; lack of effective infection prevention programs in medical organizations [4, 5, 19].

Patients with HAI stay in the hospital 2.5 times longer than similar patients without signs of infection. On average, their discharge is delayed by 10 days. The risk of death in these patients is 7 times higher than in patients of similar age, sex, underlying and concomitant pathology and severity [1, 4, 9, 10]. In a modern clinic, community-acquired infections worsen the prognosis of the course of the disease, increase the duration of hospitalization and the cost of treatment, reduce the effectiveness of antibiotic therapy, and promote the spread of resistant strains of microorganisms in the hospital [6, 19]. Despite the fact that the cost of treatment varies in different medical organizations and differs significantly over many years, on average, when HAI is added, it is three times higher than for uninfected patients. Undoubtedly, infectious complications significantly reduce the patient's quality of life and cause the development of stress reactions. In addition, these infections lead to the loss of reputation of medical organizations, which is difficult to assess in financial terms [3, 9, 16]. Such a multidimensional nature of the problem, the relevance of its medical organizations of any type and level requires the development and implementation of standard, unified measures of anti-infectious protection of medical technologies, the development of programs for the infectious safety of the treatment and diagnostic process [3]. The intensive development of high-tech, invasive methods of diagnosis and treatment in combination with the widespread occurrence of multidrug-resistant microorganisms determines the need for continuous improvement of monitoring systems for this group of infections [4–6]. Modernization and innovative processes in healthcare aimed at improving public health of the population based on rational allocation of resources dictate the need to integrate the HAI control system into the quality management system in a medical organization [4].

The implementation of measures to ensure the infectious safety of the treatment and diagnostic process should be the subject of constant monitoring by medical workers at all levels in the provision of medical care.

At present, when intensive processes of healthcare modernization are underway in the Russian Federation, increasing the level of infectious safety of the treatment and diagnostic process is both a task of modernization and an effective method of ensuring the quality of medical care [12]. The factors contributing to the growing importance of the infectious safety of the treatment and diagnostic process include:

- the constantly expanding list of aggressive, technologically complex diagnostic and therapeutic procedures significantly increases the role of the occurrence of HAI; effective prevention of HAI is necessary to ensure that complications from medical interventions do not minimize the benefits of medical interventions;

- the main task of modernizing healthcare in the Russian Federation is to improve the quality of medical care while reducing unnecessary costs; a well-run infection control program has been proven to be one of the most cost-effective ways to reduce morbidity and mortality in hospitals;

- decentralization of the health care system has led to greater administrative and financial autonomy of medical organizations; shortening hospital stays, saving resources, controlling the cost of antibiotic therapy and other issues to which infectious safety is of direct relevance pose a challenge for healthcare institution leaders;

- the introduction of health insurance and accreditation systems for medical organizations implies control of the quality of treatment and patient care by insurance companies that carry out accreditation and other official bodies, which in turn stimulates the development of hospital infection safety systems.

The effectiveness of infection safety in medical organizations at the national level depends on the coordinated efforts of federal health authorities, medical schools and organizations. Since each medical organization has a different range of offered types of medical care and the specificity of the served contingent (children, elderly people, patients with cancer, hematological and other diseases), then the infection control program in each specific organization must be adapted to its characteristics. At the healthcare organization level, collaboration between hospital epidemiologists, other infection control specialists, microbiologists, clinicians, nurses and administrators is important for the effectiveness of infection control programs [4, 6, 10, 17].

It should be noted that the effective functioning of the infectious safety

system of the treatment and diagnostic process requires serious financial investments to ensure the quality of sterilization measures in the medical organization.

A medical organization with limited material and technical resources, but with qualified, motivated personnel, will be much more efficient in coping with the tasks of practical implementation and compliance with infectious safety measures than an organization that has the most modern and expensive equipment, satisfactory material and technical support, but at the same time has unprepared and unmotivated personnel [14, 15]. In addition, in the process of certification of a medical organization by experts, on the basis of current legislation and regulations, an assessment of the infectious safety of the treatment and diagnostic process and sanitary and hygienic conditions should be carried out.

The most important directions in managing the situation of controlling the infectious safety of the treatment and diagnostic process, according to

the leading specialists involved in the prevention of HAI, are:

- organization and provision of information flows about the presence of infectious complications, harbingers of epidemiological trouble; - operational epidemiological analysis of the incidence of HAI;

- epidemiological assessment of medical technologies and minimization of the risk of infection;

- organization of a system of measures aimed at reducing the aggressiveness of the treatment and diagnostic process; - ensuring a high level of anti-infectious protection of medical technologies;

- monitoring of the main pathogens of HAI and control of resistance to antibacterial and disinfectants;

- rational strategy and tactics of using antimicrobial agents;

- introduction of the principle of "individual isolation" when performing medical technologies with a high risk of infection;

- development and implementation of standards for performing medical and diagnostic procedures; - economic analysis and optimization of financial costs for ensuring infectious safety;

- development and implementation of long-term programs for the prevention of HAI both in each specific hospital and at the regional level.

