BELGOROD STATE NATIONAL RESEARCH UNIVERSITY
DEPARTMENT OF FOREIGN LANGUAGES AND PROFESSIONAL COMMUNICATION
INSTITUTE OF CROSS-CULTURAL COMMUNICATIONS
AND INTERNATIONAL RELATIONS

WE MAKE THE FUTURE

Volume I

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This book is a collection of students’papers written to present the most interesting and the most important universal scientific ideas and researches.

БЕЛГОРОДСКИЙ ГОСУДАРСТВЕННЫЙ НАЦИОНАЛЬНЫЙ
ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ
КАФЕДРА ИНОСТРАННЫХ ЯЗЫКОВ И ПРОФЕССИОНАЛЬНОЙ
КОММУНИКАЦИИ
ИНСТИТУТ МЕЖКУЛЬТУРНОЙ КОММУНИКАЦИИ И
МЕЖДУНАРОДНЫХ ОТНОШЕНИЙ

МЫ ДЕЛАЕМ БУДУЩЕЕ

Выпуск I

Сборник тезисов научных докладов студентов по итогам работы
межинститутского круглого стола „WE MAKE THE FUTURE“
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W 37 **We make the future (Мы делаем будущее):** сборник тезисов научных докладов студентов по итогам работы межинститутского круглого стола „WE MAKE THE FUTURE “(октябрь - декабрь 2018 г.) / Под ред. И.В. Борисовская, Е.Н. Таранова. – Вып. I. – Белгород, 2018. – 204 с.

Сборник тезисов научных докладов охватывает широкий спектр актуальных проблем современной науки, отражает результаты теоретических и научно-практических исследований студентов и магистрантов очной формы обучения разных специальностей.

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HABITAT OF POPULATION AND ZONES OF ENVIRONMENTAL RISK

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Human health and the environment are in a certain dependence on each other. With the most appropriate relationship of a person with the environment, his health tends to be normal, and the environment is considered healthy. In such conditions, a person is able to fully implement their biological and social functions. Pollution caused by anthropogenic factors has a significant impact on the formation of public health. This problem is becoming increasingly important every year due to the growth of enterprises, factories, factories, and, consequently, the growth of environmental pollution.

At present the increase in the frequency of diseases is directly related to the growing influence of unfavorable factors of industrial society on the environment. The important direction of medical and environmental research is the study of the morbidity and the factors that influence it. Regarding the morbidity of the Russian population, it is necessary to note the deterioration of population health quality, which is reflected in the increase of serious chronic diseases number: hypertension, coronary heart disease, angina, cardiac infarction, oncological pathology, diseases of genitourinary system. The deterioration of population health is directly related to the deterioration of the habitat, which depends on the economic orientation of the subjects of Russia, since the main type of economic activity in the region determines the type of environmental pollution.

It was established that the highest level of diseases prevalence was in Gubkin and Stary Oskol, which belong to the ecological region of the fifth level. These towns have maximum levels of development pressure.

The main negative impact on the environment of Belgorod and Starooskolsko-Gubkinsky urban agglomerations is made by metallurgical industry and agricultural activities. High level of development pressure affects the health of the population. The negative state of the environment caused by metallurgical industry generates diseases of cardiovascular and respiratory systems, cancer; and by agricultural activities – diseases of respiratory system, frequent headaches and dizziness, allergic reactions.

Thus, medical and environmental study of the urbanized territories of Belgorod Region makes it possible to determine the impact of anthropogenic activity (which is determined by the economic orientation of the region) on the health status of the population.

ASSESSMENT OF MEDICAL AND ECOLOGICAL PROSPERITY OF ZHELEZNOGORSK DISTRICT (KURSK REGION)

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The preservation of a favorable, comfortable environment is an essential condition for ensuring environmental safety and achieving sustainable socio-economic development of society. As emphasized in the Global strategy for health and the environment (2013), the successful implementation of this task is possible only through the creation of regional systems for monitoring the environment and public health.

Kursk region is one of the industrialized regions of Russia, where about 350 large and medium-sized enterprises are located. The city of Zheleznogorsk belongs to the category of small single – industry towns of the Russian Federation, and is one of the leading industrial centers of the region with a developed industry, construction industry and road transport infrastructure. On average, 1 inhabitant of Zheleznogorsk has up to 120 kg of pollutants per year, including solid 70 kg, gaseous and liquid–50 kg. Pollution of the hydrosphere, atmosphere and lithosphere leads to changes in the biosphere.

The largest sources of air pollution are the structural units of JSC „Mikhailovsky GOK". For the enterprises of the city, the priority tasks are to reduce the volume of emissions of pollutants into the atmosphere and achieve the standards of MPE. Although, it should be noted that no exceedances of MPC in the air have been detected in the annual reports since 2008. In 2015, in the city of Zheleznogorsk, some measures were taken to protect the air basin and reduce the negative impact on the air.

The most important indicators characterizing the health of the population are: medical and demographic indicators, indicators of morbidity, disability and temporary disability of workers. In General, the demographic situation is characterized by a constant depopulation associated with a high level of mortality relative to fertility. The main reasons for the population decline are high mortality, low birth rate, the predominance of single-parent families that do not provide population growth. The morbidity rate of the adult population tends to decrease: in 2015, compared to 2005, the rate decreased by 23, 9 %. Areas of risk for the incidence of respiratory diseases in Kursk region among the child population are: Kursk, Demetrius district, city of Zheleznogorsk, Rylsky district, Oktiabrsky district.

Among the adult population, the increase in morbidity was noted in 9 classes: some infectious and parasitic diseases (by 42,2 %), diseases of the endocrine system (by 40, 3 %), ear diseases (by 1,5 %), diseases of the circulatory system (by 3,5 %), respiratory diseases (by 8,9 %), diseases of the digestive system (by 2,9%), skin diseases (by 11,7%), congenital anomalies (by 9,8%), injuries and poisoning (by 1,3 %).

According to 8 classes of diseases, the incidence of adult population decreased: neoplasms, blood diseases, mental disorders, diseases of the nervous system, eye diseases, diseases of the musculoskeletal system, and diseases of the genitourinary system. The main cause of early disability and mortality are vascular complications of diabetes.

The overall trend in the infant mortality rate over the past 5 years shows a decrease in the rate of growth from 14 to 9,5 per 1,000 live births and may be related to the improvement of the system of medical care for newborns and, in particular, to providing them with intensive and urgent care in the first days of life. As a result of our work, the assessment of the medical and environmental well-being of Zheleznogorsk district, Kursk region was carried out.

ENVIRONMENTAL PROBLEMS IN THE FUTURE

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Environmental problems have become one of the most urgent problems of modern society. More and more people suffer from air and water pollution. Nature also suffers from land and nuclear pollution. The reasons for such environmental problems are numerous.

Deforestation. People cut down forests and thus damage thousands of acres of land. First of all, the soil can be easily blown away and secondly, even if new trees are planted, they can’t bring back the old forests that were a part of a complex ecosystem that cleaned the air and made home for wildlife.

Waste. Many cities suffer from smog. Big industrial cities produce a lot of waste every day. It’s either thrown away or dug up which leads to the releasing of dangerous chemicals into the soil. Very often toxic or poisonous liquid chemicals are poured into the water therefore people’s health is put at risk. However, they are themselves responsible for this.

Water and air pollution. Water and air pollution are also a serious threat to our environment. The main factors contributing to them are car fumes, oil spills, throwing litter and many others. Polluted air and water affect people’s health to such an extent that millions of them have got no access to safe drinking water. People always polluted their surroundings. But until now pollution was not such a serious problem. People lived in rural areas and did not produce such amount of polluting agents that would cause a dangerous situation in global scale. I do not want my family to live in polluted environment. An environment is an important part of human life and a healthy environment is a must for human existence.

Fortunately, there are many ways to suspend these problems. If everybody starts caring about the planet we live on, many environmental problems can be solved. For example, if we start recycling paper and cardboard, we can save lots of trees. If we start using public transport more than private cars, we can have less air pollution. Local governments can also help to prevent some problems, if they forbid logging companies to destroy the forests, or stop factories from polluting water.

If we do not protect our environment it will continue to get worse and our children will suffer the consequences. The air and water will be dirtier, natural resources will become scarcer, and more plants and animals will die. Our children won’t have as much natural beauty to admire. Even worse, their well being will be threatened.

In conclusion, it must be said that if we want to live in a better and healthier world we should take great care of our mother nature and learn to protect it.

THE PROBLEM OF AIR POLLUTION

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Evidently air in our country is polluted. And I am proud there are quite a lot of air protection activities in Russia. To prove this idea I am going to give examples of the main ones:

1) as plants are known to purify the air, so there are many programs for the cities greening;

2) to build harmful production is forbidden in cities. At factories and plants more modern sewage treatment plants are installed;

3) as transport is one of the major sources of pollutants, gradually old transport is replaced with a newer and more environmentally friendly one. Now in Moscow and other major cities bicycle transport is actively developed, bike paths are built, so that more people will move from the car to a bicycle that does not pollute the air;

4) in Europe the use of electric vehicles is actively developing, we can assume that after a while in every city electric cars will become popular;

5) in Europe high taxes are imposed on cars in which modern filters on an exhaust pipe are not installed. I hope that in Russia the system of taxation of motor transport will also change.

In large cities air is always saturated with sulfur dioxide. When this gas is connected with water, sulfuric acid is formed, which then falls out with acid rains, poisoning all living things.

To clean the air, such events are held:

1. Installation of electrostatic precipitators in factories and plants.
2. Replacement of road transport by electric (rarely, but sometimes); Improvement of automobile engines.
3. Planting trees, bushes, vegetation.
4. Metro instead of buses.
5. Installation of large charges for environmental pollution.

This problem needs to be understood in comparison. The number of lists of documents or laws will not give a clear picture of the true state of affairs.

We live in large industrial cities. In its line metallurgical, brick factories and several enterprises for the production of building materials can be founded! There are also machine-building plants in the cities.

The environmental prosecutor's office and environmental organizations try to do their best to protect the air in the cities.

City authorities are engaged in the city gardening activities. And during the last three or four years a city movement has being operated. I do not even know who came up with it, but in early spring, people plant seedlings of coniferous trees in their yards.

With the improvement of well-being, the number of cars increased and the main air polluter was not factories, but motor transport.

It was decided to gradually transfer the city buses to electric motors. Actually, city buses have not been smoking for so long. Basically, modern domestic transport means follow environmental standards.

The best that we can do on our own is to stop using old cars. A high-quality car is the first indicator of what we care about.

At the enterprise level, work must also be carried out.

The same greenhouse emissions quite spoil the situation.

For example, carbon credits are a very good step towards improving air quality.

All enterprises that throw emissions of harmful substances into the atmosphere make deductions in the form of a tax for the environmental pollution. The amount of deductions depends on many factors. There is a complex of calculation methods. Only specialists can understand this. For example, the railway takes into account both the type of rolling stock, and the number and type of tools functioning on gasoline or diesel fuel. Well, then from these allocations the state plans to spend money on measures to improve the atmosphere, and the enterprises themselves plan such measures improving labor protection and environmental safety. For example, they use modern cleaning equipment, and put filters for exhaust pipes, change production processes. In some cases, there are direct bans on the legislative level. For example, burning something with the formation of toxic emissions is forbidden in some areas of production.

We should help carry out various activities, such as planting seedlings of various trees.

In fact, there is some movement in Moscow and the Moscow region, where people are more joined and responsible, and people of the rest regions of the country live and continue polluting the air. No one needs anything and no one protects our air on the territory, starting in Vladivostok and ending in Kaliningrad.

In Russia, really trying to protect the air, I often see how the services of planting trees and shrubs are doing. They try to protect the territory where the air is very clean and is not contaminated by anything.

And many more people refuse using cars, or they choose cars with a modern carburetor. And sometimes they replace gasoline with gas!

Well, some of the Russians are luckier – they live in clean air areas. And some people are less fortunate – they live in conditions of severe gas pollution, dustiness of the air environment. I know a person who has a headache breathing clean air by the river or in the forest, because he is already fully adapted to the conditions of industrial emissions.

But the air pollution is most polluted by industrial emissions, road transport and, to a lesser extent, by other sources. So this pollution factor is purely anthropogenic (human), it means people do themselves poorly.

Naturally we need to stop the forest fires!

Of course, pure air is being fought. At the state level laws have been issued sanitary rules and so on.

First of all, these are environmental measures to make living conditions of the population safety.

In Russia there are some institutions controlling the state of the air environment: environmental committees, environmental organizations, the prosecutor's office, the court. They have the right to inspect the work of industrial enterprises, punish fines for violating laws, conduct laboratory research and monitor the state of atmospheric air.

The construction of industrial enterprises should be carried out taking into account the wind rose, with the laying of purifying structures (dust-soot-catchers and so on).

And the police are obliged to carry out a thorough vehicle inspection, and prohibit the departure of cars with large exhaust emissions.

But since all the negative phenomena are still preserved, it means that the effectiveness of the work concerning air protection leaves much to be desired.

Everything that is done in Russia to protect the atmosphere and air is clearly not enough, and I am convinced of this every morning, especially in winter, in windless weather, when in the morning the sun rises in a cloud of smog. Smog is formed mainly from the emissions of large-scale industry enterprises and from car exhausts, which are now high. Hence, the main aspects of activities protecting air are aimed to reduce emissions.

At the plants there are cleaning systems, filters, the state of which is monitored by the environmental prosecutor's office. Cars also use cleaner fuel, large trucks are not allowed into cities, they are forced to travel around the cities. In the center of many cities there are pedestrian areas.

And of course gardening is very important. Moreover, coniferous trees are the most effective solution of this problem. It is best to catch dust despite its fluff.

DEVELOPING THE GLONASS SYSTEM

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Each of us had to face the necessity of finding the right way or identifying the location, asking for a taxi or food, planning a route or just not getting lost in the city. And then navigate satellite systems come for help, one of which is known as GPS and used by almost every modern person.

But how many people have got any idea about Russian equivalent of GPS? Not many of them, I think. So it's important to give some information about GLONASS system and what's this thing for.

What is the GLONASS system?

Global Navigation Satellite System (or GLONASS) is a Soviet and a Russian satellite navigation system, developed by the order of the USSR Ministry of Defense. In the Soviet Union specialists started creating the GLONASS in 1976. At first, the system was created for military needs, but then it found a civil application. It is used to manage transport flows in all types of transport, to control the transfer of valuable and dangerous goods, to control fishing in territorial water areas, in search and rescue operations, in survey, when laying oil and gas lines, etc.

Where is GLONASS used?

GLONASS is an equipment of civil and military ships and planes, as well as ballistic missiles. The system is mandatory to be installed in public transport and in emergency vehicles, and soon a law will be adopted, obliging to equip all cars in Russia.

What is the GLONASS system for?

The main purpose of GLONASS is to determine the location (coordinates), speed (components of the velocity vector), as well as the location of air, land, sea objects with an accuracy of one meter. That is, in any place at any time any object (ship, plane, car or just a pedestrian) is able to determine the parameters of its movement in the period of just a few seconds. GLONASS signals are received not only by GPS-receivers, onboard navigators, but also by mobile phones. Information about the position, speed and direction of movement through the GSM-operator network is sent to the data collection server. This system provides global and continuous navigation services to all categories of consumers all the year round, at any time of the day, regardless of weather conditions. Anywhere in the world, consumers have access to GLONASS signals free of charge and without restrictions.

How many satellites does GLONASS have?

Civil use of the GLONASS system began in 1993, and by 1995, 24 satellites had been launched into the orbit. By 2001, the number of satellites had been reduced to six due to lack of funding and the failure of some of them. In 2010, the number of GLONASS satellites increased to 26, the main ones being 24, and the rest satellites were reserve ones.

Nowadays, there are 29 spacecrafts in the GLONASS system, 24 of which are used for the intended purpose, one at the stage of flight tests, one at the stage of entry into the system, three in the orbital reserve.

How many satellite navigation systems are there in the world?

American GPS and Russian GLONASS are not the only satellite navigation systems in the world. For example, China, India and Japan have started to deploy their own navigation satellite systems called BeiDou, IRNSS and QZSS respectively, which will operate only within their countries, and therefore require a relatively small number of satellites.

Who is in the GLONASS project?

Specialists of the Federal Space Agency "Roscosmos" and Open Society "Russian Space Systems" are engaged in the development of the GLONASS project.

STUDY OF FOREST PRODUCTIVITY IN BELGOROD REGION

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The study of forests biological productivity is characterized by high labor-intensiveness in obtaining data on objects and studying underground parts of trees. Due to human activity, oak woods are reducing, which can lead to disappearance of oak population. The most important task of forestry and forestry science is to increase the productivity and quality of future forests and their resistance to unfavorable environmental factors.

Belgorod region is dominated by broad-leaved oak forests. They are formed by petiolate oak with a mixture of small-leaved linden, common ash, and Norway maple. The largest density among the plantations of the region belongs to the longboled oak – 49,7%. Low-stemmed oak occupies 29,5% of the region, covered with forest vegetation.

Oak woods of Belgorod region belong to the category of insular forest landscapes, i.e. have isolated position. Changes in oak stands are observed at present time. We can see the reduction of oak woods area, and the oak dying off on plantations.

The seral dynamics of modern oak woods of the Central Russian forest-steppe are affected by:

1) precipitation
2) solar activity
3) geomorphological conditions (topography, soil conditions)
4) hydrological regime.

Despite the limited period of time, the role of anthropogenic factors in the process of forest landscape genesis came out very tangibly. In the 16th century, active economic development of Belgorod region began, which led to reduction of forests due to plowing of land, construction, mining and many other factors.

The system of measures provided for increasing productivity should cover all forests independently from their division into groups. Selection is aimed to solve such tasks as rapidity of growth, immunity against diseases and pests, resistance to unfavorable environmental factors, wood quality, yield of fruits and seeds, yield and quality of chemicals, decorative effect, strengthening of recreational and climate-regulating functions.

The introduction of plants is understood as purposeful human activity in introducing new species, forms and kinds into culture by breeding them outside the natural range (species, subspecies, varieties) or varieties advancement into new areas. Methods of introduction and selection of oak stands in Belgorod region are widespread. During the research of oak plantations in Belgorod region, I obtained the following results: intruded oak stands are Mongolian oak, red oak, chestnut-leafed oak, narrow upright English oak. The base for organizing forest seed production on the genetic and breeding basis is the best natural or artificial plantings identified in selection inventory.

After analyzing the biological and environmental factors of oak plantings, contributing to the preservation of tree stands, we can say that the later varieties of oak plantings are most resistant to external environments, which form high quality forest stands in optimal conditions. Having studied the history of the appearance of oak woods on the territory of Belgorod region, I found that anthropogenic activity, which was shown in plowing of land, mining, etc. led to the isolation of oak woods.

PUBLIC ENVIRONMENTAL MANAGEMENT OF RURAL SETTLEMENTS

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The problem of public environmental management is caused by the interest of society in high quality conservation of natural resources, improvements of the relations between people and the environment. Irrational environmental management does not provide preservation of natural and resource potential, leads to impoverishment and deterioration of the environment, is followed by pollution and exhaustion of natural systems, ecological disruption and destruction of ecosystems. Nowadays it is necessary to study nature of public environmental management for the subsequent development of recommendations and standards for a possibility of continuous receiving a harvest of useful plants, production of animals and various materials by the establishment of the balanced cycle of use and renewal of natural resources.

The study was conducted on the territory of the village of Shlyakhovo, Korochansky district, Belgorod region. During the work, we examined the rural population and its relationship with the natural environment.

The village of Shlyakhovo is located in 35 km from the regional center – the town of Korocha, in 23 km from the regional center – the city of Belgorod. There are 230 farms on the territory of the rural settlement, including 110 ones with cattle and birds. Personal farmsteads contain 10 heads of cattle, with 7 cows, 104 heads of sheep and goats.

For recreational activities, the village of Shlyakhovo has a high resource potential: forest and water resources filled with gifts of nature; the absence of large industrial production and the presence of a favorable environmental situation, as well as a picturesque, attractive in natural concern landscape location.

The population dynamics of the village has changed over the years. The population of the present Shlyakhovo is multinational. The largest part is the Russians. Working population prevails.

In the course of the condycted study in the village of Shlyakhovo, 150 respondents were interviewed: 46% of men and 54% of women. The average age over the entire sample is 30,5 years.

According to the results of the research we can say that in the village of Shlyakhovo, there is a large range of public environmental management types used by the residents of the village.

The most frequently visited areas are: backyard farms, work at dachas; fishing in the River “Razymnaja”; mushroom gathering, forest recreation, medicinal herbs picking in the “Rykavnoe” field. Residents of the village Shlyakhovo rarely visit such areas as forests removed from asphalt and dirt roads.

To sum up, we can say that the residents of the settlement spend most of their time fishing and having rest outdoors. Fishing – is one of important and stable types of environmental management. In recent years the interest of country people in hunting is increasing. For recreational activity the village of Shlyakhovo has average resource potential, lack of large industrial productions and favorable ecological situation; picturesque and attractive landscape. During the conducted research was detected that the village had everything necessary for organizing and improving recreational conditions.

GEOGRAPHY OF CULTURAL AND LEISURE FACILITIES IN BELGOROD REGION

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Belgorod region is located in the South of the Central Chernozem (Black Earth) economic region, which occupies the southern and South-Eastern slopes of the Central Russian upland. In the North and North-West the region borders with Kursk region, in the South and West with Luhansk, Sumy and Kharkov regions of Ukraine, in the East with Voronezh region.

Belgorod region is characterized by favorable economic and geographical location. It is attractive for its black soil, subsoil and economic potential. All this contributes to the effective development of both interregional and foreign economic business, trade and cultural ties.

Culture as a set of material and spiritual values, life ideas, patterns of behavior and results of social activity of people is considered as the main driving factor in the formation of a solidary and competitive society.

For a long time, the spheres of culture and consumption were strictly separated. If traditionally culture has been considered a matter of highly gifted individuals or small groups, in the XX century there is a total industrialization of the arts. Changing the place of culture in society changes the nature of its consumption. The complexity and inconsistency of the modern cultural space of Belgorod region are caused by the tendencies reflecting the all-Russian problems formed as a result of political and economic reforms without taking into account social and cultural aspects. In order to improve the quality, availability of services in the field of culture and their competitiveness, the formation of the image of Belgorod Region, the government of Belgorod region approved the Strategy of development of the sphere of culture for 2013-2017.

In Belgorod region, the number of state and municipal cultural institutions accounts for about 2000, including 3 professional theaters, 1 Philharmonic and 4 concert organizations, 651 libraries, 40 museums, 740 cultural and leisure institutions, more than 250 cinemas and film installations, 6 parks of culture and recreation, 2 zoos.

According to the targets table of cultural needs formation of the population, you can certainly see the trend of growth or decline in the strategy of cultural development of the region for the period from 2013 to 2017. The number of visitors of the cultural events in the region is sharply and significantly increasing from 7811 to 11171 per 1000 people. At the same time the number of visits to theaters, on the contrary, is slightly reducing from 116 to 106 per 1,000 people.

Municipalities in Belgorod region occupy a certain niche by the number of seats and cultural-leisure formations in such towns and regions as Belgorod, Alekseevsky, Valuysky, Krasnogvardeysky, Belgorodsky and Shebekinsky districts.

The map chart reveals the availability of public libraries and museums. Services of museums are widely distributed, they are available in 20 municipal formations, Belgorod, Ivnyansky, Krasnogvardeisky, Yakovlevsky districts are clearly distinguished. The population of the region is provided by the services of children's music schools, art schools, as well as clubs and libraries with 97 percent availability. Services of professional theatres, modern cinemas, concert halls, zoos are available to the population in the regional center and Starooskolsky and Gubkinsky urban districts. Definitely, we should note diversified and extensive security of institutions of the culture-and-leisure type in such municipal formations in Belgorod region as Krasnogvardeyskiy, Belgorodsky and Valuisky, Alekseevsky, Novooskolsky and Shebekinsky districts. In turn, the level of modernization activity of public libraries is quite high in such districts of Belgorod region as Shebekinsky, Belgorodsky, Gubkinsky, Novooskolsky, Krasnogvardeysky and Starooskolsky.

From all of the above we can conclude that Belgorod region has sufficient resources for the successful development of recreational activities on its territory. That is natural resource potential, rich cultural and historical heritage, the presence of various directions of cultural and leisure type organizations, museums and theaters. All this in the presence of appropriate marketing and advertising strategy will be able to make Belgorod region one of the main tourist areas in Russia.

HISTORISCHE GRÜNDE DER ERSTEN DEUTSCHEN UMSIEDLER IN RUSSLAND

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Es ist bekannt, dass viele Deutsche seit dem 18. Jahrhundert ihre Heimat verließen und einen neuen Wohnsitz für sich gefunden. Das Ziel meines Beitrags ist die Gründe der Umsiedlung der Deutschen nach Russland zu präsentieren. Dieses Thema ist auch eng mit meiner Urfamilie verbunden. Meine Urgroßeltern waren die Deutschen, die im 1767 nach Russland umgezogen waren. Was waren eigentlich die Gründe für ihre Umsiedlung?

Erstens: die Bevölkerungszahl Deutschlands hat sich im Laufe des 18. Jahrhunderts ständig zugenommen und erreichte 500 Tausend Menschen. Das Wachstum der Bevölkerung dauerte auch im 19. Jahrhundert.

Zweitens: das Bevölkerungswachstum führte zu einem Ackerlandmangel. Das Recht der direkten Erbschaft und die wirkliche Verteilung der Erbschaft motivierten die Leute zur Umsiedlung. Die Zahl der Menschen, die ausschließlich von Einnahmen aus ihren Gärten lebten, wurde dramatisch reduziert. Die Zahl der Landlosen und der Menschen mit wenig Land erhöhte sich stark.

So wurden die Voraussetzungen für eine solche Massenemigration nicht nur in Deutschland, sondern auch in Einwanderungsländern geschaffen. In Deutschland der Zeit war das Leben nicht leicht. Es charakterisierte sich:

- mit der Unterdrückung der Landarbeiter von der Macht;
- mit dem Militärdienst im eigenem Staat und auch im Besatzungsstaat;
- Dazu sind noch wirtschaftliche Notwendigkeit, nicht gute Ernten, hungrige Jahre, Mangel an Land, hohe Steuern, harte und manchmal ungerechte Verwaltung, Neuerungen in den Schul- und Kirchenämtern zu nennen.

In Russland in der gleicher Zeit hatten die Umsiedler folgende Vorteile im Unterschied zum Leben in Deutschland:

- Möglichkeit, frei zu leben und sich zu entwickeln;
- Befreiung vom Militärdienst für „ewige Zeiten";

- Bereitstellung vom Land, fast grenzenlose Möglichkeiten, das Land zu kaufen, die Steuerbefreiung;
- freie Selbstverwaltung;
- völlige Religionsfreiheit.

Alles zusammen war der Grund genug, das eigene Land zu verlassen, in der Hoffnung, ein neues besseres Leben zu haben. Unter den ersten deutschen Umsiedler waren auch die Vertreter meiner Familie. Das sind meine Urgroßeltern.

Der Familienname meiner Urgroßeltern ist Hense. Sie stammten aus Hinsdorf (Sachsen). Die Familien der zwei Brüder kamen als erste Umsiedler nach Russland. Der erste Bruder war Christlieb Hense, 45, Bäcker aus Dessau (Sachsen). Seine Frau Elizabeth 42 Jahre alt. Sie hatten 2 Kinder: Gottlieb 17, Christina, 12.

Wenn Sie nach Saratov in die Kolonie BOARO am 7. Juni 1767 kamen, brachten sie 3 Pferde und eine Kuh mit. Im Jahre 1768 erhielten sie noch zwei Pferde und 2 Kühe.

Der zweite Bruder Gottlieb Hense, 47, verwitwet, 2 Kinder: Gottlieb, 16, Louise, 7. Er erhielt bei der Ankunft in Saratow 15 Rubel, 3 Pferde, 1 Kuh. Im 1768 bekam er noch ein Pferd und eine Kuh.

Zu dieser Zeit waren es in Saratov 7 Kolonien für Deutschen Umsiedler. Die Kolonie der deutschen Einwanderer lebte bis 1941 und hatte alle Rechte als deutsche Autonomie. Am 22. Juni 1941 begann der Zweite Weltkrieg.

Am 28. August veröffentlichte das Präsidium des obersten Sowjets der UdSSR das Dekret „Über die Umsiedlung von Volga-Deutschen“, die als Unterschützer des Aggressors angeklagt wurden.

In der Zeit vom 3-20 September 1941geschah die Deportation der deutschen Bevölkerung von Volga nach Sibirien und Kasachstan.

Am 7. September 1941 wurde „durch Dekret des Präsidiums des obersten Sowjets der UdSSR“ das Territorium der Republik der Volga-Deutschen zwischen Saratow und Stalingrad geteilt. Ihre Bevölkerung wurde nach Kasachstan und Sibirien geschickt.

Seit Anfang 1942 wurden Deutsche Männer im Alter von 15 bis 55 Jahren und Frauen im Alten von 16 bis 45 Jahren, die die Kinder über 3 Jahre alt hatten, in sogenannte Arbeitsarmee mobilisiert, die später als Trudarmee bezeichnet wurde. Die Trudarmee wurde erst 1947 aufgelöst. Die Familien wurden an verschiedenen Orten getrennt und verstreut. Für viele Jahre wurden die Verwandtenbeziehungen verloren. Bis jetzt bleibt das Schicksal vieler Familienangehörigen unbekannt.

Mein Urgroßvater hieß Hense Emmanuel Iwanowitsch (Johanowitsch). Er wurde 1914 in der Siedlung Alt-Urbach Krasnojarsk Bezirk geboren. Er ist Deutsche, die Bildung niedrig, von Bauern. Dann ist die Familie des Urgroßvaters nach Pirowskoj der Region Krasnojarsk umgezogen. Die Familie bestand aus dem Urgroßvater Hense Emmanuel Johanowitsch, der Urgroßmutter Pister Lydia Petrowna, dem Großvater Hense Vilorij Emmanuilowitsch. Der Urgroßvater wurde in die Arbeitsarmee geschickt, und die ganze Familie war unter spezielle Kontrolle genommen. Der Urgroßvater saß im Gefängnis 15 Jahre insgesamt Artikel 58 (antisowjetische Agitation). Dann zog der Urgroßvater Emmanuel Johanowitsch nach Leningrad um. Mein Großvater Vilorij Emmanuilowitsch zog nach Balakovo. Dann wurde mein Vater wurde geboren. Mein Großvater Vilorij Emmanuilowitsch lebt noch. Er ist Ingenieur von Beruf. Er arbeitet noch in der Fabrik.

PASPORT OF ROCK CONSTRUCTIONS

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The calculation of mechanical characteristics, tension and the passport of rock constructions is still relevant and important issue in the construction of buildings, structures, open pit and underground mine design. The workers' lives depend on the correctness of the calculations.

The purpose of our research is to analyze the data on rocks obtained experimentally and with the help of the special methods for calculating mechanical characteristics, tension determination and the method of constructing strength datasheets.

Tasks set during the course project:

1. To determine the mechanical characteristics of rocks by the following methods:
   - uniaxial compression method;
   - the method of single-plane cut;
   - uniaxial stretching method;
   - a method of a cut at compression;
   - triaxial compression method;
2. To build the main types of passports of rocks according to the results of tests for uniaxial compression, uniaxial tension and three-axis compression using graphically-analytical method;
3. To evaluate the stability of the outcrops using a safety data sheet.

The initial data for calculating the shift diagram of cohesive rocks: normal tension: $\sigma 1$ = 0,1 mPa, $\sigma 2$ = 0,2 mPa, $\sigma 3$ = 0,3 mPa. Shear resistance: $\tau 1$ = 0,080 mPa, $\tau 2$ = 0,120 mPa, $\tau 3$ = 0,180 mPa.

When determining the dependence of the soil resistance to shear (τ) on the normal load (σ), the following values were obtained: the angle of internal friction is φ = 39º48, and the specific adhesion is c = 0,83 mPa.

Results do not exceed the permissible.

The initial data for the calculation and construction of a strength passport under compressive tension: the rock under study is Granite , the main compressive tension is σ1 = 220 mPa, the intermediate compressive tension is σ2 = 20 mPa. Under these conditions, the destruction of the rock will occur at an angle α = 45 ° with this tangential tension = 120 mPa, and the normal tension = 102 mPa; the friction coefficient in this case will be φ = 50°11.

Investigating the above mentioned rock with uniaxial compressive and tensile tension we found that the limiting value of the shear resistance in the absence of normal tension is = 32, 32 mPa, the angle of internal friction is φ = 56°02.

To study the strength of rocks under conditions of all-round compression, three-axis compression devices are used for accuracy. The tests were carried out over white writing chalk for given values of σ1, σ2. Three Mohr's circles were constructed with the following tension: σ1 = 1,077 mPa and σ2 = σ3 = 0,1 mPa; σ1 = 2,400 mPa and σ2 = σ3 = 0,2 mPa; σ1 = 1,639 mPa and σ2 = σ3 = 0,4 mPa. An assessment of the stability of the exposures was made at tension σ1 = 1,8 mPa and σ2 = σ3 = 0,3 mPa.

As a result of the study, it was found that the array is not stable, since the Mohr's circle with the effective voltage (σ1 =1,8 mPa and σ2 = σ3 = 0,3 mPa) passes above the limit straight line, which guarantees stability only for the values of voltages passing below its meanings.

GEOLOGY OF THE FIELD

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We analyzed the soil of the coal deposit which is located within the Borisovka trough with absolute elevations of the surface 325-365 m. The reserves of the Borisovka open-pit mine in the category A + B + C1 currently stand at 677–687 thousand tons.

The field belongs to the first group of complexity with sufficiently explored conditions of occurrence of coal seams with their stable working capacity. About 20 coal beds have been identified at the field, 4 of which have working capacity.

The state balance for the Borisovka brown coal field accounts for 2500 million tons of balance reserves of coal suitable for open-cast mining.

Tectonics of the developed areas of the field is mostly simple. Layers lie almost horizontally, the layers fall to the center of the mold at an angle of 0-3°, less often at an angle of 5-8°.

The strength of the quaternary sediments in the slopes is low. The average amount of adhesion is 0.37 kg / cm², the angle of internal friction varies from 20 to 26 °.

The bulk of overburden is composed of semi-rock poorly cemented rocks of Jurassic age, belonging to the third category by excavation difficulty.

These rocks are represented by sandstones with weak ferruginous thickness from 1 to 20-35 m, dark gray and gray-brown siltstones. Cementing material of these rocks is mainly clay.

In the Jurassic sandstones and aleurolites there are strong inclusions in the form of separate lenses, which are distributed practically throughout the entire overburden. In quantitative terms, strong inclusions make up about 1% of the total overburden.

Physical and mechanical properties of these rocks are characterized by relatively high density from 2.9 to 2.73 g / cm ³ and increased mechanical strength, the value of which reaches 40.7 MPa.

The development of such rocks by excavators requires preliminary loosening of the drilling and blasting operations, according to the height of the working ledge. The overburden rocks of the Borisovka field are represented by loose quaternary deposits and semi-rocky rocks of the Jurassic age of the Borisovka suite.

Quaternary formations are represented by clays, loams and sandy loams with rare lenses of sand and sand and pebble deposits. Due to the difficulty of excavation, these rocks fall into the second category according to the classification of the “ENP for open pit mining”.

ASSESSMENT OF THE WEATHER PATHOGENICITY INDEX OF BELGOROD

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The scope of my scientific interests includes climatology, meteorology and bioclimatology. I study the influence of climate in Belgorod region on human activity.My report is about the evaluation of the degree of comfort in the weather conditions of Belgorod for the period 2000-2016 in terms of the weather pathogenicity index.

Weather pathogenicity index (WPI) is an index indicating the degree of irritating weather effect on the body and is the sum of pathogenicity indices of different meteorological variables (changes in air temperature, humidity, wind speed, cloudiness, diurnal changes in atmospheric pressure, temperature, etc.).

WPI is calculated according to the formula: I = It + If + Iv + In + IΔp +IΔt where:

I – weather pathogenicity index;

It– air temperature pathogenicity index;

It = 0,02(18 – t)2 at t is less or equal to 18oC; It = 0,2(t –18) at t more than 18ºC, t – average daily temperature 0C;

If – air humidity pathogenicity index; If = (f-70)/2, f – average daily relative humidity (%);

Iv – wind pathogenicity index; Iv = 0,2v2, v – average daily wind speed (m/s)

In– cloud pathogenicity index, which is determined by the 11-point system: 0 corresponds to a total absence of clouds, and 10 points corresponds to the overcast; In = 0,06n2, n - cloud point;

IΔt– pathogenicity index between diurnal changes temperature. IΔt=0,3(Δt)2, Δt – between diurnal changes air temperature, 0C;

IΔp– pathogenicity index between diurnal changes atmospheric pressure. IΔp =0,06(Δp)2. Δp – between diurnal changes atmospheric pressure, hPa;

Total meteorological pathogenicity index indicates the degree of irritating effects of weather on the body. WPI is estimated in the following way.

I = 0 – 10 – optimal, comfortable;

I = 10 – 17 – slightly irritating;

I = 17 – 24 – highly irritating;

I> 24 – critical.

As a result of statistical processing of daily data, the values of the summary index for each day for the period from 2000 to 2016 were calculated. Analyzing the results, we can distinguish 4 periods. The period of the year from November to February refers to critical conditions. Highly irritating months are March and October, slightly irritating – April and September.

The period with optimal (comfortable) WPI values covers the period of the year from May to August. The most critical month is January with an average value of 37.1.

February (34,2) and March (23,4) also refer to a period with highly irritating values of WPI. April is a month with slightly irritating conditions. The average value of April is 13,0.

May is the first month of the year with optimal (comfortable) conditions. Comfortable weather conditions are a combination of meteorological values in which a healthy person does not feel heat, neither cold nor stuffy, i.e. feels best. The average value of May is 8,6. June and August are comfortable months with an average of 8,9 and 7,5. The most comfortable month during the full year is July with an average value of 7,1.

September, like April, is a slightly irritating month. Its average value is 11,0. October refers to a highly irritating period with a value of 17,6. In November and December, there are highly irritating conditions (28,4 and 35,1, respectively).

Summarizing, we can conclude that the bioclimate territory is the important natural resource, on the condition of which the comfort and well-being of a person depends. So, on the territory of the city of Belgorod, the most favorable months in terms of WRI are May, June, July and August. The most irritating months are January, February, March and November. March and November are characterized by highly irritating conditions, and April and October are slightly irritating, which is explained by the unstable weather in the transitional seasons of the year.

VOLCANOES OF KAMCHATKA

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A volcano is a rupture in the crust of a planetary-mass object, such as Earth, that allows hot lava, volcanic ash, and gases to escape from a magma chamber below the surface.

The three main types of volcanoes are:

- stratovolcano (or composite volcano) – a conical volcano consisting of layers of solid lava flows mixed with layers of other rock.
- cinder cone volcano – doesn't have any horizontal layers, and is instead a steep conical hill of tephra (volcanic debris) that accumulates around and downwind from the vent.
- shield volcano – a type of volcano built entirely or mostly from fluid lava vents. They are named like this because when viewed from above, you can see just how massive and imposing they are – like a warrior's shield.

The volcanoes of Kamchatka are a large group of volcanoes situated on the Kamchatka Peninsula, in eastern Russia. The Kamchatka River and the surrounding central side valley are flanked by large volcanic belts containing around 160 volcanoes, 29 of them are still active. The peninsula has a high density of volcanoes and associated volcanic phenomena, with 19 active volcanoes included in the six UNESCO World Heritage List sites in the Volcanoes of Kamchatka group, most of them on the Kamchatka Peninsula, the most volcanic area of the Eurasian continent, with many active cones. The Kamchatka Peninsula is also known as the "land of fire and ice".

The highest volcano is Klyuchevskaya Sopka (4,750 m), the largest active volcano in the Northern Hemisphere. Klyuchevskaya appeared 6,000 years ago. It is considered sacred by some indigenous peoples, being viewed by them as the location at which the world was created. Other volcanoes in the region are seen with similar spiritual significance, but Klyuchevskaya Sopka is the most sacred of these.