The implementation of these directions allows you to effectively control the infectious safety of the treatment and diagnostic process in hospitals of various profiles, significantly reduce the incidence and economic losses from the consequences of HAI [8, 18].

All health care workers can and should follow HAI prevention guide-

lines as they perform their jobs. To maximize the effectiveness of HAI prevention measures, each employee of the medical organization of the institution must personally contribute to the implementation of specific measures in this area.

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BLOODLESS TECHNOLOGIES IN THE PREVENTION OF POSTOPERATIVE COMPLICATIONS

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Annotation. Blood transfusion, being technically simple, accessible to any doctor operation, has become very widespread. However, blood transfusion refers to a variety of organ transplants, in which the mechanism of biological tissue incompatibility is triggered, which leads to numerous complications. An alternative could be autohemotransfusion. But due to the length of time it takes to prepare autoblood, its capabilities are also limited. A certain way out of this predicament is the combination of acute intraoperative normovolemic hemodilution with reinfusion of ozonated autoblood.

Keywords: ozone therapy, postoperative period, autohemotransfusion, normovolemic hemodilution.

Objective: to study the effect of acute normovolemic hemodilution (ONG) with reinfusion of ozonated autoblood (ROAC) and postoperative ozone therapy (POOT) on the immediate postoperative period.

Materials and methods. The results of the study of 112 patients with surgical diseases of the abdominal cavity, divided into 2 groups, were analyzed. The first main group consisted of 52 patients who underwent intraoperative normovolemic hemodilution with simultaneous exfusion of 500-750 ml of blood, its ozonation and reverse transfusion by the end of the operation, and in the immediate postoperative period, ozone therapy was performed by daily intravenous administration of 200.0 ml of ozonated isotonic sodium chloride solution. The second control group included 60 patients who were comparable to the main group in terms of the nature of the disease, the volume of operations performed, gender, age, and other indicators and received traditional treatment and blood transfusions in the postoperative period.

Results. A comparative analysis of the data of both groups in our studies showed that the frequency of suppurative and inflammatory complications in the control group was statistically significantly higher than in the main group, despite the use of 2 or more antibiotics of different groups in the postoperative period for 7-10 days (on average, 57.3 ± 0.7 injections per patient). In the main group, as a result of the use of bloodless technologies, 1 antibiotic was used for 3-5 days (on average, 8.1 ± 0.3 injections) ($p < 0.001$). The analgesic effect of ozone was expressed in the absence of the need to use a large number of various analgesics. So, in the control group in the postoperative period for 2-3 days, narcotic analgesics were used up to 3 injections per day (on average 6.5 ± 0.3 injections per patient) and then non-narcotic analgesics for 4-6 days (on average 14.2 ± 0.2 injections). In the main group, narcotic analgesics were used twice after each operation only on the first day (on average 2.0 ± 0.3 injections per patient), and later non-narcotic analgesics for 2-4 days (on average 7.8 ± 0.2 injections) ($p < 0.001$). In the control group, various postoperative complications occurred in 13 (21.6%) patients, of which 4 (6.6%) died. In the main group, only 1 (1.9%) patient had thrombophlebitis of the subcutaneous veins of the right lower leg, and there were no fatal outcomes (Table 1).

The use of elements of blood-saving technologies (ONG, ROAC) and general ozone therapy made it possible to reduce the stay of a surgical patient in a hospital bed. Thus, in the control group, the duration of inpatient treatment averaged 24.7 ± 1.7 bed days, while in the main group, this indicator was 17.8 ± 0.9 ($p < 0.05$).

Table 1

Characteristics of complications and mortality in the control group of patients

Complications	Number of patients		Died	
	Abs. number	%	Abs. number	%
Failure of duodenal sutures	2	3,3	2	3,3
Acute adhesive obstruction	1	1,7		
Pulmonary embolism at different levels	3	5	1	1,6
Acute renal failure	1	1,7	1	1,6
Hypostatic pneumonia	3	5		
Suppuration of a postoperative wound	2	3,3		
Thrombophlebitis of the subcutaneous veins of the lower extremities	1	1,7		
TOTAL	13	21,6	4	6,6

The economic effect of the use of blood-saving technologies with ozonation is calculated by us only on one indicator - the cost of a patient's stay in a surgical hospital per day. In the years of the study (2018-2020), the cost of daily inpatient treatment in the surgical department of the Republican Clinical Hospital of the Ministry of Health of the KBR (Nalchik) was 993 rubles. In accordance with this, the financial expenses for this indicator per 1 patient amounted to 24527.1 ± 610.1 rubles in the control group, and 17675.4 ± 317.7 rubles in the main group, i.e. 6851.7 ± 292.4 rubles were saved for each patient.

Conclusions. Thus, our studies have shown that the use of elements of bloodless surgery with ozone therapy in the postoperative period in patients of the main group contributed to a decrease in the total number of antibiotics and analgesics used, a decrease in the number of complications and mortality, and a pronounced economic effect.

INTERDISCIPLINARITY AS A SCIENTIFIC DIRECTION

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Abstract. The features that allow considering interdisciplinary research as an independent scientific work are consistently considered. The methodical and methodological support of interdisciplinarity in the educational process are discussed.

Keywords: interdisciplinarity, transdisciplinarity, nature-like systems, fractals, art therapy, dynamic chaos.

Complex interdisciplinary projects of fundamental and socio-biological research have been covered on the pages of scientific journals within the framework of the convergence uniting natural science and socio-human directions. However, their methodical and methodological basis was not fully developed, which is an obstacle to mastering the relevant issues in the educational process. [1-4]

At the same time, teachers note that, despite numerous examples of interdisciplinary research carried out in different organizations in different directions, there is no general scientific characteristic of the phenomenon of interdisciplinarity in the literature. During the exchange of views in the scientific and pedagogical communities, a point of view began to form, according to which interdisciplinarity itself should be considered as an independent scientific direction. The subject of research carried out in this area can be the study of the most general laws of the development of natural and social systems based on the convergence of knowledge and the creation of a community of transdisciplinary professional researchers. It is significant that at present, its own original toolkit for interdisciplinary research has been formed (it is enough to note the creation of femto-second X-ray lasers, which make it possible to study the processes of formation of material structures according to the "bottom-up" principle). An extensive experimental base for cognitive and biomedical research has also emerged. The concept of creating nature-like systems has become widespread, based on the use, in particular, of fractal representations,

the use of methods of mathematical statistics and deterministic chaos, and general provisions of information theory. In the educational process within the framework of various courses of lectures, it is emphasized that interdisciplinary technologies can successfully solve such problems as the creation of artificial intelligence; production of food, microorganisms, proteins and enzymes; preservation of the environment with biofuels. Like many other recognized scientific areas that determine the structure of scientific knowledge, interdisciplinarity has a system of features that make it possible to talk about an independent scientific area with the necessary sets of features: a certain specific problem being solved in the center of attention, the existence of an adequate physical and mathematical apparatus, experimental instrumental base, output original products at the end of the technological cycle. The purpose of this article is to generalize the methodical and methodological principles, as well as the conditions for the implementation of interdisciplinary approaches.

Interdisciplinary ideas in physics are developing under conditions that can be called the "Quiet revolution". It is distinguished by a new style and a new structure of physical thinking. They are distinguished by the following features: 1) the ambivalence of basic physical concepts; 2) the presence of cognitive conceptual elements; 3) the use of metaphysical representations; 4) strengthening the role of the aesthetic component; 5) an appeal to Maybism as a measure of uncertainty; 6) the use of the logic of interdisciplinary relations based on the theory of fractals and dynamic chaos.

When implementing interdisciplinary technologies, one must be prepared to overcome technological singularity and cognitive dissonance caused by the acceleration of scientific progress.

As a conceptual basis for conducting interdisciplinary research, fractal research methods are the most important. [5]. Within the framework of this project, special attention is paid to the solution of two issues. The first of them relates to the use of fractal approaches to describe the influence of fractal images on cognitive processes associated, in particular, with the aesthetic aspects of the perception of objects with signs of self-similarity. The second one concerns the analysis of the formation of dendrite-like systems in order to model the development of biological structures at the early stages of their structural self-organization. In addition to these questions, it is planned to evaluate the effectiveness of fractal methods when used in social and humanitarian disciplines.