The most striking is Kronotsky: volcanologists Robert and Barbara Decker regard its perfect cone as a prime candidate for the world's most beautiful volcano. Somewhat more accessible are the three volcanoes visible from Petropavlovsk-Kamchatsky: Koryaksky, Avachinsky, and Kozelsky. In the center of Kamchatka is Eurasia's world-famous Geyser Valley which was partly destroyed by a massive mudslide in June 2007.

Owing to the Kuril-Kamchatka Trench, deep-focus seismic events and tsunamis are fairly common.

INFLUENCE OF ENVIRONMENTAL CONDITIONS ON FORMATION, ALLOCATION AND METHODS OF MINING

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The term "mineral resources" includes all non-living, naturally occurring substances of inorganic or organic origin that are useful to humans. Thus, mineral resources include all solid minerals, fossil fuels (oil, natural gas), water, and atmospheric gases.

According to the conditions of their formation all minerals are divided into deep and surface. Formation of deep or endogenous deposits is usually associated with the introduction into the Earth's crust and the solidification of hot underground melts, or magmas.

Exogenous deposits are formed under the action of geological processes at the Earth's surface. They are formed during long-term changes of rocks as they move from the bowels to the surface of the Earth.

The current state of the study of minerals makes it possible to predict the location of certain types of minerals on a specific territory. The location of mineral resources is explained by differences in climatic and tectonic processes on the Earth and different conditions for the formation of mineral resources in past geological epochs.

The place of their localization is the deep geological structures that determine the conditions for the accumulation of mineral substances, the morphology, the composition and the structure of the bodies of minerals. Deposits are associated with geochemical processes occurring in the past and currently developing on the surface and in the near-surface layer of the Earth.

Thus, the place of minerals accumulation can be:

1) surface of the planet;
2) near-surface zone to the groundwater level;
3) bottom of marshes, rivers, lakes, seas and oceans.

On the plains formed on the slow-moving parts of the platform, a thick layer of sedimentary rocks accumulates and conditions are created for the formation of minerals of sedimentary origin, including energy: gas, oil, coal.

As a result of earthquakes and volcanism, there is a formation of magmatic minerals in the folded areas.

Russia is among the top ten countries in terms of reserves of natural gas, oil, amber, gold, nickel, iron, potash and table salt, platinum, diamonds. There are mainly non-metallic and combustible minerals in the European part: coal, oil, gas, salt, sulfur and also a lot of various building materials (sand, clay, limestone, dolomite), iron and copper-nickel ores.

The Urals is famous for its ornamental and gemstones (malachite, jasper, amethyst, corundum, beryl) and various metals (iron, nickel, copper, manganese, gold, platinum), including rare-earth.

Deposits of non-ferrous and precious metals are concentrated in Eastern and Northeastern Siberia. Metallic minerals are mainly concentrated in the Far East: tin ores and polymetals, copper-nickel ores, and platinum in the Khabarovsk Territory.

Allocation of minerals directly affects the method of mining. There are open-pit and underground mining methods. Open pit method allows to mine rocks in quarries. Most often, sand, chalk, limestone, iron and copper ores, some types of coal are mined by this method. From great depths solid minerals are mined using underground pits.

All activities related to mining must take place in accordance with the enforcement of measures to protect bowels and environment, as natural resources are not unlimited and eternal. This makes it necessary to concern for their preservation and reproduction constantly.

THE HISTORY OF PHYSIOGRAPHY IN RUSSIA

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Physiography is a science touching the problems of geographic space that means a sphere of mutual intrusion, and interactions between lithosphere, atmosphere, hydrosphere and biosphere.

Physiography deals with the components of Earth-nature, complexes of nature, geosystems, describes the changes that will be arised by antropogenic activities, research prospects of using physiographic knowledge in practice.

P. Brounov, professor of Kiev University and Petersburg University, provided the first definitions of objects and problems of physiography. In P. Brunov's opinion physiography explores "current look of Earth, current structure of outer Earth's shell", it is an arena of development of organic life. This definition was used by A. Grigoriev while formulating theory of geographic shell and physiographic processes.

A. Grigoriev substantiated existence of geographic shell of Earth as a special sphere with natural processes. These processes are provided with cosmic and telluric energy. The life is developing in this shell. A. Grigoriev considered that the main aim of physiographic research must be exploration of geographic shell structure and physiographic processes.

The modern Physiography appeared in Russia in late 19th century, when country developed capitalistic relations. These relations were impossible without exploration of natural conditions and resources of huge and various territory of the country. A lot of departments, administrative and public organizations started discovering the nature: geological survey, exploration of flora and soil, hydrological monitoring, meteorological observations were made.

In late 19th century V.V. Dokuchaev and some scientists made research of soils in Russian regions, A.A. Tillo released the first hypsometric map of European Russia, A.I. Voeykov published a fundamental work about climate of our planet, G.I. Tanfiliev made the first scheme of physiographic zoning of territories of European Russia.

In this period Russian Geographical Society implemented expedition around the world. The idea of natural complexes, which became the base of modern physical geography, was formed by V.V. Dokuchaev at that time. V.V. Dokuchaev considered, that it was necessary to create a science about "polysyllabic and diverse relations and interactions, alive nature and scientific law of eternal changes".

The 20th century was a hard and controversial period for all human life and research activities, and for physiography as well. The beginning of a new century was characterized by increasing sectoral specialization of geography and by beginning the study of landscapes. It's interesting to mention, a lot of French and Germany scientists, one of whom is A. Gettner, restricted geography to regional description. Russian geography did not follow the way of European geography.

V.V. Dokuchaev's theory about natural zones started developing. Russian geographers initiated practical geography. Scientists began to highlight physiographical zoning. L.S. Berg was the first scientist in the history of Russian geography who formulated scientific vision of landscapes. In the opinion of L.S. Berg, landscape is a "region where relief, climate, vegetation and soil covers merge into a single harmonious whole.

A lot of research institutions of geography have been established since the October Revolution. It was the time when exploratory research contributed to sectoral geography developing. Geographers initiated research of natural resources and estimated natural conditions of insufficiently known regions of our country.

A.A. Grigoriev and S.V. Kalesnik continued to develop the doctrine of land studies, L.S. Berg and his supporters continued to develop the doctrine of landscape studies.

After the Great Patriotic War, in the second half of 20th century, geography in our country began to develop fast. Scientists subjected to discussion on the definition of physiographic object and content, discussed theory of landscapes, principles of physiographical zoning, and the aspects of geography. In the beginning of the 50's of 20th century, geographical organizations in the Soviet Union conducted the field research and landscape surveys.

In 60's – 80's of 20th century the value of practical complex research has increased. Natural complexes were exposed to different types of evaluation, such as assessment of anthropogenic impact, assessment of the degree of resistance to external influences, assessment of production, resource and ecological potential.

Russian geographers explored natural complexes for not only scientific understanding of natural characteristics of different regions; explorations were conducted for practical use in different sectors of economics. Now geographers continue to create projects for optimization use of environment, take a part in reserves and national parks creation. Scientists make researches for the needs of building, architecture and territorial planning, recreation, reclamation, etc.

GEOLOGICAL TRAINING AT LIAONING TECHNICAL UNIVERSITY

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I'm a fourth year student of Belgorod State National Research University. Last year I passed training in China and now I want to tell you about it.

Trip organization. Sergo Ordzhonikidze Russian State University for Geological Prospecting (Sergo Ordzhonikidze University) has signed an education contract with Chinese Liaoning Technical University(LTU) that allows Russian students to study in China during one term. In total there were 15 places and 5 of them Sergo Ordzhonikidze University have given to our Belgorod State National Research University.

To take part in this training, it was necessary to collect the whole pack of papers and to make a number of actions. We met with students of Sergo Ordzhonikidze University in Moscow. Then we flew to Beijing together on a plane, where we were met and taken by train to Fuxin City.

Housing quality. The territory of the university was a small campus, in which there were dormitories, educational buildings, a library, museums, canteens and many sports grounds. A separate room was allocated to each student. The room had a bed, a wardrobe, a writing desk, an armchair and a bedside table. On each floor there were kitchens, toilets, shared showers; hot water was supplied twice a day – in the morning and evening. And of course there was the Internet.

Educational process. Teaching was conducted in English and Russian. A curriculum was created for our group, which included seven subjects. The subjects were divided into two groups. The first group included specialized subjects: General Geology, Petrology, Petrography, Geological zoning of China.The second group was about Chinese culture: Speaking – we learned to read Chinese hieroglyphs and intonations of pronunciation; Calligraphy – we learned to write hieroglyphs, make sentences and memorize their meaning;Chinese culture – we learned about Chinese traditions, rules of behavior in society, trade in the market.

At the end of the educational process, we passed exams. Then we were given certificates of completion and final grades.

Free time. Education was not hard, that allowed to spend a lot of time on studying the city and communication with locals and students. Most people enjoyed talking to us, although we could hardly understand each other. The first thing we learned in China was the language of money. It was enough to know a few basic phrases and numbers.

In the evenings, we went to the sports fields and parks, where there were many people who played and danced and whom you could easily join. We often went outside the city, and sometimes even traveled around the country. The university regularly organized sports competitions, concerts and tours.

A few words about Chinese food. Chinese food may seem strange, you can (and sometimes should!) be suspicious, but it's awesome. I won't list all the oddities of Chinese cuisine that I managed to see during this time, but if you have a chance to taste the real Chinese cuisine, don't miss it.

WATER REGIME OF RIVERS

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The flow of water into the rivers is due to precipitation during the water cycle in nature. Water formed on the land surface as a result of rainfall, melting of snow and ice, flowing down over the surface of the earth and being filtered through the soil, will form (surface and groundwater) runoff of rivers.

In specific natural conditions, the flow of water into the river depends on certain sources, and will characterize its power. Depending on the source of power we distinguish rain, snow and glacier nutrition.

Rain nutrition prevails in the warm belt and in the temperate zones with a monsoon climate. The proportion of falling rainfall increases when it falls on wet soil. Snow nutrition prevails in the cold and temperate zones. Increased intensity of snow melting, winter freezing of the soil and especially the presence of ice on the soil contribute to the runoff of snow waters. Glacial nutrition occurs as a result of melting glaciers. The main factors are the catchment area occupied by glaciers and air temperature.

Underground nutrition - entry into the river of ground and interstitial waters (runoff to the rivers of groundwater and upper water conditionally refers to surface feed). Underground feeding depends on the geological structure, the spread of permeable soils in the basin, fractured rocks, and the forest cover.

Surface runoff, very uneven in time, usually significantly prevails over a slow underground runoff. Periods of maximum surface runoff are always confined to a particular season. The rapid influx of huge masses of water into the river during periods of maximum surface runoff causes a sharp increase in costs and a corresponding increase in water levels.

Most of the rivers of the Russian Federation have mixed nutrition - rain and snow. For most of the lowland rivers of the Russian Federation, the spring flood flow accounts for more than 50% of the total annual flow.

The size and geological formation of watershed determines river discharge regime. The discharge and its annual, as well as long-term, fluctuations are primarily influenced by the characteristics of the drainage basin. Climatic, meteorological, topographical and hydrological factors play a major role in the generation of river discharge.

Small watersheds usually result in low median discharges with extremely large ratios of peak and low discharge. In temperate humid climates, the annual variations between minimum and maximum discharges may reach two orders of magnitude. Larger watersheds produce more uniform discharges. Large rivers with a relatively uniform discharge regime during the year show a rather constant ratio of average peak and low discharge. Large seasonal variations in the discharge can be equalized and transformed into rather uniform discharges by the presence of reservoirs, storage dams or natural lakes along the river course.

The principal factor causing large fluctuations in discharge is climate, which determines the distribution of rainfall over the year. The variability and resulting non-uniformity of discharge is moderate in temperate humid climates, but extreme for rivers in savannah areas and in certain sub-tropical regions. The composition and structure of the sub-soil are also important factors. Large differences can be observed between porous rocks, clays, marshy soils and fissured rocks. Such geological conditions of the drainage basin might cause variations in the discharge rates by a factor of two and in a few cases even more. Vegetation also exerts an influence on the generation of river discharge because it largely determines the quantity of surface run-off. Fluctuations in discharge can be dampened by vegetation cover. In areas with little or no vegetation, rainfall results in immediate surface run-off. At any higher river discharge rate, the ecological effects of a polluted effluent in a river are less harmful. Drought conditions can be critical for rivers serving as a water source for urban water supply.

HYDROLOGICAL CHARACTERISTICS OF THE RIVER TIKHAYA SOSNA

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The sphere of my scientific interests is the branch of the Earth sciences, which studies the surface and inner waters of the planet – hydrology. I study the hydrology of rivers. I've written several articles in this direction with which I took part at conferences.

The relevance of this direction is that every year the economic impact on the formation of the flow of rivers, riverbed, water regime increases. In connection with this, it is important to increase the reliability of the calculated characteristics of hydrological quantities. Thus, the problem of calculating, analyzing and assessing the regularities of long-term fluctuations in the annual flow of rivers and the hydrological characteristics of rivers, and its long-term forecasting remains one of the most urgent and complex problems of hydrology.

My scientific works are devoted to the study of the hydrological characteristics of the Tikhaya Sosna River. In the future it is planned to study its water regime and ecological state.

The Tikhaya Sosna River flows through the territory of two regions – Belgorod and Voronezh. After studying the geographical position and history of the Tikhaya Sosna River it is concluded that the river is important for the two areas in which it flows. Considering the economic specifics of the regions, the Tikhaya Sosna is used in various branches, such as rural, communal, industrial facilities.

After studying the geomorphology of the river basin, we find out that the location of the river basin within the Voronezh anteclise determines such form of relief as the sublime plain. In addition, from the geological structure, we learn that in the basin there are various metamorphic rocks of the Precambrian and sedimentary rocks, which gives grounds to believe that this area is rich in useful minerals.

During the study, measurements of the morphometric characteristics of the river were made using GIS technologies, namely programs such as ArcGis and Sas.Planet.

This method was used to derive the boundaries of the catchment of the river, which is an important stage for calculations. The accuracy of many subsequent measurements and calculations depends on the accuracy of the boundaries. The watershed boundary map was formed in the ArcGis GIS program, based on a 1: 500,000 topographic map.

Besides to the watershed boundaries, the following morphometric characteristics were determined using GIS programs: the length of the river and its tributaries, the largest length and width of the basin, and the basin area.

The length of the river, catchment area, the largest length and width of the basin was determined by us using GIS technologies, the SAS.Planeta program. The basis was the topographic map "General Staff", scale 1: 25000.

To fully characterize the river system, the following parameters were also calculated: the length of the tributaries, the density of the river network, the tortuosity of the river.

Similar to the definition of the length of the main river, the lengths of its tributaries were calculated. As a result, the river network, including the main river and its tributaries, was 474 km 639 m. The analysis did not take into account tributaries less than 1 km and man-made canals.

According to the results of the study, it can be said that the Tikhaya Sosna river, by the size of the catchment area and the length of the watercourse, is classified as middle. The density of the river network is rare – 0, 11 km/km2, which is determined by the geographical location in the steppe zone. By the value of the coefficient of tortuosity, the Tikhaya Sosna river refers to a moderately winding one.

All of the above morphometric characteristics must be taken into account when solving many problems of engineering hydrology, water management and considering the ecological well-being of the river.

DEGRADATION OF THE RIVER SYSTEM IN BELGOROD REGION

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For the first time, length of rivers on the territory of Belgorod region was mentioned in 17th century. Length of rivers was 30 000 km. At the end of 17th century, river system began to degrade. Scientists recovered the map of river system in 1790 and found out, that in 18th century total length of rivers of

Belgorod region was 6 000 km. In 1959 length of rivers became 5 000 km. It was an awful degradation of river system. Riverheads decreased by 20-30 km, a lot of small rivers disappeared. The Belgorod rivers catchment began to disintegrate. This event isolated rivers. Bottom cleaning activities were aimed to fight against external signs, but it did not solve the problem.

Over the last 60 years, the density of the river system decreased by 20%. This phenomenon was particularly observed in urban areas. The Vezelka River could be a vivid example of this impact. Every year 10-20 km of riverbed disappeared. Primarily, anthropogenic impact influenced the length of river system. Wellsprings disappeared on the territory of catchment of the river Vezelka. Water volume in the river declined. But in 18th century the river Vezelka became a navigable river.

In 2012 the Belgorod region authorities accepted the concept of river nature management, which could change the trend of degradation of the river system. For the last 5 years more than 100 government programs for the protection of river system have been implemented. Also, the program "Green capital" is a positive impact in the natural basin of the region. Trees planting activities help make the coastline strong and raise water availability of the rivers.

One of the most important problems is an establishment of water protection zones. Of course, to put warning signs is not enough to solve the problem. The towns and villages authorities must control these zones. A good example of this activity is a reconstruction of the left coast of the river Vezelka.

Some specialists want to save natural image of water objects, but in practice, ennoblement brings more advantages.

I think that it's better to extend artificially the life of wellsprings of rivers, lakes and others water objects, but not to lose them. Only combining scientific research and experience specialists can stop degradation of the river system of the region.

"WHITE SPOTS" ON THE MAP

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Nowadays, it is generally believed, that our entire planet is a fully explored system. People are sure there are no "white spots" on the map! And many young people, students and scholars ask the question – Why do we need to study geography, if we can find Interesting up-to-date information anytime in the Internet? In fact, memorizing large amounts of information is irrational at the first sight. And, as opposite to storing and collecting knowledge, getting information from “the outside” seems to be a more effective and prompt alternative. However, despite all the positive sides of this way, I am going to “rehabilitate” geography and prove undeniable importance of this science in our everyday life.

Geography is one of the fundamental Sciences, giving knowledge of the world. The main object of geographical research is the environment in all its diversity and complexity.

Many people still identify geography with discoveries and descriptions of previously unknown lands. Meanwhile, it has deepened into the study of the problems of interaction between society and nature. In this way geography as a synthetic science opens up new perspectives and prospects.

Today we can talk about three main blocks of geographical science: natural, social and technical geography and areas that bring geography closer to geo-ecology and environmental problems. Recognition of the imbalance between the resource potential of the planet and its use by mankind is the main reason for the revival of geography. Even in the rich industrialized countries, it is impossible to solve such global problems as desertification, deforestation, environmental degradation, air, soil and water pollution, and public health problems only with the help of the latest technologies.

Solving these problems, it is necessary to involve all geographical Sciences, all its methods. Also, despite the prevailing view today that our planet is fully explored, in the 21st century there is still a place for new geographical discoveries. For example, recently it became known that there are lakes under the ice in Antarctica. One of them is located under the research station "East" and is called accordingly. The area of the lake is about the same as the area of Northern Ireland, and the water in it is only 5 times less than in the largest lake in the world – Lake Baikal. Until now, it is not clear where the source of the river Amazon is. Many plants and animals that live in forests on the banks of the river are not studied. Scientists go on researching the ice area of Antarctica and the depths of the world ocean.

And, on top of everything else, many geographers today research and teach concepts that are relevant to everyday life. This geographic knowledge enables us to understand how our everyday activities affect the world around us and change it.

Understanding of basic physical systems, like water cycles, earth-sun relationships, knowing the main factors, which make our planet as we know it – all of this knowledge gives us the ability to understand the natural systems that make life on earth real. Naturally, we can even predict some natural events.

In conclusion, it’s interesting to mention that geography plays an important role in the modern world. It’s significant for the development and understanding the science in general. And it also plays a great role in our everyday life.

THE NEW VIEW ON THE ENVIRONMENT (ON THE BASIS OF "HOW TREES SPEAK TO EACH OTHER" BY SUZANN SIMARD)

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The preservation of a favorable, comfortable environment is an essential condition for ensuring environmental safety and achieving sustainable socio-economic development of society. As emphasized in the Global strategy for health and the environment (2013), the successful implementation of this task is possible only through the creation of regional systems for monitoring the environment and public health.

Imagine you're walking through a forest. I'm guessing you're thinking of a collection of trees, what we foresters call a stand, with their rugged stems and their beautiful crowns. You see, underground there is this other world, a world of infinite biological pathways that connect trees and allow them to communicate and allow the forest to behave as though it's a single organism. It might remind you of a sort of intelligence.

You see, scientists had just discovered in the laboratory in vitro that one pine seedling root could transmit carbon to another pine seedling root. But this was in the laboratory, and I wondered, could this happen in real forests? I thought yes. Trees in real forests might also share information below ground. But this was really controversial, and some people thought I was crazy, and I had a really hard time getting research funding. But I persevered, and I eventually conducted some experiments deep in the forest, 25 years ago.

I grew 80 replicates of three species: paper birch, Douglas fir, and western red cedar. I had no money, so I had to do it on the cheap. So I went to Canadian Tire and I bought some plastic bags and duct tape and shade cloth, a timer, a paper suit, a respirator. And then I borrowed some high-tech stuff from my university: a Geiger counter, a scintillation counter. And then I got some really dangerous stuff: syringes full of radioactive carbon – 14 carbon dioxide gas and some high pressure bottles of the stable isotope carbon – 13 carbon dioxide gas. But I was legally permitted.

The first day of the experiment, we got out to our plotand a grizzly bear and her cub chased us off. And I had no bear spray. But you know, this is how forest research in Canada goes. I got my giant syringes, and I injected the bags with my tracer isotope carbon dioxide gases, first the birch. I injected carbon – 14, the radioactive gas, into the bag of birch. And then for fir, I injected the stable isotope carbon – 13 carbon dioxide gas. I used two isotopes, because I was wondering whether there was two-way communication going on between these species.

I got to the final bag, the 80th replicate, and all of a sudden mama grizzly showed up again. And she started to chase me, and I had my syringes above my head, and I was swatting the mosquitoes, and I jumped into the truck, and I thought, "This is why people do lab studies". I waited an hour. I figured it would take this long for the trees to suck up the CO_2 through photosynthesis. I rolled down my window, and I checked for mama grizzly. Oh good, she's over there eating her huckleberries. So I got out of the truck and I got to work. I went to my first bag with the birch. I pulled the bag off. I ran my Geiger counter over its leaves. „Kkhh!" Perfect.

The birch had taken up the radioactive gas. Then the moment of truth. I went over to the fir tree. I pulled off its bag. I ran the Geiger counter up its needles, and I heard the most beautiful sound. "Kkhh!"It was the sound of birch talking to fir, and birch was saying, "Hey, can I help you?"And fir was saying, "Yeah, can you send me some of your carbon? Because somebody threw a shade cloth over me."

And at that moment, everything came into focus for me. I knew I had found something big, something that would change the way we look at how trees interact in forests, from not just competitors but to cooperators. And I had found solid evidence of this massive belowground communications network, the other world.

And you know, I have to tell you, before me, scientists had thought that this belowground mutualistic symbiosis called a mycorrhiza was involved. Mycorrhiza literally means "fungus root."You see their reproductive organs when you walk through the forest. They're the mushrooms. The mushrooms, though, are just the tip of the iceberg, because coming out of those stems are fungal threads that form a mycelium, and that mycelium infects and colonizes the roots of all the trees and plants.

The web is so dense that there can be hundreds of kilometers of mycelium under a single footstep. And not only that, that mycelium connects different individuals in the forest, individuals not only of the same species but between species, like birch and fir, and it works like the Internet or like forests on Pandora in the film "Avatar". And this is brand new view on the problems of the environment and our relationship with the wild nature, it will make us think differently of the role of trees in the complex life of our planet.

STUDYING OF FOREST-COVERED AREAS USING REMOTE SENSING DATA

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Nowadays it is impossible to imagine modern geographical studies of separate areas or components of landscape without the use of remote sensing from satellites. They are necessary both for the labour-intensive process of updating topographic maps and for the monitoring of hazardous natural processes and phenomena development and for specific industry tasks.

In this paper, we consider the prospects of using remote sensing data (RSD) for the study of forested areas in intensively transformed, old-developed regions of Russia using the example of Belgorod region.

Over the past 300 years, the appearance of Belgorod region has strongly changed. The area of forest-covered areas decreased from 30 to 10% due to the active economic development of the territory. Oak broadleaved forests were replaced by intended for building zones and small ravine maple-aspen forests. In this regard, the study of the identification possibility of forest-covered areas with the use of GIS-technology has particular interest.

Visual interpretation of the medium-scale multispectral satellite image of Belgorod region was carried out to assess the current structure of land use in the area of research objectively and to allocate forest lands. Of the 15 thousand hectares of forest-covered areas, about half of them are ravine forest with mixed low-value species. Oak-broad-leaved forests are preserved in the form of small protected tracts; the largest pine forests are marked in the lower reaches of the Seversky Donets river.

In the general structure of the district land use, almost half of the area (more than 48%) is arable land; about a quarter of the territory is occupied by residential zones. The percentage of gully-beam systems is high – about 18%. According to visual interpretation, forests account for about 10% of the district area.

As a result of the next stage of the work, we used the method of uncontrolled classification of ISODATA package ERDAS IMAGINE. Uncontrolled classification is one of the methods used to transform multispectral image data into thematic information classes.

The classified images clearly distinguish the general mosaic of the territory; it is possible to discern water bodies, large forests, roads, but ravine-beam network and a number of other lands are not identified. Thus, the ISODATA classification algorithm gives only a General picture of the territory, this method is not quite suitable for forest-covered areas interpretation.

Method of controlled classification uses pre-defined human reference values of objects spectral brightness. This type of processing provides recognition in the image of all areas that are user-defined objects, through the representation of "samples" of these objects (their spectral curves).

We have identified the most well-recognized categories – arable land, forests and water bodies, classifying all other lands as other objects. However, even with such a primitive approach, automatic vectorization was not correct, due to the fact that we set only one type of territory as a reference, and in different parts of the space image even water bodies can have different shade and different texture, which predetermines a high proportion of program errors for areas of extensive coverage.

Functional zoning of the territory showed that the share of forests accounts for only 8% of the area. Additionally, the large-scale interpretation of canopy cover showed the bias of the previously obtained data on the afforestation of the area (according to the updated information, 18% of the area). Thus, the method of visual interpretation of multispectral image can be considered to be the most accurate among the presented methods, with the proper level of resolution, it gives the most reliable results, while the main drawback is the subjectivity of the interpreter specialist, whose skills determine the accuracy of data interpretation.

CREATION OF GEOCHEMICAL MAPS ON THE BASIS OF GEODATABASES

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One of the most important criteria for the operation of any enterprise is the geochemical situation that this enterprise creates or the area where it is located. Due to the constant monitoring of the geochemical situation, databases on the geochemical situation were created for a number of large enterprises, but, being only a dry set of figures, they do not provide visual information about the real state of things, or require a laborious process of data analysis.

Cartographic materials make it possible to make a study of the materials of the geochemical situation databases, and geographic and geochemical specialists often do not know how fast it is possible to map large data sets. In this paper, we considered the possibility of creating a series of mono-element maps of the geochemical situation on the basis of databases for the territory of the Stoilensky Mining and Processing Plant (SMPP) in the KMA region.

Before creating maps of the geochemical situation, the survey area is surveyed and tested. Based on the results of the data obtained, mono-element maps and maps of total pollution indicators are created. Mono-element maps record changes in geochemical indicators, different from the background values for each element.

Maps of summary pollution indicators help characterize groups of elements or background associations. They allow us to consider the load of a group of different chemical elements or their local concentration in any territory.

Foreign experience in the creation of geochemical maps is primarily associated with environmental objectives. Therefore, most often statistical data are used in interaction with methods of remote sensing and geoinformation systems. An example is the map of Finland.

Before building a series of maps of the area where the SMPP is located, a thorough study of the geochemical situation database for the mining area of the KMA region was carried out (by AG Kornilov et al., 2013). For the construction of maps, the indicators of 2011 year were selected, the values for 38 selection items were used for 6 elements.

At the first stage, the interpretation of the space photograph of Starooskolsky district was made. After the data was exported by points, selected according to the coordinates from the prepared database. Next, a series of maps was constructed using the interpolation method, in particular one of its types – kriging. Kriging weighs the surrounding measured values to obtain a prediction of the location that is not measured.

In the analysis of the obtained cartographic products, it was concluded that, in accordance with the main statistical parameters, the interpolation was correct, the maps were predicted correctly with allowance for the available values. The mono-element map model was used for the basis, the traffic light principle was chosen for the legend.

One of the drawbacks of the kriginga method is that interpolation does not take into account geochemical barriers, in our case the quarry, since there are no points with indicators for it, while for the territory of the industrial zone the calculation was carried out correctly.

On the map of nickel distribution, we see a gradient of concentration in the southeast direction, as well as on the map of zinc distribution, the maxima of lead, cadmium and copper concentrations tend to the area of the industrial site in the east of the complex. A map of the distribution of molybdenum appeared to us interesting. The maxima pass in the form of two bands in the north and south of the studied territory, it is here that the prevailing directions of the wind rose for the warm and cold period of the year are located.

Based on the analysis of the indicators studied, a complex map of the sections with the highest concentration of heavy metals in the area of the SMPP was constructed.

Thus, with the help of GIS technologies we managed to create a series of mono-terminal maps based on databases, to identify the area's most unfavorable in the geochemical aspect, although this algorithm needs further development in terms of geochemical barriers and correction of the placement of elements with their consideration.

All cartographic works turned out to be sufficiently informative, and at the same time convenient to read. Such maps of the geochemical situation will be of interest to various natural resource agencies, in the construction of various mining enterprises, as well as for local government and environmental services.

SELECTION OF CAREER EQUIPMENT

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My practical task was to select the appropriate equipment for career "Borodinskiy". This brown coal field is situated in Krasnoyarsk region. Career's average production is 20 million tons per year, that`s why we should get best equipment for the field development.

For stripping work we need to use following kinds of machines.

Excavator VOLVO EC 750d . This model has higher capacity of ladle than other technics, because it can carry much more tons per hour. By the way this machine is not very expensive, but it can handle with different kinds of difficult works.

Liebherr T282B –it`s a heavy mining truck, witch products by German company Liebherr. The first truck model was built in 2004, but this machine is very popular nowadays, because it`s very useful and has many modifications for mining facilities. The price is about 4 – 5 million dollars.

For mining we will use excavating technics and 3 different models of chain wheel excavators from another part of mining field. They are: ER–1250, 2 ERP–

2500 and 2 ERP–1600. The numbers of models mean how many tons of overload they can handle per hour.

These excavators have their own specific equipment that's why they can mine on different ledges.

ER-1250 is 16m high. It will work on various ledges

ERP-1600 is 20m high will work at ledge which has

ERP-2500 is 22 m high

1 Step Chain wheel excavators mine coals on the ledges

2 Step Excavator loads the trucks

3 Step trucks carry the coal form mining field to train station

4 Step Machines upload the coal into the train

5 Step The train transports the coal to thermal energy stations where the main buyers of this material are.

Thus, using these excavating technics we can reduce cost of coal extraction and save the production rate.

QUALITY OF THE URBAN ENVIRONMENT OF THE CITY OF BELGOROD IN THE URB - ENVIRONMENTAL SYSTEM OF NEOURBANISM

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The key vector of modern development is the rapid growth of the number of cities and the increase of their role in the life of society.

The relevance of the chosen topic is due to the fact that providing the most favorable and comfortable living environment throughout all times remained the most important and significant task for humanity. The city has a strong environmental impact. For this reason, the necessity to study the modern processes subjected to urbanization is steadily increasing. On the basis of this, the purpose of the work was also identified - identifying the modern features of the development of the urban ecosystem of Belgorod in the context of geoecological instability of neo-urbanism in order to optimize the quality of comfort of living in the city.

The results of the research lead to the following conclusions.

• The city is a natural-anthropogenic system. It is advisable to explore the whole essence of the city as an ecological – social – economic system, or in abbreviated form “ESES”, the components of which harmoniously complement each other in space.

• “Ecological attractiveness” is the conditions that do not harm human health, ensure the safety of his home and the comfort of living. The overall level of comfort consists of 4 aspects: ecological situation, level of improvement, natural potential of the territory and social potential of the territory.

• The attractiveness of the city should be viewed from a broad point of view, mostly from the standpoint of the population and business. A large city is attractive and attractive for the population in terms of the breadth of the labor market, career opportunities and high earnings, interesting leisure time, self-actualization of the population, but it also has many shortcomings – the attractiveness of cities is aggravated by the economic crisis and traffic collapse, social stratification trends, the background of the infrastructure, lack of infrastructure in the village and small towns.

• Belgorod, developing as an agglomeration, has corresponding town planning problems, the gentrification of the centre of Belgorod is accompanied by the dominant interests of large capital. The regional center needs to search for the right solutions to the problems of optimizing the urban planning management in order to transform the quality of the urban comfort environment.

To help in solving this problem a unique project has been developed by the Office of Urban Development and Architecture of Belgorod called “Belgorodchina – man-made park – Belgorod City”. Urban project will allow to develop a typology of standards for the arrangement of public spaces for settlements of the regional center. The basis of the construction of Belgorod laid three main line-frames: bicycle-pedestrian, transport and green. The bicycle and pedestrian network will connect the micro districts with the built embankment, which has become the centre of attraction for many citizens.

The city is a complex phenomenon. A study of the city allows us to formulate some recommendations for the further development of Belgorod:

– the gentrification of the city centre should not be accompanied by a dominant interest of large capital, otherwise there will be a significant bias in matters of the effectiveness of urban areas;

– the priority qualities of the urban environment should be comfortable spaces for residents and multifunctional development of territories with a favorable environmental situation (Belgorod Arbat). The alternative can be the reconstruction of the urban environment without harm to the population strata;

– it is necessary to develop the model of the new planning structure of the city in order to revise the principles of spatial planning and to lay down the standards of the modern comfortable living environment. And the central “focus” of the project should be the urban project “Belgorod City”, scheduled for implementation in the near future.

In conclusion, I would like to add that every citizen of Belgorod should follow the “4P formula” – to create PERMANENT CHANGES THAT ARE A CONSTANT SPACE around him. In case of their successful implementation, they will help all of us get a more comfortable quality of the urban environment of life in Belgorod Region!

SOIL EVOLUTION OF THE CENTRAL BLACK EARTH REGION IN THE HOLOCENE

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Soil represents a complex system that is in constant interaction with external environment, which through soil processes determines properties of a soil. Soil formation conditions changing leads to emergence of new properties. Due to the considerable duration of the current climatic epoch, many of soils properties are in conformity with the existing climate–controlled natural conditions. But besides the properties formed in the modern climatic epoch, the soil has a number of features inherited from past epochs of soil formation, past stages of their evolution. Therefore, in order to understand the peculiarities of the soil cover of a particular region, it is necessary to know their evolution, the history of climate change.

The object of the research is background soils, buried soils of the Bronze Age mound of Novaya Chigla site.

The subject – analysis of uneven-aged soils for paleoecological reconstruction.

The aim of the work is the reconstruction of the paleoecological situation on the basis of the studied uneven-aged soils on the example of the mounds of Novaya Chigla area study. The task of this work – a comparative analysis of the morphological properties of the background soils and buried soils of the Bronze Age mound.

Novaya Chigla site is located on the Oka-Don lowland plain, within the Oka-Don flat-plate estate, in the center of Voronezh region on the bank of the Chigla river, which flows into the Bityug river. The natural zone is a forest-steppe. The area of Khrenovsky bor adjoins the forest, represented by conifers - pines growing on sandy soils. The soil is chernozem (black earth).

In terms of nature and climate, the territory corresponds to the south of the forest-steppe zone near the border with the steppe. This is reflected in the appearance of vegetation. In areas that have avoided anthropogenic influences over the past decades, fescue-feather grass associations are common.

According to the research, it turned out that the background soil is black, ordinary, moderately thick, medium loamy, on heavy moraine loam.

I used the following methods: etermination of carbonate content by the acidimetric method and comparative historical method.

I found out that the mound embankment is formed from humus horizons of chernozem and has gray tones of color. During the time elapsed since the construction of the mound (pre-middle Bronze Age, catacomb culture, about 3800 years ago) on the mound of the kurgan, an incompletely developed chernozem-like soil with a humus horizon thickness of 20–21 cm was formed, and a humus profile was 35–36 cm. The soil was southern chernozem, thin, medium loamy, on heavy gley loam.

According to the acid-base analysis, it can be concluded that the lowest value of carbonates (MeCO3) is observed at depths of 0–30 cm (2,5% on average), which is associated with leaching of carbonates into deeper layers, and the maximum value of carbonates is noted at a depth of 70–80 cm (21,82%). I can characterize the studied background soil as an ordinary chernozem, peculiar to this landscape (feather–fescue forest steppe). Thus, these soils were formed in a temperate continental climate.

Next, I analyzed the acid-base analysis data of the soils from the Bronze Age mound. In the buried soils of the mound, the lowest carbonate content is observed in a layer of 180–200 cm (10,76%), except for the uppermost 10 centimeter layer, which is connected to the natural state of the soils, which were formed in more arid conditions comparing to modern soils. The maximum carbonate content is reached at the depth of 40–50 cm. Also it can be noted that the concentration of carbonates is concentrated in the upper part (depth from 20 to 80 cm). From these data, we can assume that 3800 years ago (estimated age of the mound) on the territory of the Central Black Earth Region, arid climate prevailed. Here chestnut soils were spread, which over time turned into southern chernozem.

As a result, it was found out that in the study area 3,800 years ago the climate was dry. Then, over time, the content of carbonates began to decrease, however, their concentration peaks moved to higher layers, indicating episodic climate aridization. The soils of the Middle Bronze Age are identified as chestnut. During the time elapsed after the Middle Bronze Age of the epoch, the carbonate content in the soils has noticeably decreased and the maximum of their manifestation is fixed at a greater depth. This suggests an increase in the humidity of the climate in the modern era compared with the Bronze Age. The soils evolved from the chestnut bronze epoch into modern ordinary black soils, transitional to typical black soils.

IMPACTS OF A WARMING ARCTIC

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Climate change in the Arctic include rising air and water temperatures, loss of sea ice, and melting of the Greenland ice sheet. It is expected that the sea ice in the Arctic Ocean may cease to exist in the summer until 2100. The assessments of when this will happen for the first time vary widely: 2060–2080 and even 2030 are indicated. As the Arctic region is the most sensitive to global warming, climate change in the Arctic is considered as an indicator of this process.

Arctic climate change is regularly summarized in The Fourth Assessment Report of the Intergovernmental Panel for Climate Change (IPCC). The National Oceanic and Atmospheric Administration (NOAA) updates the Arctic Report Card. Global sea ice is still decreasing. Seasonal variations and long-term decline in the Arctic sea ice is fixed.

Computer models predict that the area of sea ice will continue to decrease in the future, although recent work calls into question their ability to predict changes in sea ice accurately. Modern climate models often underestimate the rate of sea ice reduction.

In 2007, the Intergovernmental Panel on Climate Change (IPCC) reported that "the projected reduction [in global sea ice cover] is accelerated in the Arctic, where some models project summer sea ice cover to disappear entirely in the high-emission A2 scenario in the latter part of the 21st century."

Nowadays there is no scientific evidence that the Arctic Ocean has ever been ice-free in the last 700,000 years, although there have been times when the Arctic was warmer than today. Scientists are studying possible causal factors, such as direct changes associated with the greenhouse effect, as well as indirect changes, such as unusual winds, rising Arctic temperatures, or changes in water circulation (for example, increase in the inflow of warm fresh water into the Arctic Ocean from rivers).

According to the Intergovernmental Panel on Climate Change, "warming in the Arctic, as indicated by daily maximum and minimum temperatures, has been as great as in any other part of the world". The reduction of the sea ice area in the Arctic decrease the amount of solar energy reflected back into the space, thus speeding up the reduction. Studies have shown that the recent warming in the Polar

Regions was due to the overall human impact; warming as a result of the radiative effects of greenhouse gases is only partially offset by cooling through ozone depletion.

Reliable measurements of the sea ice edge began with the advent of artificial satellites in the late 1970s. Before satellites emergence, the study of the region was carried out mainly using vessels, buoys and aircraft.

Arctic sea ice, which reached its lowest level in September, hit new record lows in 2002, 2005, 2007 (39,2 percent less than the average for the period of 1979-2000) and 2012. At the beginning of August, 2007, a month before the end of the melting season, the largest reduction in Arctic ice in the history of observations was recorded – more than a million square kilometers. For the first time in human memory the legendary Northwest Passage was completely discovered.