Fractality makes it possible to expand interdisciplinary relations to the level of transdisciplinary relations, when it becomes possible to link the

properties of objects of different nature [6]. As an example of transdisciplinary technologies, we can consider the section of neuroaesthetics, in which an explanation of the phenomenon of the beauty of fractals is given on the basis of physical and cognitive ideas. This section is based on the concept of stable selection of spatial frequencies of the fractal image in the cerebral cortex. In the course of calculating the characteristics of random and deterministic fractal structures, special attention is paid to the problem of the stability of the relationships between the scaling characteristics of an object and its Fourier transform. The observed stability of the scaling of Fourier images indicates the possibility of faster and more efficient processing of optical signals in specialized areas of the brain. Fast Fourier processing of visual signals creates a sense of comfort and arouses a sense of beauty when contemplating an object. The results obtained make it possible to substantiate from a physical point of view the effectiveness of the use of fractal art therapy in medicine, based on the presentation of images of fractals to patients, which cause a positive reaction in them. In addition, the data of numerical simulations allow us to give a physical interpretation of some of the provisions of modern aesthetics. The last example, along with many other examples, reveals the great possibilities of interdisciplinary and transdisciplinary technologies.[7,8]

Another characteristic example of transdisciplinary technology is a new scientific direction related to the so-called diffractal optics. Using the main provisions of fractal physics on a unified methodical basis, it analyzes and systematizes the concepts of the formation and propagation of radiation with a fractal amplitude-phase profile. The passage of a plane wave through phase and amplitude fractal screens is considered. The characteristics of beams with stochastic and regular self-similar structures are discussed. A range of questions about the formation of waves with a fractal distribution of amplitude and phase directly in laser systems is considered. Analysis shows that the scaling characteristics complement the spatio-temporal parameters traditionally used to describe light beams. In particular, statistical and fractal data on the propagation of beams in a turbulent atmosphere are mutually complementary. By now, a mathematical and physical apparatus has been formed that makes it possible to adequately describe the self-similar and scaling properties of radiation. With the use of this apparatus, it became possible to develop effective methods for optical diagnostics of fractal formations using probing light beams. A high degree of stability of Fourier transforms of fractals is an important factor in increasing the stability and noise immunity of optical information transmission channels on fractal beams.

Research in the field of nanotechnology has given a new powerful impetus to the development of interdisciplinary technologies. Much attention in the literature is paid to the so-called **"bottom-up" nanotechnology** - which ensures the production of nanostructured materials, in which the formation of nanoparticles from atoms and molecules is realized, i.e., the enlargement of the initial structural elements to nanometer-sized particles is achieved [9]. Technologies of this type include such methods used to obtain isolated nanoparticles, nanopowders and compact nanomaterials, such as gas-phase synthesis with subsequent condensation of vapors; plasma chemical synthesis; precipitation from colloidal solutions; chemical and physical deposition of films and coatings from the gas phase (CVD and PVD), plasma or liquid solutions on a substrate; electrodeposition of films and coatings; thermal decomposition (pyrolysis); detonation synthesis.

"top - down" nanotechnology is a technology for producing nanostructured materials, in which nanoscale particles are achieved by grinding larger particles, powders or grains of a solid [9].

Technologies of this type include, for example, methods used to obtain compact nanomaterials and nanopowders from bulk workpieces: crystallization of amorphous alloys; severe plastic deformation; electric explosion; ordering of solid solutions and non-stoichiometric compounds.

An important section of transdisciplinary technologies is the study of processes and structures in which fractal phenomena are combined with processes of dynamic chaos [10, 11]. Such processes play an essential role in the synchronization of intermode oscillations in various mechanical and biological systems [4]. Thus, what has been said indicates a wide variety of structures and processes that determine the features of interdisciplinary processes.

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ULTRA-ACID VOLCANICS (KAGUSITES) IN ERUPTIVE BRECCIAS OF THE PECHENGA STRUCTURE (KOLA PENINSULA)

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Annotation. In the Cu-Ni deposit of the Pechenga Early Proterozoic Structure set a lot of eruptive breccia dikes having bimodal rhyolite-basaltic composition, which are observed as discordant dikes in phyllitic schists. Rhyolites in these breccias are a peculiar species ultrasilica ferorhyolites (kagusites). They cut layered bodies of ferrodolerites common in the section of Productive Suite, and in turn cut by ore-bearing intrusions of gabbro-wehrlite ore-association. Randomly distributed kagusite fragments up to 40 cm in diameter embedded in the matrix having subalkalic picrobasaltic composition enriched by Ti, Mg and Fe. Formation of these rocks is a part of the ore-forming process of liquid immiscibility in sub-alkaline basalts, which leads to the formation of sulfide and noble-metal ores.

Keywords. Kola Peninsula, Pechenga, Cu-Ni deposit, kagusites, liquid immiscibility.