It is also necessary to take into account that earlier in 1979, when satellite observations were not conducted, there were also low-ice periods, one of which in 1920-1940 also caused discussions about the warming of the Arctic.

Accurate measurements of sea ice can only be made at a limited number of points. Due to significant variations in the thickness and composition of ice and snow, the Aero – and space measurements should be carefully evaluated.

However, the conducted studies confirm the assumption of a sharp reduction in the age and thickness of ice. "Catlin Arctic Survey" reported that the average ice thickness is 1,8 m in the Northern part of the Beaufort Sea, the area that traditionally contains older and thicker ice. Another approach involves a model construction of build–up, drift, and melting of ice.

The rates of reduction of annual ice maximum in the Arctic are speeding up. In 1979–1996, the average per decade reduction of ice maximum was 2,2 % of volume and 3 % of the area. During the decade ended in 2008, these values increased to 10,1 % and 10,7 %, respectively.

This is comparable to the change in annual minimum (that is, old ice that survives throughout the year). In the period from 1979 to 2007, the average for the decade reduction of the minimum was 10,2% and 11,4%, respectively.

This coincides with ICESat measurements indicating a decrease in Arctic ice thickness and a reduction in the area of old ice. During the period from 2005 to 2008, the area of old ice decreased by 42 %, and the volume by 40 %.

GLOBAL WARMING AS AN URGENT PROBLEM

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Our planet is facing a very serious environmental crisis today. It is called global warming. And it is the result of man’s intervention in the nature. Global warming is the process of gradual increase in the average annual temperature of the surface layer of the Earth's atmosphere and oceans. This term has been presented by scientists. The problem of global warming was first expressed in the hypothesis of Swedish scientist Svante Uranium in the late nineteenth century.

It’s worth mentioning, scientists cannot say with certainty what causes climate change. Many theories and assumptions are put forward as the causes of global warming. Some of them: the behavior of the oceans (typhoons, hurricanes, etc.); volcanic eruptions; earth's magnetic field and solar activity are mentioned.

Global warming is considered to be the result of the industrial revolution. If it goes on, it will destroy our civilization. One of the most important reasons of global warming is the air pollution. More and more factories are being built in different countries. By burning oil, coal, gasoline, even natural gas, they add more carbon dioxide to the atmosphere. Cars also influence the atmosphere badly by burning many liters of oil and releasing harmful gases into the air. As a result the ozone layer of our Earth is being destroyed. All these activities unfavourably change the Earth’s heat balance.

What are the consequences of global warming?

According to the forecasts in the near future the Temperature will increase and as the result the earth's rotation will become slower, many species of animals and plants will die. The flooding of large areas and islands will lead to an increase in the overall level of the oceans. In Europe, due to changes in the course of the Gulfstream, warming is not predicted. Global warming will directly influence human health.

Some evidence of global warming can prove that one of the most visible processes associated with global warming is melting of glaciers. Experts report that over the past 30 years of observations the rate of ice melting has increased so much that in a few years Greenland will be called a “green island”, as there will be no ice at all there.

No doubt, there are many ways to prevent global warming, such as increasing the production of solar panels, wind turbines, tidal power (PES) and hydroelectric power (HPP).

The main world agreement on combating global warming is the Kyoto Protocol. The Protocol unites more than 160 countries and covers about 55% of global greenhouse gas emissions.

The European Union should downsize emissions of CO_2 and other greenhouse gases by 8%, the US – by 7%, Japan – by 6%. It is worth noting the increased activities of some companies are performed to prevent global warming. For example, the British millionaire Richard Branson announced a scientific tender considering it the best way to prevent global warming. The winner will receive $ 25 million. According to Branson, it's the humanity which must be responsible for the definite activities. At the moment, there are several dozen of applicants who offer their own solutions of this problem.

Summing up it can be said that global warming is a very serious problem and we should not neglect it. We often do not realize what global warming really is and what its consequences can be like. Naturally we should do our best to change the situation.

TOWARD AN ECOLOGICAL CLASSIFICATION OF SOIL BACTERIA

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For centuries biologists have studied patterns of plant and animal diversity at continental scales. Until recently, similar studies were impossible for microorganisms, arguably the most diverse and abundant group of organisms on Earth. Although researchers have begun cataloging the incredible diversity of bacteria found in soil, scientists are largely unable to interpret this information in an ecological context, including which groups of bacteria are most abundant in different soils and why.

With this study, scientists examined how the abundances of major soil bacterial phyla correspond to the biotic and abiotic characteristics of the soil environment to determine if they can be divided into ecologically meaningful categories. To do this, scientists collected 71 unique soil samples from a wide range of ecosystems across North America and looked for relationships between soil properties and the relative abundances of six dominant bacterial phyla. Of the soil properties measured, net carbon mineralization rates was the best predictor of phylum-level abundances. There was a negative correlation between Acidobacteria abundance and C mineralization rates, while the abundances of b-Proteobacteria and Bacteroidetes were positively correlated with C mineralization rates. These patterns were explored further using both experimental and meta-analytical approaches. Scientists amended soil cores from a specific site with varying levels of sucrose over a 12-month period to maintain a gradient of elevated C availabilities.

This experiment confirmed our survey results: there was a negative relationship between C amendment level and the abundance of Acidobacteria and a positive relationship for both Bacteroidetes and bProteobacteria. Further support for a relationship between the relative abundances of these bacterial phyla and C availability was garnered from an analysis of published bacterial clone libraries from bulk and rhizosphere soils.

Together survey, experimental, and meta-analytical results suggest that certain bacterial phyla can be differentiated into copiotrophic and oligotrophic categories that correspond to the r and K-selected categories used to describe the ecological attributes of plants and animals. By applying the copiotroph–oligotroph concept to soil microorganisms we can make specific predictions about the ecological attributes of various bacterial taxa and better understand the structure and function of soil bacterial communities.

THE USE OF DEM TO STUDY AND EVALUATE ECOLOGICAL STUBILITY

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One of the significant advantages of geographic information systems (GIS) technology is the ability to create spatial models in three dimensions. Terrain modeling of different areas of land and water helps in solving various geoecological problems. With the help of digital terrain models it is possible to identify dangerous areas of relief, to study slope surfaces, to study their susceptibility to erosion, as well as on the basis of these data to build thematic maps, such as maps of erosion hazard area.

In the field of environmental monitoring information base derived from the DEM may be used, for example, for calculation and modeling of potential contamination areas in the locations of hazardous facilities and the adjacent areas. By assessing the orographic factors in the area that we have chosen as the object of study, it is possible to trace the direction of pollutants movement that can get with run-off directly into the river systems, residential areas and other areas, at the same time pre-determining the direction of surface flow.

In addition to such parameter as the direction of flow, important aspects in the modeling of pollution zones are also the catchment area and the overlying and underlying areas of flow (the territory from which the surface flow enters the area of our interest and the territory to which the surface flow from the area of our interest falls). These indicators are necessary in the modeling of pollution zones and the negative impact of anthropogenic factors on forests, pastures and arable lands and can be obtained in the process of analyzing the digital model of the territory relief. The DEM can also be used to assess the movement of pollutants carried by air masses and to model the development of aeolian processes. Based on the analysis and study of the digital model we can calculate such morphometric parameters as indices of windward and leeward effects, terrain ruggedness index, index of topographic openness of the territory, etc.

Among other things, DEM can be used to prevent erosion processes on slopes with their potential danger, or to contribute to the timely adoption of measures to stop the development of erosion or its elimination. During the analysis of the digital model data, it is possible to identify areas unsuitable for agriculture and other agricultural activities due to the risk of soil erosion, as well as the formation of gullies that grow into ravines.

Based on the above, it can be noted that the information about the relief of the territory is a significant factor for solving many production and analytical tasks in the field of geoecological research and environmental management. Forecasting potential zones of emergency situations, assessment of environmental damage in the simulated pollution of the territory, monitoring of the environmental situation and prevention of processes that adversely affect the environmental stability of the terrain – all these tasks help to solve the use of digital terrain models as an object of analysis and source of necessary data.

USE OF DEM-DATA DURING THE CREATION OF MORPHOMETRY MAPS

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One of the areas of geographical science in which digital modeling can make a valuable contribution is geomorphology, within the framework of which special maps are created and the morphometric parameters of the territories are studied. The technologies of creating DEM, their analysis and interaction with them make it possible to build separate types of morphometric maps much more efficiently and faster. Automation and productivity of many processes open up great opportunities for specialists-cartographers in this field, because they allow to perform various operations at a higher technological level.

The purpose of this work is to study the use of DEM data in the creation of morphometric maps for Belgorod region. The object of study is the relief of Belgorod region. The Subject of study is the application of digital terrain data for the purpose of constructing morphometric maps.

Morphometric maps show quantitative characteristics of forms and types of relief, relative heights, depth of dismemberment, the nature of slopes and etc.

Traditionally, morphometric maps are created on the basis of the topographic maps analysis, which requires certain skills of an expert in geomorphology or topography and is highly labor-intensive. In this work we would like to show how the use of modern satellite data can speed up and simplify the process of preparing base maps for the creation of geomorphological and landscape maps.

The basic data for constructing digital terrain models are DEM data and STRM data. These are files that contain altitude information about the area, with which you can visualize the area in three dimensions. DEM is essentially a digital model itself or a three-dimensional representation of the terrain surface created from elevation data. SRTM is an international mission to obtain data from the digital terrain model of the Earth.

The modules of Terrain package ERDAS Imagine (Intergraph Corp.), Vertical Mapper of the MapInfo program (MapInfo Corp.), Autodesk Map 3D of AutoCAD (Autodesk Inc.) are the examples of GIS products to work with digital terrain models. One of the most popular GIS products for working with digital models is ArcGIS with 3D Analyst and Geostatistical Analyst modules. ArcGIS 3D Analyst contains a set of tools for creating and analyzing surfaces, as well as tools for creating virtual terrain models. ArcGIS offers two environments for 3D visualization, ArcGlobe, and ArcScene, which allow to display and analyse 3D data in three-dimensional space.

To create morphometric maps of Belgorod region we use DEM images with a spatial resolution of 60 m per pixel. After receiving the necessary information, we can begin its processing. We load the received data in the program ArcGIS and impose the border of Belgorod region on them.Now, for further operations with Belgorod region, it is necessary to leave only data on the relief within the imposed red border. For this purpose, you need to perform the operation of cutting the image using the “Extract by mask” tool. Then, using the Fill tool, we filled in the sinks in the surface raster to remove small errors and inaccuracies in the data. Now this picture can be used in creating applied morphometric maps.

The construction of the exposition map was carried out with the help of an appropriate tool. After automatic construction, it is necessary to reclassify the exposure designation from ten automatically defined classes to four in our case. As a result, we created a map of slopes expositions of Belgorod region. The choice of colors was made in the traditional way by the defining color of the cardinal points.

Thus, we have obtained data on the distribution of the territory for 4 exposures; the table shows that they are distributed approximately equally, with a maximum of 26% on the slopes with Western exposure. This map can be used, for example, in agriculture. After analyzing certain areas of the area and with the necessary data, for example, the amount of solar radiation, you can plan a variety of cultural planting, plowing, irrigation distribution and other agricultural activities.

By analogy with the creation of the map of exposures, after specifying the input and output raster, it is necessary to reclassify the designation of slopes from nine automatically defined classes to five (according to the classification of S.S. Voskresensky). We can see from the table that 47% of the territory is absolute planes, 37% are very gentle slopes and only 0.6% are steep slopes belonged to the right banks of the major rivers of the Rhine. The slope map can be applied in agriculture too. Thus, knowing the slope of a certain area, it is possible to analyze the data and calculate the probability of erosion as a result of agricultural activities.

One of the most problematic issues in the creation and updating of topographic maps is the construction of contour lines – a time-consuming process that requires field survey. To simplify and speed up this process, you can also use the methods of geoinformation processing of digital data. The relief contour map was built using several tools. First of all, we used the “Filter” tool for a small smoothing. Next, the construction of the contours themselves was performed directly using the appropriate tool “Contours”. Since the height range in the image is from 109 to 241, the 30-m contour interval is selected, and the 120-m contour is set for the base contour. After creating the contours, they must be generalized to increase the visibility of the map. The color scheme is chosen on the principle of increasing saturation and warmth of tone, due to which the valley are distant and hills are elevated. In the future, this map will be verified on the basis of a topographic map, its error will be estimated, although now we can say that such a variant of building contours is adequate for reconnaissance work.

On the basis of DEM data it is possible not only to build topographic maps, but also to create three-dimensional models of the terrain, visualizing images with information about the values of the parameter Z (the heights). For this purpose we use the same raster of Belgorod region and ArcScene – environment for 3D visualization.To increase the visibility of our model, you can put a space image of the area on it.

Having considered the possibility of using DEM-data in the development of morphometric maps of relief, which can also be used as a basis for the preparation of geomorphological and landscape maps, we can say that through the use of technologies for processing digital models, the creation of certain types of cartographic products in this area can be carried out with greater efficiency.

STUDYING OF NOVOOSKOLSKY DISTRICT LAND USE STRUCTURE USING GIS TECHNOLOGIES

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At present, the use of GIS technologies is very typical for assessing the territories land use structure of various ranks. They are used to analyze, evaluate, edit and visualize geographic data, so consideration of such an industry as land use is impossible in isolation from geographical information systems.

The purpose of our work is to conduct a comparative analysis of visual and automated processing of remote sensing data methods in studying the structure of land use in Novooskolsky district of Belgorod region.

The objectives of the study are:

1. Based on the literature data, consider the use of GIS in land use and territorial planning.

2. Conduct an analysis of the land use structure of the Novooskolsky district of Belgorodregion, based on the GIS tools “ArcGIS”.

3. On the basis of the chosen method of space images processing, an assessment of the land use structure of Novooskolsky district, Belgorod region over the past 60 years.

Modern characteristic of Novooskolskiy district land use.Novoiskolsky district is located almost in the center of Belgorod region. The administrative center of the district is Novy Oskol, which is located 116 km from Belgorod. The total area of the district is 1401,6 km2, more than 70% of which is arable land. The lands of the population accounts for about 10% of the territory, and are placed approximately evenly over the entire area. Forest lands make up 7,8% of the district. Large forests are located in the floodplain of the Oskol river, and in the North-West of the district. About 6,2% of the land belongs to the reserve lands. Data for 2015.

Scheme of territorial planning of the district.The current scheme of territorial planning of the district does not provide objective information about the modern structure of land use. It is impossible to identify exogenous, dangerous, contaminated areas.To carry out environmental and design activities of complex monitoring work, it is necessary to conduct landscape zoning on actual space images in order to update and refine data on the land tenure of the area.

The ArcGIS 10.2 application software package was used in the work. It allows to carry out preliminary raster preparation and interpretation both with the method of visualization (when the specialist himself chooses certain areas and assigns to each area its value) or automated processing (when the specialist specifies specific areas as reference areas, and the program itself classifies the raster). For our work we used Landsat 8 space images. This is a multi-zoned space image (an archived set of images in GeoTIFF format). Space images were obtained through the Earth Explorer service of the US Geological Survey.

Method of automated processing.We carried out a comparative analysis of the results of a visual and automatic method for estimating the structure of land use using the example of Novooskolsky district. With the help of such tool as "Image Classification", designed to create a raster classification, the map of Novooskolsky District was automatically digitized. During the processing of the satellite image, such objects as: settlements, water bodies, forests were applied and different types of arable land and etc. were allocated.An explication of the territory was also carried out.

Method of visual interpretation.Thematic mapping in the visual mode consists in tracing the linear and outlining of the area objects, after that each pixel within the line or contour (outline) is assigned the corresponding color and tint.

Comparative analysis of data. In assessing the differentiation of data on land use areas calculated based on visual and automatic interpretation, as well as official statistical data, a number of conclusions can be done:

– The area data for water bodies are identical with the statistical data and the automated method, the indicator of the visual method is slightly lower;

– Settlements are more clearly identified on the basis of the visual method (they account for more than 11% of the area), while according to official data this figure is 9.5% and on the map created by the automatic method it is 8%, this is due to the fact that the expert in interpretation categorizes to the settlements not only houses but the accompanying territory (vegetable gardens, orchards).

–Big difference is recognized in forestry coverage, according to statistics 7,8% account for forest lands. As a result of visual interpretation we obtained 9,6%. On the map created by the program – 17,5%, as the forest lands do not take into account ravine forests and, sometimes, forest belts, and in manual interpretation, not all forested areas have been identified by the specialist (for example, narrow forest belts along roads);

– Significant differences in the identification of arable land, according to the official data, the arable land makes up 75,5% (including hayfields and pastures), according to the visual analysis 59,8% was received, and according to the automatic methods – 64,8%. Such a big difference can be explained by the fact that a number of hayfields and pastures were not identified in both methods;

– Land for industry and transport comprises 0,8 % of the area of the district, similar results were obtained with the automated method, in manual classification of the images this category was not allocated.

Comparing the automated and manual processing methods, based on the results of the obtained areas, it can be said that the image created by the visual method is more generalized, which can be useful in the overall consideration of land use patterns. In this case, natural objects in the image created in automatic way are clearly identified.

Another positive aspect of this method is the detailed classification of arable land, it is possible to specify the standards of individual types of arable land (winter crops, cereals, etc.) with different spectral characteristics, which is almost impossible in visual interpretation (extremely time-consuming). Despite the advantages of automated interpretation, we see that the image is very grainy and requires final generalization.

For our further work to assess the changes in the structure of land use in Novooskolsky district over the past 60 years, we have chosen the method of visual interpretation. We took a map of the functional-landscape zoning of the area according to the data for 1956 year with the table showing the area of the land use structure. A similar map was created based on the space survey data for 1998 year and area characteristics.

Thus, the analysis of changes in the structure of land use over the past 60 years, according to the data for 1956, 1998 and 2017 years, shows that the area of water bodies has increased due to the construction of ponds. The areas of forestlands remained unchanged, and the area of arable land has decreased by 1 hectare. The area of ravine-beam complex has increased by 4 hectares. The area of settlements in the district increased by 50% or by 5 hectare.

THE USE OF REMOTE SENSING MATERIALS IN GEOECOLOGICAL STUDIES

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At present, one of the main features of geoecological research is the use of relevant cartographic data. Modern geographic research is impossible to imagine without the use of remote sensing materials, since they are the main source of objective spatial information.

It should be noted, that the availability of aerial and space photography materials is growing every year, so all ordinary users can take advantage of built-in search engines Google, Yandex, etc. databases of satellite images. Specialists in the field of cartography use the resources of the United States Geological Survey, which has an extensive archive of open access images.

When working with the remote sensing data, one of the key issues is the competent operation of images interpretation, it is from the used approaches labor costs and accuracy of cartographic materials will depend on. Now there are two methods of image interpretation: visual and automatic. Thematic mapping in the visual mode consists in tracing the linear and outlining of the area objects, and then the corresponding index is assigned to each pixel within the line or a contour. However, such process is very laborious and, when performing any quantitative assessments, does not guarantee the necessary accuracy. That is why more specialists try to apply methods of automated interpretations in geoecological studies. Methodology of automatic classification presented in all modern remote sensing data processing packages includes an uncontrollable classification (without training) and controlled classification (with training).

Interpretative signs are used for successful interpretation, they can be indirect and direct. Direct signs are inherent in objects themselves. These include: shape, size, detail, structure, tone (color) and shadow. Direct signs provide direct recognition of objects, the more direct signs, the more reliable the result of interpretation is. Indirect signs indicate the presence of an object, taken from the results of the analysis of direct signs and allow obtaining additional characteristics of objects. They are based on the natural relationships existing in nature in the spatial distribution of individual objects or a complex of objects, or between natural objects and the results of human economic activity.

Thus, the possibilities of remote sensing data qualitatively and quickly allow to obtain data on the actual use of the territory, to identify the centers of anthropogenic load and, indirectly, the zone of ecological distress.

SECTION 2. SOCIAL SCIENCES, ECONOMICS

FOREIGN ECONOMIC ACTIVITY OF THE RUSSIAN FEDERATION

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Currently, due to the socio-economic changes in society, the growth of economic activity and scientific and technological progress, the number of administrative offenses in the field of customs control is increasing. In particular, modern technologies are used to achieve criminal goals in the sphere of smuggling of goods. As a result, one of the most important activities of the Federal customs service of the Russian Federation is the control and supervision in the field of customs. Customs control is a set of the measures which are carried out by customs authorities including with use of a risk management system, in order to ensure compliance with the customs legislation of the Customs union and the legislation of member states of the Customs union.

In order to improve the efficiency of the Federal customs service of Russia it is necessary to create a single legislative regulation of customs examinations. Customs examinations are appointed by customs authorities at implementation of customs control, carrying out the cases connected with violation of customs rules and also when carrying out inquiry on criminal cases about smuggling and other types of crimes by Russian customs authorities. At the moment expertises in the sphere of customs affairs are appointed according to the Federal law from 5/31/2001 of No. 73–FZ “About the state judicial and expert activity in the Russian Federation”.

Also at present it is possible to identify some other problems connected with regulation and the organization of expertizes in the customs sphere:

• need of standardization;
• incompetence and low skill level of customs officers;
• low level of material logistics.

At customs control expert examinations can be appointed in the following purposes:

- installation on tests and samples of goods description according to the Commodity Nomenclature of Foreign Economic Activity;
- installation of goods belonging to narcotic and psychotropic drugs;
- establishment of the country of goods origin;
- determination of physical and chemical properties of goods;
- identification of goods belonging to cultural values of the state, etc.

Customs expertise is appointed by customs authorities and is carried out by customs experts or experts of other authorized organizations. According to the Customs Code of the Customs Union (further – the CC of CU) the customs expert is the official of customs authority authorized for conducting customs examination. Conducting customs examination is appointed to other authorized bodies in cases if carrying out a certain type of expertise by the customs expert in this regional branch is impossible. Delegation of power in other authorized organizations happens on the basis of the order of FCS of Russia of July 28, 2011 No. 1541 “About the statement of the Order of coordination with the customs authority which is carrying out customs expertize, purposes of customs examination by customs authority in other authorized organization which is carrying out customs expertise”.

Improvement of standard and legal base in the sphere of customs expertise as well as the use of innovative technologies in the process of customs control will contribute to an increase in number of additional accruals of customs payments, increase the rate of conducting customs expertise, and as a result, improvement of the effectiveness of expert customs control.

INTRODUCTION AND APPLICATION OF ELECTRONIC CUSTOMS DECLARATION OF GOODS

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Currently, there is a huge number of changes in the world and these changes would be impossible without the use of Internet technologies, which are associated with the organization of transparency of customs procedures (using electronic document management systems), as this leads to a simplified system of information exchange, both with entities engaged in foreign economic activities and between state bodies.

A Customs declaration is a document that a declarant (customs applicant) provides to the customs authority and contains information necessary for the release of goods. Under the current legislation, customs declaring is made in written and electronic forms using the customs Declaration. The combined option is used during the customs clearance of goods – the Declaration is presented in paper form and its electronic copy is provided too.

Electronic declaring is a possibility to submit customs declarations in electronic form and conduct a remote procedure of customs clearance.

The adoption of federal law „On electronic signature" in 2002 can be considered as the first impetus to the development of electronic declaring in Russia. The possibility to transfer customs declarations signed by electronic digital signature has been opened. Electronic declaring became actively discussed and promoted by the heads of customs service. The idea of electronic Customs declaration using gradually has captured the minds of the major participants of foreign economic activity and also the advanced designers of software for customs.

Positive experience of the states which implement electronic declaring:

1. Time reduction of goods clearance due to simplification of customs formalities;
2. Closer cooperation and coordination of actions with other state bodies;
3. Uniform application of the customs legislation; increase in transparency and predictability of customs clearance;
4. Reducing probability of inappropriate actions of officials;
5. Quality improvement of management information;
6. Effective use of human and technical resources;
7. Obtaining reliable information for assessment of risk and audit after customs clearance.

Among the Russian advantages of electronic declaration on the Internet we should note:

1. Time reduction of customs clearance up to three hours instead of three days;
2. Availability of connection (in comparison with electronic declaration–1 technology);
3. Opportunity to file Cargo Customs Declaration in any post of the Federal Customs Service of the Russian Federation;
4. Reducing the corruption component due to the reduction of direct contacts with customs officials.

Thus, currently existing information systems of the customs authorities of the Russian Federation provide automation of all business processes implemented by the customs authorities within their functions.

THE EFFICIENT PROJECT TEAM CRITERIA

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Project management provides important business values and concerns the overall planning and co-ordination of a project from conception to completion aimed at meeting the stated requirements and ensuring completion on time, within cost and to required quality standards. Project management is normally reserved for focused, non-repetitive, time-limited activities with some degree of risk and that are beyond the usual scope of operational activities for which the organization is responsible.

A project is a temporary endeavor designed to produce a unique product, service or result with a defined beginning and end (usually time-constrained, and often constrained by funding or staffing) undertaken to meet unique goals and objectives, typically to bring about beneficial change or added value.

Project management is the application of processes, methods, knowledge, skills and experience to achieve the project objectives. What is project management?

A project is a unique to achieve planned objectives, which could be defined in terms of outputs, outcomes or benefits. A project is usually deemed to be a success if it achieves the objectives according to their acceptance criteria, within an agreed timescale and budget.

A key factor that distinguishes project management from just 'management' is that it has this final deliverable and a finite timespan, unlike management which is an ongoing process. Because of this a project professional needs a wide range of skills; often technical skills, and certainly people management skills and good business awareness.

The purposes of a project management are as follows.

- Define project goals and objectives;
- Set guidelines and rules to be followed;
- Coordinate and control the many, complex activities of projects.
- Foresee or predict as many risk and problems that are imminent.
- Develop an action plan, organize, and control activities that are crucial in the completion of a project.
- Outline steps and quality plans to achieve the project goals.

- Determining the budget and time required for each of the daily plans, as well as the project as a whole.
- Provide a successful project despite the risk and problems.

Before we move on, I think we should focus on approaches to organizing and completing project activities, including: phased, lean, iterative, and incremental. There are also several extensions to project planning, for example based on outcomes (product-based) or activities (process-based).

A 2017 study suggested that the success of any project depends on how well four key aspects are aligned with the contextual dynamics affecting the project, these are referred to as the four P's:

- Plan: The planning and forecasting activities.
- Process: The overall approach to all activities and project governance.
- People: Including dynamics of how they collaborate and communicate.
- Power: Lines of authority, decision-makers, organograms, policies for implementation and the like.

Regardless of the methodology employed, careful consideration must be given to the overall project objectives, timeline, and cost, as well as the roles and responsibilities of all participants and stakeholders.

The phased (or staged) approach breaks down and manages the work through a series of distinct steps to be completed, and is often referred to as “waterfall”.

Lean project management uses the principles from lean manufacturing to focus on delivering value with less waste and reduced time.

Several models of iterative and incremental project management have evolved, including agile project management, dynamic systems development method, extreme project management, and Innovation Engineering.

A project goes through 6 phases. Let me use a scheme to explain this.

Project management process phases.

The saying “Think before you act” is at the heart of this Apogees 6 phase project management model. Each phase has its own importance and work package. Each work package has its own aspects that should be the focus of a successful working solution or product which can add a certain value to your client’s business.

We really need to take care of project team. A project team is a team whose members usually belong to other groups, functions and are assigned to activities for the same project.

If the project has no productive and well-organized team, there’s an increased probability that this project will be failed at the very beginning because initially the team is unable to do the project in the right manner. Without right organization of teamwork, people who form the team will fail with performing a number of specific roles and carrying out a variety of group/individual responsibilities.

As I see it, the most important thing is the team needs to consist of variety of skills and experience. Criteria of the efficient project teams:

- need to have the right combination of skills, abilities and personality types to achieve collaborative tension;
- tuned on trust and cooperation;
- consists of a variety of members often working under the direction of a project manager or a senior member of the organization;
- an interdependent collection of individuals who work together towards a common goal and who share responsibility for specific outcomes of their organizations;
- the autonomy and flexibility availed in the process or method undertaken to meet their goals;
- the job of management is to create relaxed and comfortable atmosphere where members are allowed to be themselves and are engaged and invested in the project work;
- each member is responsible to give constructive feedback, recognize, value and utilize unique strengths of each other.

The conclusion is projects consist of teams and needs to manage project teams during the life cycle of the project. Finding the right people, managing their outputs, and keeping them on schedule are a big part of managing a project. Managing human resources is about human resources planning, hiring, and developing and managing a project team.

Project Teams are an internal vehicle for the communication of pertinent and essential information relative to the development, implementation and ongoing activities of a project.

A project team is a dynamically created list of people that are working on a project. Specifically, workspace members that have assigned plan items within a project are automatically members of that project team.

FEATURES OF GOODS PLACEMENT UNDER CUSTOMS PROCEDURE OF TEMPORARY IMPORT

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At present, in the context of globalization of the economy and the expansion of international trade the requirements for the quality and speed of customs procedures significantly are increasing. The challenges that meet today the Federal customs service of the Russian Federation are connected with the need to counteract the Commitment of illegal actions and abuse in the movement of goods and vehicles.

The importance of temporary importation as an independent customs procedure is determined by the needs of the development of trade and other forms of international cooperation.

The application of the procedure of temporary importation allows by providing certain benefits to remove unjustified obstacles to the development of economic, cultural, humanitarian relations with foreign countries. Simultaneously the protection of national economy and security of the country requires the establishment of clear legal framework for the use of this customs procedure.

An important advantage of the customs procedure of temporary importation in accordance with article 219 of the Customs Code of the EAEU is that the goods placed under it are fully or partially accepted from import duties and taxes.

Temporary admission is the customs procedure that allows entry into the customs territory with conditional release from payment of import duties and taxes and without application of prohibitions or restrictions on imports of an economic nature (including vehicles), imported for the certain purpose and exported within the certain period without any changes, except for natural wear and tear as a result of their use.

At the moment, it is necessary to improve the customs procedure of temporary importation, which will increase the volume of foreign economic activity, improve its quality component, ensuring the dynamic development of the country's economy.

Such actions are:

– changes in the licensing system in implementing foreign economic activity;

– creation and maintenance of a common public database by the authorized body, including information on the names of materials, their characteristics, manufacturers, classification by the FEACN of the EAEU;

– elimination of obstacles to the application of simplified procedures for the temporary import of goods (samples) provided for by the Federal Law “On customs regulation in the Russian Federation”.

On the basis of the above-mentioned, we can say that these methods are essential and in the future they will definitely help to increase the efficiency of customs control and customs clearance, as well as the suppression of administrative offenses made by participants of foreign trade activities.

STATE SOCIO-ECONOMIC POLICY IN THE AREA OF SUPPORT FOR FAMILIES WITH CHILDREN

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I would like to introduce you to a brief but interesting description of my scientific work. I had a chance to get acquainted with the scientific writing when I was a 1st year student. My first work was a social description of all possible ways to help orphans with cancer. Having visited various funds of Belgorod region and found out various materials on this topic, I was able to discover that children lacked psychological assistance more than material means without which treatment is not possible at all.

With this article I was offered to speak at the forum of volunteers and workers of the Belgorod Regional Public Organization "Holy Belogorie against childhood cancer". After that, I became interested in this subject of scientific work. Also a customs policy and a system of motivation of customs personnel have found their place in my scientific activity.

And last year, my supervisor suggested me to study State social support for the population, motherhood and childhood. I was very interesting theme for me and I became absorbed in it.

So I've written the article entitled "State socio-economic policy in the field of support for families with children." The article says that, in general, social support for families with children is a system of measures, the result of which is the formation of conditions for the realization of the reproductive function of the family by providing state guarantees and the availability of social infrastructure in order to eliminate demographic problems, improve the living standards of the population and the development of the country as a whole.

The most significant problems of families with children include:

- decline in real household income;
- increase in risk of poverty due to childbirth;
- low level of medical and social services;
- poor housing conditions and problems in the employment of parents

Currently, the main form of social state support is money form, which is implemented through the payment of various benefits and compensation, as well as the provision of financial assistance to families with children.

Charity funds also provide great support to large families. These funds provide not only financial, but also material assistance in the form of providing families with clothing and other necessities.

Further, in my work, I give a rating of the main social support measures implemented both in Russia and at the regional level and make a conclusion that the main directions of social support for families with children in Belgorod region of the state family policy are:

• overcoming of negative conditions of the financial situation in Russian families,

• reducing of poverty, increasing support for families with children,

• strengthening assistance to the family in the upbringing of children.

Later, after analyzing the list of basic social support measures, I tried to identify the following measures to strengthen assistance:

1) interest rate reduction of mortgage lending, it will allow to increase the number of the young families participating in the federal target program;

2) decrease or release from duties of taxes payment by the families participating in the program;

3) to increase the volume of economy class housing construction;

4) to improve the mechanism of informing young families about the existing opportunities.

In conclusion I can say that in recent years the state support in Belgorod region is directed to material stimulation of birth rate, at the same time, despite the positive shifts, not enough attention is paid to creating favorable conditions and increase in life support for optimal functioning of families with children.

BERUFLICHE LAUFBAHN: ZUFALL ODER PLAN?

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Mit den Jahren ändern sich Prioritäten und Erwartungen an die Karriere. Macht es da überhaupt Sinn, einen Plan für die berufliche Laufbahn aufzustellen? Sollte man es gleich dem Zufall überlassen? Grundsätzlich lautet die Antwort „Ja".

Jeder Arbeitnehmer hat seine ganz persönlichen Ziele. Diese Ziele möchte er im Laufe seiner Karriere zu einem bestimmten Zeitpunkt erreichen. Das ist wichtig, um etwas zu haben. Das motiviert, über Frust hinweghilft und eine Richtung vorgibt. Doch ist es wirklich möglich, die berufliche Laufbahn zu planen? Grundsätzlich erst einmal Ja. Ein Plan und eine Vorstellung der beruflichen Laufbahn sind nicht nur möglich, sondern überaus sinnvoll. Auf der anderen Seite ist die Antwort aber auch Nein. Die Realität hat meist ganz andere Pläne. Was am Ende zählt, ist wie man mit einem Plan der beruflichen Laufbahn umgeht. Wer versucht, sich daran festzuklammern und nicht bereit ist, nachzugeben oder Kompromisse einzugehen, wird schnell an seine Grenzen kommen. Was tun, wenn der Plan nicht aufgeht?

Es könnte so einfach sein, wenn immer alles genau so laufen würde, wie man es sich im Vorfeld zurechtgelegt hat. Der Aufstieg auf der Karriereleiter wäre nur eine Frage der Zeit und würde zum festgesetzten Timing einsetzen. Die Wunschposition würde nur auf die eigene Besetzung warten und das Gehalt würde im schönen Rhythmus von zwei Jahren ganz automatisch steigen. In der Praxis ist es hingegen meist nur eine Frage der Zeit, bis der Plan für die berufliche Laufbahn ein Ende findet. Vielleicht ist beim Unternehmen einfach kein Aufstieg möglich. Vielleicht verliert man unerwartet den Job. Der Plan kann auf unterschiedlichste Arten schiefgehen. Entscheidend ist, wie man darauf reagiert.

Man muss sinnvoll mit der Situation umgehen. Einige Tipps:

- Bleiben Sie flexibel.

Keine berufliche Laufbahn ist in Stein gemeißelt. Egal, wie sehr man es will und wie perfekt die Planung scheint, Zufall lässt sich einfach nicht im Vorfeld bedenken.

Klammern Sie sich nicht an die Veränderungen. Auch ungeplante – gehören dazu. Behalten Sie die nötige Flexibilität und betrachten Sie Ihren Plan als grobe Richtlinie.

- Beginnen Sie nicht zu zweifeln.

Kommt etwas anders als gedacht, reagieren viele Menschen sofort mit Zweifeln über den bisherigen Verlauf. Irgendeinen Fehler muss man schließlich gemacht haben. Manchmal entwickeln sich die Dinge einfach anders, als man es vorhergesehen hat, ganz ohne eigenes Zutun.

Wer an sich oder seinen bisherigen Entscheidungen zweifelt, schafft nur Probleme. Sie sollten nicht gleich Ihre gesamte berufliche Laufbahn infrage stellen.

- Richten Sie den Blick nach vorn.

Die wichtigste Frage lautet: Was hat sich verändert und wie können Sie das Beste aus der neuen Situation machen? Sie können nicht mehr ändern. Aber Sie haben immer noch in der Hand, wie es weitergeht. Möglicherweise haben sich dabei auch neue Chancen aufgetan. die Sie bisher noch gar nicht gesehen haben. Nehmen Sie die Veränderungen an! Konzentrieren Sie Sich nicht nur auf das Negative!

Die berufliche Laufbahn, die man sich mit Anfang 20 vorstellt, hat nicht immer viel mit dem gemeinsam, worauf man Jahrzehnte später zurückblickt. Sinnvoll ist es, die Gestaltung der beruflichen Laufbahn nicht als einmalige Entscheidung, sondern als andauernden Prozess zu betrachten. Altersgerecht bedeutet, die individuellen Strategien dem jeweiligen Lebensalter und vor allem der aktuellen Phase der beruflichen Laufbahn anzupassen.

DEVELOPMENT OF RESTAURANT BUSINESS

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The purpose of my research work is to study the dynamics of the development of the restaurant business in Russia.

Restaurant – an institution that sells ready-made food and drinks on request for eating on the spot.

The restaurant business requires a business plan, management, marketing research and development of its own strategy.

The restaurant business in terms of turnover ranks high in the world. At the same time, this is one of the riskiest types of business: 50% of new restaurants are closed in the first year of their existence, 65% in two years, and only one out of ten restaurant lives to 5 years. However, in modern conditions it is advisable to use a slightly different gradation; elite middle class restaurants and fast foods. In addition to the usual bars and cafes, in recent years, a special type of catering establishments has appeared – coffee houses.

In recent years, the restaurant business has begun to attract more investors from a variety of business areas. This is due to the attractiveness of this market in the conditions of economic growth of the country and the welfare of the population, as well as with the possibilities of obtaining stable profits during the whole period of the restaurant's existence with its competent management.

At the same time, the restaurant business involves many dangers for potential investors. In Russia, there is no serious market experience in the restaurant industry and long-term traditions. A review of the catering market leads to the conclusion that most catering establishments place their thematic focus on the type of cuisine: hunting, sports, home, etc. An enterprise without a theme runs the risk of being unnoticed against the background of the diversity of competitors.

In order for the restaurant to start making a profit, it is necessary to build a competent marketing policy. Therefore, you should inform the public in advance about the opening of the institution, and then attract new visitors. If we are talking about a new specialization of the restaurant, it is imperative to adapt the kitchen for consumers according to their tastes.

A separate problem in the restaurant industry is the aging of cadre workers, since the younger generation prefers a more prestigious work in the offices.

Ways to solve the problem: building an effective strategy for personnel management. Modern restaurant business in Russia is represented by a large variety of types of institutions. Most of them came to us from Europe.

Restaurants quick service (or QSR – "expedited service") are affordable restaurants with a limited range of dishes, working with high-quality semi-finished products and equipped with distribution lines. Examples: McDonald's.

Restaurants free flow ("free movement"). Here, a part of the technological processes has been brought to the attention of visitors, who themselves choose various types of dishes, moving from one distribution area and cooking to another.

Coffee houses – a universal institution with a pleasant atmosphere where you can drink coffee. Examples: "Starbucks" "Traveler`s Coffee".

Today, the restaurant business is ranked fourth in terms of the probability of bankruptcy and second in terms of profitability. Therefore, there are a lot of restaurants, bars, cafes in Russia.

The problem of visitors and the quality of service is solved through close contact with European countries and the flow of inbound tourism.

The demand for products and mass food services is growing.

In recent years, the Russian restaurant business has begun to attract more and more investors from various business fields.

Now the most promising direction of the development of catering enterprises is the creation of networks under a single brand. This allows you to save significant funds on the procurement process and advertising, as well as to ensure the required turnover through a large number of small enterprises located in different parts of the city.

Thus, the restaurant business in Russia continues to grow, gradually reaching the world level, which contributes to the development of the tourism industry as a whole.