The rocks of the large Cu-Ni deposit of Pechenga Structure (Kola Peninsula) contain bodies of eruptive breccias of bimodal rhyolite-picrobasaltic composition, which are observed as discordant dikes in phyllitic schists. Rhyolites in these breccias belong to a kind of ultra-siliceous ferorhyolites, almost feldspar-free rocks (kagusites). The dikes of this group are traced for hundreds of meters along the strike and dip of the host rocks and reach a thickness of 25-30 m. The dikes cut the bedded bodies of ferrodolerites, and in turn are cut by intrusions of the ore-bearing gabbro-wehrlite association (Fig. 1, 1,4).

Macroscopically, these are dense massive lavoclastites with a breccia texture, in which chaotically distributed clastic material is immersed in a matrix represented by vitroclastic micro-lavobreccia, which has a composition of subalkaline picrobasalt enriched in Ti, Mg and Fe (Table 1) and

constitutes 20-50% of the rock volume (Fig. 1, 2). The size of the fragments varies from psammitic particles to blocks more than 400 mm in diameter; the shape is angular, round, lamellar.

More than 90% of fragments are represented by ferruginous ultra-siliceous lavas (kagusites) - dense glassy rocks of black or light gray color, with a concave fracture characteristic of siliceous rocks. Large fragments of kagusite, located in the vitroclastic matrix of eruptive breccia, sometimes have a drop-shaped and fusiform, often twisted shape - a sign of synvolcanic plastic deformations of lava fragments. Quenching crust 0.5-1 cm thick is often recorded in the fragments, composed of glassy rock, turbid with finely dispersed magnetite.

The structure of kagusites is micro-porphyry or crypto-porphyry; the number of porphyry ingrowths is from 3 to 8% of the volume of the rock, the composition is quartz, sometimes dipyrarnidal quartz, which forms pseudomorphs over the crystals of high-temperature cristobalite; rarely albite and anorthite; matrix - isotropic aggregate of the smallest quartz grains, sometimes honeycomb. Among the porphyry phenocrysts, volumetric decompressed crystal-clasts of feldspar and quartz, typical of modern eruptive breccias, are often observed.

Among the kagusites, two coexisting varieties of black and light gray can be distinguished (Fig. 11, 2). Light gray leucocratic kagusites have an almost monomineral quartz composition and are often observed in black, melanocratic varieties in the form of tuberous and lenticular segregations with sharp, distinct contacts; at the same time, both the segregations and the host black kagusites retain the characteristic crypto-porphyry structure (Fig. 11, 4).

Leucocratic kagusites, together with picrobasalt, sometimes form a kind of bimodal variolite micro-lavobreccia, in which kidney-shaped aggregates of vitreous kagusite, turbid with a finely dispersed rash of magnetite, are immersed in a variolite picrobasalt matrix (Fig. 11, 1-3). A peculiar two-phase system of coexisting variolite segregations of leucocratic (kagusite) and melanocratic (picrobasalt) compositions is observed in thin sections. Such relationships between contrasting phases can be explained only from the standpoint of liquate liquid immiscibility in high-iron melts with the formation of liquate pairs like classical examples of the eucrit-liparite or ferrobasalt-liparite type [1].

Table 1 shows that the kagusites of the described bimodal eruptive breccias are represented by two types of rocks - low-alkaline kagusites (black varieties) and alkali-free kagusites (light gray leucocratic varieties). The matrix of eruptive breccia in all cases is subalkaline ferruginous picrobasalts.

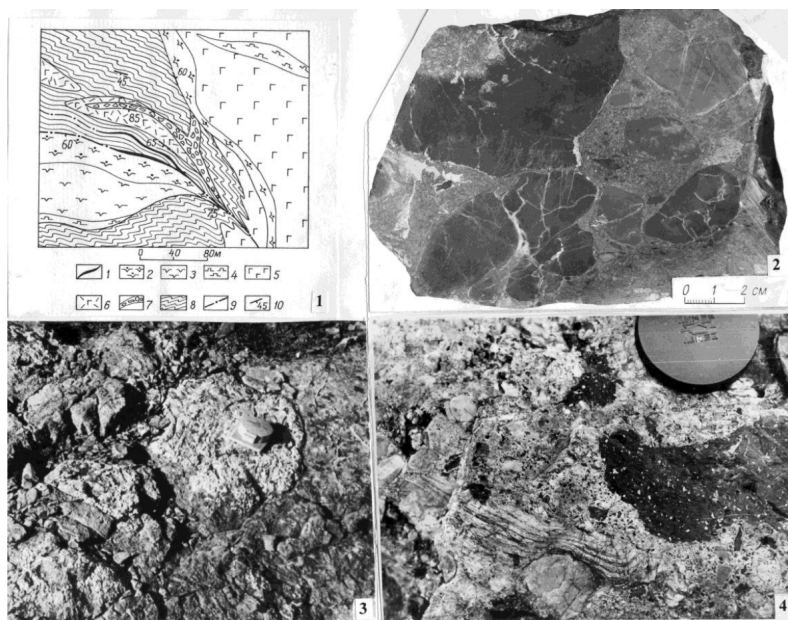


Fig. 1. 1 - schematic geological map of the ore field site. Legend: 1 - Cu-Ni ore; 2,3 - metaperidotites; 4 - pyroxenites, 5 - gabbro; 6 - ferro-dolerites; 7 - rocks of eruptive breccias of kagusite-basalt composition; 8 - phyllites; 9 - faults; 10 - bedding of rocks. **2** - eruptive breccia of kagusite-basalt composition (sample photo). Fragments of kagushite are immersed in a basaltic microbreccia-matrix. **3** - rounded segregations of kagushite in eruptive basaltic lavobreccia (photograph of an outcrop). **4** - coarse-grained sintered tuff (photograph of an outcrop). Black fragments with a porphyry structure - eucrite, rounded and ribbon-like fragments with a fluid texture - kagusite.

A peculiar body of ferro-basaltic lava-breccias with fragments of alkali-free kagusites was found in the area of Lake Sari-Yarvi, north of the Kola superdeep borehole [2]. With a size of up to 450 m in diameter and a complex stock-like shape, this body breaks through a powerful sill of gabbro-dolerites at the contact between the rocks of the productive and Matert formations. In addition to acute-angled fragments of basaltic ferrodolerites, this body is filled with rounded kagusite fragments 0.2-0.5 m across (Fig. 1, 3).

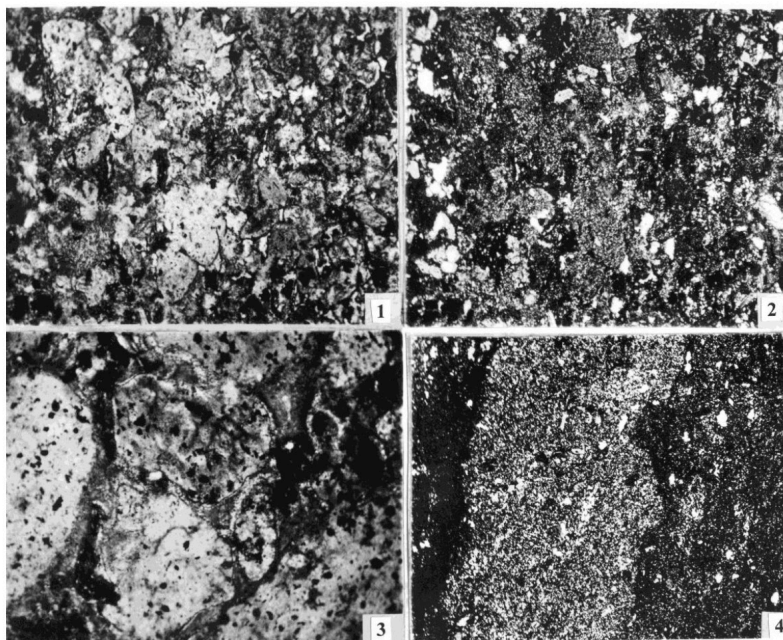


Fig. II. Rocks of eruptive breccias of kaguite-basalt composition from the ore field site (photographs of thin sections). 1,2 - form of liquate kidney-shaped kaguite segregations (light gray) in basalt vitroclastite; x 15; 1 - without analyzer; 2 - with analyzer. 3 - form of liquate kaguite segregations, a fragment of the previous thin section; x 60, without analyzer. 4 - strip-like segregation of alkali-free kaguite (gray) in low-alkaline kaguite (dark gray); x 35, with analyzer.

The kaguites of the Lake Sari-yarvi region have a crypto-felsite structure, are enriched with finely dispersed magnetite and are permeated with a network of quartz veins. The lavobreccia matrix is represented by subalkaline picrobasalt. The chemical composition of kaguite, as well as low-alkaline ferrodolerite is given in Table 1.

Table 1. Chemical composition of bimodal kagusite-bearing associations of eruptive breccias from the Cu-Ni deposits and Lake Sari-Yarvi (wt%, ppm).