SMM: CURRENT TRENDS AND PROSPECTS

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Social networks are an integral part of each person's life. In the development process, they expand their functionality, which includes not only the search for their friends, but also a unique platform for the online sale of goods and services. Therefore, the vector of development of social networks is gradually changing. Every year many new services benefit users as well as market leaders. Therefore, more and more attention paid to promotion. Thanks to this, you can create a positive image of the company in social networks, which will help to attract potential customers.

The selected topic involves the following tasks:

– based on the analysis and review of secondary sources, determining the general direction of development of topical directions of marketing in social networks;

– Identification of target groups of the most popular social networks on a demographic and regional basis;

– forecasting the development of marketing in social networks for 2019.

According to a survey in May 2018, residents of Russia exchange more than 670 million messages on the Internet each month, while they are evaluated according to the type of source.

The number of "talking" authors in May 2018 was 38 million, they generated 670 million messages. The prevailing share of content is concentrated in social networks – 470,737,000 publications, which is 70,2% of the total volume of mentions in social media. Twitter is on the 2nd place, whose share is about 11,7% of the total statistics, the third place is occupied by videos from 10,8%, respectively.

In the social network "VK" the number of writing authors was 25,7 million. At the same time, they generated 310 million messages. Gender distribution in the network is traditional: 58,4% of female authors, 41,6% - male. The main age group – 37% – authors aged 25–34 years. The second largest group is 18–24 years old (25,7%). As for the geographical distribution of the VK authors, St. Petersburg has the highest level of penetration – 44,9%, the Murmansk region is in second place (30,26%), and Moscow (28,43%) is in the third place.

With regards to Instagram, the number of authors was 7,1 million, among which 76,9% are female. The authors of the network published for the month more than 71 million messages. This way you can make sure that this social network is aimed at women. The highest level of activity was recorded in St. Petersburg - 13,66%, Moscow with an indicator of 10,91% is in second place, in third place is the Sakhalin Region (10,14%).

Facebook has 1,9 million authors and 53,4 million posts. 58,9% of the authors are female. FB-authors are older than the active authors of VK. In the prevailing age group (25–34), currently 37% of the authors, the second largest group is 35–44, 30.6% of the authors belong to it. Over 45 years old – 23,5% of authors. With regards to regional penetration, Moscow ranks first: 7,73% of Muscovites publish posts and comments in the FB. Moreover, almost half of the FB authors are residents of Moscow (953,417). In second place is the Yaroslavl

Region, which has 48,606,000 authors and, accordingly, 3,82%. Third place – St. Petersburg (3,14%).

In the Russian Twitter, 1,2 million authors "generate" 78 million tweets per month. Here, male authors prevail – 55,4%. In terms of geo-penetration, St. Petersburg is in the first place again (2,28%), in the second place – with a slight lag – Moscow (2%), in the third – the Republic of Sakha (1,5%).

In the LiveJournal, 81 thousand authors. Messages for May indexed slightly less than 3 million. 60,4% of the authors are male. 39,7% of authors aged from 35 to 44 are the main age group. 31 % of authors – 25–34 years. Another 17,8% is 45–54 years old.

According to these indicators, it can be noted that "LiveJournal" and "Twitter" are still the only platforms where the overwhelming majority of male authors are: here, their 60, 4% and 55,4%, respectively. In the social network "VK" the youngest authors. The main groups – 18–24 and 25–34 years old – received 25,7% and 37%, respectively. The authors of FB and LiveJournal are as similar in age groups as possible: the authors are active from 25 to 45 years old, but the prevailing groups differ – in Facebook it is 25–34 (37%), and in LiveJournal it is 35–44 (39, 7%). Therefore, each social platform strives to attract new users and strive to be "in trend." It is about them and will be discussed further.

Recently, a growing format has become increasingly popular in social networks. In Russia, he appeared very recently. Initially, the story-format was only inherent in Snapchat, but at the end of 2016, this format appeared in the social network "VK". Moreover, in early August 2017 it became available on the Instagram platform. Recently, it is gaining momentum, as it accumulates in itself the trends of video, live broadcasts, polls and easy communication in the "here and now" format. This format is one of the most growing, so it will be relevant for several years. Only with time will the functionality increase in it.

Also in recent years, due to the increasing number of smartphones, the trend of "mobile" has become significant. Mobility as the main trend on the Internet gives a significant acceleration in social media. Smartphones are the most convenient tool for communication and business management. Therefore, it is necessary to focus precisely on mobile versions of Internet sites for trade, exchange of services, as well as communication. The adaptability of social networks to this format is constantly growing. This development improves the functionality and user interface, as well as the quality and focus in the work.

It is also impossible not to note the trend of video content. Thanks to this, YouTube is one of the most visited sites in the world (1 billion users, 400 hours of videos are uploaded to YouTube every minute, more than 5 billion videos are viewed every day). Also in this service increases the number of different format channels. If earlier it was mostly teenagers under 18 years old, now the age of users is much higher. This is primarily due to the emergence of high-quality content in the Russian-speaking environment, which covers a wide range of interests.

Thus, social networks are applying new ways to attract the audience, as well as expanding the field of activity for social media marketing. In the coming years, the trend for video content, instant messengers will continue, but do not forget about the mobility of social networks. They will be the vector in shaping the loyalty of the audience, as well as its activity on the Internet for the next few years.

MEDIAKOMMUNIKATION IN DER GESELLSCHAFT

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Ich kenne viele Studenten, die für ihre Eltern studieren. Der Vater und die Mutter wollen für das Kind einen angesehenen Job und schicken es auf die Fakultät mit guten Perspektiven. Das Kind hat sein Studium nicht gern, die Eltern geben viel Geld dafür aus. Aber alles ist umsonst. Das wirkliche Leben kann für so ein Kind erst nach der Universität beginnen. Das renommierte Diplom bleibt herumliegen.

Ich habe nicht die Hochschule, sondern die Fachrichtung gewählt. Dabei habe ich mich für einen interessanten Studiengang „Mediakommunikation“ an der Belgoroder Nationalen Staatlichen Forschungsuniversität entschieden.

Ich bin Direkt-Studentin und studiere an der Belgoroder Nationalen Staatlichen Forschungsuniversität an der Fakultät für Journalistik. Nach der Absolvierung der Universität werde ich eine diplomierende Fachfrau auf dem Gebiet der Mediakommunikation. Mein künftiger Beruf gefällt mir sehr. Außerdem ist sie zukunftsgerichtet. Ich hoffe, dass ich eine interessante und gutbezahlte Arbeit in der Zukunft finden kann.

Herr Professor Evgeny Kozhemyakin, der Leiter der Fachrichtung „Kommunikation, Werbung und Öffentlichkeitsarbeit“, berichtete uns über diesen Ausbildungsbereich. Er wies darauf hin, dass die Medienkommunikation ein neuer und sich dynamisch entwickelnder Berufszweig ist, der in einer sich verändernden Arbeitsmarktstruktur, auch in der Medienbranche, gefragt ist.

Medienkommunikationsspezialisten sind in der Hit-Liste der sogenannten „neuesten Berufe“. Dazu gehören Community-Manager, Content-Manager, Texter, Internet-Vermarkter, Art-Direktoren und Redakteure von Websites und Seiten in sozialen Netzwerken, Experten im Bereich Kommunikationsdesign und Kommunikationsaudit, Entwickler von Multimedia-Ressourcen. Dies sind

Fachleute eines neuen Typs, die gleichermaßen kreative, soziale und organisatorische Kompetenzen sowie Kompetenzen im Bereich der Informationstechnologien besitzen.

Die Belgoroder Nationale Staatliche Forschungsuniversität ist eine der ersten russischen Universitäten, die heute bereit ist, den Studenten eineMöglichkeit zu geben, einen solchen Beruf zu bekommen, kommentierte Herr Professor Evgeny Kozhemyakin.

Der Medienkommunikationsfachmann kann:

–die Inhalte an die Erwartungen des Publikums anpassen und die Fähigkeiten der Plattform erstellen und bearbeiten;

–das Konzept und den Inhalt der Medienressourceentwickeln, die Arbeit der Mitarbeiterunterstützen, den Inhaltaktualisieren und bearbeiten;

–direkte Präsentationen, öffentliche Auftritte, Promotionen, Veranstaltungen in einer multimedialen Umgebung organisieren;

–für Interaktion mit dem Publikum der Medienressourcesorgen und berufliche Probleme in sozialen Netzwerkenlösen.

Die Hauptaufgabe der Vorbereitung im Bereich „Medienkommunikation“ besteht in der Kompetenzbildung auf dem Gebiet der Planung und Verwaltung von sozialer Kommunikation unter Verwendung modernster Kommunikationsmittel und -kanäle (soziale Netzwerke, mobile Kommunikationstechnologien, Internetressourcen).

Da die Kommunikation mit verschiedenen Zielgruppen hergestellt und gelöst wird, gibt es eine Vielzahl kreativer und technologischer Aufgaben im Bereich der Medien und die Hauptanforderungen an Spezialisten im Bereich der Medienkommunikation. Sie sind in jedem Unternehmen gefragt, das mit der Produktion und dem Vertrieb von Medienprodukten befasst ist, einschließlich Internet-Unternehmen, Kreativ- und Eventagenturen, Designbüros, Medien, Sozial-Marketing-Agenturen, Unternehmen für die Produktion mobiler Inhalte, Organisationen der Kulturwirtschaft.

Diejenigen, die in diesem Ausbildungsbereich studieren wollen, müssen dabei die Disziplinen von drei miteinander verbundenen Studienblöcken abschließen: Kommunikation und Kreativität („Medienästhetik“, „Texterstellung“, „Kreative Lösungen in der Medienkommunikation“, „Medienstrategie und Mediaplanung“ und andere); Informationstechnologie („Grundlagen der Medienproduktion“, „Entwicklung und Unterstützung einer professionellen Medienressource“, „Struktur und Industrie der Medien“, „Digitale Medien“, „Sozial Medien“, „Grundlagen der Bildbearbeitung“) und sozial-organisatorische Arbeit („Mediendesign“, „Organisation des Verhandlungsprozesses“, „Kommunikationskultur sozialer Netzwerke“).

THE USE OF ARTIFICIAL INTELLIGENCE IN SOCIOLOGY

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As you know humans live in society. Living in society, as a member of social group, humans face different problems. Science of civil defence distinguishes a special class of emergency situations, called social emergencies.

To inquire into the social group, to solve its problems or to predict the occurrence of social problems, it is necessary to conduct special kind of research.

The science that studies human society is called sociology. Sociology uses following methods for research:

- observation;
- oral survey;
- questionnaire survey;
- interview.

First of all the state and other authorities, as well as the top managers of large organizations are interested in conducting sociological research; because on the basis of data on the situation in society, the state or other management structure or social community, the authorities should make appropriate decisions.

Also, conducting sociological research allows you to acquire knowledge about human society, its structure, parts and processes occurring in it. This knowledge can help to solve some social problems of different social formations, as well as to predict the emergence of new social problems and to make decisions in advance on their full or partial neutralization.

Nowadays, the informatization of the sphere of sociological research is very wide, which led to a radical change in this sphere of activity. However, there are problems, the solution of which will contribute to the use of artificial intelligence methods.

These problems include:

- A large number of questions in the questionnaires (on average – 50-70).
- Lack of taking into account the peculiarities of individual social formations.
- The presence of factors that are difficult to quantify, and the limited ability of mathematical methods to work with them.

It should also be noted that artificial intelligence is able to deeper analysis of the data available in the collected arrays of patterns.

Modern Russian scientists, who conduct research on the use of artificial intelligence and computer technology in sociology, consider the following research methods:

- Data Mining.
- Big Data.
- Data Science.

There are also the following interdisciplinary areas of research which use information technology as a research method:

- Digital Humanities.
- Computational Sociology.

The main advantages of the methods of artificial intelligence is to automate the process of finding patterns in data arrays, which can significantly facilitate the work of the researcher with the data. Also, artificial intelligence will improve the application of both mathematical methods and those methods that are not mathematical. The main advantages of the methods of artificial intelligence is to automate the process of finding patterns in data arrays, which can significantly facilitate the work of the researcher with the data. Also, artificial intelligence will improve the application of both mathematical methods and those methods that are not mathematical.

Due to the fuzzy production method, it is possible to identify the preferences of the Respondent on an unasked question according to the production rules with some accuracy. This will lead to the fact that the number of questions in the questionnaires will decrease, respondents will be less tired and answer the proposed questions more correctly.

Thanks to the methods of artificial intelligence researcher will be able to more correctly determine the situation in social groups. Modern mathematical methods allow obtaining some numerical values of certain properties of the object under study. But this does not completely solve the problem of assessing the situation in which the studied social education is located, since it is possible that the same numerical indicators speak in one case about the absence of problems in the social object, and in the other case – about their presence. However, it is possible to solve this problem in the following way: to put verbal characteristics in accordance with the ranges of numerical data, after which the intelligent system will automatically display not a numerical value, but the corresponding verbal value of the range.

In conclusion we can say that artificial intelligence methods are a very useful tool for sociology and will provide more knowledge about human society and, therefore, can help in solving various social problems.

SMUGGLING AND CUSTOMS VIOLATIONS

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Most of the time prohibitions and restrictions present common sense – don't send guns or weapons, drugs or perishable foods, smuggling etc. But in other instances, the laws are really and truly bizarre, but some countries have some very peculiar rules. Customs play an important role in the safety of market economy of the country. Nine weird customs laws will be considered further.

The first one is holy water. The Pilgrims of Fiji have been subject to a rather unholy restriction on the amount of holy water they can bring back with them from a pilgrimage. Any holy water that exceeds one pint and is not accompanied with a certificate that confirms it is disease free will have their godly water immediately impounded at the airport. This is primarily due to controlling the spread of water borne diseases like 'cholera, typhoid, and paratyphoid germs' in Fiji's water supply.

The 6,000 strong village of Vendargues in southern France has banned clown costumes due to a wave of panic caused by pranksters dressing up as evil clowns. The ban is particularly enforced on Halloween, to 'protect children by preventing any ill-intentioned clowns from mixing with residents'. The whole of France has reported incidents, prompting nationwide anti-clown vigilantism that has even got the Gendarmerie involved. So, no clown costumes in Vendargues, and maybe soon the whole of France?

The City State of Singapore is on a mission to promote public cleanliness and all round politeness and has banned chewing gum since 1991. This means the chewy stuff can't be imported, sold or consumed, and if anyone is found doing any of the aforementioned offences, large fines are automatically applied. In Singapore, no-one is forever blowing bubbles.

The humble Kinder Egg, enjoyed by millions of children worldwide due to their chocolatey deliciousness and little toy delights is currently under a federal ban by the United States government. This is due to it being considered a 'choking hazard' and anyone found trying to import one may face a surprising fine of up to $2,500 per egg. A family trying to import 10 Kinder eggs into the US from Canada were fined a total of $12,000. Now we know chocolate can be expensive.

Algeria has a ban on all dental products entering the country. This is probably down to the unpopularity of fluoride, which has been deemed poisonous and harmful by some nations. Dental items like toothpaste use fluoride as a primary cleaning agent, but companies like Colgate who are popular in the UK have had their items banned in countries like Algeria. Smiling however is allowed.

The highly adorable and weirdly human mouthed Japanese Pufferfish is banned across the European Union due to its highly toxic organs. The famously puffy fish isn't strictly banned in the US and elsewhere, as long as the (hopefully expert) chef preparing the dish is licensed. One wrong fillet and deadly toxins, if consumed, will lead to asphyxiation and death. Unless you are a risk-taking culinary daredevil, we say there are plenty more fish in the sea.

Weirdly, it is forbidden to import matching shoes to South Africa, Mexico or India. This is in order to maintain control of their own shoe market and applies manly to shoe manufacturers – so don't worry about having to wear odd sandals on your upcoming Mexican holiday; personal shoes are fine.

For some reason, pencils are banned in Tunisia.

Thinking of sending a wheelbarrow to Nigeria? Eh, you might want to rethink that as they are strictly forbidden in an attempt to strengthen the country's own manufacturing industry.

From the above, we can conclude that some of the prohibitions have a rationale, some of them are not.

We considered one of the strangest bans on goods whose import is prohibited in some countries of the world.

SEGMENT OF MEDICAL EDITIONS IN THE SYSTEM OF ACTUAL RUSSIAN MEDIA

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Medical problem is covered by home journalism almost from the initial period of its life. Natural sciences and medical topics appeared in 1728 in the "Historical, genealogical geographic and geographical notes" was an application to the "St. Petersburg Vedomosti", edited by M. V. Lomonosov.

Creation of Faculty of Medicine at Moscow University in 1758, and medicine progress in the XIX century contributed to the development of specialized medical editions. It began with the newspaper "St. Petersburg Medical

Vedomosti” in 1792. By the end of the XX century, there had been more than twenty medical editions.

During the first years after the October Revolution new highly specialized journals appeared. At the end of the XX century in the Soviet Union the number of medical journals for doctors and medical workers increased. There were about 100 of them.

Gradually, health problems began to be highlighted in mass social and political editions – first of all in “Krestianka” (1922–2015) and “Rabotnitsa” (since 1914 to our days). Well-known magazine “Zdorov'ye” has been published since 1955. This edition focused on education of the mass audience. Differentiation of magazines by type of audience suggests that medical issues are significant, in demand and progressing. Today we can purchase such magazine as “Vestnik ZOZH”, “Argumenty i fakty. Zdorov'ye Rossii”, “Narodnyy doctor”, “Krasota i zdorov'ye”, “Zdorov'ye”, “Bud' zdorov!”, “Lechites' s name”, “Men’s Health”, “9 mesyatsev”, “Zhenskoye zdorov'ye”, “Domashniy doctor”, “Bud' zdorov! – 100 stranits o samom glavnom”, “Planeta zdorov'ya”, “Yoga Journal”, “KRASOTA & ZDOROV'Ye”, “PSYCHOLOGIES”. Besides, there are a number of programs on all national television channels where authoritative medical experts express their opinion.

The Internet provides new opportunities for the distribution of medical knowledge (for example, the Russian scientific medical blog “Smotrovaya voyenvracha”). Today, medical problem take place in popular publications (for example, “Lenta.ru”, “Meduza”). But despite of this, we have the problem of reliability of information.

At the festival of science in the South-West of Russia “0+” in Belgorod in September 21–22, 2018 scientific journalist and medical blogger A. V. Vodovozov noted that one of the main problems of medical journalism is the disadvantage of quality resources and educated authors: “If we are talking about ... good projects, we have to recruit authors. <...> For example, abroad, you can immediately recommend some kind of state resources – “NHS Choices”, which is specially made for patients, or sections for patients “CDC”. The government is doing this. And they have a great job with users and patients. There is a lot of useful information and ... it is regularly updated. And … if we make a good project, then the information quickly becomes outdated” At the same time, the blogger noted medical sections on such resources as “N + 1”, “XXII VEK”, “Biomolecule”. Besides, there is a problem of commercials, primarily of homeopathic medicines and dietary supplements. These commercials are reducing the trust of the audience and an authoritative edition cannot allow printing it.

The development of modern medical editions is a trend in modern philosophy of life. “Men’s Health” magazine clearly demonstrates this. It incorporates healthy lifestyle topics into the context of lifestyle publications.

Growing social aspects of medical issues demonstrate publications aimed at improving social responsibility for health, either of an individual, or of the society in general, which clearly manifested itself in the discussion about the benefits and dangers of vaccinations. Neurologist Nikita Zhukov writes in his online encyclopedia about the big social risks of refusing vaccinations, arguing his position with expert information. New forms of presenting information correspond to the possibilities of "new media" (see, for example, medical info graphics on Yandex).

Crisis phenomena in the system of medical care are being discussed all over the world. The tasks of the formation of personalized medicine are set. It requires more knowledge about themselves from people. Journalism is still at the beginning of its way, but this development sets prospects for the medical journalism segment.

THE TRANSFORMATION OF JOURNALISTIC COMPETENCES IN THE CONDITIONS OF MEDIA INFORMATIZATION

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Nowadays, due to the unique capabilities of presenting information, mainly multimedia, interactivity and hypertextuality, the Internet is becoming one of the most significant means of mass communication and a platform for online media. The widespread development and introduction of modern information and communication technologies has covered the entire world space, which mediated the development of the phenomenon of media convergence in various areas of media functioning. Today we observe remarkable transformation changes in the technological, organizational, genre, professional and other areas of media.

In order to study the process of transformation of professional competences, students of the Faculty of Journalism of Belgorod State National Research University and Internet journalists of Belgorod mass media were asked to answer a set of questions. The total number of respondents was 60.

According to the survey, the respondents considered technical awareness as the most important skill for the modern Internet journalist - the knowledge of programmes for editing graphic and video information (73,3%). No less important skill for future online journalists is working with basic content management programmes of the site (60%), due to the specifics of the layout of modern web media resources.

Also respondents noted the ability to process information and create media texts as quickly as possible (33,3 %) among the skills of an Internet journalist which are important for successful career. At the same time, the respondents chose literacy (70%) and the ability to work with computer programmes to visualize journalist information and the ability to process data arrays (70%) among the professional qualifications of an online journalist.

The question of whether there should be a certain thematic specialization of the journalist is still controversial, so in the survey we decided to bring this problem to the discussion. The majority of respondents (61,7%) tended to believe that universality and ability of a journalist to create content on any topic is more important than monothematic specialization.

Thus, we observe a clear trend among practitioners and future journalists to technologization of the profession of an Internet journalist. Data journalism, the latest professional sphere, has a special impact on modern journalism. It determined specific requirements for professional skills, such as knowledge of data visualization programmes. And the latest technologies of content management of Internet media determined the ability of a journalist to universalism that is the knowledge of all possible programmes of layout of different format information (photo, audio, video, etc.) and content administration of Internet media.

CONSUMER BASKET

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This report provides information about the purpose of living wage establishing, also it discloses the concept of “consumer basket” and what does it include. A market basket or commodity bundle is a fixed list of items, in given proportions, used specifically to track the progress of inflation in an economy or specific market. The most common type of market basket is the basket of consumer goods used to define the Consumer Price Index (CPI). It is a sample of goods and services, offered at the consumer market.

Consumer basket is comprised of three main blocks:

1. Foodstuffs
2. Non-food products (clothes, shoes, medicines, household appliances)

3. Services consisting of single costs (payment of housing, visiting cultural events, and so on.)

In my work I used the rating “Consumer spending by type of food in Russia” and it turned out that most of their money people spend on:

- meat products;
- dairy products;
- bread and bakery products;
- alcoholic beverages;
- tea, coffee.

The work also refers to the amount of the minimum subsistence level and its relationship with the consumer basket. And the main idea of the article is that the citizens of Russia, who receive the minimum subsistence level, and live in accordance with the adoption of a set of goods and services of the consumer basket, can’t live normally and completely. It remains only to survive.

Later, after analyzing the consumer basket in Russia and some countries of Europe, I have tried to show that between them there is a significant difference.

For example, if we take the consumer basket in Germany and France, we will see that they will include services such as:

- food delivery to your home;
- Babysitting service;
- the cost of fitness centers;
- restaurant visits;
- payment for mobile communication services.

While in Russia people can afford from cultural events only to go to the cinema or theater once a month.

In conclusion, I can say that the creation of a new consumer basket is one of the main prospects of our state at the moment. I hope that the results of our study will be of practical significance because the changes in the composition of the consumer basket will be able to improve the quality of life of the population, as well as reduce the level of poverty in the country.

IMAGE OF CIVIL OFFICER

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Public service as a social institution represents norms and rules of people's behavior in the sphere of public administration and has a particular institutional capacity, which reflects the unrealized possibilities of increasing the legitimacy of the institution. The concept of "image" is currently used in economy and marketing in the sense of "artificially generated vision in public or individual consciousness by means of mass communication and psychological impact".

And what is the image of the civil officer? It is an individual image, which is considered as evaluating method formed of subsequent characteristics: efficiency and effectiveness of work, competency and integrity, official behavior.

It is possible to state that the formation of the image is influenced by the existing population specific barriers, filters of trust or mistrust, degree of harmonization of all aspects of verbal and non-verbal communication. All these actions affect the process of the civil officer image formation.

Analysis of the current and expected images of civil officers will allow highlighting the most important features that contribute to the formation of a favorable image of a civil officer:

- responsibility
- objectivity
- "clarity"
- justice
- patriotism
- financial independence
- fulfillment in good faith of duty.

Civil officer's image is capable to be formed naturally and artificially. Natural image arises in the process of interaction of the government employee with the public, when dealing with colleagues at work. It develops spontaneously.

The artificial image of a state civil servant is the result of various advertising and PR- promotions, in consequence of which not corresponding and misleading image of the civil officer is often formed, not showing his real individual features.

Currently, a negative image of the state civil servant has developed in the public mind. According to the sociological survey conducted by the scientists of the Department of Civil Service and Personnel Policy, 58, 3% of the population estimate official images as negative, 36, 7% – as a positive, 5% have difficulty in answering.

Based on all above-mentioned we can make a conclusion that the image formation of the civil officer is very complex, laborious and lengthy process, taking into account the fact that the image of the civil servant in Russia is complicated by the imprint of past negative attitude towards the officials. Therefore, public servants should carry out their professional activities so that their image has exclusively positive character.

DEVELOPMENT OF A SPECIALIZED CENTER FOR TRAINING AND GROWTH OF PERSONNEL ON THE BASIS OF THE PRODUCTION ORGANIZATION

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I am a second-year student of the Faculty of "Human Resources Management". I would like to tell you about my HR- project, which I was working during my first-year of study. The title of the project – DEVELOPMENT OF A SPECIALIZED CENTER FOR TRAINING AND GROWTH OF PERSONNEL ON THE BASIS OF THE PRODUCTION ORGANIZATION.

The aim of the project is to create a platform with an innovative system of training and development of personnel.

Its uniqueness lies in the fact that new employees and existing staff will be able to test the knowledge and skills gained in the center, directly in the organization. It will help to adapt quickly and to enter the position of new employees, as well as to develop the skills of existing personnel.

Each project has a passport. It should be noted that the project passport consists of several elements. There is a project team, a project sponsor, a scope of project, project location, a responsibility matrix, a project implementation period and a budget of the project.

Project team

- Project Director: O. Polyansky
- Project Manager: M. Shevchenko
- Project Administrator: O. Volkov
- Content Manager: D. Voropaeva
- Implementer 1: L. Zinchenko
- Implementer 2: Y. Shishkova
- Implementer 3: D. Brazhnik

Project sponsor

- The Moscow department of VIC GROUP.

The VIC GROUP of COMPANIES was established in 1990 and today holds a leading position in the Russian market of veterinary pharmaceuticals, and is the largest Russian manufacturer of veterinary drugs.

Project location

Belgorod department of VIC GROUP

Responsibility matrix

To reflect the hierarchy of accountability on the project and specify the responsibilities of each of the groups included in the project team, it is recommended to include a responsibility matrix in the document describing the content of the project, the most common version of which is known as the RACI-matrix. The use of this tool is especially important in a situation where the project team consists of representatives of various legal entities. The responsibility matrix solves the problem of demonstrating inter-organizational or inter – group interaction and, as a result, avoids misunderstandings that occasionally arise in projects between units and organizations.

	Project sponsor	project Director	Project manager	Project administrator	Content Manager	Contractor 1	Contractor 2	Contractor 3
Action 1	A	C	N		O			P
Action 2		A	C	O	N		P	
Action 3		A	C	N	O			P
Action 4			A	C	N	O	P	
Action5			A	C	N	O	P	

Project implementation period

- Estimated start date: 15 November 2018
- Investment return period: 1 year 3 months
- Project budget: 990 000 rubles
- Estimated project completion date: 29 November 2019
-

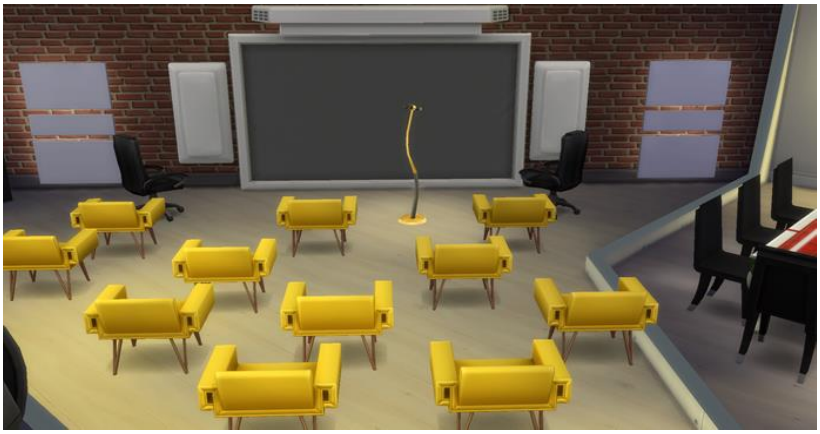
Project budget

Main items of expenditure	**Amount**
Development of architectural design of space on the territory of the company	400 000 rubles
Implementation of cosmetic repairs(wiring, finishing of floor, walls, ceiling, installation of partitions, lighting, painting)	200 000 rubles

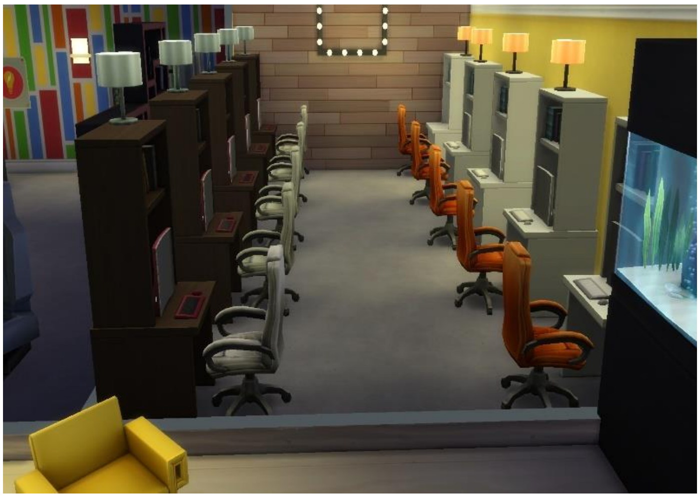
Purchase and production of furniture for intellectual space (folding tables and chairs, poufs)	150 000 rubles
Purchase of equipment(projector, screen, speakers, laptops)	200 000 rubles
Software installation	40 000 rubles
TOTAL:	990 000 rubles

The internal arrangement

This layout presents a snack room. Coffee, tea, fresh juice plus a sandwich or dessert and you are already cheerful to continue your education, and a large and comfortable table for 8 people will help you to make new friends and exchange experiences.



The spacious lecture hall is perfect for master classes, conferences and lectures with speakers.



Attestation computer class with modern information equipment is ideal for testing the knowledge of employees and develops a correctional program.

The audience of practical application will help employees in the shortest possible time to obtain the necessary knowledge and skills through training on professional equipment of the company.

Economic effect

- 45% increase in labor productivity Reduction of staff turn over by 38%
- Increase in revenue by 40 %
- Rational placement of personnel
- Optimization of personnel costs

Social effect

- Increasing employee job satisfaction
- Creating a favorable social and psychological climate in the team
- Ensuring the smooth functioning of the structural units of the organization
- Creating conditions for the implementation and development of individual abilities of employees

Comprehensive adaptation of staff to the working conditions in the organization

Anticipated risks of the project

- Inconsistency of results with expected results

- Lack of funds for the project
- The resistance of the staff
- Delay in delivery of equipment

In conclusion I want to say that I will try to continue my research activities, because there are a lot of pressing problems, which can be solved by creating of projects.

FREE SCHOOLS IN BRITAIN AS THE INNOVATION IN EDUCATION

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A free school in England is a type of academy, a non-profit-making, independent, State-funded school which is free to attend but which is not controlled by a local authority. They are subject to the same School Admissions Code as all other State-funded schools. The term "free school" was first mentioned in 2010.

Like other types of academy, free schools are governed by non-profit charitable trusts that sign funding agreements with the Secretary of State. There are different model funding agreements for single academy trusts and multi academy trusts.

Free schools are expected to offer a broad and balanced curriculum, are subject to the same Ofsted inspections as all other maintained schools and are expected to comply with standard performance measures.

To set up a free school, founding groups submit applications to the Department for Education. Groups include those run by parents, education charities and religious groups. Start-up grants are provided to establish the schools and ongoing funding is on an equivalent basis with other locally controlled state maintained schools.

From May 2015, usage of the term free school was also extended to new academies set up via a local authority competition.

Studio schools and university technical colleges are both sub-types of free school.

Between 2010 and 2015 more than 400 free schools were approved for opening in England by the Coalition Government, representing more than 230,000 school places across the country.

Free schools were introduced by the Conservative-Liberal Democrat coalition following the 2010 general election as part of the Big Society initiative to make it possible for parents, teachers, charities and businesses to set up their own schools. The Academies Act 2010, which allowed all existing state schools to become academies, also authorized the creation of free schools. The first 24 free schools opened in autumn 2011. And it must be emphasized that free school is not a comprehensive school. So, it is free of control of local authority.

The majority of free schools are similar in size and shape to other types of academy. However, the following is a distinctive sub-type of free school – university technical colleges.

University technical colleges specialize in subjects like engineering and construction – and teach these subjects along with business skills and using IT.

Pupils study academic subjects as well as practical subjects leading to technical qualifications. The curriculum is designed by the university and employers, who also provide work experience for students.

University technical colleges are sponsored by universities, employers and further education colleges.

Studio schools are small schools – usually with around 300 pupils – delivering mainstream qualifications through project-based learning. This means working in realistic situations as well as learning academic subjects.

Students work with local employers and a personal coach, and follow a curriculum designed to give them the skills and qualifications they need in work, or to take up further education.

The government says the free schools programme gives parents and teachers the chance to create a new school if they are unhappy with state schools in a local area, and that competition will drive up standards.

But critics, including the Labour party and several teachers' unions, say are divisive, are likely to be centered disproportionately in middle-class neighbourhoods, to weaken already weak schools by attracting the best performing pupils, and will contribute to creating a two-tier system.

Local authorities want powers to create new schools to be returned to councils, as it is they who are legally responsible for ensuring there are school places for all local children.

They say the new system means councils have no say in where the new free schools are placed. There are also fears the changes will give too much freedom to faith-based schools or fundamentalist agendas – although schools must show their curriculum is “broad and balanced” and government guidelines say creationism must not be taught as a valid scientific theory.

And some critics are angered by the funding and administrative time going into what they consider to be a “pet project” promoted by former education secretary Michael Gove, which benefits relatively few children at a time of spending cuts in education and youth services.

Teachers' unions are also critical of the fact that free schools do not have to employ qualified teachers. Others say the government has missed an opportunity by not allowing free schools to be run for profit.

In conclusion, free school is a rather new type of secondary education which is not controlled by local authority. And it is quite difficult to say if it is a successful experiment or not. Any way it is an innovation in education.

SOCIO-PHYCHOLOGICAL BASIC OF LEADERSHIP AS ONE OF THE CRITERIA OF SUCCESS IN THE HOSPITALITY INDUSTRY

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According to the International Labour Organization (ILO) in the world, 7 of 10 people are occupied in a services sector. It emphasizes the huge competition in a services sector and in particular in the industry of hospitality. In spite of the fact that the number of the people involved in a services sector is so great that not everything have leadership skills which necessary for achievement of success. Desire to be the leader inherent not in small number of people. However, only one desire and even efforts on its realization is not always enough. First of all, as the leader of people, person has to be apprehended by members of the group. What is the reason of similar perception? Why in one of members of group of the colleague are inclined to see the leader and in other – no?

Leadership is a process of the organization of work in group where the leader is the person to whom the other listens to, acts and trust. As a rule, leaders share on:

1) the assigned leader (formal);

2) selected by group (informal). This type of the leader has no powers, he is the equal participant of group to which opinion the collective for any of several reasons listens.

If to carry out this restriction to the industry of hospitality, the formal leader can be the link "manager", while informal leader in an average link can be, for example, the assistance of hotel.

From the point of view of growth of efficiency of collective it is most reasonable when the head is at the same time both (formal) and selected (informal) by group leader, that is the leader assigned the manual not only from a legal point, but also with practical. The leader which opinion the collective listens.

Therefore, in our opinion in modern realities of the industry of hospitality it is important to person to show leadership skills, for example:

– be able to think independently;
– be purposeful;
– have high spirituality;
– show oratorical qualities;
– possess erudition;
– remain fair in all situations;
– be resistant;
– have high diplomacy;
– be able to work with people;
– be charismatic, ect.

So, the main task of leaders is to rally collective, to force to believe that they the best, to lead them, to realize dreams in reality, to be the locomotive of collective which any minute is ready to pull all for itself to new calls, to new victories.

However modern realities are that often in practice in the industry of hospitality the leaders who are only "formal", not having real skills of leadership, differing in passivity and an inefficiency of the carried-out work meet. In our opinion, the need for the competent and deeply thought over mechanism to development of social and psychological bases of leadership of the true leaders allowing bringing up is generated today.

THE COEFFICIENTS FOR ASSESSING THE ECONOMIC CONDITION OF THE SUBJECTS OF THE RUSSIAN FEDERATION

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Today for successful management, competent distribution of financial, material and human resources across the city or an entire region, you need to have a correct understanding of its problematic and positive aspects, economic and ecological conditions, and much more.

In addition to analyzing the state of a subject, it is also necessary to have an idea of its competitiveness in various fields in comparison with other subjects. This brings up the need for relative indicators.

In Russia such assessments are often difficult to do precisely because of the large geographical width and significant differences between the territories. Cities are very different from each other in their strengths and weaknesses, and different indicators can both play a significant role in determining the welfare of one region and may not be essential for assessing the situation of another.

The analysis of all required indicators can be obtained not for all subjects of Russia.

All this raises the need for an accurate system of analysis of the welfare of large economic entities (city, region), which would bypass these limitations and problems.

To solve this need, for a start, it is necessary to study the already existing methods and algorithms for assessing the welfare of such subjects, to conduct a comparative analysis.

Competitiveness of a region can be assessed by determining:

- level of social and economic development and investment attractiveness of the regions;
- indicators of region's investment potential and the level of investment risks.

Methodical approaches to assessing the level of social and economic development of the region:

- quantitative assessment of macroeconomic indicators methods for analyzing trends in the social and economic development of the region.
- ratings of investment attractiveness of the region;
- assessment of the effectiveness of using elements of the social and economic potentials for analyzing the competitive advantages of a region.

Each of these groups of assessment methods has its own variations. The quantitative assessment methods based on macroeconomic indicators of socio-economic development include an assessment based on integral indicators of the effectiveness of socio-economic development. Integrality is ensured by calculating a set of partial indicators characterizing the dynamics of the flow of individual processes within a region.

There are 4 integral indicators:

IISED 1 is an integral indicator of social and economic development. It is calculated according to the method of A. Revaikin. It focuses on the economic and social indicators of the region with emphasis on GRP (Gross regional product).

IISED 2 is an integral indicator of social and economic development. It is calculated according to the method of G. Gubanov. It focuses on the economic indicators of the region.

ICTD is an integral criterion for territory development. It is calculated by the method of I. Vistbakka and A. Shishkin. It focuses on the balance of economic and social indicators.

IISW is an integral indicator of social welfare. It is calculated according to the methodology of the Institute of Economics of the Ural Branch of the Russian Academy of Sciences. It focuses on the level of social well-being of the population of the region.

The IISW is the result of dividing the integral indicator of the standard of living of the population by the integral indicator of the level of social tension.

SOME GLIMPSES OF THE HISTORY OF SPORTS MANAGEMENT

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Sports management is one of the types of branch management, which is engaged in management, and the organization of physical culture and sports.

From the point of view of management physical culture and sport is not only a set of special tools targeted at the development of physical qualities of people. It also includes related organizations aimed at the development of sports. In connection with this approach, the key-concept of sports management is the organization.

On the other hand, sports management is a special theory and practice of management of sports organizations in market conditions. The subject of the study of sports management are management relations that arise in the process of interaction between the subject and the object of management, in the organizations of sports orientation and distribution of physical education and sports services.

Sports management has existed for a long time, and always accompanies sports events, being an integral part of it.

Sports management in the history of its development has had different forms and strongly different from the concept of sports management, which exists in present time.

This type of activity is known since ancient times. A bright historical example of sporting events – gladiatorial martial arts. The catch phrase, taking its roots from ancient Rome: “Bread and circuses”, denoted the main needs of the Romans. The citizens of Rome received the benefit, which provided them with “bread” and the Coliseum battles gave them a spectacle. For fighting in the arena selected the best gladiators. For create entertainment warriors fought not only with people but also with animals, also it could be different arsenal of weapons for each warrior. Gladiators were praised for their victory. The louder the name of the Gladiator, the more spectators came for his fights.

Sports management appeared in ancient times. The first sports managers were the ancient Greeks, the owners of gladiators who organized the competitions. Gladiators were slaves or criminals who trained for fight to the death in front of a crowd. The Emperor often was on the competitions and decided would gladiators live or die. If warrior fought well enough, he remained alive. Otherwise, the Emperor gave a sign to Winner for kill the defeated enemy. It was four famous schools of gladiators. Gladiatorial battle took place in the amphitheater. The most famous and preserved is Colosseum. The Colosseum has become the prototype for the construction of impressive stadiums in our time.

In addition to fights with gladiators, chariot races were also popular. Chariot racing was a very dangerous and exciting sport. This sight attracted thousands of people who screamed with delight as the chariots ran in a circle. This also gave a start for development of sports management.

People's health depends heavily on their lifestyle. Management of sports and physical culture, in turn, ensures the effectiveness and regularity of sporting events for all participants.

An important stage in the development of sports management was the stage of formation of national and international sports federations, which introduced the organizational and guiding principle in Amateur sports, professional sports and sports of the highest achievements. The sports Federation is a non-governmental public organization that deals with the development of sports and physical education. Usually the Federation captures one sport or several similar: for example, FIFA is responsible for football and mini-football. Although there are also multidisciplinary organizations (for example, the international Olympic Committee).

Management goals directly depend on the type of organization.

The purpose of the management of a commercial sports organization is to ensure payback and maximize profits. The purpose of the non-profit organization is to meet the needs of the population in physical education and sports services.

Functions of sports management:

- Preparation and adoption of management decision (adoption of various rules: current and future plans);
- Organization of physical culture and sports organizations in a single system
- Material and technical support of the organization, development of marketing strategy;
- Motivation (creation of a system of incentives and sanctions, material and moral interests of the staff of sports organizations, promotion of healthy

lifestyles and increasing the needs of the population in physical education and sports services);

- Control (quantitative and qualitative assessment of effectiveness of the organization);
- Coordination (continuity of management process in organizations to ensure consistency of all parts of the sports organization).

Federations may engage in professional sports, high performance sports, or amateur sports. They employ sports managers who are engaged in their duties, such as planning, organization, motivation, control and coordination.

Since the 1930s, the main attention has been paid to fans who are ready to buy sports goods, watch their favorite sports events and use the services of sports organizations.

The media have a great influence for the expansion of the mass-media.

The modern stage of development of sports management began in the 1990s. Sport management in the XXI century is a synthesis of business and sport, giving each other the best that they have. Today, the development of sport is simply impossible without sports managers.

Currently, sports management has the following areas: “sports management”, “sports tourism”, “and sports goods industry”, “manager of a commercial sports organization”, “sports economy”.

At present, the direction of sports management is becoming increasingly important, because, like many other phenomena in the modern world, sport is directly related to business and, therefore, needs effective management. At the same time, sports management in Russia is not only a part of business. Sports management is a social phenomenon, and it involves not only professionals for whom sport is the main source of income and sphere of activity. But there is also a huge category of amateurs for whom sport is a hobby, and managing sports increases the efficiency of their activities.

ADVERTISING AS AN ELEMENT OF SOCIETY'S FINANCIAL CULTURE

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Advertising has been an integral part of the general life for a long time. We face it every day and it doesn't matter, do we want it or not. That's why our life depends on it too much, and so our view is that advertising should be exposed to much stricter control than now. It is even not about censorship or observance of someone's rights, advertising should bear the idea and have educational character. Fortunately, such kind is presented on TV and sometimes there are good movies and video clips. However, advertising, as well as practically any large and developed structure, has rather ambiguous reputation in society. And one of the main reasons for it is co-called "commercial battle".

Unfortunately, nobody is protected from ignorance. So, such problem exists in advertising, too. Its main problem is the exaggeration of advantages of a product which does not meet the expectations of consumers. It significantly impair the reputation of advertising, and, as scientists admit, ignorant people do not even trust the most common scientific facts and chemical compounds while watching TV.

And, above all – everyone who creates advertising are pursuing their own interests. Therefore, it's not a mistake to tell that advertising is a way of communication of the person or the organization with the rest of the world. So, the reputation of companies depends on the quality of that. If advertising has exclusively commercial character, then often there is no education or educational activity in it, the company just goes in the footsteps of modern running templates. Content comprising a message to people from the author.

Considering that the criticism of advertising gradually grew, instead of improvement of the product and content people just learned to earn from a black form of PR, which is the most profitable way of advance now. It relates to the fact that the scandalous reputation automatically distinguishes the person or the organization from simple gray mass. In a positive or negative side – it already almost does not matter; the main thing is the discussion among the wide audience.

What can we do to solve this problem? It's simple: the subject of advertising depends on us, customers. If we want to eat more burgers, there will be burgers in clips. If we want to buy more expensive cars, there will be more expensive cars. So, if we want to see books, scientific and educational adventures, we must change our priorities. And there's no need to criticize something. Because only we create our present reality and our future. So, changing your priorities will make the advertising change. Into the worse or better side, it depends only on us.

MEDICAL SLANG

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Slang and jargon have long been an indispensable part of people's speech, regardless of their level of education, profession, or gender. Slang is a popular vocabulary that does not meet the requirements of the language and is often more or less specific. Slang is mainly used in a situation of easy communication.

Jargon presents specific words and expressions that initially arise when people communicate with one profession, social position or have other common interests. The purpose of the use of jargon is not only the expression of their belonging to a particular group and making the speech expressive, but also accelerating communication and mutual understanding. Slang is characterized by a tougher social group orientation. Some of this vocabulary is related to special terminology, which is understandable only for some people. The difference between these words exists in Russian, but not in English.

For professional jargon, including medical, high metaphor is characteristic. The basis of the creation of slang expressions is the similarity in any sign (color, shape, view). Most often, medical slang is based on the similarity in color:

1. Color: golden hour – golden hour (a short period of time, for which it is necessary to provide medical assistance in order to save the patient); pinkeye - pink eye (acute contagious conjunctivitis); black measles – black measles (hemorrhagic measles); yellow disease – yellow disease (yellow skin of any etiology) or, for example, the expressions pink puffer and blue bloater, which designate two types of patients suffering from chronic obstructive pulmonary disease (COPD).

2. Form: feather appearance = Christmas tree pattern – in the form of a feather or in the form of a Christmas tree (the rash on the body is in the form of a fir-tree, the DNA chain has the shape of a feather or a fir-tree); ballerina skirt cell - a tutu-shaped cell; banana form – the form of a banana (the form of a cell found in the blood of a patient suffering from malaria), etc.

3. Appearance: pig skin appearance – externally like pig skin (fine-grained, knobby surface of the kidney bark); onion skin appearance – externally as onion

peel (concentric exfoliation); pigeon breast deformity – deformation of the chest, like a pigeon.

In English medical slang, there are expressions that can hurt people who are not related to medicine:

Baby catcher – (lit. catcher babies) obstetrician;

Bag – ive oxygen mask;

Blade – (blade) surgeon;

Blue pipe (lit. blue tube) – vein;

Bounceback (rebound to yourself) – a patient re-entering the hospital;

Box – (box) die;

Code azure – (full azure code) message to other doctors, – not to make heroic efforts to save the doomed patient; the opposite of the official Code Blue, which mobilizes personnel to save the patient;

Dump – (garbage) patient, which no one wants to do;

Finger wave – (finger wave) rectal examination;

Hole in one – (a hole in a hole) a gunshot wound in a mouth or other physical opening;

Old-timer's disease – Alzheimer's disease;

Rear admiral – (rear admiral) proctologist;

Souffle – (Souffle) A patient who jumped/fell from a height;

Tubed – (caught in the pipe) the deceased;

Vegetable garden – (vegetable garden) intensive care;

Whale – (whale) patient with a large overweight.

According to the rules of ethics and deontology, the use of medical slang is unacceptable when communicating with patients. However, medical professionals can use such statements when communicating with each other in order to save time or relieve emotional stress.

MEDICAL TERMINOLOGY

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Medical terminology is distinguished by a number of qualitative features associated with the history of its formation and development. The emergence of Russian medical vocabulary has its roots in the common Indo-European language, and the common Slavonic language, the basis on which in the VII-VIII centuries. There was an Old Russian language.

It is possible that the original keepers of medical knowledge were the priests of the Magi. Pan-Slavic word Doctor, having a common root with the words "grumble", "speak", originally meant a sorcerer, sorcerer, fortuneteller, soothsayer, healing charms, conspiracies and slanders. Here are some examples of Old Slavic medical terminology: "bebehi" (kidneys); "Hemocolor" (iris, iris); "Howl" (food, hunger, appetite); "Small eyes" (pupil); "Gusachina" (diaphragm); "Wind vein" (trachea, respiratory throat); "Creeping" (chewing food); "Kutyr" (stomach). In medical texts, there are also now forgotten terms derived from the Greek words: "melted" (bile, from the Greek. "Melan"); "All-Gland" (pancreas, from the Greek. "Pan" – common, all, and "kreas" – meat). The last term is reminiscent of the modern word "pancreatitis". The sense organs were called "many-sided discord", the tongue – "the bratsal verb", the neck was meant to keep the head from "falling back from turning."

The modern terminology includes such ancient names as the nuchal ligament, the duodenum, epigastrium (Church Slavonic and Old Russian word "vyya" refers to the neck, and Church Slavic words "finger" and "womb" meant respectively the "finger" and "belly").

Some of the Old Russian words used in the modern medical dictionary have changed their meaning. So, for example, the word "corn" in ancient times meant enlarged lymph nodes or an ulcer, the word "becoming (s) becoming" – a part of the body or an organ, as well as a joint in the modern sense, the word "gland" could mean a tumor. The old Russian word "belly" had several meanings: life, property, animal. The word "eye", originally meant "ball (brilliant)", only in the XVI — XVII centuries acquired modern meaning along with the synonym – the Slavic word "eye". The word "eye" is preserved in the word oculist, that is, a doctor who is practiced on the eye.

Mark Ridley, who was the court physician to Tsar Fedor Ioannovich in 1594–1599, did a lot to develop new natural science and medical terms in the Russian language. A graduate of Cambridge and a doctor of medicine, he had a great interest in the Russian language. Three of his manuscripts of English-Russian and Russian-English dictionaries containing about 6000 words have reached our time. The names of animals, plants and diseases are given as appendices to these dictionaries. Russian equivalents of English words are written in them in Cyrillic.

In the literary monuments of the XVI. for the first time the word "back" appears as a synonym for the ancient word "ridge", in the monuments of the 17th century. The word "lungs" instead of the ancient name "ivy", for the first time the word "cough". Many of the ancient names of diseases and their signs have long been out of use, and their identification with modern terms can be done with great difficulty. Such items include, for example, inhalation (asthma), zlatnitsa (jaundice), stalk (arthritis), bloody womb (dysentery), epilepsy (epilepsy); skin) ,, quacker (malaria).

At the beginning of the XVIII century the following words are widely used: medic, medicine, medicine, medicine, pill, pharmacist, prescription, sangwa (lat. sanguis blood), urine (lat. urina urine), febra (lat. febris fever). In the middle of the XVIII century the words abscess, ampoule, amputation, sore throat, vein, consultation, constitution, contusion, muscle, nerve, optometrist, patient, prosector, pulse, respiration (respiration), retina, relapse, section, scalpel, scurvy (scurvy) appear in the literature, temperament, fiber (lived), etc.

The foundations of Russian scientific medical terminology were laid by the anatomist, the surgeon, the translator, and the artist M. I. Shein (1712–1762). In the process of forming Russian terminology, there was almost no foreign language term for which different authors would not suggest several equivalents in Russian. M. I. Shein created for the word diaphragma the Russian equivalent of the “pectoral barrier”.

Also, translators resorted to tracing. A. P. Protasov coined the name of the Clavicle, which is a tracing paper from the Latin word clavicula (from clavis key), the term Inflammation created by the cervical, like tracing paper from the Latin word inflammatio (from inflammo to ignite, ignite, ignite). Particularly acute flaws in terminology were felt by Russian medical teachers. Therefore, many outstanding Russian doctors became both translators and philologists. For example: pleura, pancreas, tro-chanter, did not have Russian names at all. In such cases, descriptive compound terms were often created instead of one Latin (or Latinized Greek) word.

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Es gibt Unterschiede zwischen der Allgemeinsprache und der Rechtssprache. Jura lernen ist also zum Teil wie das Erlernen einer Fremdsprache. Im Mittelpunkt meines Vortrags stehen die Besonderheiten der Rechtssprache als Wissenschaftssprache oder besser als Zwischenform Fach- und Wissenschaftssprache.

Die Rechtssprache ist zwischen Fach - und (angewandten) Wissenschaften. So, hat die Rechtssprache eine doppelte Funktion. Einerseits ist die die Berufssprache, der in der Rechtspraxis tätigen Menschen (Juristen), andererseits ist sie die wissenschaftliche Fachsprache der Jurisprudenz.

Die Rechtswissenschaft zeichnet sich dadurch aus, dass sie sich mit der wissenschaftlichen Durchdringung einer letztlich auf Interpretation von Einzelfällen innerhalb des gesetzlichen Auslegungsrahmens ausgerichteten Rechtspraxis befasst.

Es ist bekannt, die Lösung der Fälle ist an sich eher eine fachliche als eine wissenschaftliche, theoriegenerierende Tätigkeit. So, beziehen sich theoretische Aspekte eher auf den Auslegungsrahmen, auf die Entwicklung der Begrifflichkeiten, auf grundlegende Aspekte von Recht sowie Muster in der Aktivität von Richtern und anderen juristischen Entscheidungsträgern.

Jedoch spielt in der deutschen Rechtspraxis der Aspekt des Grundsatzgeleiteten eine wissenschaftliche Rolle. In weiten Teilen des rechtssprachigen Textsortenspektrums sind auch Elemente wissenschaftlicher Kommunikation anzutreffen.

Ein Hauptmerkmal in der deutschen Rechtssprache ist die Abstraktion. Die Hauptaufgabe der Rechtssprache ist, Sachverhalte darzustellen und Begriffe zu präzise zu formulieren. Es herrscht der Nominalstil in der Sprache, das heißt der substantivierte Stil. Dieser Stil macht die deutsche Rechtssprache steif und „abgehackt".

Ein großer Teil des juristischen Fachwortschatzes ist vom Gesetzgeber vorgegeben, bestimmt und zum Teil definiert. Dies unterscheidet die Rechtssprache von anderen Fachsprachen, in denen neue Fachwörter vor allem durch Wissenschaftlervorgeschlagen und durch Akzeptanz im wissenschaftlichen Diskurs etabliert werden.

Weitere terminologische Festlegungen liefert die Rechtsprechung. So wirken Wortdefinitionen in Urteilen nachhaltig auf den Sprachgebrauch. Auch dies ist eine Besonderheit der Sprache.

Zugleich ist die Rechtssprache historisch gewachsen. Die geschichtlichen Wurzeln prägen sowohl die juristische Sprache als auch die rechtlichen Inhalte deutlich mit. Ohne einen Blick auf die Geschichte bleibt daher vieles unverständlich. Die Rechtssprache gilt als eine der ältesten Fachsprachen überhaupt.

Viele Begriffe sind in der deutschen Rechtssprache präzise definiert. In der deutschen Rechtssprache ist der Gebrauch von Fremdwörtern nicht üblich. Der Grund dafür ist, die meisten deutschen Fremdwörter sind romanischer Herkunft.

Für den Rechtsbereich ist nämlich typisch, dass zwar wegen der Nationalität des Rechts keine Dominanz des Englischen als Wissenschaftssprache zu vergleichen ist. Dagegen bestehen Harmonisierungsbestrebungen innerhalb der Europäischen Union, die sich auch sprachliche Spuren hinterlassen.

ИСТОРИЯ ВОЗНИКНОВЕНИЯ ТЕРМИНА ПОЛИЦИЯ

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У слова «*полиция*» длинная и довольно переменчивая история. С точки зрения этимологии оно является производным от греческого слова „*politeia*“, которое в дальнейшем трансформировалось в латинское слово „*politia*“. Затем слово проникло в европейские языки, где и сохранило свое изначальное значение в смысле общего управления городской жизнью. Немного позже оно претерпело изменения в немецком варианте и получило форму „*Polizei*“. Во французском языке это слово известно в 14 веке *как la police/ policite*.

Что касается официального употребления слова “*полиция”*, то его можно отнести к периоду позднего Средневековья, ко времени существования Священной Римской империи германской нации (962 – 1806).

Первые упоминания о “*полиции”* можно встретить в названиях предписаний о поддержании порядка (нем. *Polizeiverordnugen*), которые были изданы властями г. Фрайбурга в 1324 и 1353 г.г.

В немецкоязычном пространстве слово „*Polizei*“ в широком смысле использовалось с конца Средневековья, как “благое управление”. В целом же, в средние века термин “*полиция”* не претерпел каких-либо значительных смысловых изменений. При этом его толкование было основано на древнегреческой этимологии и под словом “*полиция”* понимали государственное устройство.

В 15 веке термин „*policia*“ во Франции начинают ассоциировать с общественной безопасностью, благополучием населения как результатом всей деятельности государства. В Германии слово “*полиция”* становится широко распространенным в немецком канцелярском языке.

В эпоху Реформации термин “*полиция”* закрепляется в сфере теологии. В связи с этим важно указать на то, что слово “*полиция”* встречается в тексте Библии, переведенном на немецкий язык Мартином Лютером в 1527 г., а также его можно встретить в написанных им трактатах.

В своем первоначальном смысле этот термин не имел институционального значения, он только указывал на какой-либо орган государственной власти. Но, в конце 16 века возникает новое понимание термина “*полиция”*, отличавшееся от ранее существовавшего. Оно нашло отражение в работах последователей учения Аристотеля о политике (Арнизеус, Обрехт, Безольд, Кекерман, Фельштайн и др.).

Все исследователи истории понятия “*полиция”* указывают на его этимологическую связь с понятиями “*полис*” и “*политика”*, которая крайне редко отражается в массовом сознании. В этой связи, объем и содержание термина «*полиция*», выступавшего эквивалентом термина “*политика”*, определялся двумя элементами: достойная жизнь гражданина как исходный пункт и конечная цель всей полиции и относящаяся к ней вся совокупность учреждений гражданского общества.

Широкое толкование значения понятия “*полиция*” сохранилось в эпоху абсолютизма. Именно в это время слово в известной нам всем форме проникло в русский язык в результате проведенных Петром I административно-полицейских реформ.

В Новое время термин “*полиция*” претерпевает значительные изменения. Так, сохраняя значение “состояние доброго порядка в городе или общине” термин начал также использоваться для обозначения полицейского органа и его сотрудников. Как мы видим, термин получает институциональное и персональное измерение.

Термин “*полиция*” в современном его понимании для обозначения системы административных органов, предназначенных для борьбы с правонарушениями и органы общественного порядка, стал применяться сравнительно недавно – с 20-х годов 18 века сначала в Европе, а затем во всем мире.

Краткий исторический обзор развития термина “*полиция*” позволяет сделать вывод о том, что значение термина с момента его появления в лексиконе древних греков и до настоящего момента значительно трансформировалось. Если вначале он трактовался в широком смысле как “государство”, “форма правления”, то затем полицией стали называть государственные органы, осуществлявшие в основном административно-надзорные и правоохранительные функции.

ОСОБЕННОСТИ ФУНКЦИОНИРОВАНИЯ ПРОЗВИЩНЫХ НОМИНАЦИЙ ПОЛИЦЕЙСКИХ

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Настоящий доклад посвящен изучению вопроса функционирования прозвищных номинаций полицейских разных стран мира. В современных языках существует целый ряд таких номинаций, большинство из которых мы слышали и знаем, но никогда не задумывались о их происхождении и значении.

И начнем с самого известного для нас прозвища полицейских – “*коп”* („cop“). По данным составителей словаря Уэбстера, самого авторитетного толкового словаря английского языка в США, это слово в значении “*сотрудник полиции”* появилось в 1859 году. Словарь не разъясняет его этимологии. Однако существует несколько версий того, как это слово появилось. Самая распространенная из них: „*cop*“ – сокращенное от „*copper*“ (“*медь”*). И связано это с тем фактом, что у первых американских полицейских были восьмиконечные медные звезды.

Еще одна версия: „*cop*“ – это просто аббревиатура выражения “*патрульный полицейский”* („Constable on Patrol“).

Сегодня есть и другая версия, исходя из которой следует, что слово „*cop*“ завезли англичане. Оказывается, что его корни берут свое начало еще в средневековье. Слово „*cop*“ тесно связано со словом “*капер”*. “*Капер”* – это лицо, которое наделено верховной властью правом захватывать чужие торговые корабли с целью присвоения имущества и богатств в пользу своего государства. “*Капер”* происходит от старо-французского „*caper*“ и означает “*захватывать, отбирать”*. К середине 16 века оно появилось в английском в варианте „*to cap*“ с тем же значением “*захватывать”*. К началу 19 века слово поменяло свою форму на „*to cop*“, но значение осталось тем же. Именно в 19 в. данное слово часто используется при описании полицейских рейдов: „*The police copped all his belongings and jailed him*“. А самих полицейских стали обзывать *copper-ами*. Уже в 20 в. существительное „*copper*“ сократилось до привычного „*cop*“.

Что касается этимологии прозвища британского полицейского “*бобби”* („bobby“), известного во всем мире, то здесь нет таких расхождений. Это прозвище связывают с человеком, создавшим британскую полицию, которого звали Робертом (Бобби это уменьшительное имя от Роберта). Сэр Роберт Пил, британский политик, занимавший посты и министра внутренних дел, и премьер-министра, в 1829 году распорядился создать лондонскую полицию – знаменитый Скотленд-Ярд. Некоторое время лондонцы называли полицейских и "*бобби*" и "*пилер*", но первое прозвище так и закрепилось в языке. Правда, после Второй мировой войны и оно постепенно стало вытесняться американским словом "*коп*". По данным газеты "Вокруг света"полицейские Скотланд-Ярда получили от преступников прозвища "*синие дьяволы*" и "*сырые раки*".

Самое распространенное во Франции прозвище полицейских – "*флик*" („*flic*"). О происхождении слова французы спорят до сих пор. Оно появилось в середине XIX века. Первоначально полицейские назывались "*мухами*" („*mouche*"). Затем, как считают эксперты, французскую "*муху*" заменила нидерландская „*fliege*", затем превратившаяся в „*flic*". Уже позже французы придумали расшифровывать слово „*flic*" как „*Federation Legale des Idiots Casques*" (в буквальном переводе "*Легальная федерация идиотов в шлемах*").

А еще французских полицейских называют "*poule*" — "*курицами*" (парижское полицейское управление на набережной Орфевр занимает место там, где раньше торговали птицей).

Наконец, самое известное во всем мире название французских полицейских– "*ажан*" („*agent*"), то есть просто "*агент*".

В Германии полицейских называют "*быками*" („*Bulle*"), в Испании– "*поли*" („*poli*"), в Италии– "*сбирро*" (лат. „*birrum*" означает "*красный плащ*"), по первоначальному цвету полицейской униформы. В Нидерландах самые популярные прозвища полицейских имеют еврейские корни. Их называют „*smeris*" (возможно, от древнееврейского "*наблюдать*") и „*klabak*" (от "*собаки*" на языке идише). Предполагается, что слово "*собака*" употреблялось в значении "*ищейка*".

В Австралии полицейских давным-давно принято называть "*джеками*" („*jack*"). В отличие от истории с британскими "*бобби*" к основателю австралийских сил правопорядка это не имеет никакого отношения. Сначала австралийцы называли своих полицейских "*жандармами*", а среднестатистического полицейского звали, соответственно, *Джон Дарм*. В какой-то момент фамилия у Джона исчезла, и он был переименован в "*Джека*".

В России слово "*мент*" почти все граждане произносят как оскорбительное выражение, но на в самом деле, оно произошло от разделения и сокращения слова под жаргоном "*документ*" ("*Доку*""*мент*"). Ведь именно документы первым делом полицейские требуют предъявить у подозрительных личностей. Есть еще версия, что слово "*мент*" пришло к нам из польского языка, где "*менте*" означает солдат, или же его источником стало слово "*ментик*" – постовой надзиратель. На венгерском языке то же самое “*менте*” значит плащ или накидка, именно такие накидки выдавали полицейским в Австро-Венгрии.

Жаргонное слово “*МУСОР*” произошло от аббревиатуры МУС – Московский уголовный сыск. Потом организацию переименовали в МУР, но слово “*мусор*” осталось. По другой версии слово “мусор” произошло от английского варианта „*MY COP*“, то есть “*МОЙ ПОЛИЦЕЙСКИЙ*” в буквальном переводе.

Также сотрудников полиции иногда называют “*ЛЕГАВЫМИ*”, из-за того, что раньше агенты уголовного сыска для маскировки носили нашивки охотничьего общества с изображением легавой собаки.

Если проследить становление полицейских прозвищ в разных странах, то можно сказать, что часть из них носят метафорический характер и связаны с названием животных или птиц. Как, например, “*сырые раки*” (Британия), “*муха*” (Франция), “*курица*” (Франция), “*собаки*” (Нидерланды), “*быки*” (Германия). В Италии полицейских называют “*красными плащами*” из-за ассоциаций с предметом, в данном случае с элементом формы. Британские и австралийские полицейские получили свои прозвища от имен собственных.

Прозвища, используемые носителями языка, отражают их культурно-национальную ментальность. Ассоциативные представления, понятия и образы формируют языковую картину мира. Именно они позволяют накапливать, хранить и передавать будущему поколению информацию, которой владеет общество.

ÜBERNAHME DER ENGLISCHEN BEGRIFFE IN DIE DEUTSCHE FACHSPRACHE

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Der Beitrag betrachtet das Problem der Übernahme technischer Begriffe in die deutsche Fachsprache. Was ist eigentlich die Fachsprache? Im Allgemeinen kann man sagen, dass die Fachsprache eine Art der Sprache bedeutet, die in einem bestimmten Fachgebiet oder einer bestimmten Branche benutzt wird. Zur Fachsprache gehören Fachbegriffe und Fachwörter.

Es geschieht immer wieder Fortschritt im Bereich der Wissenschaft und Technik. Der Wortschatz ist ein offenes, sich ständig verändertes System. Die

Veränderungen treffen nicht nur die Bedeutungsstruktur der einzelnen Wörter, sondern manche Fachwörter kommen aus dem Gebrauch, veralten und aussterben. Andererseits wird der Wortschatz durch Übernahme fremden Wortguts bereichert.

Nach 1905 wurde die in die deutsche Sprache neben dem Begriff „*Flugzeug*“ der Begriff „*Aeroplan*“ eingeführt. Heute geht die Tendenz zu „*Jet*“.

Das schöne Wort „*Flughafen*“ wird zum „*Airport*“ verfremdet. Aus dem „*Velociped*“ wurde 1889 die Neuschöpfung „*Fahrrad*“. Heute spricht man vom „*Bike*“. Zum deutschen „*Bergfahrrad*“ spricht man „*Mountainbike*“. „*Mountainbike*“ ist ein Fahrrad, das sich wegen seiner Bauart und der vielen Gänge für das Gelände- und Bergauffahren eignet.

Überall sieht man die Durchdringung der deutschen Sprache mit entbehrlichen Anglizismen. Die Deutschen sagen häufig „*recyceln*“ statt „*wiederverwerten*“, „*Ticket*“ statt „*Fahrkarte*“. Vielleicht konnte man auf die gedankenlose Übernahme des englischen Ausdrucks verzichten, wenn ein gleichwertiger deutscher Ausdruck schon vorhanden ist?

Es ist falsch zu behaupten, dass es für Begriffe keine deutsche Entsprechung gäbe. Neue technische und wissenschaftliche Begriffe können und müssen dann deutsch gefasst werden, wenn diese Bestandteil der Alltagssprache werden.

Noch einige Beispiele: „*Die Festplatte*“ hat sich gegen „die *harddisk*“ durchgesetzt. Statt „*herunterladen*“ gebraucht man das Englische „*download*“. Und warum eigentlich „*die e-mail*“ und nicht „*e-Post*“? Warum ist es so, dass Fachsprachen, die in die Volkssprache eingehen, können und sollen in die Muttersprache übersetzt werden?

Natürlich gibt es immer Fälle, in denen deutsche Begriffe für Fachbegriffe nicht angenommen werden. Ein Beispiel: „*die CD-ROM*“ (steht für „*Compact Disc Read Only Memory*“) könnte aufgrund ihres Aussehens als „*Silberscheibe*“ bezeichnet werden.

Es ist eines der Geheimnisse der Sprache, dass es letztlich unerklärbar ist, welche Begriffe angenommen werden und welche nicht. Zum Beispiel, der Ersatz des lateinischen „*Kalender*“ durch das Wort „*Zeitweiser*“ hat sich nicht durchgesetzt. „*Der Meuchelpuffer*“ anstelle des „*Revolvers*“ wird zu Recht als lächerlich empfunden. Allerdings „*das Trottier*“ anstelle von Gehsteig üblich bis Ende des 19. Jahrhunderts kennt kaum noch in Wien, wo dieses Wort sehr gebräuchlich war. Dieser Begriff wurde Ende des 19. Jahrhunderts durch Sprachschützern ersetzt. Was Sprachschützern im 19. Jahrhundert gelang auch im technischen Bereich neue Wörter z.B. *Gouvernal –Lenkrad, Tramway – Straßenbahn,* das kann auch im 21. Jahrhundert gelingen.

Man kann behaupten, dass die englische Sprache in der letzten Zeit bei der Wiedergabe alles Neuen und Fortschrittlichen vorherrscht, was in der Welt insbesondere in Wissenschaft und Technik passiert.

In manchen Fällen existieren und funktionieren in der deutschen Sprache die deutschen und die englischen Synonyme neben einander. Manche Wörter, die schon lange in der Sprache funktionieren, gelten nicht mehr als fremde Wörter.

Es ist ein langer Weg bis zur Wiedergewinnung einer gleichberechtigten Stellung des Deutschen in der Wissenschaftssprache. Begriffe, die aus der Wissenschaft in die Alltagssprache gelangen, müssen sprachlich einwandfrei ins Deutsche übertragen werden.

Zum Schluss als Folge: 1737 vom Voltaire gerichtete an Journalisten Aufforderung „Verwenden Sie nie ein neues Wort, wenn es nicht drei Eigenschaften hat. Es muss notwendig, es muss verständlich und es muss wohlklingend sein".

DEUTSCH ALS WISSENSCHAFTSSPACHE AUSSERHALB UND INNERHALB DES DEUTSCHEN SPRACHRAUMS

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Es ist allen bekannt, dass die deutsche Wissenschaftssprache unter einer zunehmenden Konkurrenz durch das Englische als einer internationalen wissenschaftlichen *Lingua franca* steht. Viele wissenschaftliche Arbeiten werden heute im Englischen geschrieben. Und diese Tendenz steigt in der Welt. Im vorliegenden Beitrag wird untersucht, inwiefern die Verwendung des Deutschen für die wissenschaftlichen Forschungsarbeiten wichtig ist.

Was die Wissenschaftssprache angeht, so zeichnet sie sich dadurch aus, dass eine gewisse Neutralität der Darstellung angestrebt wird. Diese Neutralität steht jedoch im Widerspruch zur Forderung die eigenen Kenntnisse als individuellen Beitrag zu kennzeichnen. Der Ausdruck der wissenschaftlichen Person ist ziemlich kompliziert zumal in der Fremdsprache.

Es ist konstatiert worden, dass das Deutsche seit dem frühen 20. Jahrhundert als internationale Wissenschaftssprache an Bedeutung verloren hat. Manche Wissenschaftler außerhalb des deutschen Sprachraums publizieren nur in geringem Umfang auf Deutsch.

Als Grund für die Vermeidung des Deutschen gilt nicht die Sprache selbst, sondern die strengen stilistischen Erwartungen, die vonseiten der deutschen Wissenschaft an einen wissenschaftlichen Text gestellt werden. Es geht um die Übertragung eines Wissenschaftsstils auf den Text eines Nichtmuttersprachlers, der immer akzeptieren muss. Es geht auch um formal-inhaltliche Aspekte und grammatische Korrektheit selbstverständlich.

Bei der Forschungsarbeit muss viel Aufmerksamkeit der wissenschaftlichen Vermittlungstexten geben. Es entstehen dabei die Textsverständlichkeitsfragen und Wissenstransfer.

Jetzt betrachten wir die Tendenz zum Deutsch als Wissenschaftssprache in einigen Ländern. So, in Dänemark gibt es nicht so viele Publikationen im Deutschen. In Lettland sieht es auch so. Aber in Lettland werden die wissenschaftlichen Beiträge und Promotionen in deutscher Sprache veröffentlicht, aber mit sinkender Tendenz. Die deutsche Sprache als Wissenschaftssprache wird heutzutage noch in den sekundären wissenschaftlichen Texten verwendet. Vorwiegend werden solche Textsorten wie Zusammenfassungen bei Promotionen und Abstracts, Thesenpapiere bei den Vortragsankündigungen auf Deutsch veröffentlicht. In Finnland nimmt die deutsche Sprache noch immer Platz zwei hinter Englisch ein. In Russland ist Deutsch als Wissenschaftssprache noch aktuell. Viele Studenten, Magister, Aspiranten haben mit der deutschen Sprache als Wissenschaftssprache zu tun.

Die deutsche Sprache gilt häufig nicht als attraktiv für Publikationen in Fachzeitschriften. Aber Deutsch als Wissenschaftssprache ist für die fachliche Kommunikation sehr wichtig. Während die theoretischen Naturwissenschaften weltweit auf Englisch kommunizieren, ist in den praktischen Naturwissenschaften (zum Beispiel, Fortswirtschaft) die Nationalsprache, also auch deutsch, notwendig.

In einigen geisteswissenschaftlichen Disziplinen ist Deutsch als Wissenschaftssprache auch heute noch dominant. Klassische Philosophie, Archäologie, Musikwissenschaft, Philologie oder lutherische Theologie, Ägyptologie, Indogermanistik, Judaistik, Orientalistik und Slawistik sind Fächer, in denen die deutsche Sprache immer noch eine internationale Rolle spielt.

Nach Angaben des Deutschen Kulturrates erscheinen nur noch ein Prozent der veröffentlichten naturwissenschaftlichen Beiträge in deutscher Sprache. Der Spitzenverband der Bundeskulturverbände forderte die Politik daher auf, diesem Verlust an kultureller Vielfalt nicht länger tatenlos zu zusehen.

Eine bleibende Bedeutung als Wissenschaftssprache behält Deutsch Aufgrund klassischer Werke in zahlreichen Geistes- und Sozialwissenschaftlichen Disziplinen, für die Namen wie Kant, Marx, Freud, Max Weber oder Einstein stehen, um nur wenige Beispiele zu nennen. Im Original kann man diese Werke nur auf Deutsch lesen.

IST DEUTSCH NOCH INTERNATIONALE WISSENSCHAFTSSPRACHE?

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Es ist bekannt, dass Englisch in heutiger Zeit die Weltsprache der Wissenschaft ist. In der Wissenschaftskommunikation wird auch im Inland ausschließlich die englische Sprache verwendet. Für mich war interessant zu erforschen, wie es mit Deutsch in diesem Sinne steht.

In dem Vortrag werden die Veränderungen bezüglich der Rolle der deutschen Sprache als Wissenschaftssprache dargestellt. Die Situation mit Deutsch als Wissenschaftssprache ist heute wirklich schlimm. Es ist oft konstatiert worden, dass das Deutsche seit dem frühen 20. Jahrhundert als internationale Wissenschaftssprache an Bedeutung verloren hat und heute nur noch in einigen Bereichen der Geisteswissenschaften eine wichtige Rolle spielt.

In großen Teilen der Wissenschaften (vor allem in Naturwissenschaften) nimmt die Dominanz des Englischen immer zu. In den Naturwissenschaften werden über 90% der Fachartikel auf Englisch publiziert; in anderen Disziplinen wie den Ingenieur- und Sozialwissenschaften, aber auch in den Geisteswissenschaften kann die ähnliche Tendenz beobachtet werden.

Obwohl das Deutsche im akademischen Alltag, vor allem in der Lehre, nach wie vor eine wichtige Rolle spielt, gibt es im Hinblick auf das Publizieren einen deutlichen Trend zu „*English only*“. Dies hat zur Folge, dass ursprünglich deutschsprachige Fachzeitschriften mittlerweile zum Englischen gewechselt haben und lediglich Beiträge in dieser Sprache akzeptieren. Selbst Fachzeitschriften mit einer Präferenz für deutsche Veröffentlichungen fordern inzwischen in der Regel ein englisches Abstract ein.

Diese und andere ähnliche Formen der Anglifizierung tragen zur weltweiten Verbreitung erzielter Forschungsresultate bei und erhöhen die internationale Sichtbarkeit, aber Gefahr für die Nationalsprachen sind zu beobachten.

Sprachen wie das Deutsche gelten häufig nicht länger als attraktiv für Publikationen in den Fachzeitschriften. Deutsche Wissenschaftler veröffentlichen ihre Arbeiten zunehmend auf Englisch. Die Publikationen von Ansätzen in englischsprachigen Fachzeitschriften ist in vielen Fächern ein wesentlicher

Indikator für die Forschungsleistung und damit entscheidende Voraussetzung für einen Karrierenfortschritt. Die Tagungen werden in Deutschland häufig auf Englisch abgehalten. In Deutschland gibt es kaum noch eine wissenschaftliche Konferenz, auf der nicht früher oder später ins Englisch vorgetragen wird. Wissenschaftler vermuten, dass sich Englisch als *Lingua franca* der europäischen Wissenschaft durchsetzen wird.

Es kann aber eine Frage entstehen, warum eigentlich schreiben die deutschen Wissenschaftler auf Englisch? Die Antwort: In der Praxis werden naturwissenschaftliche Arbeiten häufig danach beurteilt, in welchen wissenschaftlichen Zeitschriften sie publiziert werden.

Die Praxis, dass alle führenden Zeitschriften in US-amerikanischen Hand seien, scheint problematisch. Die Beherrschung fach- und wissenschaftlichen Kenntnisse des Englischen ist daher häufig unverzichtbar, und es wird deutlich, dass nichtmuttersprachliche Benutzer des Englischenkommunikativ benachteiligt und dadurch auch in ihrer Forschung beeinträchtigt sind.

Manche Wissenschaftler, wie zum Beispiel Chemnitzer Germanist Winfried Thielmann befürchten, dass die Wissenschaftssprachen wie Deutsch zunehmend an Bedeutung verlieren und dadurch die Mehrsprachigkeit der europäischen Wissenschaft gefährdet wird. Die deutsche Naturwissenschaftler müssen auf Englisch schreiben, um in diesen Zeitschriften publizieren können. So schreiben sie in einer Fremdsprache und konkurrieren mit anderen Wissenschaftlern, für die das Englische Sprache die Muttersprache ist. Dazu kommt: Auch die wissenschaftliche Standards werden auf diese Weise von der US-amerikanischen Wissenschaft festgelegt. Dadurch wird auf lange Sicht international an Wissenschaftskulturen eingeschränkt. Das gilt insbesondere für naturwissenschaftliche und technische Disziplinen.

Englisch ist inzwischen die anerkannte Sprache der Wissenschaft. Englisch verdrängt traditionelle und entwickelte Wissenschaftssprachen. Deutsch verliert insbesondere in naturwissenschaftlichen und technischen Disziplinen an Boden. Die Forschungsinstitute plädieren für Mehrsprachigkeit in den Wissenschaften und mehr Übersetzungen englischsprachiger Publikationen ins Deutsche.