Compo-nents	1	2	3	4	5	6
SiO ₂	49.59	41.63	83.62	94.73	42.49	86.10
TiO ₂	1.65	1.56	0.27	0.00	1.78	0.51
Al ₂ O ₃	12.75	11.83	2.73	0.34	12.30	3.22
Fe ₂ O ₃	7.98	4.03	1.01	0.53	5.45	1.18
FeO	4.06	6.71	1.29	1.78	12.82	12.82
MnO	0.17	0.19	0.04	0.01	0.20	0.06
MgO	10.23	7.20	1.36	0.18	5.96	1.77
CaO	4.07	10.85	3.41	0.80	11.77	0.98
Na ₂ O	4.20	3.54	1.50	0.10	0.38	0.09
K ₂ O	0.24	1.35	0.14	0.03	0.16	0.01
H ₂ O-	0.12	0.10	0.00	0.06	0.33	0.25
H ₂ O+	3.20	3.69	1.66	0.35	5.05	2.05
P ₂ O ₅	0.13	0.12	0.19	0.00	0.12	0.00
CO ₂	0.12	6.38	2.13	0.59	0.65	0.26
S _{tot}	1.26	1.19	0.02	0.40	0.55	0.00
Sum	99.77	100.37	99.37	99.90	100.01	100.23

Note. 1-4 - rocks of the Cu-Ni deposit area: 1,2 - subalkaline mag-nesian basalts from the matrix of eruptive breccia; 3,4 - kagusites from fragments of eruptive breccia, respectively, low-alkaline (3) and alkali-free (4); 5,6 - rocks of the region of Lake Sari-Yarvi: 5 - low-alkaline ferrobasalt from fragments of eruptive basaltic lava breccia; 6 - alkali-free kagusite from fragments of eruptive basaltic lava breccia.

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DEVELOPMENT OF TECHNOLOGY FOR PRODUCTION OF PRODUCTS FOR MEDICAL AND PREVENTIVE NUTRITION

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Abstract. The development of technology for the production of therapeutic and prophylactic food products is distinguished by its usefulness for the human body, which will make it possible to replenish the state of iron deficiency in the body and anemia caused by its excessive reduction, weaken the human defenses and make it prone to various diseases.

The main factor that determines the therapeutic effectiveness of the created product is the iron-containing component included in its composition, which can be used as the blood of slaughter animals, which contains iron in a well-assimilable heme form, B vitamins and mineral salts, characterized by a high content of lysine.

Keywords: anemia, albumin, hemoglobin, blood, component, food, protein, iron deficiency, carbohydrates, minerals, technology

According to the Ministry of Health of the Republic of Uzbekistan, approximately 30% of the country's population and especially children are more or less susceptible to iron deficiency anemic diseases. In this regard, the development of a technology for an iron-fortified food product is an urgent problem, the solution of which will contribute to the treatment and prevention of iron deficiency in the population of all age groups.

The main factor that determines the therapeutic effectiveness of the created product is the iron-containing component included in its composition, which can be used as the blood of slaughter animals, which contains iron in a well-assimilable heme form, B vitamins and mineral salts, characterized by a high content of lysine.

The need for products for therapeutic and prophylactic purposes enriched with iron, the presence of significant blood resources of slaughter

animals, the lack of a modern technological solution for the development of products for therapeutic and prophylactic purposes with its use determine the development of new scientific approaches to create a waste-free intensive technology for processing this raw material for these purposes.

One of the ways to solve this problem is the use of the method of integral processing of raw materials, which is achieved using cooking extrusion, which until now has not been used in the meat industry of our country. [1]

In this regard, an urgent issue is the development of new food products of therapeutic and prophylactic action, enriched with iron.

The main factor that determines the therapeutic effectiveness of such a product is the iron-containing component included in its composition. Today, the food industry has a sufficient amount of raw materials containing such a component that is highly digestible by the human body.

Protein product as food blood of slaughter animals, in which on average 0.040% of iron in the heme form in the hemoglobin protein. Since hemoglobin is the main protein of the corpuscular elements, we subject the stabilized food blood to separation for separation into plasma and corpuscular elements. The latter in the dry residue contain 0.15% iron, which is concentrated in the prosthetic group of this complex protein - heme. [2]

The presence of hemoglobin in the blood causes a red color, which makes it difficult to use it as a valuable protein raw material for the production of meat products. In this regard, the developers of new technologies are faced with a difficult task to discolor blood or its shaped elements, which can ultimately be achieved by separating heme from globin or by oxidizing it.

The separated heme can be used as a source of heme iron in the production of products for therapeutic and prophylactic purposes with anti-anemic action. [3]

The development of technology testifies to its complexity, multistage, duration, and the presence of significant shortcomings in product quality. All this explains why they have not been adopted by industrial enterprises.