Natürlich kommen wir ohne Englisch als internationale Kongress - und Publikationssprache nicht aus. In absehbarer Zeit ist kein Umbruch zu erwarten. Das wahrscheinlichste Zukunftsszenario ist nicht nur die Monopolstellung einer Sprache, sondern eine „*Oligopolie*“: mit Englisch als Weltsprache. Dann besteht die Gefahr, dass künftig immer weniger nach deutscher Terminologie gesucht wird. Deutsche Fachtexte (und nicht nur in der Computerbranche) wimmeln von schlecht angepassten Anglizismen.

ИНОЯЗЫЧНАЯЛЕКСИКАВСИСТЕМЕУРБАНОНИМОВ

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Настоящий доклад посвящен результатам научного исследования на тему "Особенности урбанонимов областного города на примере салонов красоты и парикмахерских". Фактическим материалом послужили названия парикмахерских и салонов красоты города Белгорода, отобранные для анализа из Интернет источников и в ходе личных наблюдений автора.

Корпус языкового материала включает 330 коммерческих наименований. Большая часть номинаций – это названия, представляющие собой иноязычную лексику: 124 номинативных единицы. Как показал проведенный количественный анализ, иностранные слова составляют 38% от общего числа урбанонимов.

Основываясь на классификации лингвиста О.Г. Щитовой при проведении лингвистического анализа, мы выделили 3 группы названий:

1) Нетранслитерированные иностранные названия: *Oldboy, hairstar, cathead, Blondstudio*. Данные номинации представляют собой 19% от общего числа иностранных слов и репрезентируются в графике языка-источника.

2) Названия, образованные посредством сложения элементов русского и иностранного языка, так называемые гибриды:*РивьераSPA, кокетка Style, Profi клуб, мистер-X*. Их количество незначительно и составляет всего лишь 4% от общего числа номинаций. Следует отметить, что аббревиатура *SPA* очень широко используется в индустрии красоты. Она образована от латинского выражения „*sanitasperaqua*" и означает «*здоровье через воду*».

3) Названия, образованные путём транслитерации и транскрипции, имеющие эквиваленты в иностранных языках, а также урбанонимы, представляющие собойязыковые единицы русского языка, оформленные при помощи иноязычной графики, например: *Barbaris, Классик стайл, Бьюти, Бьюти Стайл, Бонжур, Бель Де Жур, Баттерфляй, Бон Арт*. Данные номинации составляют 13% от общей выборки иностранных слов.

Что касается источников происхождения слов, то в зафиксированных нами номинациях парикмахерских и салонов красоты можно выделить слова:

– из английского языка, например: *OldBoy, DryBar и др.*;

– из французского языка: *Бонжур, Мон Плезир, Авангард и др.*.Следует отметить, что французский язык занял определенную нишу в номинациях парикмахерских и салонов красоты г. Белгорода. Он соответствует представлениям русскоязычных людей о Франции. Как известно, в общественном сознании Франция представляеться своеобразной империей красоты, моды, стиля, изящества;

– слова-интернационализмы из латинского и греческого языков: *Магия, Персона, Корица, Симфония, Энигма и др.*;

– общеупотребительная лексика, заимствованная из итальянского, испанского, немецкого и польского языков: *Инфанта, Танго, Шпилька и др*. Однако данные номинации представлены единичными примерами.

Анализ показал, в номинациях парикмахерских и салонов красоты широко используются женские именам из различных языков: *Ариэлла* (женское еврейское имя), *Натали, Ирэн, Жэнни, Луиза* (французские женские имена) и др. Мы считаем, что французские женские имена ассоциируются у владельцев салонов и парикмахерских с женственностью и утончённостью.

Названия парикмахерских и салонов красоты города Белгорода являются динамично развивающейся группой урбанонимов в ономастическом пространстве современного города, обладающей лингвокультурологической и лингвокреативной ценностью.

Примеры наглядно демонстрируют, что в русский язык активно проникают иноязычные слова, заимствованные как частично, так и полностью. Этот процесс происходит под влиянием моды на все иностранное. Тяготение современного нейминга к использованию латинской графики и иноязычных лексем обусловлено особым отношением русского человека ко всему иностранному. Для русского сознания привычно видеть достоинства, оценивать чужое как интересное, хорошее, качественное, модное. В современном русском языке комбинация латиницы и кириллицы, так и использование одной кириллицы может рассматриваться как средство реализации стратегии на повышения статуса.

Сфера коммерческой номинации проведенного исследования демонстрирует национально-культурную специфику региона. Большое количество иноязычной лексики в исследуемых номинациях говорит о высоком уровне образования населения города Белгорода, и стремлении владельцев позиционировать свои товары и услуги как на международном уровне, заявляют о качестве и престиже заведений. Иноязычные названия побуждают интерес к объекту номинации, если они обоснованы, понятны, легко запоминаются и воспроизводятся реципиентами, вызывают положительные ассоциации, выражают предпочтения и ожидания жителей города.

НАЗВАНИЯ ПОЛИЦЕЙСКИХ СЛУЖБ И ПОДРАЗДЕЛЕНИЙ

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Многие сохранившиеся до нашего времени реалии для обозначения сил полиции указывают на исторические корни полиции, выросшей из армии. Сегодня нам известны такие названия полицейских служб и подразделений, как: *жандармерия* (Франция, Бельгия, Голландия, Италия, Испания, Португалия, Турция, Китай, Индия, страны Латинской Америки), *карабинеры* (Италия, Чили), *конная полиция* (Франция, Бельгия, Канада, Германия и др.), *полиция готовности* (Германия), *Вооруженная народная полиция* (Китай), *Вооруженная полиция* (Индия) и др.

Следует отметить, что этимология названий многих полицейских реалий в целом может уже не прослеживаться в выполняемых ею функциях. Но их названия вызывают ассоциации с традициями, принципами демократии, патриотизмом, благородством, формируют и поддерживают чувство уважения к полицейской профессии и правосудию, как у граждан, так и у самих стражей порядка.

Приведем некоторые примеры. Так, слово “*констебль*” происходит от латинского „*comes stabuli*“ и означает “*всадник*”. Слово “*шериф*” образовано от словосочетания хранитель („*reeve“*) графства („*shires or counties“*), т.е. „*shire reeve“*. В США, которые известны всему миру своими демократическими принципами и свободолюбивыми традициями, руководителя полиции любого уровня принято называть шеф полиции – „*police chief“*. Еще одна реалия, это “*жандармерия*” букв. от французского “*человек-оружие*” означает военную (военизированную) полицию. Как вид полицейских сил *жандармерия* впервые создана в 1791 г.

История *жандармерии* уходит корнями во времена средневековья. В 1791 французское революционное правительство окончательно упразднило *институт королевских маршалов* и сформировало *Национальную жандармерию* (*корпус жандармов*) для наблюдения за сохранением порядка в Вооруженных силах и внутри государства. *Национальная жандармерия*Французскойреспублики – это части внутренних войск, судебного конвоя, региональной и военной полиции Французской

Республики двойного подчинения (Министерству внутренних дел и Министерству обороны Французской Республики).

В интересах МВД Французской Республики Национальная жандармерия исполняет следующие административные (полицейские) функции: Внутренних войск, подразделений государственной охраны (охрана президента Республики, охрана членов кабинета министров Республики), подразделений охраны государственных объектов (правительственных резиденций, органов государственной власти), подразделений охраны присутственных судебных мест, подразделений охраны объектов особого назначения (в том числе АЭС).

Термин "*карабинеры*" появляется в России в 1763 году, как новое название для тяжёлой кавалерии. *Карабинерами* также называют жандармов в Италии и некоторых других странах. Слово заимствовано русским языком из французского. *Карабинеры* Италии – самое мощное полицейское подразделение в стране. Корпус карабинеров входит в состав вооруженных сил и занимается как военной, так и чисто полицейской деятельностью. *Карабинеры* подчиняются министерству обороны, а не министерству внутренних дел, как полиция. *Карабинеры* отвечают за пригородную и сельскую местность. Полиция же несет службу в пределах города. В Италии корпус карабинеров является одновременно и военной полицией, и одной из двух полицейских служб страны. И именно на карабинеров возложена обязанность борьбы с организованной преступностью – фактически все аресты итальянских мафиози в последние десятилетия производились в результате операций карабинеров.

Народная вооруженная полиция Китая – составная часть Вооруженных сил Китайской Народной Республики. В июне 1982 г. ЦК КП Китая принял решение о создании частей народной вооруженной милиции. Основу народной вооруженной милиции составляют войска внутренней охраны, а также войска пограничной охраны, внутренней безопасности и пожарной охраны. Кроме того, под двойным контролем со стороны НВМ и соответствующих ведомств Госсовета находятся войска лесной охраны, обеспечения золотодобычи, дорожно-строительные, а также войска строительства и охраны гидроэнергетических объектов.

Войска народной вооруженной милиции несут ответственность за выполнение возложенных государством задач по обеспечению безопасности, а также активной обороне, ликвидации последствий чрезвычайных ситуаций, участию в государственном экономическом развитии.

Правоохранительная деятельность в Великобритании в основном осуществляется *констеблями*. Так в Великобритании называют рядовых полицейских. Они работают в составе территориальных и специальных полицейских органов, агентств и служб. „*Constable*“ или, как их называют в обыденной жизни, „*policemen*“ – низшие полицейские чины в Англии, находящиеся под ведением «*главного констебля*» (в графствах –„*chief constable*“, в городах –„*head constable*“) и осуществляющие обычные функции наружной полиции. Своеобразным в Англии является институт "*специальных констеблей*" („*special constables*"), регулируемый актом 1831 г. Они могут быть назначеныиз числа местных граждан, по распоряжению двух мировых судей или министра внутренних дел, в случае бунта или серьезных беспорядков, для усиления обычного контингента полицейских сил.

Подводя итог вышесказанному, необходимо отметить, что практически в каждой стране подразделение полиции, имеет свое название, и это в основном обусловлено исторически сложившимися предпосылками в той или иной стране.

ОСОБЕННОСТИ ПЕРЕВОДА ЮРИДИЧЕСКОЙ ТЕРМИНОЛОГИИ С НЕМЕЦКОГО ЯЗЫКА НА РУССКИЙ ЯЗЫК

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Система понятий каждой науки находит свое выражение в терминах. В вопросе перевода специализированных текстов по юриспруденции большую роль играют знания в области юриспруденции и навыки перевода в этой отрасли. Основные трудности перевода с немецкого языка на русский язык вызывает именно терминология.

В начале, обратимся к самому понятию "*термин*". Термин происходит от латинского слова „*terminus*" и означает "*граница, предел, конец*". *Термином* называют специальное слово или словосочетание, принятое в определенной профессиональной сфере и употребляемое в особых условиях. Следует отметить, что между терминами и не терминами происходит постоянный обмен. Например, „*das Opfer*" означает в литературном языке "*жертва*", в юридическом контексте это слово трактуется как "*пострадавший*". Слово „*der Schaden*" имеет значение "*вред, дефект*", в юридическом контексте это "*убытки, ущерб*".

Когда слово становится термином, его значение специализируется и ограничивается сферой употребления и областью применения, например, „*der Sitz*"– юридический адрес, „*der Sitz des Unternehmens*" – юридический адрес предприятия.

Выделяют три основных способа перевода терминов: перевод с помощью эквивалента, поиск аналога и описательный перевод.

Особую сложность вызывают сложные юридические термины. Они могут переводиться:

– простым русским существительным („*Geldstrafe*“ – штраф, „*Beweismittel*“ – доводы, доказательства);

– сложным русским существительным („*Rechtsbruch*“ – правонарушение, „*Doppelehe*“ – двоеженство);

– словосочетанием русского прилагательного и существительного („*Einzelfall*“ – частный случай, „*Einkommenssteuer*“ – подоходный налог);

– двумя русскими существительными, из которых одно в родительном падеже („*Erbfolge*“ – порядок наследования, „*Notigungsstand*“ – состояние принуждения, „*Tatbestand*“ – состав преступления);

– русским существительным с предложной группой („*Einspruchsrecht*„– право на протест, „*Widerrufsrecht*“– право на отказ).

Однако эти правила часто бывают непригодны для перевода специальной терминологии. Так, например сложные существительные могут переводиться словосочетанием, состоящим из более 3-х слов: *der Fernabsatzvertrag* – договор розничной купли продажи.

Сложные термины составляют в немецком языке преобладающую группу слов. В русском языке их количество намного меньше и немецкие сложные существительные не всегда переводятся русскими сложными существительными.

Термины, соответствующие понятиям юриспруденции могут часто переводиться существительными, глаголами, прилагательными и целыми словосочетаниями. Количество терминов словосочетаний в немецкой юридической терминологии очень велико. Однако, перевод их на русский язык не всегда является «грамматической копией» и это связано с тем, что русский и немецкий языки различаются по своей структуре.

В заключении следует отметить, что перевод юридических текстов и терминов представляет собой работу, которая требует достаточных знаний в области юриспруденции, чтобы правильно и четко сделать перевод.

COMPOUNDING IN MEDICAL ENGLISH

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Compounding or word-composition is one of the productive types of word – formation in Modern English. As a derivational type of words compounds are made up by joining stems of different structure.

There are three types of compound words:

1. Closed compound words, e.g., *myocardium, endocarditis*.
2. Open compound words, e.g., *made up of more than one word, e.g. human being, blood donor, hay fever, Black Death*.
3. Hyphenated compound words, e.g., *life-span, collar-bone, birth-control*.

Compound words may be classified:

a) from the functional point of view.

Functionally compounds are viewed as words belonging to different parts of speech. E.g. *arm-chair, baby-sitter, boiling-point*.

b) from the point of view of the means by which the components are joined together. Compound words may be classified into:

1) words formed by placing one constituent after another in a definite order. E.g. *door-handle, rain-driven*.

2) Components are joined together with a linking element: E.g. *speedometer, Afro-Asian*.

Compound words are also classified according to different ways of compounding. Here there are two types of compounds:

- compounds words proper are formed by joining together stems without linking elements: e.g. *door-step, baby-sitter*;
- derivational compounds are formed with the help of suffixes and conversion: e.g. *long-legged, a hold-up*.

So compound words appear as a result:

- joining stem of words according to productive patterns;
- semantic and structural fusion and isolation of free word-groups in the course of time: e.g. *peace-fighting, oil-rich, cry-baby*.

Compound words can be classified according to different principles.

1. According to the relations between the constituents compound words fall into two classes:

a) coordinative compounds

b) subordinative compounds.

In coordinative compounds the two constituents are semantically equally important. The coordinative compounds fall into three groups:

a) reduplicative compounds which are made up by the repetition of the same base, e.g. *pooh-pooh, fifty-fifty*;

b) compounds formed by joining the phonically variated rhythmic twin forms, e.g. *chit-chat* (with the same initial consonants but different vowels); *walkie-talkie*, *clap-trap* (with different initial consonants but the same vowels);

2. According to the part of speech compounds represent they fall into:

a) compound nouns, e.g. *sunbeam, maidservant*;

b) compound adjectives, e.g. *heart-free, far-reaching*;

c) compound pronouns, e.g. *somebody, nothing*;

d) compound adverbs, e.g. *nowhere, inside*;

e) compound verbs, e.g. *to offset, to bypass, to mass-produce*.

Compounding has its own peculiarities as to the means used, the nature of bases and their distribution, as to the range of application, the scope of semantic classes and the factors conducive to productivity.

COMMUNICATION WITHIN AN INTERPROFESSIONAL TEAM

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Collaborative working is described as working to achieve something that neither agency could achieve alone.

Effective communication is considered to be essential for effective interprofessional working and the consequent delivery of quality health service. Breakdown in communication, as well as lack of understanding of mutual responsibilities can result in critical failure.

Verbal communication is the primary way in which health care professionals exchange information. Formal strategies include team meetings, ward rounds and multidisciplinary team meetings. When information is communicated verbally there is a risk that the information will be misinterpreted or lost.

Non-verbal communication is an important part of effective communication. Facial expressions combine with other gestures and movements will result in around 700,000 non-verbal displays. As a result, non-verbal communication can involve several issues.

Active listening is fully receiving and understanding everything that has being said. One of the main reasons that active listening does not occur is because people are thinking about what they are going to say in reply while the other person is still speaking. Lack of engagement during information exchange will result in misunderstanding or information being missed leading to poor collaborative working.

Reader, Flin and Cuthbertson (2008) suggest that healthcare teams tend to be hierarchical in nature, with senior doctors having a higher status than other healthcare professionals. As a result, lower statues professionals are not communicating their concerns to the rest of the team.

Moreover, Reader, Flin and Cuthbertson (2008) present an observational study carried out on four intensive care units (ICU) in the US, which observed collaboration between doctors and nurses. The following strategies were identified; nurses listening to rounds in order to hear the development of patient care plans, nurses cross-checking doctor-generated patient care plans, doctors and nurses providing ‘heads-up’ alerts to each other about pertinent information outside of the rounds, and nurses and doctors speaking privately about care plans after the rounds. This resulted in a culture of open communication.

A study by Strudwick and Day (2014) has found that healthcare professionals can be protective of their role. Which leads to lack of effective communication.

To sum up, effective communication has a great impact on interprofessional collaboration. Effective communication involves utilising all tools such as verbal and non-verbal communication. Full engagement in the communication process will ensure that no information is lost or misunderstood. Developing an environment with a flat hierarchy will ensure a culture of open communication between health professionals. Finally, working on communication skills individually and as a team will help to achieve effective interprofessional collaboration.

SECTION 4. MY RESEARCH WORK

MY RESEARCH WORK IN THE SPHERE OF CRIMINAL LAW

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Many people know that according to Art. 51 of the Constitution of the Russian Federation “no one is obliged to testify against himself, his wife and close relatives”. This provision is also reflected in the Code of Criminal Procedure of the Russian Federation and, in our opinion, it fully complies with the norms of morality that have developed in the modern society. According to criminal legislation, persons with witness immunity are: a judge, a juror; lawyer, defender of the suspect, the accused; a clergyman; member of the Federation Council, deputy of the State Duma.

During the analysis of the current legislation, which gives a citizen the right not to testify against himself and his relatives, we identified some problematic issues concerning this provision.

The first question concerns the range of persons recognized as close relatives, on whom it is necessary to extend the witness immunity. To date, this list includes: spouse, parents, children, adoptive parents, adopted children, siblings, grandfathers, grandmothers, grandchildren. If we proceed from this provision, then the obligation to testify is not exempted exspouses and in case of their refusal, they are liable for refusing to testify, which, in our opinion, is unacceptable, because this is contrary to the norms of morality that exist in modern society.

The second question is: what generally includes testimony? This issue is also, in our opinion, debatable. To date, a clear definition of what evidence a person has the right not to testify is not established. The subject of the testimony may include the circumstances of the commission of the crime, its preparation or concealment, the consequences of the committed act, as well as any other circumstances having the value of evidentiary facts. Does the person have the right to refuse to give samples of saliva, handwriting, blood for analysis? This issue is not regulated in the legislation. There are many opinions in the literature concerning this issue. In our opinion, this information can also be used against a person in the case and therefore, he is not obliged to provide them for analysis. Also, in order to resolve this issue, in our opinion, it is necessary to legislatively clarify the content of the circumstances in which a person has the right to refuse to testify or cannot be questioned. We believe that the introduction of this provision will help to avoid violations of the constitutional rights of citizens during their interrogation.

So, it is necessary to indicate that the modern legislation is more focused on the protection of human and civil rights and freedoms. However, there are some shortcomings and gaps in it. Therefore, in order to improve the effectiveness of the protection of human and civil rights and freedoms within the framework of criminal proceedings, taking into account the moral views of society, it is necessary, in our opinion, to improve the institution of witness immunity.

INJECTION METHODS IN COSMETOLOGY

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I study at Medical Institute. I would like to be a cosmetologist in future. Cosmetology is a very interesting and developing industry. I'm interested in this sphere of medicine very much. I tried to disassemble two injection methods. They are mesotherapy and plasma lifting.

The purpose of my study is to compare them by impact efficiency. I'm going to provide information about these methods and analyze advantages and disadvantages of both.

It should be noted that both methods are applied at many problems with skin. Today this problems is very important, especially such problems as acne, couperose, hair loss and anti-age method.

The first logical part of the report is devoted to some aspects of mesotherapy. First of all, in this method using ready cocktail of vitamins and many essential nutrients. In this connection I would like to say that it can cause some allergic reactions. So mesotherapy have an accumulative effects and it's obvious that you need a course of this procedure.

The second logical part of the text is devoted to the description of the second method. That is plasma lifting. One of the main points to be highlighted is that in this methods your own blood is used. This blood is centrifuged and then injected hypodermaticly (subcuteneusly). The main advantage of plasma is that it does not cause any allergic reactions. So this method also has an accumulative effect, and a price for one procedure is less than for mesotherapy.

The next main point to be highlighted is possible contraindications. As for plasma lifting it is blood diseases, for example bleeding disorders, pregnancy and lactation. So for mesotherapy it is also pregnancy and lactation plus cardiovascular pathology and epilepsy.

Finally I can conclude that the plasma lifting is more innocuous and a budget than mesotherapy.

I'm going to be engaged in this sphere throughout of my study in institute and learn cosmetology deeper. In future I want to become an excellent specialist.

FEATURES OF REHABILITATION OF PATIENTS AFTER SURGERY

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I’m a 1th year student of Belgorod State National Research University. I study Medicine.

Goals objectives object and subject of the research are the following.

The purpose of my report is to analyze the methods of rehabilitation and the system of its implementation.

In everyday life, there are many traumatic incidents. Besides, sport is very traumatic. Most injuries – about 90% – are light and do not require serious intervention. But the remaining 10% of moderate to severe injuries result in hospitalization, surgery, and a long recovery period.

Any surgery is a serious intervention in the body. By agreeing to surgical care, the patient should be aware that it is built not only from the creation of operative access to the organ, direct manipulation in it and closing the wound with a suture, but also includes preparation for surgery and subsequent recovery – rehabilitation.

It’s evident that operations are different, that’s why the program of rehabilitation therapy is different. However, they all pursue the same goals – to relieve pain, to accelerate tissue regeneration and wound healing, to maintain normal blood circulation in the operated areas and muscle tone, to avoid postoperative complications and preserve all body functions in the event that a person is forced to comply with bed rest for a long time. Psychological support is also important.

In this connection, I’d like to add that usually the rehabilitation period after surgery takes from 6 months, but it can be delayed for a longer period-it all depends on the nature of the operation, the age and condition of the patient, as well as on how professionally rehabilitation treatment is carried out.

It should be noted that there are two stages of rehabilitation. The first stage of rehabilitation after surgery is called immobilization. It continues from the moment of completion of the operation until the removal of plaster or seams. The duration of this period depends on some factors does not exceed 10–14 days. At this stage, rehabilitation measures include breathing exercises, preparing the patient for physical therapy and exercises themselves. From 3–4 days after the operation physiotherapy-UHF therapy, electrical stimulation and other methods are recommended.

Moreover, the post-immobilization period is divided into two stages: inpatient and outpatient. This is due to the fact that rehabilitation measures should be continued after discharge from the hospital.

The inpatient stage involves intensive rehabilitation measures, as the patient must leave the hospital as soon as possible. At this stage in rehabilitation, complex therapeutic exercises, exercises on special training equipment, and pool exercises and self-study in the house. An important role is played by physiotherapy, especially its varieties such as massage, electrophoresis, ultrasound treatment (UHT).

The outpatient stage is also necessary, because without maintaining the achieved results they will quickly come to naught. Usually this period lasts from 3 months to 3 years. In outpatient conditions, patients continue to engage in physical therapy in sanatoriums and dispensaries, polyclinic offices of physical therapy, medical and physical education dispensaries, as well as at home. Medical monitoring of patients is carried out twice a year.

To draw the conclusion, rehabilitation is a complex process, but it should not be considered an impossible task in advance. In my study I found out that the main attention should be paid to the first month of the postoperative period – the timely start of actions to restore the patient will help him to develop the habit of working on himself, and the visible progress will be the best incentive for a speedy recovery.

This matter is very interesting for further information search, so I'm going to continue these studies and write a thesis in future.

MY ACHIEVEMENTS IN THE STUDY OF ELECTORAL LAW

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Training in our university allowed me to actively develop both in sports and in science. Together with teachers of various subjects I wrote scientific articles on legal and other problems. For example, in the field of criminal procedure, the scientific collection “Alley of Sciences” published my articles on “PROBLEMS OF IMPLEMENTATION OF STANDARDS ON THE REASONABILITY OF CRIMINAL JUDICIAL PERIODS” and “PROBLEMS OF LEGAL REGULATION OF ANY RATE”.

In the field of financial law, a study was conducted on the issue of legal regulation of non-cash settlements. In the field of philology, a study was conducted on the theme “Professionalisms in the speech of a lawyer”. The problems were discussed at conferences, international youth forums and round tables, the participants of which were awarded honorary diplomas and certificates.

The most ambitious work I consider research work “FORMALIZATION OF THE PRELIMINARY VOTE MODEL IN RUSSIA”. Preparing the article, I studied a lot of special literature, statistical indicators and experience of using the primaries institute by foreign countries, as well as the experience of applying preliminary voting in the Russian Federation.

Appearing initially in the United States, the primaries institute is now used in most countries of the world. Analysis of the use of primaries by foreign countries has made it possible to attribute to the number of **advantages** of preliminary elections: increasing the level of citizens' trust in bodies formed on the basis of elections; increase the level of political culture of voters; decrease in the possibility of influence and interference of party elites in the process of nominating candidates for elections; expansion of the electoral base of the political party; participation in elections of politicians who enjoy the support of voters; stimulation of parties and their members to close interaction with voters in the period between elections; strengthening political competition and improving the quality of the party's activities in general.

Among the **disadvantages** are: high financial and organizational costs associated with the conduct of additional voting; the growth of intra-party opposition and the creation of intra-party groupings, and as a result, the aggravation of relations within the party; The danger of manipulation by the leadership of a political party and the loss of voters' trust in the party.

Taking into account the experience of foreign countries, the most preferable among all types of primaries is open voting, which gives a real opportunity to identify the candidates from the party, who enjoy the greatest support of voters and their supporters, and not the party elite. This type of primary election encourages political parties and their members to work closely with voters in the period between elections; allows weakening the influence of the party apparatus and regional leaders on the selection of candidates in favor of ordinary party members; positively affects the ranking of the party among the population.

Currently, in Russia, a political party that consistently and regularly holds primaries is “United Russia”.

So, the analysis of advantages and disadvantages of the chosen model of preliminary voting will allow optimizing the procedure for its conduct and creating an effective and efficient system for electing party candidates.

So there is no doubt not only in the theoretical, but also in the practical significance of the study.

I’d like to mention that my article took the third place in the Regional Competition for the best work on the issues of electoral law and the process. At the conference on the issues of electoral law and the process, the work was noted by N.T. Pletnev, Chairman of the Election Commission of the Belgorod Region. The winner and prizewinners were awarded diplomas and souvenirs. I was awarded a diploma.

Today, I do not stop my research work and continue to explore topical issues in the field of law.

MEINE WISSENSCHAFTLICHE ARBEIT. DIE ERSTEN SCHRITTE IN DER WISSENSCHAFT

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Ich bin Medizinstudentin der Belgoroder Staatlichen Nationalen Forschungsuniversität der Fachrichtung „Kinderheilkunde“. Seit dem 2. Studienjahr beschäftige ich mich aktiv mit der Wissenschaft. Es kann aber bei vielen folgende Fragen entstehen: „Wozu eigentlich machst du das?“und „Was bedeutet für dich die wissenschaftliche Arbeit überhaupt?“

Für mich persönlich ist die wissenschaftliche Arbeit eng mit der kreativen Tätigkeit verbunden. Die wissenschaftliche Arbeit gibt mir die Möglichkeit immer wieder etwas Neues zu erfahren und die neuen und für mich unerkannten Themen zu erkennen. Das macht meinem Leben einen neuen Sinn, macht es interessant und nicht einseitig.

Die wissenschaftliche Arbeit bedeutet für mich auch die Anerkennung der Lehrer und meiner Mitstudenten/-tinnen.

Die wissenschaftliche Arbeit ist für mich die Entwicklung in weiterem Sinne des Wortes. Sie bereichert mich und erweitert meine Weltanschauung.

Jetzt möchte ich meine kleinen Fortschritte in der Wissenschaft präsentieren. Bis heutigem Moment habe ich fünf wissenschaftliche Veröffentlichungen. Ich habe an drei wissenschaftlichen Konferenzen im Rahmen der Woche für die Studentenwissenschaft an der Belgoroder Staatlichen Nationalen Forschungsuniversität teilgenommen.

Meine erste wissenschaftliche Arbeit ist der Geschichte der Medizin gewidmet. Sie heißt „Die Entwicklungsgeschichte von Medizin College im Bezirk Valujki des Belgoroder Gebiets“. Sie wurde in der wissenschaftlichen Zeitschrift der Akademie für Naturwissenschaften „Internationales Forschungsbulletin für Studenten“ veröffentlicht.

Die zweite wissenschaftliche Arbeit ist mit der Physiologie verbunden. Sie heißt „Die Entwicklung der körperlichen Leistungsfähigkeit der Athleten verschiedener Vorbeireitungsebenen in der Sportgymnastik“. Diese Arbeit war auch als Vortrag am Lehrstuhl für Physiologie im Rahmen der Woche für die Studentenwissenschaft an der Belgoroder Staatlichen Nationalen

Forschungsuniversität im Jahre 2018 vorgetragen. Diese Arbeit wurde im Studentenbulletin „Nauchnye Vedomostie“ von O.A. Efremova veröffentlicht.

Die dritte wissenschaftliche Forschungsarbeit ist aus dem Gebiet der Biochemie. Sie heißt „Die biochemischen Aspekte der rheumatoiden Arthritis und wurde in der wissenschaftlichen Zeitschrift der Studentenwissenschaftsgesellschaft „Vestnik SNO –2018“ veröffentlicht. Mit dieser Arbeit nahm ich auch an der wissenschaftlichen Konferenz teil.

Ich bin der Meinung, die Veröffentlichungen in Fremdsprachen wirken sich positive auf die Prestige des Wissenschaftlers aus und machen die weltweite Anerkennung. So habe ich auch eine Publikation in deutscher Sprache.Sie heißt „Aus der Geschichte der Kinderheilkunde als Medizin“. Mit dem Vortrag zu gleichem Thema nahm ich an der Arbeit des Runden Tisches der Woche für die Studentenwissenschaft an der Belgoroder Nationalen Forschungsuniversität im April 2018 teil.

Meine fünfte Veröffentlichung „Die Geschichte der Entwicklung des Gesundheitssystems im Valujki Bezirk Belgoroder Gebiets“ wurde in der Zeitschrift „Probleme der sozialen Hygiene, des Gesundheitswesens und der Geschichte der Medizin“ in Moskau im Forschungsinstitut namens Semaschko veröffentlicht.

Das sind meine ersten Schritte in der Wissenschaft und der Anfang ist gemacht. Ich plane weiter wissenschaftlich zu arbeiten. Ich habe schon Erfahrung in diesem Gebiet und möchte mich weiter in dieser Richtung entwickeln.

IN VITRO STUDY OF STROMAL STEM CELLS USING A FLUORESCENT CALCIUM INDICATOR

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I am a student of the Biology and Chemistry faculty of the master course.

We are working at the problem of Stem Cells. The topic of my work is in vitro study of adhesion, proliferation, differentiation of stromal stem cells using a fluorescent calcium indicator on the biodegradable multipolymer composite matrix.

The purpose of the study is to conduct an in vitro study of above-mentioned stem cells.

My research objectives are the following:

1. To assess the adhesion of stromal stem cells on a biodegradable multi polymer composite matrix;
2. To assess the proliferation of stromal stem cells on a biodegradable multipolymer composite matrix;
3. To evaluate the differentiation of stromal stem cells on a biodegradable multipolymer composite matrix.

Further my repot is connected with the information about methods used in my research work:

a) the study was performed using rat stromal stem cells (SSC) isolated from red bone marrow;

b) nutrient medium with addition of 10% embryonic veal serum, ascorbic acid, dexamethasone and β-glycerophosphate were used for induction of SSC differentiation into osteoblasts;

c) we also used culture vials, in which the bottom covered with a biodegradable multipolymer poly-(lactide-co-glycolide);

d) the SSC fluorescence registration was performed using a confocal laser scanning microscope at a wavelength of 488 nm;

e) and with the help of specialized program FreeViewer the number of SSC attached to the surface was determined.

The results of my study are of great importance:

- It should be noted that during the study, it was found that the fluorescent dye - Calcium Green-1 AM (acetyloxy, methyl ester of calcein) allows efficient staining of living cells on the opaque surface of the multipolymer. These cells fluorescein green.
- Then I'd like to add that the number of adherent SSC(Stromal stem cells) before and after 1 min of resuspension almost did not change, so this indicates the absence of significant differences.

It was also established that, as a result of adhesion, the obtained SSC culture is firmly attached to the surface of the bottom of the vials coated with biodegradable poly-(lactide-co-glycolide) multipolymer.

- It should be mentioned that the result of the evaluation of proliferation and SSC counting on the 10th day of cultivation compared with the first control point after 60 minutes of cultivation a significant increase in cells was found.

Thus, it was established that the obtained SSC culture actively proliferates on the bottom surface of the vials coated with biodegradable poly- (lactide-co-glycolide) multipolymer.

- During the evaluation of the SSC differentiation and the fluorescence intensity determination on the 10th day of cultivation, a significant increase in this parameter compared with the first control point after 60 minutes of cultivation was also found.

Thus it was established that the obtained SSC culture successfully differentiates in the osteogenic direction on the bottom surface of the vials coated with biodegradable multipolymer, besides an increase in calcium content inside the cell is also observed, indicating its maturation and reorganization into osteoblasts.

Finally I can conclude that a biodegradable poly (lactide-co-glycolide) multipolymer coating does not interfere with the adhesion, proliferation, differentiation of stromal stem cells and can further be used as a material for the fabrication of three-dimensional frameworks in tissue engineering.

MY ACADEMIC CAREER

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I'm a 4th year student of Belgorod State National Research University. I study Chemistry.

During 3 years of training I have done 3 studies at the Department of Chemistry. They are: "Recrystallization of Potassium Bromide and Use of the Grown Crystals in Infrared Spectroscopy", "the Method of Capillary Electrophoresis in the Evaluation of the Quality of the brand "Cola" Drinks, "The Development of Sol-gel Technology and the Study of the Properties of Samples Obtained by this Method".

Goals, objectives, object and subject of the research are the following.

The purpose of my studies is to obtain theoretical and practical knowledge in the field of scientific research of the studied objects.

The tasks of the research are the following:

- to get acquainted with the theory of the objects of research;
- to identify scientific novelty;
- to read the guidelines for the experiment;
- to obtain and statistically process results;
- to draw conclusions from the experiments.

The relevance of the scientific research is the following: the data obtained by experiment in the works can be used in further research, applied in production, to confirm the effectiveness.

Scientific novelty deals with the construction of the experiment is based on the already studied methods. The obtained results make it possible to expand the experimental technique, also provide more complete information about the studied object of study.

The subjects of research look at the recrystallization conditions, the study of the concentration of preservatives, the properties of silicates and iron silicates.

The objects of research are potassium bromide, carbonated soft drinks of the brand “Cola”, silicates.

In my report I’m going to describe briefly the methods and techniques used in the research.

I’ll start from the description of methodology of the study on recrystallization of potassium bromide.

It should be mentioned here that recrystallization is the method of cleaning of substance by dissolving its excess in a suitable solvent at a certain temperature. The solvent for cleaning technical potassium bromide is water. Solubility of potassium bromide in water at 20°C is 65.2 grams in 100 ml of water. As a result of some chemical processes cubic crystals are formed. Then these crystals are used in infrared spectroscopy as a form for applying samples and obtaining their spectrum. The recrystallization method is convenient in terms of selection of reagents and equipment does not require a lot of time.

The following part of my report is devoted to the method of capillary electrophoresis in assessing the quality of carbonated beverages of the brand “Cola”.

In this connection, I’d like to say that the method of capillary electrophoresis is the separation of complex mixture in a quartz capillary under the action of an applied electric force field. The basis for this work were methods of research of qualitative and quantitative availability of preservatives in carbonated drinks of the Cola brand purchased in the territory of Belgorod such as: “All year round”, “Coca-Cola”, “Pepsiwildcherry”, “White mountains”. The aim of this study was to quantify the concentration of preservatives in the drink and to compare them with the stated concentrations on the packaging and MPC (Maximum allowable concentration) GOST (State Standard, Russian National Standard).

Further I’ll provide information about the development of Sol-gel technology and study of sample properties obtained by this method.

It should be noted that this technology is a production of Sol (colloidal disperse system) and its transfusion to gel (network of rigidly connected particles). The obtained amorphous substances of silica gel and iron silicate were crushed. Then their catalytic and sorption properties on model systems (indicators) were investigated. The purpose of this study is the use of samples in large-scale production for wastewater treatment of organic substances.

Finally, I can conclude that the result of my study at the University were some research works and it’s evident that their results can be used in practice. Besides these practical works are connected with various fields of chemistry such as: analytical chemistry, inorganic chemistry, physical chemistry. The result of my scientific practical activities deals with theoretical acquaintance with the materials and the study at a more detailed level, which allows to explain the results and to identify scientific novelty.

My plans for the future are connected with my desire of a more detailed study of physical and colloid chemistry, writing final qualifying work in this discipline and entering the master's program with the choice of a narrower specialty.

MY ACHIEVEMENTS IN THE STUDY OF CONSTITUTIONAL LAW

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Every law student faces legal problems during his studies. I started my scientific work when I was a first-year student.

Studying the history of the development of Russian law, I paid attention to several interesting issues of transition of 1990s. This prompted me to write the first article “Democracy in the Russian Federation: problems and prospects”, the main purpose of which was to analyze the tasks of Russia as a social state and the problems that emerged as a result of the collapse of the USSR.

Analysis of the period of development of Russia from the collapse to the present time showed that the state seeks to perform the tasks of social support of the population, but meets the difficulties in its activities. In my opinion, this is directly related to the sharp transition from totalitarianism to democracy. Also in the first article, I provided an alternative, softer way of transition, the purpose of which is preparatory activities.

Studying in more detail the problems of transition, I noticed a big gap in the legislation. I analyzed this problem in detail in my coursework “The Procedure for revision and amendments to the Constitution of the Russian Federation”. In it, I consider the features of such legal institution as the Constitutional Assembly of Russia. What is remarkable in this work is that to date there is no law on the constitutional body, although it has been 24 years since it was mentioned for the first time. For a more detailed study of this gap, I turned to the transcripts of the State Duma meetings, in which I noticed the following trend: deputies are afraid to adopt a law, because they associate it with the subsequent change of the Constitution. Although it looks quite strange, this trend continues nowadays. But the last meetings on the bill brought relatively good news: some deputies began to change their point of view. This may indicate a possible adoption of the necessary law in the nearest future.

In addition to the above mentioned works, I have several publications in the framework of student conferences at BSU. In the near future I plan to continue my scientific work, but in other legal areas.

MEINE WISSENSCHAFTLICHE ARBEIT AN DER UNIVERSITÄT

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Ich bin Medizinstudentin des dritten Studienjahres der Belgoroder Staatlichen Nationalen Forschungsuniversität. Seit dem ersten Studienjahr beschäftige ich mich schon mit der Wissenschaft.

Im Rahmen des Studiums erstellen die Studenten mehrmals wissenschaftliche Arbeiten: die Abschlußarbeiten, Diplomarbeiten, Hausarbeiten u.s.w. „Was bedeutet überhaupt wissenschaftliche Arbeit?“. Wissenschaftlich Arbeiten heißt, sich auf der Grundlage wissenschaftlicher Erkenntnisse und in Auseinandersetzung mit den vorhandenen unterschiedlichen Auffassungen eigene Gedanken zu machen und diese in verständlicher Form darzustellen.

Die wissenschaftliche Arbeit ist nicht nur für begabte Menschen. Es ist keine Frage des Talents, sondern einfach eine Frage des Wissens und der Übung. Wissenschaftlich zu arbeiten, das kann man eigentlich im Studienprozess lernen.

Selbstverständlich ist die wissenschaftliche Tätigkeit nicht einfach. Man braucht viel Zeit und große Mühe. Die Forschungsarbeit ist für Menschen und Gesellschaft sehr nützlich. Die wissenschaftliche Arbeit fördert gutes Gedächtnis und Denken, Beobachtung u.a.

Ein richtiger Wissenschaftler genießt die Arbeit selbst. Die Wissenschaft kann nicht nur diejenigen glücklich machen, die die Entdeckungen benutzen, sondern auch den Wissenschaftler, von dem Beruf und seiner Tätigkeit die Freude bekommt.

Ich möchte in diesem Vortrag über meine erste Schritte in der Wissenschaft berichten. Der Anfang meiner wissenschaftlichen Arbeit war mit der Ökonomiewissenschaft verbunden. Mein erster heißt „Das Wesentliche von der Inflation und ihren sozioökonomischen Konsequenzen“. Mit dem gleichnamigen wissenschaftlichen Bericht trat ich am Lehrstuhl für Ökonomie im Rahmen der Woche für Studentenwissenschaft an der Belgoroder Staatlichen Nationalen

Forschungsuniversität im Jahre 2017 auf. Das war meine erste Erfahrung in wissenschaftlicher Arbeit.

Dann folgten die anderen Veröffentlichungen: die deutschsprachigen Artikel „Chirurgie im Wandel der Zeit" und „Die neuen Chancen für Chirurgie durch Roboter". Mit dem Bericht „Die Roboter in der Medizin" nahm ich an der Konferenz im Rahmen der Woche für Studentenwissenschaft im April 2018 teil. Für mich ist es wichtig die Tatsache, dass ich meine wissenschaftliche Arbeit in einer Fremdsprache präsentieren konnte. Die Veröffentlichungen in Fremdsprachen sind heutzutage sehr wichtig. Sie dienen dem Ziel des Informationsaustausches zwischen den Menschen auf dem Gebiet Technik und Wissenschaft.

Eine wissenschaftliche Arbeit gehorcht eigenen Gesetzen. Ich habe gelernt, wie man wissenschaftliche Literatur liest, sie auswertet, recherchiert und zitiert. Jetzt weiß ich wie man eine Bibliografie für den Artikel schreibt. Für mich ist klar geworden, dass man „sauber" wissenschaftlich arbeiten muss und es immer die Plagiatsprüfung gibt.

Zum Schluss kann ich sicher sagen: Ich plane weiter meine wissenschaftliche Arbeit fortzusetzen. Und ich bin der Meinung, an unserer Universität sind dafür alle notwendigen Voraussetzungen geschaffen. Und die Lehrkräfte wecken ständig das Interesse der Studierenden an Wissenschaft und Forschung.

MY FIRST RESEARCH IN THE FIELD OF SOCIO-PSYCHOLOGICAL ADAPTATION OF FOREIGN STUDENTS IN RUSSIA

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I am a second-year student of the Faculty of "Human Resources Management" and I would like to tell you about my socially-oriented project Volunteer team called "INTERTWINED HANDS".

The aim of the project is to ensure a comfortable staying of foreign citizens who study in Belgorod State National Research University through the exchange program and organizing of social and psychological adaptation of students.

The relevance of the project is connected with the fact that foreign exchange program students who study at BSU need a social-psychological adaptation to ensure the effectiveness of the educational process and relieve the emotional tension that has arisen while staying in a foreign country.

The project has the following tasks:

- to conduct a survey on the problems of the emotional state and social adaptation in Belgorod State National Research University among foreign citizens;
- to identify the most significant problems of socially-psychological adaptation of foreign students;
- to simulate a plan for overcoming a social and psychological adaptation of foreign students;
- to identify the social effect of the proposed activities.

In order to identify problems of social and psychological adaptation, a survey was conducted among foreign students who study in BSU through the exchange program.

Eighteen foreign students took part in the survey. The results revealed the following problems:

- moderating emotional stress caused by staying in a foreign country;
- insufficient number of activities focused on socially-psychological adaptation of foreign students;
- the presence of barriers between foreign students who study through an exchange program and other students of Belgorod State National Research University.

There are various methods of solving the identified problems. But to my mind the most effective way is to create a volunteer unit that will minimize these problems.

It should be noted that the volunteer team is a community of caring students and employees of Belgorod State National Research University, which activity is aimed to ensure the effective social and psychological adaptation of foreign students. Anyone who is indifferent to life of Belgorod State National Research University can join the volunteer team.

As an additional motivation to join the volunteer team participants may be encouraged by thanks letters.

In order the volunteer team will be able to draw up a plan of social and psychological adaptation, foreign students who study at Belgorod State National Research University will be asked to fill an application form, which allows volunteers to divide students into three groups (high, average, low levels).

For a favorable process of adaptation, the volunteer team proposes the following set of activities:

ORIENTATION SESSION

During the Orientation Session foreign students are got acquainted with the sights of the city, they are given an excursion of the university, the leadership of Belgorod State National Research University is introduced to the students, a questionnaire for students is used to distribute the students into groups of volunteers.

RELEASE OF INFORMATION LEAFLET CALLED "HELLO, STUDENT!"

Information leaflet contains the most necessary information which help to solve many of the vital issues relating to study of living, recreation and communication.

APPOINTMENT OF A TUTOR FOR EACH GROUP

The tutor will accompany students into classrooms, to the events and solve the problems related with university life.

WELCOME PARTY

The party will help foreign students to find friends among Russian and other foreign students. The cultural program of the party includes performances of music and dance groups, disco contests and games.

MEETING WITH MEMBERS OF THE VOLUNTEER TEAM

During the weekly meetings with members of the volunteer team held in the center of international communications foreign students will share their impressions and problems connected with learning and the volunteer team will turn on their solution.

TAKING PART IN "ROUND TABLES"

This event will help students to adapt to the new environment and improve their communication skills quicker.

WHAT ABOUT BRAINSTORM?

Participants of the game should be divided into the teams. They will have to answer intellectual questions and solve interesting but not simple tasks.

QUEST "INTERNATIONAL ADVENTURE"

The quest is held for groups of volunteer team. The participants need to find the quest stations using a university map and solve interesting tasks related to various countries.

It's important to note that the project has no budget, because it is completely organized by the volunteer initiative. These activities will help foreign students to get over the process of adaptation at Belgorod State National Research University much faster, improve communication skills, stabilize the emotional background of students and increase their ability to work in team.

In conclusion I want to say that I will try to continue my research activities, because there are a lot of pressing problems, which can be solved by creating of such projects.

MY SCIENTIFIC ACTIVITY IN THE LAW INSTITUTE

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It is no secret that today, despite the rapid scientific and technical progress in the legal sphere, there is still a wide range of unresolved aspects in the field of public life, as well as there are significant gaps in the Russian legislation, which are worth a detailed consideration and introduction of new interesting ideas.

Nevertheless, the beginning of my active participation in scientific activities began with the study of the problem associated primarily with the lack of a universal international legal language that would help theorists in the field of law and law enforcement of diverse legal families to interact with each other and share valuable experience in the field of law.

It is worth noting that setting this problem and analyzing the materials on this issue helped me study professional legal English. When studying this subject, it became obvious to me how many Latin lexical borrowings there are in English. Forexample:

1. „crime“– преступление (лат. crimen – обвинение, вина);
2. „criminal“– преступный (лат. criminalis – уголовный, преступный);
3. „toaccuse“ – обвинять (лат. accusare – обвинять);
4. „toveto“ – налагать вето, запрещать (лат. vetare– запрещать);
5. „todefend“ – защищаться, обороняться (лат. defendo, defendero – отражать, защищать);
6. „penalty“ – наказание (лат. poena – наказание, штраф);
7. „fraud“ – обман, мошенничество (лат. fraudo, fraudare – обманывать);
8. „incognito“ – скрытно, под вымышленным именем;
9. „apriori“ – на основании ранее известного;
10. „exdelicto“ – из правонарушения;
11. „viceversa“ – наоборот, обратно;
12. “etcontra“ – против;
13. „personaliter“ – лично;
14. „varietur“ – изменения;
15. „lege” – по закону;
16. “inusu” –в употреблении;
17. “argumentum” –доказательство.

Learning the features of this language, with the help of a teacher, I was able to find out that this issue is relevant in our time. Then I got an idea that Latin, in which the first legal norms were created, might help experts in the field of law around the world to understand each other.

This idea resulted in the article: "Latin borrowings in the legal terminology of the modern English language", which presented at the scientific conference and after that published in the collection of scientific articles.

During the study of this problem, I found out that around the world there are about seven thousand different languages, native speakers of which live in hundreds of countries with unique cultures. It was this discovery that gave rise to my interest in such a legal institution as "citizenship", which reflects the stable connection of a person with the state. I learned much about the right of soil and the right of blood. The result of the study of materials on this topic was the publication in the scientific collection of the articles: "Comparative characteristics of the Institute of citizenship in the Russian Federation and foreign countries".

So, it can be concluded that participation in scientific activities is a useful activity that helps students to acquire the skills of careful study of a large number of materials, as well as the correct and consistent presentation of their thoughts which is very important for a future lawyer.

SECTION 5. LAW AND SCIENCE

THE CONSTITUTION AS A GUARANTEE OF STABILITY AND DEVELOPMENT OF SOCIAL RELATIONS

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The article deals with the role of the Constitution in modern society. The aim of the article is to raise the problem and determine the meaning of such a normative act as a Constitution. In this respect, I can say that the Constitution plays a special role in the life of modern society. Its content and essential features are determined, first of all, by the fact that it regulates the most important social relations between citizens, society and the state, establishes the foundations of the social system, the principles of organization of the state apparatus.

Without any doubt, the constitution is a phenomenon of a democratic order, since it establishes the equality of citizens, their rights and freedoms, and limits the arbitrariness of the state, its officials and representatives. The adoption of the Constitution and, what is more important, its consistent implementation is a guarantee of stability and development of social relations.

The Constitution, playing the role of the “main regulator”, implements a generalized regulation of the most mass and socially significant public relations.

The Constitutional provisions are politicized, because regulation is carried out on the basis of taking into account the interests of the carriers of social and political values, international situation and foreign policy priorities, as well as the reaction of public opinion. The constitutional provisions contain a concentrated normative expression of the principles of domestic and foreign policy of the state.

In the most general form the Constitution can be defined as the basic law of the state, expressing the will and interests of the people as a whole or at the level of social strata (groups) of society and securing in their interests the most important basis of the social system and state organization of a given country.

The Constitution is primarily a legal document, the basis of statehood, law and order.

Many factors influence the change in the constitution –interests of various social groups, transformation of forms of government or political system, official views that dominate the society, law and their social role. All these numerous factors, which must be either explicitly expressed or at the same time coincide with others, ensure the relative stability of the constitution.

But is it so easy to create the basic law of the state, which must be brief, dominant, and which will satisfy all segments of the population? I believe that it is not, and the proof of this is the history of the development of the Russian constitution.

The prehistory of the constitution of Russia dates back to the beginning of the nineteenth century. Liberal constitutional ideas fought their way in the fight against the doctrine of autocracy. Russian liberal-legal thought proceeded from the fact that the constitution is a constituent law establishing the basic principles of the state structure of the country. Through constitutional reforms it was proposed to make the transition to a constitutional monarchy. The first Constitution of the RSFSR was adopted by the 5th All-Russian Congress of Soviets on July 10, 1918. This was the Basic Law of the state in a transitional period from capitalism to socialism. Its essence was the legal consolidation of the dictatorship of the proletariat.

With the formation of the USSR in 1922, the constitutional development of Russia, as well as other Soviet Union republics, loses its independence and originality. The Republican Constitution largely copies the previous. Accordingly, the adoption of the second constitution of 1925 followed. It was followed by the Constitution of 1937, which existed more than others. However, the Constitution of 1937 was declarative and could not become a barrier against mass lawlessness and extrajudicial massacres of 1937. Even having considered this period, it can be concluded that the creation of a constitution and its adoption requires a lot of experience of the legislator and a lot of time. But I think that the transformations of the constitution, both in the previously mentioned periods and in the following years, were needed. The constitution that has survived several human generations begins to be perceived by people as part of the environment which they cannot change and which is valuable in itself, and not as an applied means of solving immediate political tasks. This dramatically enhances the effectiveness of the Constitution.

All the transformations led to what we have now, namely our current Constitution of the Russian Federation. Although it cannot be called ideal, it provides at least the minimum balance of all groups of public requests. This is the essence of the Constitution.

The need in a new Constitution arises after some scale events of state-political nature: the revolution, the achievement of independence, the collapse of the state, the formation of a new state unity, a change in the form of government and political regime. Each new constitution summarizes the specific experience of history and enriches it with new content.

In conclusion, we can say that the Constitution is an integral part of the states whose form of government implies its existence. It regulates all spheres of life of society as a whole, while occupying a dominant role among the entire hierarchy of normative legal acts, as well as securing the basic unshakable principles of organization and structure of a particular state. Definitely the Constitution is the immutable foundation on which the legal and political system is based.

METROPOLITAN POLICE SERVICE

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I am a first-year student of the Law Institute of Belgorod State National Research University and this report is the first attempt to get acquainted with the world of police organisations, their history, structure and functions. To begin with we’ll have a look at the Metropolitan Police Service.

Until the 19th century in Britain there wasn't centralized system of public law – this function was assigned to local communities with patrol and constables. The government didn't take direct part in it. The City police of Glasgow, created according to the Act of parliament in 1800, became the first professional police.

The population of London then was nearly two and a half million inhabitants. It had 450 constables and 4 500 night patrol. The concept of professional police was submitted by Sir Robert Pil when he became a Minister of Internal Affairs in 1822. Pil's act of capital police of 1829 became the beginning of the centralized police in the territory of Greater London which is nowadays known as Service of capital police. In the 1830th the acts were set for the police to work in some areas and counties and only the 1850th the police began to work all around Great Britain.

Sir Robert Pil developed behavior ethics philosophy for police officers, known as “Pil's Principles”. For example each police officer had to have an identification number for accounting of the actions taken and in order to increase their responsibility. The efficiency of police was estimated firstly by lack of crimes and also by trust and approval of the public above all.

Nine principles of conducting police activity were registered in “The general instruction” which each officer of capital police since 1829. However by the Ministry of Internal Affairs it is considered that the real authors of this list are Charles Rowan and Richard Meyn – the first commissioners of capital police.

Now let’s have a close look at the functions and powers of the organisation. Mission of Service of capital police is “To work together to make London the safest capital in the world”. Work of Service of capital police is based on the following principles: to provide presence of police on each constituency of London; to fight against terrorism and to strengthen safety; to keep order on important events (The Olympic Games, the World Cups, football matches, etc.); to provide police officers, partners and the population with necessary information on the happened incidents; to improve qualification of employees in the field of leadership.

If we speak about the structure, it should be noted that the Service of capital police includes the following departments:

- Special operations
- Management on fight against special crimes
- Information management
- Human resources management
- Territorial police (which is local police of London, enters territorial police)
- Traffic police
- Division of guard dogs
- Mounted police
- Central special forces of shooters
- The territorial support group (it provides order during important events in London)
- Department of Service of capital police (is an independent agency, its 23 employees of Department carefully monitor work of Service of capital police)
- Anti-corruption group (which is responsible for consideration of the applications about the facts of corruption)

- Independent commission on questions (a special organization created in April, 2004)
- Agency on fight against especially dangerous organized crime.

LEGAL GROUNDS FOR CYBER SECURITY

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Recently, the issue of legislative regulation of information circulation on the Internet has become widespread in Russia and the world. The government of the Russian Federation has taken a number of steps to tighten control over the information posted on websites and social networks. Why does the state show an increased interest in our personal data? Let us try to figure it out.

For a long time the Internet in Russia was an uncontrolled information platform. Everything began to change with the advent of social networks, the appearance of their users the ability to speak on their own in the network, express an opinion tied to their real identity. Previously, the investigating authorities needed a lot of time and work to establish the identity of the suspect in the crime.

Now people are on their own behalf, all in sight, often unconsciously, but nonetheless commit acts prosecuted by law. The state was obliged to react to manifestations of such activity, which resulted in the inclusion of the clause “using the Internet” in many norms of civil and criminal law. The state also began active cooperation with organizations that provide Internet services in the territory of the Russian Federation, in particular, set up special bodies to monitor the dissemination of information on the Internet (RosKomNadzor), adopted and published many laws that define the legal status of both the Internet and its citizens using. For example, the federal law “On Information” and, so-called, the Yarovoy Package. Thus, the Internet was included in the legal field, and in addition to the freedom of realization of rights, citizens had certain duties in relation to their behavior in the network.

In spite of the fact that “the Internet remembers everything”, we will understand, what actions in the network should be paid attention to an ordinary person. First, you should pay attention to whether you download anything using P2P-technologies, or in the people-torrents. In Europe and America have long been following such activity in the Internet. In Russia, only such an institution is beginning to emerge in civil and criminal law, but despite the lack of broad law enforcement practice, judicial decisions on such cases are quite bold and differ in the colossal amount of fines and real terms of imprisonment. In this law, enforcement helps article 146 of the Criminal Code. It is enough to be acquainted with the "Case of the Lopukhov family". There is also a very real chance to become a defendant in a civil suit for the protection of copyright infringement, which definitely will not simplify your life. Civil law norms, dedicated to this issue, are set forth in Chapter 70 of the Civil Code of the Russian Federation. So if you actively "pirate", and also distribute such ideas among an undefined circle of persons, then it will not be superfluous for you to get acquainted with this set of legal acts, and it is better to do it as soon as possible.

Very extensible concept was "extremism". The wording of Article 282 of the Criminal Code of the Russian Federation contains the following phrase: "the incitement of hatred or enmity ... on grounds of belonging ... to any social group". In modern society, quite a lot of social groups and sometimes quite difficult not to hurt the feelings of any of them. Even police officers can be a social group, that can confirm the verdict in the "Case of Savva Terentiev". Also, for example, for you, "swastika" is an ancient Indian solar symbol, but it is better not to place it anywhere, and not to share it with anyone. Law enforcement agencies could misinterpret your actions. The content of Article 282 is quite extensive and covers a very wide range of social relations. Considering that the punishment for the sanction of the article can go up to the deprivation of liberty, be careful with what you post on the net.

Thus, summing up, we can say that in the near future the state is interested in strengthening control over the Internet. The growing number of civil and criminal cases, the basis for which was the actions on the Internet, facilitates this. In addition, let not always there was a place to be malicious intent, as everyone knows "Ignorance of the law does not exempt from responsibility". We, law-abiding citizens, need to understand as soon as possible that the Internet has become a full-fledged component of the legal field, and learn how to behave in it with dignity.

TYPES AND SCHOOLS OF THE JURISPRUDENCE

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Jurisprudence in the U.S. began in the late 1800s, and is broken down into three branches of study: analytical, sociological, and theoretical.

The analytical branch of American jurisprudence analyzes the law, defining terms and putting ideas into words on paper. Analysts of jurisprudence critique entire bodies of law in an attempt to bring a consistent, logical order to the legal system.

Sociological jurisprudence evaluates the influence of society on laws themselves, as well as on the procedural aspects of the legal system. This type of scrutiny compares the law with other sociological fields of study, including religion, economics, and literature, in an effort to bring enlightenment by sharing understanding between each sociological field.

Studiers of theoretical jurisprudence seek to both raise and answer elemental questions about the law itself. Theoretical jurisprudence evaluates laws as they relate to ideals, moral standards, and goals, determining their historical and cultural foundations.

Modern jurisprudence has divided in to four schools, or parties, of thought: formalism, realism, positivism, and naturalism. Subscribers to each school interpret legal issues from a different viewpoint.

Formalists view the law as a science, believing that legal decisions should be reached in much the same way a scientist or mathematician reaches conclusions. In other words, a judge should identify relevant legal principles, apply them to the facts of the case before him, and make a logical decision based on the outcome. Appropriate sources of legal authority for obtaining the necessary legal principles include federal and state statutes and regulations, federal and state constitutions, and prior case law. Additionally, formalists believe in inductive reasoning in reaching court decisions. Inductive reasoning allows the judge to gather a number of relevant legal principles, laws, and rules, then infer a broader legal principle to the matter before him.

Realists take the view that the legal system is just another form of politics. Oliver Wendell Holmes, Jr., Supreme Court Justice from 1902 to 1932, and active Chief Justice of the U.S. in 1930, wrote, “The life of the law has not been logic, it has been experience.” Indeed, realists disagree that the law is a scientific endeavor, to which deductive reasoning may be applied to reach a decision. Realists also recognize that, because judges often make decisions based on their political affiliations, the law has a tendency to lag behind social realities.

Naturalists believe it necessary for the law to be bound by eternal principles present from time immemorial. These principles, bound in religious belief, moral philosophy, individual conscience, historical practice, and human reason, remain independent of governmental recognition and influence. In light of these issues, naturalists agree that laws, rules, and regulations are legitimate, but believe they should not be the only source of law.

DEMAND FOR THE PROFESSION OF LAWYER IN THE MODERN WORLD

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The legal profession is very popular and will always be in demand, as long as there are state systems built on the legal framework. A lawyer is a specialist in the field of legal Sciences and law, with appropriate education and assigned to him powers.

The main work of the lawyer – protection of rights and control over observance of laws. The legal profession brings together specialists in various legal fields, including notaries, lawyers, judges, prosecutors, legal advisers, specialists in tax, criminal, civil, military and other fields. A lawyer needs to have a developed will and an increased sense of responsibility – often in his hands the fate of people, and mistakes can be very expensive.

A lawyer needs an excellent memory, the ability to correlate different categories and facts, to allocate cause-and-effect relationships. For work requires a good concentration of attention. The concept of "lawyer" unites all people involved in various professional legal activities – judges, prosecutors, investigators, lawyers, notaries, lawyers in organizations, lawyers engaged in private practice and others.

A lawyer's job involves mandatory higher legal education. In addition, additional education is often required depending on the specialization. Lawyer: you must successfully pass the qualification exam in the chamber of Lawyers, then at least a year to train in the legal profession. Full-time work of a lawyer can be obtained with an experience of 2 years. Notary: it is necessary to obtain a license, which is issued after a successful internship in one of the notary offices and passing a qualification exam. Prosecutor: it is necessary to undergo appropriate special training. Judge: you must have legal experience of 5 years, pass the appropriate qualification exam. A judge can be a person 25 years of age.

As a student studies at the University, they need to determine specialization and area of work. These may be different areas of law: administrative, criminal, civil, environmental, labor, tax, housing, international, family, corporate law, as well as intellectual property issues and much more. Lawyer can work:

- in state institutions-courts and prosecutors' offices, the Ministry of internal Affairs and the Ministry of justice and other state agencies;
- in commercial organizations-in legal departments of various companies, in law firms and consultations, in notarial bureaus;
- conduct private practice (e.g. lawyers).

Lawyers are always in demand. They ensure the security of business activities, assist in the resolution of various civil disputes and criminal proceedings. These specialists are irreplaceable and are required constantly.

Earning a lawyer depends on his kind of activity and demand. On average, they receive from 20 to 90 thousand rubles per month. The minimum earnings of teachers of law, the maximum-the judges.

The legal profession itself is already considered prestigious. They are respected and have many advantages in society. Lawyers have the opportunity for excellent career growth. Most of the country's leading and highly paid positions require legal education. So starting your career, you eventually through hard work and constant self-improvement can grow to the attorney General or a judge of the arbitration court. To do this, it is important to have an impeccable reputation, successful high-profile cases and make a lot of effort.

THE MAIN ACTIVITIES AND COMPETENCE OF THE MINISTRY OF THE INTERIOR OF THE RUSSIAN FEDERATION

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The modern conception of normative regulation of the Ministry of the Interior work is formed taking into account the state of the social and political situation in the country. For this reason, in order to talk about this conception, it is necessary to determine its prerequisites.

The Ministry of the Interior, as a body of state power, is called upon to ensure the development and implementation of state policy and legal regulation in the field of internal affairs.

The Ministry of the Interior of Russian Federation heads the entire system of internal Affairs bodies operating in the state.

In the exercise of its powers, the Ministry of the Interior works in accordance with the Constitution of Russian Federation, Federal constitutional and Federal laws, and other normative legal acts of Federal bodies of state power, international contracts of Russia on the protection of the rights, freedoms and legitimate interests of citizens, ensuring public safety and combating crime. At the same time, the legal status of the Ministry of the Interior of Russia is determined by the internal legal acts of the Federal Agency, as well as its competence in the established field.

One of the most important components of the legal status of the Ministry is its competence.

In accordance with the Decree of the President, the main tasks of the Ministry of the Interior are:

- development of the General strategy of the state policy in the area of Interior, and development of the state policy in the field of migration;
- legal regulation in the field of migration;
- protection of life, health, rights, freedoms and legitimate interests of citizens of the Russian Federation, foreign citizens and stateless persons;
- combating crime, protection of public order and property, ensuring public safety.In view with its competence, the Ministry of the Interior of Russia organizes and carries out;
- operational-search activity;
- investigation of criminal cases;
- search for persons and stolen property;
- forensic activities;
- control of compliance to legislation on weapons;
- control of private detective and security activities;
- protection of especially important objects and special cargoes;
- road safety;
- organization of reception of citizens, consideration of appeals, making of decisions and timely responses.

All these powers do not constitute a complete list. The activities of the Ministry are carried out on a combination of the principles of legality, humanism, respect and observance of human and civil rights and freedoms.

The Ministry of the Interior of Russia exercises its powers in close cooperation with other Federal Executive bodies (for example, the Ministry of foreign Affairs, the Ministry of justice, etc.).

The analysis of the normative acts regulating the legal status of the Ministry in the system of authorities makes it possible to conclude that the Ministry of the Interior carries out management activities in the controlled area in the form of centralized management, as well as in the form of direct operational management.

The centralized management of the Ministry consists in the managing influence on the solution of all major issues of activity of law-enforcement bodies. Direct operational management is carried out in cases of direct administrative communication of the Ministry of the Interior with subordinate bodies of Interior, or separate services at all levels of the system.

In conclusion, I would like to note that the Ministry of the Interior of Russia is primarily a law enforcement Agency, whose activities are aimed at ensuring public order and public safety. Considered in this work, the Ministry of the Interior of Russian Federation occupies a key place among law enforcement agencies. The bulk of the work related to the fight against crime is carried out within the framework of this Agency.

ACTIVITIES OF THE EUROPEAN COURT OF HUMAN RIGHTS

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The Court of human rights began its work in 1959 aiming to ensure strict compliance with the European Convention on Human Rights and Fundamental Freedoms, adopted in 1950. This court hears cases that are taken on the basis of individual complaints brought by the citizens of the state-members of the said Convention or the citizens of other states or stateless persons, protecting their rights and freedoms on the territory of the Member States of the Convention.In addition, it is possible for a State – party to the Convention to file a complaint against another Member State.

Regardless of the performance evaluations of the European Court of Human Rights by various countries, government organizations, non-governmental international organizations and citizens of different countries, it should be noted that the European Court of Human Rights is in fact the only effective institution of exposure to illegal action or inaction of the Member States of the European Convention on human rights and freedoms. European Court of Human Rights is unique because it is the only European Institute of the Judiciary, which has compulsory jurisdiction for all member states of the European Convention. It should be noted that the effectiveness of the European Court of Human Rights has increased since 1998, after the reform and the inclusion of the European Commission on Human Rights: 837 decisions were issued from 1959 to 1998, while from 1998 to the present day – over 13,000 decisions.

However, European Court of Human Rights rejects more than 90% of the complaints as inadmissible, considering the jurisdiction of the judicial authority. The vast majority of complaints brought to the European Court of Human Rights are the complaints of citizens of the member-states of the Council of Europe about violation of their rights and freedoms. Only a few cases are related to a State complaining against another Member – State of the Council of Europe. If the violation really took place, the amount of compensation is rather significant even for the state – for example, in accordance with the decision of the European Court of Human Rights number 25781/94, the Republic of Cyprus should receive $ 90 million for the systematic violation of the rights of Greek Cypriots who were expelled from their places of residence in the 1974 conflict or are still living in the Turkish-controlled Northern Cyprus. Here it should be noted that so far in the practice of the European Court of Human Rights, there were only 4 such cases.

The vast majority of complaints received for consideration by the European Court of Human Rights – complaints of citizens of the Member States of the Council of Europe. The requirements to filing a complaint to the European Court are pretty simple, but at the same time strict:

- Firstly, the subject of the complaint may be only those rights and freedoms, which are installed in the European Convention on Human Rights; the competence of the European Court of Human Rights is within their limits;
- Secondly, the court accepts the complaint of a violation of the rights and freedoms of any person, nongovernmental organization or group of individuals who are victims of violations by the Member States of the Convention. That is, any citizen or stateless person may file a complaint against the violation of their rights, but only for a member state of the Convention.

There are also certain requirements for filing a complaint with the European Court of Human Rights:

– Firstly, you can file a complaint only on government actions that have ratified the Convention, and on its action only after its ratification of the conference (for example, on the Russian Federation – from May 5, 1998);

– Secondly, the complaint period is 4 months from the date of the final decision of the competent national authorities as to the complainant;

–Thirdly, for a complaint to be recognized as admissible, all domestic remedies must be exhausted by the complainant. In the Russian Federation, for example, the complainant must have exhausted domestic legal remedies, having passed the first instance, appellation and cassation courts in Russia.

GERICHTE IN DEUTSCHLAND

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Seit Menschen beschlossen, dass nicht jeder berechtigt sein soll, seine Ansprüche selbst, und sei es mit Gewalt, durchzusetzen, entwickelten sich Formen der Entscheidungsfindung für Streitfälle. Grundlage ist ein wie auch immer geartetes Regelwerk, das den Parteien bekannt ist und dessen Einhaltung von einer Partei gefordert wird. Die Instanz, die dann aufgrund des Regelwerks Recht zu sprechen hat, ist ein Gericht. Gerichte stellen im dreigliedrigen Staatsaufbau die dritte Gewalt, die Judikative, dar.

Mein Beitrag hat das Ziel die Gerichte in Deutschland zu analysieren. In Deutschland ist jedes Gericht an Recht und Gesetz gebunden, seine Unabhängigkeit wird durch das Grundgesetz garantiert und praktisch durch die Stellung der Richter geschützt. Das bedeutet, dass Richter nicht weisungsgebunden sind und keine Konsequenzen wegen ihrer Urteile zu fürchten haben, es sei denn, es handelt sich um Rechtsbeugung.

Für mich war es interessant zu erfahren, welche Gerichte es in Deutschland gibt? Ebenso wie die Rechtswissenschaft gliedern sich die Gerichte in verschiedene Zweige: Zivilgerichte, Strafgerichte (diese beiden werden unter dem Begriff „ordentliche Gerichtsbarkeit" zusammengefasst) und Verwaltungsgerichte. Daneben haben sich im Bereich des Verwaltungsrechts die Sozial- und Finanzgerichte herausgebildet, im Zivilrecht die Arbeitsgerichte.

Genauere Regelungen für die Zuständigkeit ergeben sich insbesondere aus dem Gerichtsverfassungsgesetz, innerhalb der einzelnen Gerichtszweige aus den jeweiligen Verfahrensordnungen (Zivilprozessordnung, Strafprozessordnung, Verwaltungsgerichtsordnung, Arbeitsgerichtsordnung, Finanzgerichtsordnung und einigen spezielle Regelwerken). Zum Rechtssystem gehört auch die Möglichkeit, bei einer höheren Instanz ein Urteil überprüfen zu lassen.

Daher sind die verschiedenen Gerichte in Deutschland in unterschiedlicher Weise hierarchisch gegliedert:

- Zivil- und Strafrecht: Amtsgericht, Landgericht, Oberlandesgericht, Bundesgerichtshof (Karlsruhe)
- Verwaltungsrecht: Verwaltungsgericht, Oberverwaltungsgericht (in manchen Bundesländern Verwaltungsgerichtshof), Bundesverwaltungsgericht (Leipzig)
- Arbeitsrecht: Arbeitsgericht, Landesarbeitsgericht, Bundesarbeitsgericht (Erfurt)
- Sozialrecht: Sozialgericht, Landessozialgericht, Bundessozialgericht (Kassel)
- Finanzrecht: Finanzgericht, Bundesfinanzhof (München).

Nicht jedes Urteil kann durch alle Instanzen verfolgt werden, welches die letzte ist, bestimmt die jeweilige Gerichtsordnung. Die Entscheidungen der obersten Gerichtshöfe sind jeweils abschließend.

Daneben existiert die Verfassungsgerichtsbarkeit. Sie besteht aus jeweils dem Landesverfassungsgericht des Bundeslandes, die über Fragen der Landesverfassung zu entscheiden haben, und dem Bundesverfassungsgericht, dem gemäß den Vorschriften des Bundesverfassungsgerichtsgesetzes alle das

Grundgesetz betreffenden Fragen vorgelegt werden können. Dazu gehören die Überprüfung von Gesetzen, wenn dies von Fraktionen oder Bundestagsabgeordneten verlangt wird, aber auch die Entscheidung über Verfassungsbeschwerden von Bürgern, die sich von einem Gesetz direkt, einer Verwaltungsentscheidung oder einem letztinstanzlichen Urteil in ihren Grundrechten beeinträchtigt sehen.

LIABILITY FOR GROUNDLESS BRINGING A PERSON TO ACCOUNT AS AN ACCUSSED

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The poet Juliana Wilson said: “Groundless and unfounded accusations knock the ground out from beneath the feet of the accusers themselves.” It is difficult to disagree with this expression, since an unjustified accusation not only causes moral damage to the accused person, but also makes one question the competence of the investigator or inquirer.

To date, the Code of Criminal Procedure of the Russian Federation contains one chapter (№ 23) on the conditions, grounds and procedure for bringing a person to account as an accused. However, cases are known where a person is intentionally or accidentally charged.

It should be mentioned that such cases are not new for the modern criminal proceedings. For example, the Pskov Judicial chapter of 1467 says that if during the trial it turns out that the testimony of a victim of a crime against the person indicated by him is deceitful or insufficient, he, though not responsible, is deprived of the right to further go to court with this case. As for representatives of the judiciary who illegally accused a person, “God be their judge on the terrible day of the second coming of Christ.” As you can see, people did not bear responsibility for the illegal charge. However, at that time deeply religious people lived in Russia, for whom the Heavenly Judgment was more important than the earthly one.

In the Russian Empire, this issue was resolved more radically. If during the trial it was discovered that a person was charged unlawfully and groundlessly, the prosecutor who tried to bring him under a specific charge was himself subjected to this charge.

The Criminal Code of the RSFSR of 1960 established the responsibility for bringing a knowingly innocent person to criminal responsibility in Chapter 8 “Crimes against Justice”. This crime was punishable by imprisonment for up to three years of a prosecutor, an investigator and an inquirer on this particular crime.

This measure can be considered effective, because during the period of the Criminal Code of the RSFSR, less than 100 people were brought to responsibility for this type of crime.

The current Criminal Code of the Russian Federation has borrowed the norm fixed in the Criminal Code of 1960, but has toughened the punishment for the unjustified accusation. Now, if a person who is knowingly innocent is brought to a criminal responsibility, the guilty official is punished by imprisonment for up to seven years, and in case of an unlawful accusation of a grave and especially grave crime – for a term of five to ten years.

In our opinion, such a toughening of responsibility is related to the fact that while bringing a person to account as an accused and conducting certain investigative actions against him, the rights and freedoms guaranteed by each chapter of the second Constitution of the Russian Federation of 1993 are often violated.

Over the past two years, about 50 people were brought to responsibility under article 299 of the Criminal Code of the Russian Federation. This is a relatively small number of people, however there are also latent crimes that are unknown until now.

We believe that it is possible to solve this problem by improving the skills of persons conducting preliminary investigation and providing more qualitative disclosure of already committed crimes.

Based on the foregoing, it can be concluded that the problem of groundless accusation has existed for a long time and is not a novelty for the current criminal procedure legislation. However, it should be noted that the legislative bodies are trying to toughen the responsibility for this crime, which, in our opinion, is fully justified and necessary. After all, the fact of bringing a person as an accused entails public censure and the application of legal sanctions, which is why an error or deliberate groundless accusation can lead to unfavorable consequences not only for an inquirer and an investigator, but also for the illegally accused person.

VIOLATIONS OF THE RIGHTS OF DONORS OF ORGANS AND/OR TISSUES - PRESUMPTION OF AGREEMENT

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Modern medicine achieved great success last century, especially in the transplantation of human organs and tissues. Due to the fact that physicians intervene in the human life, this area needs legal regulation by the state. One of the acute problems in the area of medicine is the abuse, against which it is necessary to develop a barrier, protecting the constitutional rights of a person to the protection of life and health, personal integrity regardless of the viability of the body.

The above problems attract the attention of both medical scientists and legal scholars.

First of all, it is necessary to consider the concept of transplantation from a legal point of view. Article 1 of the Russian Federation Law "On transplantation of human organs and (or) tissues" states the "general principle" of transplantation: "Transplantation of organs can be applied only in such a situation when other medical means cannot guarantee the preservation of life or restoration of health of the patient (recipient)".

Transplantation consists of two stages: taking the organ from the donor's body and implanting it into the recipient's body.

The donor can be a living person or a corpse, which is reflected in the legislation. A donor may not be a person under 18 years of age or recognized in the prescribed manner to be incapable. For organ transplantation, the donor and recipient must give their personal consent. However, medical practice shows that in most cases the removal of organs and tissues is made from a corpse. As the legal experience of Russia and other countries show, in this case most violations of the law occur.

The legislation of the Russian Federation enshrines the presumption of consent for the removal of organs and (or) tissues, which reads: "the Removal of organs and (or) tissues from the corpse is not allowed if the health care institution at the time of the withdrawal is informed that close relatives or legal representative declared their disagreement to the removal of his organs and (or) tissues after death for transplantation to the recipient".

In the Russian Federation this issue became acute after the relatives of a Moscow student Alina Sablina had appealed to the Constitutional court of the

Russian Federation. The girl died in 2014 as a result of a traffic accident. In February, getting acquainted with materials of criminal case and with the conclusion of a forensic scientist, mother of the deceased learned about withdrawal for the purpose of transplantation of some Alina's organs. Mother of the girl went to court, demanding compensation for moral damage from the hospital named after Pirogov.

The courts refused to satisfy the claims. After that, the woman appealed to the Constitutional court. In their opinion, the rules allowing doctors not to inform relatives about the planned withdrawal of organs from a potential donor violate their constitutional rights.

In 2016, the state Duma proposed the creation of an electronic Federal register of organ donors, donor organs and patients (recipients), but the register has not yet been created. In 2017, considering the law on post-mortem donation, the State Duma suggested fixing the consent or disagreement to be a post-mortem donor in the passport or driver's license.

Taking into account these options, it is worth noting that they can solve the problem of consent/disagreement on transplantation. But they can create another problem. As the experts pointed out: "nobody canceled the hunt for organs". Any lists of possible donors can provoke a hunt for these people and kill them for the purpose of removing organs.

The solution to this problem can be a transition from the presumption of consent to the system of consent, i.e. when medics need to contact a person before time of death or relatives after death for their permission to transplantation.

RELATIONS BETWEEN CLIENTS AND LAWYERS: HOW DOES DIFFERENT BRANCHES OF LAW AFFECT PERCEPTIONS OF A LAWYER'S JOB

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Nowadays a lot of lawyers divide Russian law into two branches: the civil law and the criminal law.

In addition to obvious differences of these two branches, there are some features in sphere of a lawyer's professional ethics, particularly – differences in relations between clients and lawyers, that depend on different branches of lawyer's legal activities.

What do different people think about a lawyer's job? What problems can a young lawyer face in his practice? To answer these questions, we need to analyze the civil law and the criminal law separately and find out the most interesting problems of attorney's relations with clients.