You should also take into account the potential volume of sales of manufactured products, since the use of technologies that provide for long-term chemical processing of raw materials can become an obstacle to their introduction into production.

This requires fairly simple and non-laborious methods of processing raw materials, affordable equipment and operating costs, high yield and quality of products, which ensures the effectiveness of their use.

These requirements are met by the production of black food albumin

from stabilized blood and its form elements as a source of heme iron. The improvement of this process is based on a new principle of drying the feedstock, which provides for the use of low pressure steam, the possibility of placing drying units in a one-story room, the absence of a tendency for the finished product to cake during storage and the presence of a high content of soluble protein substances with bacterial safety.

The listed requirements are implemented in drying installations with a vibrating layer of inert material such as A1-FMU, A1-FMYa and A1-FMB. In installations of this type, steam with a pressure of 0.5 MPa is used, their height does not exceed 4.5 m, the content of soluble protein substances in the finished product is not less than 90% (for the highest grade), the presence of scales and films prevents caking. [5]

With the use of black food albumin, antianemic food products have been created. The most famous is the children's hemotogen.

It contains 4% black food albumin as a source of heme iron, as well as condensed milk with sugar, molasses, vanillin.

We are developing a technology for obtaining products for therapeutic and prophylactic nutrition, antianemic action on the basis of food blood of slaughtered animals. The composition, which includes black food albumin, milk powder, sugar, wheat flour, starch.

The technology provides for one-stage and short-term (1-2 min) processing of a mixture of raw materials by cooking extrusion. As a result, an extrudate of the following chemical composition in% is obtained: moisture -5, protein -12, fat -2.5, carbohydrates -80, mineral salts -1, iron -5.

High solubility indicates a deep destruction of starch, which predetermines the good digestibility of the finished product. [4]

Studies have shown that this technology ensures the death of microorganisms contained in the raw mixture, and allows you to get a sanitary product.

A clinical study of the product on women 25-35 years old, suffering from iron deficiency, showed that after 20 days of regular intake, providing 5 mg of iron per day to organism, the concentration of hemoglobin in their blood increased by 14.0 g / dm³, ferritin in serum blood - by 4.5 ng / cm³, iron in blood serum by 1.49 μmol / dm³, transferrin saturation coefficient increased by 0.9.

The data obtained indicate that the inclusion of an antianemic product in the diet of persons suffering from iron deficiency contributes to the improvement of biological indicators characterizing the exchange of iron in the body.

It should be emphasized that this technology is simple, allows for

complex and waste-free processing of a mixture of raw materials in one apparatus, and guarantees the receipt of a sanitary-safe product of high biological value.

The same technology is used to develop a therapeutic and prophylactic multi-purpose food product, the raw material of which also contains black food albumin. This product has proven itself in the treatment of hypertension, diabetes and gastric diseases.

Great opportunities for the production of anti-anemic food products are opened by the use of uniform elements and stabilized blood for the production of sausages and minced meat semi-finished product

Table 1. The results of experiments on the use in minced meat stabilized blood

Indicators	5% stabilized blood		10% stabilized blood	
	with exposure	without endurance	with exposure	without endurance
Raw minced meat				
Moisture contents, %	76	76	76	76
Viscosity, 10-5 pz	0,85	0,87	0,77	0,78
Shear modulus, 10^{-3} dyne / cm^2	1,37	1,40	1,27	1,29
Stickiness, g / cm^2	48	48	51	50
Finished product				
Compression ratio,%	32	32	30	30
Elasticity,%	38	39	40	41
Moisture loss during heat treatment,% to the initial content	16,0	16,3	15,4	15,1

Also noteworthy is the production of sausages, frankfurters and small sausages with protein-blood-fat emulsions, which allows replacing part of the raw meat in the recipe for sausages, enriches them with iron and reduces the cost.

To obtain protein-blood-fat emulsions, crude fat can be used. This significantly reduces heat consumption in comparison with the production of rendered fat from it, and also makes it possible to use the protein part of the raw fat as food raw material.

We will also develop regulatory documentation for the production of cooked sausages, sausages and small sausages with the introduction of protein-carbohydrate-fat emulsions, where enriched wheat flour of local production was used as a carbohydrate component.

For the introduction into production, the development of new products for therapeutic and prophylactic nutrition of antianemic action based on raw materials of animal origin, it is necessary to convincingly and skillfully demonstrate its harmlessness, high digestibility and effectiveness of use in daily diets for the prevention and treatment of anemic diseases.

This will be facilitated by the organization of the production of a special group of products called anti-anemic food products, anti-anemic purpose.

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