When clients come to a lawyer to get help, they ask their future defender to solve not one, but several problems (two and more). These problems are usually united by common goals: to get a divorce, to share common property between ex-spouses and to set an order of communication with children or, for example, to reclaim one person's property from another person and to get lost profit. It's pretty hard for lawyer to solve all of these requirements, because sometimes it's imposable by law or, maybe, a young lawyer doesn't have enough experience. As a result – courts get judgment satisfying only a part of the claim.

Despite the fact, that a defendant got a better position than it was before litigation, he/she can be unsatisfied that not all of his/her requirements were met. Who'll be blamed for this? Of course, a lawyer.

Obvious question: can we warn a defendant, that it is impossible to win this case and meet all of requirements? Even if a lawyer notifies his client about this fact, he can get some unpleasant words from his defendant, that can leave unpleasant experience in lawyer's practice.

As you can see, the civil law means that a lawyer is responsible for every of defendant's requirements. Anyway.

These are features of relations between attorneys and defendants in civil law, and what's about criminal law?

In criminal law there is another point of view: a defendant will be satisfied with any good result of his attorney's deeds, even if a lawyer didn't save this person from a jail, but if he just made his term a little bit shorter or could set another preventive measure that was set by judge previously.

As you can see, there is another position if to compare with the civil law.

The main reason of such differences is that in this case person is under a threat of becoming a prisoner, that means, that he will be deprived of his prime rights, for example, the right to freedom of movements. This fact, like placing someone to jail, promotes a defendant to be more kind to a lawyer, who protects his rights and interests.

It may seem that the work of a lawyer in different branches has a different value. This fact can be an important for a young lawyer to choose his future specialization, future job. According to this problem young or even experienced lawyer can get some wrong thoughts about these law branches.

Such experience is bad not just for lawyers, who can make wrong decisions under the influence of bad experience, but it is also bad for clients, who can get wrong perception about attorney's job. As Duncan Webb said, "The debate about the perception of lawyers, if couched in terms of individual experiences, could become a subjective exercise of little value".

To solve this problem we need to make some conclusions to improve professional sustainability of lawyer, his psycho-emotional state, because professional ethics, as a science, aimed to make lawyers a person “with solid moral attitudes and strong convictions”, said Esikova M.M. That can help future attorneys to take right decisions about legal actions under client’s pressure, to interact with angry and unpleased defendants and to ignore inappropriate behavior of his clients.

Another variant how to solve this problem is to change people’s mind about lawyer’s job. To reach this target we need to make some events to improve legal culture of population of the Russian Federation: lectures for different groups of people, seminars and webinars for pupils and students and other events, that are able to make full, and, important, correct perception of lawyer’s job.

THE HISTORY OF JURISPRUDENCE

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Ancient Indian jurisprudence is available in various Dharmaśāstra texts starting from the Dharmasutra of Bhodhayana. Jurisprudence already had this meaning in Ancient Rome even if at its origins the discipline was a (periti) in the jus of mos maiorum (traditional law), a body of oral laws and customs verbally transmitted “by father to son”. Praetors established a workable body of laws by judging whether or not singular cases were capable of being prosecuted either by the edicta, the annual pronunciation of prosecutable offense, or in extraordinary situations, additions made to the edicta. An iudex then would judge a remedy according to the facts of the case.

Their sentences were supposed to be simple interpretations of the traditional customs, but effectively it was an activity that, apart from formally reconsidering for each case what precisely was traditionally in the legal habits, soon turned also to a more equitable interpretation, coherently adapting the law to the newer social instances. The law was then implemented with new evolutive Institutiones (legal concepts), while remaining in the traditional scheme. Praetors were replaced in the 3rd century BC by a laical body of prudentes. Admission to this body was conditional upon proof of competence or experience.

Under the Roman Empire, schools of law were created, and the activity constantly became more academic. In the age from the early Roman Empire to the

3rd century, a relevant literature was produced by some notable groups including the Proculians and Sabinians. The scientific depth of the studies was unprecedented in ancient times.

After the 3rd century, Juris prudentia became a more bureaucratic activity, with few notable authors. It was during the Eastern Roman Empire (5th century) that legal studies were once again undertaken in depth, and it is from this cultural movement that Justinian's Corpus Juris Civilis was born.

In its general context, natural law theory may be compared to both state-of-nature law and general law understood on the basis of an analogy to the physical laws of science. Natural law is often contrasted to positive law which asserts law as the product of human activity and human volition.

Another approach to natural law jurisprudence generally asserts that human law may be supported by decisive reasons for action. In other words, there must be a compelling rationale behind following human law. There are two readings of the natural law jurisprudential stance.

1. The Strong Natural Law Thesis holds that if a human law fails to be backed-up by decisive reasons, then it is not properly called a “law” at all. This is captured, imperfectly, in the famous maxim: lex iniusta non est lex' (an unjust law is no law at all).

2. The Weak Natural Law Thesis holds that if a human law fails to be backed-up by decisive reasons, then it can still be called a “law”, but it must be recognized as a defective law.

Notions of an objective moral order, external to human legal systems, underlie natural law. What is right or wrong can vary according to the interests one is focused upon. Natural law is sometimes identified with the maxim that “an unjust law is no law at all”, but as John Finnis, the most important of modern natural barristers has argued, this maxim is a poor guide to the classical Thomist position. Strongly related to theories of natural law are classical theories of justice, beginning in the West with Plato's Republic.

Aristotle is often said to be the father of natural law. Like his philosophical forefathers Socrates and Plato, Aristotle posited the existence of natural justice or natural right (*dikaion physikon, δικαίον φυσικόν, Latin ius naturale*). His association with natural law is largely due to the way in which he was interpreted by Thomas Aquinas. This was based on Aquinas' conflation of natural law and natural right, the latter of which Aristotle posits in Book V of the Nicomachean Ethics. Aquinas's influence was such as to affect a number of early translations of these passages, though more recent translations render them more literally.

Aristotle's theory of justice is bound up in his idea of the golden mean. Indeed, his treatment of what he calls “political justice” derives from his discussion of “the just” as a moral virtue derived as the mean between opposing vices, just like every other virtue he describes. His longest discussion of his theory of justice occurs in Nicomachean Ethics and begins by asking what sort of mean a just act is. He argues that the term “justice” actually refers to two different but related ideas: general justice and particular justice. When a person's actions are completely virtuous in all matters in relation to others, Aristotle calls them "just" in the sense of “general justice”; as such this idea of justice is more or less coextensive with virtue. “Particular” or “partial justice”, by contrast, is the part of “general justice” or the individual virtue that is concerned with treating others equitably.

Aristotle moves from this unqualified discussion of justice to a qualified view of political justice, by which he means something close to the subject of modern jurisprudence. Of political justice, Aristotle argues that it is partly derived from nature and partly a matter of convention. This can be taken as a statement that is similar to the views of modern natural law theorists. But it must also be remembered that Aristotle is describing a view of morality, not a system of law, and therefore his remarks as to nature are about the grounding of the morality enacted as law, not the laws themselves. The passage here is silent as to that question.

The best evidence of Aristotle's having thought there was a natural law comes from the Rhetoric, where Aristotle notes that, aside from the “particular” laws that each people has set up for itself, there is a “common” law that is according to nature. The context of this remark, however, suggests only that Aristotle thought that it could be rhetorically advantageous to appeal to such a law, especially when the “particular” law of one's own city was adverse to the case being made, not that there actually was such a law; Aristotle, moreover, considered two of the three candidates for a universally valid, natural law suggested in this passage to be wrong. Aristotle's theoretical paternity of the natural law tradition is consequently disputed.

SECTION 6. MEDICAL SCIENCE

EFFECT OF CARBONATED AND ALCOHOLIC BEVERAGES ON THE TEETH

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The aim of this work was to study the influence of beverages on the state of hard tissues of teeth and the quality of the seals.

The fact that soda is harmful has already been written a lot of articles from different specialists. Perhaps the modern generation will need to be called "toothless generation" over time. Any soda and energy drinks are very dangerous for the health of the teeth. These drinks have such pH-factor level that it leads to tooth erosion and subsequent destruction of the dental structure caused by the action of acid.

If a person consumes sweet soda every day, there is a very high probability that soon he may have serious problems with his teeth. The popularity of various drinks has undoubtedly increased in recent years. Someone slakes the thirst, someone gets pleasure in taste, someone drinks paying tribute to fashion and receives a charge of vivacity. And although it has long been proven that there is nothing more useful than pure mineral water, people still keep in the fridge a lot of other drinks, including carbonated.

Using carbonated drinks, we cause great harm to our tooth enamel, destroying it. As a result of the destruction of the enamel, our teeth become less healthy, painfully react to external stimuli – cold, hot, acidic food. Moreover, the destruction of the enamel leads to caries, which can subsequently lead to the destruction of the teeth.

To study the condition of the fillings, each intact tooth was prepared from the chewing surface and fillings were applied from the light-curing material. During the day, the fatigue processes were simulated, the samples were kept in distilled water. After that, the teeth were thoroughly cleaned, disinfected and divided into 4 groups: group I – was placed in Cosa-co1a, II – in energy drink, III – in beer, IV – in mineral water BonAqua (control). The exposition of each group was 24 hours.

Methylene blue was used as a dye to detect micro-flows. This choice is due to the fact that methylene blue is easy to visually detect and accurately measure the trace left. Methylene blue solution has a low molecular weight and penetrates deeper along the root fillings compared to other dyes. At the end of the specified time the test material was washed with distilled water. With the help of a diamond separation disc, the teeth were cut in a vertical plane passing through their longitudinal axis. This provided a better extraction of the dye and allowed to measure the depth of penetration of the dye into the tooth tissue. To detect seal depressurization, a qualitative method was used – the detection of any micro–flows along the "tooth-seal" border, i.e. any presence of a dye along the border was recorded as a violation of the hermetism of seal.

To identify the negative (erosive) effect of the drink on the enamel, samples (teeth) aged after the drink in the dye were washed and the degree of enamel staining was evaluated according to the point system proposed by N. V. Hetman, where 0 was considered the absence of staining, 1 point - the average degree of staining, 2 points – intensive staining.

This study investigated the effect of different drinks on the state of the tooth enamel and the quality of fit seals. It is proved that the most dangerous soda are popular energy drinks, beer and cola. Using the beverage "Coca-Cola" revealed bright staining of the enamel dye due to its demineralization in 100% of cases, the tightness of fillings was broken in every second case. Energy drinks and beer occupied intermediate position. Negative influence of the BonAqua mineral water on the hard tooth tissues and the condition of the fillings was not revealed.

THE EFFECT OF THE UNDERLYING SURFACE ON PROLIFERATION AND DIFFERENTIATION OF STROMAL STEM CELLS

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The aim of the study is to determine the effect of the underlying surface having a different nanorelief on the process of division and differentiation of stromal stem cells.

My research ojectives are the following:

1. To determine the nanorelief of plastic and glass surface using the scanning probe microscopy;

2. To evaluate the proliferation of stromal stem cells on the surface with different nanorelief;

3. To assess the differentiation of stromal stem cells on the surface having a different nano-relief.

Further my repot is connected with the information about methods used in my research work:

They are the following the study was performed using stromal stem cells (SSC) of rat (Wistar line) isolated from the red bone marrow, Nutrient medium with additional 10% ETS, β-glycerophosphate of sodium were used for induction of SSC differention into osteoblasts.

Then I am reporting about the stages of the work. Firstly the surfaces of plastic and glass with planted SCS were previously scanned using the atomic force microscope. The next step is the following. The resulting suspension of SCC was applied to the bottom of the hole of a plastic 6-hole tablet and to cover glasses placed on the bottom of the hole of a plastic 6-hole tablet. Then using an inverted fluorescence microscope, we assessed the dynamics of cell proliferation and differentiation of SCS in the osteogenic direction. In the final stage of the study we used. The intracellular dye Calcium Green-1 AM which freely penetrates the plasma membrane of the cell and after the destruction of the cell by serum esterases binds to calcium ions and fluoresces in the green region of the spectrum.

In this connection I'd like to say that during the surface scanning using SPM it was found that the surface roughness of the cover glass was greater than that of the bottom of the plastic 6-hole plate.

Finally I can conclude that in SSC cultured on glass surfaces in cells, individual calcium crystals are determined, which indicates the differentiation of MSCS in the osteogenic direction (calcium conglomerates glow).

The effect of surface topography (roughness) in the nanometer range is a mechanical stimulus for activation of a cascade of biochemical reactions triggering a complex of calcium – dependent signaling pathways in the cytoplasm of activator cells, transcription factors involved in SCC differentiation. Thus, when working with SSC it is necessary to take into account the nanorelief of the underlying surface. It is obvious that the less rough surface contributes to the preservation of the multipotent SSC.

Summary

1.The nanorelief of the glass surface has a greater roughness compared to the plastic surface;

2. The proliferation of SSC on the plastic surface is more intense than on the glass surface;

3. A rougher surface contributes to the differentiation of SSC in the osteogenic direction, while less rough contributes to the preservation of multipotent SSC.

WIE LASSEN SICH HERZPROBLEME ERKENNEN?

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Jeden Tag pumpt das Herz Blut durch unseren Körper. Um die Kraft für diese Leistung aufzubringen, benötigt das Herz genügend Energie und Stärkung. Ist dies nicht mehr vollständig gewährleistet, kann es zu Problemen und schließlich Erkrankungen kommen.

Hier erfahren Sie, wie Sie Herzprobleme erkennen können und wann der Gang zum Arzt angezeigt ist.

Das Herz ist ein komplex aufgebauter Muskel, der den gesamten Körper mit Blut und damit mit Sauerstoff und Nährstoffen versorgt. Für diese Arbeit benötigt das Herz selbst genügend Kraft.

Allerdings leidet das Herz-Kreislaufsystem unter dem aktuellen westlichen Lebensstil. Vor allem ein Mangel an Bewegung führt dazu, dass der Herzmuskel nicht mehr ausreichend trainiert wird. Dazu kommen Zivilisationskrankheiten wie Bluthochdruck, Diabetes oder chronischer Stress – auch diese Faktoren wirken sich negativ auf das Herz aus. In der Folge entstehen Herzprobleme und nicht selten ernsthafte Herzerkrankungen.

Herzprobleme lassen sich meist nicht so leicht erkennen. Der Grund: Viele Herzerkrankungen beginnen schleichend, sodass die ersten Anzeichen und Symptome zunächst unbemerkt verlaufen. Zudem gibt es Symptome, die sowohl für Herzprobleme als auch für andere Erkrankungen sprechen, beispielsweise solche der unteren Atemwege. Erschwerend kommt hinzu, dass bei Frauen die Symptome häufig schwächer ausfallen.

Wie lassen sich also Herzprobleme erkennen? Die folgenden Anzeichen sprechen für Herzprobleme:

• **Herzrasen und Herzstolpern**: Das Herz schlägt ohne erkennbaren Grund schneller oder es gerät aus dem Takt. Bemerken Sie jedoch mehrmals am Tag, dass Ihr Herz Extraschläge einlegt und haben Sie dazu Atemnot, sollten Sie einen Arzt aufsuchen.

• **Herzstechen**: Ein leichtes Herzstechen, das nach einigen Sekunden wieder verschwindet, ist kein Problem. Spüren Sie aber für mehrere Minuten stechende Schmerzen in der Herzgegend oder treten diese regelmäßig auf, beispielsweise bei körperlicher Belastung, könnte dies ein Anzeichen für eine Herzerkrankung sein.

• **Kurzatmigkeit**: Bleibt Ihnen im Alltag plötzlich, beispielsweise schon beim Hochsteigen kleiner Treppen, die Luft weg, ist dies ein deutliches Zeichen, dass etwas nicht stimmt. Oftmals steckt eine Herzerkrankung dahinter.

Zögern Sie nicht und suchen Sie bei den beschriebenen Symptomen einen Arzt auf. Je früher ein Herzproblem erkannt wird, desto besser lässt es sich auch behandeln.

Eine häufige und unterschätzte Herzerkrankung ist die Herzschwäche, auch als Herzinsuffizienz bezeichnet. Bei dieser Erkrankung ist das Herz zu schwach, um die erforderliche Blutmenge durch den Körper zu pumpen. Die Herzschwäche stellt sich wie viele Herzprobleme zunächst schleichend ein und wird oft nicht ernst genommen. Jedoch ist eine Herzschwäche keine typische Alterserscheinung, sondern eine Erkrankung.

INNOVATIONS IN MEDICINE OF ISRAEL THAT SAVE PEOPLE'S LIVES

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The purpose of our research work is to get acquainted with the main innovations of Israel medicine for recent years.

Medicine of Israel is developing at a rapid speed. Israeli clinics were among the first in the world equipped with the latest modern technology that helps to accurately and timely diagnose a disease, saving the lives of hundreds of people. This has contributed a lot to the government, which has invested huge sums on the development of the industry, believing that its citizens have the right to have the best medicine.

Method PET/CT (Positron emission tomography/ computer tomography). Although this method is not the latest development, but its invention (the merger of two separate types of diagnostics) and the use gave a huge impulse to the diagnostics of cancer. With its help, you can identify the smallest tumors that do not make themselves felt until a certain stage of their development. Moreover, with the help of PET / CT it is possible to determine the latitude of pathological cells in the patient's body, to characterize the stages of metastasis development and to evaluate the effectiveness of the treatment.

Among the innovative techniques that help specialists in the field of vascular surgery, an honorable place is occupied by endovascular surgery, namely without cuts - through small punctures on the skin. This method is more accurate, which is due to the constant x – ray control throughout the procedure, and due to the minimally, invasive recovery time of the patient is significantly reduced-up to a few days.

Another unique innovation that was one of the first used for the treatment of cancer in Israel is the surgical installation “DaVinci”. Using this technique, surgeons perform laparoscopic surgery. “DaVinci” is a robotic hand that helps the doctor to carry out surgery. In this work, 3D-image of internal organs and tissues which is shown on the control panel screen comes to the rescue to the surgeon. This method is very relevant during the treatment of the prostate gland, as well as in gynecology. Embryoscope System is one of the innovations in the field of reproduction, used for more than two years during IVF (in vitro fertilization) in

Israel. It is an incubator through which doctors artificially create a natural and safe environment for the embryo. With the help of an incubator, specialists receive invaluable information about the behavior of the embryo during cell division in the early stages.

The technology of holography of the heart is used in the world of cardiac surgery of Israel. During interventional cardiac surgeries, this technology will be indispensable. It will allow the doctor to see the heart right in front of him, not on the monitor screen. The image of the organ will be three-dimensional, which will allow the specialist even to turn it with one hand movement.

Thus, Israel medicine is considered to be one of the best in the world thanks to the wide use of the latest technologies and modern equipment. Scientists continue to search for new and better drugs and methods that will help to affect the qualitative improvement of the processes of diagnosis and treatment of all types of diseases.

WARUM GIBT ES APOTHEKEN?

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Im Alltagsleben sind für uns die Apotheken die gewöhnliche Sache. Und wie steht es mit der Geschichte der ersten Apotheken? Was bedeutet das Wort Apotheke?

Im Lateinischen steht „*apotece*“ für Vorratskammer. In Klöstern wurde früher der Aufbewahrungsraum für Heilkräuter „*apoteco*“ genannt.

Seit es Menschen gibt, gibt es auch verletzte und kranke Menschen und es gibt Versuche diese Menschen zu heilen. Schon in der Antike besorgten das heilkundige Personen auf recht hohem Niveau. Aus Griechenland, Ägypten, dem Römischen Reich ist das überliefert. Oft fanden diese Personen Schüler, die sich der Heilkunde widmeten. Sie verbesserten mit der Zeit ihr Wissen, gaben es weiter und sorgten dafür, dass Kranken geholfen wurde, soweit es mit dem Wissen und den Mitteln der jeweiligen Zeit möglich war.

Der Bedarf an Heilkundigen war zu allen Zeiten groß. Dafür sorgten gefährliche Lebens- und Arbeitsbedingungen, Katastrophen, Epidemien und Kriege sowie schlechte hygienische Verhältnisse. So war es kein Wunder, dass erfolgreiche Heiler großen Zulauf hatten, und dass sie Geheimmittel und

Wundermittel verabreichten, deren Zusammensetzung nur sie kannten. Natürlich gab es viele Fälschungen. Man hatte gar keine Möglichkeit, die genaue Zusammensetzung der Mittel aufzuklären und zu kontrollieren.

Besonders fatal war bis ins Mittelalter, dass derjenige, der die Krankheit diagnostizierte auch das Mittel herstellte und verkaufte, das dagegen helfen sollte.

Ein einschneidender und bis heute wirkender Eingriff in diesen Gesundheitsmarkt wurde im 13. Jahrhundert vom Kaiser Friedrich II. vorgenommen. Er bestimmte, dass derjenige, der die Diagnose stellt und die Behandlung vorschlägt, nicht der sein darf, der an den verordneten Mitteln verdient. Das war faktisch die Trennung vom Arzt und Apotheke, wie sie bis heute besteht. Mit seinem Dekret begann die Geschichte der Apotheke im heutigen Verständnis.

Die Apotheker dürfen keine Diagnose stellen, sondern beschaffen die Arzneimittel oder stellen sie her. Zum Verkauf gehört die entsprechende Beratung, deshalb besteht für Arzneimittel - bis auf wenige Ausnahmen – Apothekenpflicht.

Im 15. Jahrhundert entstanden im deutschsprachigen Raum die sogenannten Landschafts-Apotheken. Im 17. und 18. Jahrhundert entwickelte sich die Pharmazie. Der Apotheker verstand sich in dieser Zeit mehr und mehr als Spezialist, der sowohl Ärzte als auch Patienten berät. Im 19. Jahrhundert entstanden die ersten Apotheken, die sich auf homöopathische Arzneimittel konzentrierten. Mit der Industriellen Herstellung von Medikamenten ab Anfang des 20. Jahrhunderts wandelte sich das Berufsbild des Apothekers.

HEALTHY LIFESTYLE MAKES THE FUTURE

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Today healthy lifestyle is becoming more and more popular both with the old and the young. People have become more health-conscious. They say that the greatest wealth is health. The healthier we are, the better we feel. The better we feel, the longer we live.

A healthy diet is an essential part of staying healthy. We know that we should not stuff ourselves with fast food, sweets, sausages, pastry and fat food. Due to medical research, this type of food shortens our life, it leads to obesity, heart and blood vessels diseases, diabetes, gastric problems and lots of other serious ailments.

We are always in a hurry. We have no time to enjoy a home-cooked dinner with family and friends. We want to eat now and we want to eat fast. What is tasty is not always healthy. Doctors say that chips and pizzas are fattening, cola spoils our teeth and coffee shortens our lives.

If we eat too much, we'll become obese, and obesity leads to heart disease, diabetes and other serious illnesses.

There must be ways to stop eating fast food.

1. Write down the reasons why you want to give up fast food. You may want to stop eating fast food to improve your health, lose weight, save money, or any number of reasons. Reminding yourself of your reason for stopping will help you be able to resist cravings for fast food when they hit.

2. Identify your trigger foods and avoid them as much as possible. If there are certain fast foods, such as burgers, fries, or milkshakes, that cause you to crave fast food, it's important that you limit your exposure to them. The less you expose yourself to your trigger foods, the less you'll be tempted to eat fast food.

3. Plan regular meals throughout the week to avoid being hungry. It's easy to opt for convenient fast food when you're hungry and out of healthy options to eat. To avoid putting yourself in this position, make a meal plan and prepare all of your meals for the coming week ahead of time.

4. Find healthy ways to deal with emotional issues without comfort food. Like when we're stressed, we often turn to fast food when we're sad, lonely, or experiencing some other negative emotion. Instead of using fast food to deal with these issues, find healthy alternatives you can use to grapple with your negative emotions. We should enjoy well-balanced home-made meals with a lot of organic fruits, vegetables, dairy products, grains and seafood. We are what we eat.

Keeping fit and going in for sports is also important for our health. Lack of exercise in our life is a serious problem. In big cities people spend hours sitting in front of computers, TV-sets and other gadgets. We walk less because we mainly use cars and public transport. We certainly don't have to be professional sportsmen, but we should visit fitness clubs, go jogging, walk much, swim, go cycling or roller-skating or just dance. Doctors say that regular moderate physical activity is necessary for our body because it protects us from strokes and heart diseases, flue and obesity.

We must understand the harm of bad habits for our health. Smoking, drinking or taking drugs mean serious illnesses and even death from lung cancer or liver diseases, for instance. Cigarettes kill about 3 million heavy-smokers every year. Drug addicts die very young. So I think there is no place for bad habits in a healthy way of life.

It's common knowledge that smoking and drinking can shorten our lives dramatically. Cigarette-smoking, for example, kills about 3 million people every year. Many of them die from lung cancer. Some aren't even smokers. They are people who live or work with heavy smokers. Yet many young people smoke and drink. Why? One answer is that tobacco and drinks companies invest enormous sums of money in advertising their products. For them cigarettes and alcoholic drinks mean money. For us they mean disease and even death.

Now I present you some ways to stop smoking and drinking. Write down how alcohol and tobacco affect you. Having a written record of the negative effects of alcohol and tobacco will serve as a constant reminder of why you have chosen to quit. Keep it in a place you can reference it easily.

Find your triggers. Use a notebook to record the times throughout the day you smoke or drink alcohol. Record what feelings or situations preceded using alcohol and tobacco. Avoid situations that may trigger you in the future.

Get rid of all addictive substances in the house. Throw away all the cigarettes and pour alcoholic drinks down the sink. Ask the other members of your household to support you in keeping your home free of alcohol and tobacco products, so that you can avoid temptation on a daily basis.

Trash anything that reminds you of smoking or drinking. Don't hold onto your favorite lighter, your flask, or your shot glasses. A big lifestyle change like this is best maintained if you avoid seeing constant reminders of your old habits.

Avoid high risk situations. High risk situations can include feeling lonely, tired, angry, and hungry. These situations can leave you feeling vulnerable and more prone to use alcohol or tobacco. Be aware of when you feel you may be approaching any of these situations and learn to prevent them from starting.

Taking a proper rest and getting enough sleep, from 8 to 10 hours daily, are also great healthy habits. Sleep is the food for our brain and the rest for our muscles. Moreover we should avoid getting nervous or worried for no reason.

Healthy way of life concerns our body, mind and soul. Healthy people live longer, they are more successful and they enjoy their life. I believe that it’s not difficult at all to follow these simple rules, and they are worth it.

THE EFFECT OF PSYCHOEMOTIONAL LOAD ON THE DEVELOPMENT OF HYPERTENSIVE DISEASES IN MEDICAL WORKERS

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Hypertonic disease (HD) is the greatest non-infectious pandemic in the history of human development. Every fifth person on the planet has an arterial pressure level exceeding the norm.

The development of HD affects many risk factors, the most common are obesity, age, gender, the presence of bad habits, but the most important factor is stress and mental overstrain.

Everyone knows the fact that stress affects even a healthy person. Insufficient sleep, hard work, fear, experiencing failures, losses - almost any strong emotion can cause stress, as a result of which the work of the heart speeds up, and, as a result, the level of blood pressure rises.

Prolonged psycho-emotional stress and negative emotions are the leading predisposing factors of hypertension in health workers. Many factors can lead to the emergence of negative emotions among health workers, such as: overwork, lack of sleep, uncomfortable working conditions, etc.

The purpose of the research is to prove the relationship between psycho-emotional stress and the development of hypertension in medical workers on the basis of a questionnaire. The subject of study is the impact of psycho-emotional stress on the development of hypertension. The object of study is medical workers of “Borisovka Central Regional Hospital”.

We conducted a survey among medical workers on the basis of “Borisovka Central Regional Hospital”. The study involved 40 health workers, 40 of them women aged from 20 to 60 years with work experience from 1 year to 35 years. As a result of the study, it was found that health workers aged from 31 to 45 years are most susceptible to the impact of psycho-emotional stress. This is due to the fact that older people have a weaker nervous system, they are easily irritated, go out of themselves. It can be concluded that the younger a person is, the more flexible his or her neuropsychic system is, the easier and less painful stressful situations are experienced.

One of the main criteria for confirming the relationship between psycho-emotional tensions and the development of hypertensive heart disease was the determination of the frequency of contact with stressful situations. Analyzing the result, it was found that 62% of respondents often fall into stressful situations. And only 10% of respondents address to a specialist.

And, as a result, the majority of medical workers with work experience of more than 35 years have hypertensive illness.

One of the main negative factors was the fact that 45% of respondents consider their working conditions uncomfortable. The main complaints were: a small stuffy room, a large amount of work with a small staff of workers, which cause physical and emotional stress and as a result lead to an irregular working day, 27% of respondents confirm this relationship. 72% of respondents do not comply with the work and rest schedule.

Due to frequent physical and emotional overvoltages, 57% of medical workers experience frequent headaches in the workplace, 67% of respondents observe an increase in blood pressure after work. 45% of respondents indicated that they often experienced irritation in the workplace. Based on these criteria, 57% of medical workers associate the development of their hypertension with their professional activities.

During the study, medical professionals expressed their wishes to improve the situation. The main proposals on the part of health workers were: a salary increase (50%), additional days to leave (33%) and an increase in staff (17%).

Summing up the research, we came to the conclusion that psycho-emotional stress is the main and most important factor in the development of hypertension in medical workers.

To avoid the development of hypertensive heart disease medical workers should be attentive to their health and avoid frequent stressful situations. It is necessary to organize a pleasant working atmosphere in the department and a relaxingrooms. Medical workers need to comply with the regime of work and rest, monitor the numbers of their blood pressure during the working day.

ANGINAS FORMS AND METHODS OF TREATMENT

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The purpose of my research work is to study some forms and methods of treatment of angina.

Angina is a sharp inflammation of the soft palate and tonsils. A significant portion of sore throats have infectious character. Their causative agents are streptococci, staphylococci and other pathogenic microbes. Predisposing to the disease angina circumstance may be cold, various chemical and thermal irritants. Angina may also occur due to the transition of inflammation from the nasal cavity.

Most angina starts rapidly. Patients complain of difficulty and pain when swallowing. Also, patients noted weakness, fatigue, headaches, bad taste in the mouth.

There are several forms of acute angina: catarrhal, lacunar, phlegmonous, Vincent and diphtheria. Let me explain some of them:

Catarrhal angina (angina catarrhalis). With this angina, the entire mucosa of the pharynx appears to be evenly reddened or reddened by individual sites. Tonsils are slightly increased. The surface of the tonsils is hyperemic. Pharyngeal mucosa is covered with a layer of mucus. Lymph glands swell very slightly.

Kataralnaya angina is the easiest form of defeat pharynx. Its duration is 2-6 days. It ends well.

Follicular angina (angina follicularis). This form of angina is characterized by swelling of the tonsils and the formation in the cracks of their whitish plugs, consisting of epithelial cells, purulent cells and cellular decay products. Both tonsils are usually affected.

The phenomenon of weakness and fatigue in this form of angina is expressed very sharply. Complications occur infrequently. The duration of follicular angina is 4-6 days.

Angina placenta (angina ulcerosa Plaut-Vincenti). Plout-Vincent angina is characterized by the formation of tonsils peculiar grayish-white raids, after removal of which remains a deep ulcer.

Infection with this angina is a contact character. Usually the duration of angina is 7-14 days.

Treatment of angina. Every sore throat requires the most careful attitude. The patient should stay in bed until full recovery. Warming compresses on the throat of alcohol or water can help to reduce the pain.

You need to take care of frequent drinking and throat rinses. For rinsing apply 1% solution of hydrogen peroxide in half with water, a weak solution of potassium permanganate, warm decoctions of sage.

Angina is assigned to a warm, liquid, vitamin-rich food. Antipyretics (aspirin, aspirin) are the most useful against a common phenomenon (fever, fatigue).

Thus, the data I studied showed how widely medicine develops to identify the forms and types of internal human diseases, as well as to create and improve methods of treatment.

DIE BEDROHUNG VON KREBSKRANKHEITEN IN DER PÄDIATRIE

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Krebs gehört mit zu einer der gefürchtetsten Krankheiten überhaupt. Krebs ist ein Sammelbegriff für verschiedenste bösartige Erkrankungen, die praktisch alle Organe des Menschen befallen können.

Der Krebs, aus dem lateinischen, aus dem griechischen – Krebs, Krabbe) – ist maligne Tumor aus dem Epithel (das heißt Geweben, die tierischen Organismus von außen und innen deckt).

Folglich ist der Krebs – maligne Tumor der Haut, Verdauungstrakt, Harnwege, Lungen, Nieren, Leber, Geschlechtsorgane, Drüsen.

Die Bezeichnung für Krebs wurde von den Ärzten des Mittelalters gegeben und ist mit dem Aussehen der Tumor verbunden. Der Tumor erinnert an den Krebs oder Krabbe.

Der Tumor entsteht wegen der Verletzung des Stoffwechsels und Prozesse in der Zelle.

Als Ursachen für Krebs können hormonelle Anomalien, Vererbung und krebserregende Faktoren sein.

Zu krebserregenden Faktoren gehören:

• Verschmutzungsgrad der Umwelt (das heißt Verschmutzungsgrad des Bodens, des Wassers und der Luft);

• Einfluss der Radiation und ungeschützte Sonneneinstrahlung;

• Vieren, die auch eine große Rolle spielen (z.B. verschiedene Infektionserreger wie Papilloma- oder Hepatitisviren, oder Helicobacter);

• Suchtmittel wie Alkohol und Nikotin;

• freie Radikale und Nahrungsbestandteile wie Acrylamid, das beim Grillen entsteht, oder Toilettenartikel wie Deos mit Paraben.

Nach Statistik ist die Verbreitung der onkologischen Erkrankungen in Russland von 9,5 bis 13 auf 100000 Kinderpopulation.

Diese Angaben entsprechen den Angaben in anderen europäischen Ländern und in den USA.

Durchschnittliche Zahl von Kindern, die Krebs haben, ist im letzten Jahrzehnt in Russland auf 20% gewachsen.

MEDICAL CHALLENGES OF FUTURE

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Medicine is one of the most important things in people's life. It is almost impossible to imagine the modern world without medicine. The word “medicine” is derived from Latin and means “the art of healing”. Being an ancient science, medicine has always helped to cure people from dangerous diseases.

Medicine has a long history. In ancient times people used mystic rites to treat people because they associated diseases with something supernatural. However they also used rational therapeutic intervention and medication. The development of medicine started in ancient times, when animal parts, minerals and plants were used to cure people. It was the time of “herbal medicine”. Middle ages have introduced small hospitals attached to cathedrals or monasteries. Modern medicine has brought various vaccines and antibiotics.

Every century has brought new illnesses and unknown infections. Whenever the cure is found for one disease, another one appears. For example, several centuries ago the smallpox was a deadly disease. Nowadays, there are enough medical supplies to fight against this disease. However, there aren't enough resources to fight AIDS. AIDS is shorted from Acquired Immune Deficiency Syndrome. It is one of the most dangerous illnesses of the twentieth century. It originated in Africa and became a global epidemic. The virus that leads AIDS is called HIV- Human Immunodeficiency Virus. Although the treatment for this virus exists, it only slow progress. Unfortunately, there is no cure.

The human body is capable of many amazing things, but there are still many diseases characterized by out-of-control cell growth. Some forms of cancer can be cured by modern medicine but some are deadly. Every year thousands of people die from lung smoke cancer, which can be result of smoking. That's why doctors always advice not to smoke cigarettes. Surprisingly, flu can be very dangerous for human body. It is caused by certain viruses and usually starts with fever, sore throat, muscle pains, severe headache, weakness, sometimes coughing.

There are lots of modern methods and drugs to fight influenza but in more serious cases it cause pneumonia, which is often fatal. Another dangerous illness is malaria. It is an infectious disease caused by parasites. It is widespread in tropical and subtropical regions. There are many other unpleasant and dangerous diseases, however diagnosed on early stages most of them can be cured.

Development of medicine continues in our days. Scientists actively work on drugs for these diseases. Tests of the received vaccines are carried out. And I hope that in near future the medicine will reach that level when all diseases stop being deadly. And all serious diseases medicine will be available to everyone.

ERYTHRON SYSTEM PHYSIOLOGICAL REGENERATION IN THE MALIGNANT PROLIFERATION CONDITIONS

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The development of pathological conditions in the body is accompanied by a number of changes aimed at the implementation of compensation of homeostatic parameters deviation mechanisms, which can be considered as markers of prepatology.

One of the most informative systems in detecting early changes in the body, appearing in response to the development of malignant proliferation of hemopoiesis cell lines, is the red blood system. The level of functional activity of erythrocytes can dramatically increase with deviations of physiological functions from the optimal level for normal metabolism. In this connection, the problem of studying mechanisms of the red blood system regeneration during the development of oncological processes in the body is quite relevant.

The aim of researching work was to study the mechanisms of physiological regeneration of the erythron system in the conditions of malignant proliferation of lymphoid and myeloid cell lines.

To achieve the stated goal, the following tasks were set and solved:

1) to study the cytokinetic parameters of erythrocyte balance in norm;

2) to analyze the change in cytokinetic parameters of erythrocyte balance during the development of acute lymphoblastic and acute myeloblastic leukemia;

3) to identify the characteristics of the reticulocytes morphology in normal conditions and in the development of acute proliferative diseases in the blood system;

4) to analyze the features of the surface relief of reticulocytes in normal conditions and in the development of malignant processes in the blood system;

5) to evaluate the elastic properties of reticulocytes of donors and patients with acute myeloblastic and acute lymphoblastic leukemia.

Experimental studies were performed on the basis of the research laboratory “Physiology of Adaptation Processes” of the Belgorod State University. The object of the study was the venous blood of donors, taken as a control and the blood of patients with acute lymphoblastic and acute myeloblastic leukemia.

Blood was collected by venipuncture in heparinized vacuum test tubes with the help of specialized medical personnel of the regional clinical hospital in Belgorod.

To achieve the task, a number of manipulations were made, such as cell incubation and calculating RBC values.

All classes of reticulocytes were counted according to their degree of maturity. According to well-known formulas, the half-life of reticulocytes (T½p) due to their maturation, the half-life of erythrocytes in the bloodstream (T½er), due to their destruction, and the daily production of erythrocytes per 1 μl of blood (Peer/day) was calculated.

To study the elastic properties and the surface relief of reticulocytes, we used the method of atomic force microscopy based on the registration of the sample and the probe atoms repulsion and attraction forces.

At least 10 cells were scanned from each blood sample, so at least 100 cells were scanned in each experimental group.

Cell scanning was carried out in two modes – in contact mode, in which the probe moves with a constant force, without breaking away from the surface, which minimizes the effect of capillary and elastic forces, as well as adhesion forces on the image quality.

In addition, we used a mode that allows you to display sharp surface roughness with high contrast. This display method is useful for visualizing small inhomogeneities of the cell surface.

Elastic properties were quantitatively evaluated by measuring of the Young's modulus, which characterizes the rigidity of the cell surface.

In order to identify the features of the reticulocytes cell surface topography, we counted the number of morphological membrane formations and measured their linear dimensions.

The results of the study is following: due to treatment regimen of patients, the dispersion of erythrocytokinetic parameters in groups of men and women increased, which did not allow an adequate comparison between the groups by gender, therefore, the mean value for all samples was taken as a control in a similar way.

According to the results obtained in the groups of patients with malignant lesions of myeloid and lymphoid hemopoietic cell lines, an increase in the number of immature forms of reticulocytes of I and II classes compared with the control was found. Moreover, in the group of patients with AML, reticulocytosis was most pronounced compared with the group of patients diagnosed with ALL.

In groups of patients with AML and ALL, there was a tendency to a twofold decrease in the Young's modulus of the reticulocytes membrane, respectively, to a decrease in their rigidity.

During the morphometric studies, it was found that in the group of patients with ALL, the surface area of reticulocytes increased by 18,7% ($p < 0.05$), and the volume – by 7,9% ($p < 0.05$) as compared with the control. In the group of patients with AML, there is also a trend towards an increase in surface area and volume, however, no significant differences were found.

The relief of the reticulocytes surface was represented by globular formations, numerous small depressions and separate extensive invaginations on the membrane surface.

BEWERTUNG DES BLUTDRUCKS ANHAND DER BLUTDRUCKTABELLE

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Niedriger Blutdruck oder hoher Blutdruck – diese Frage gewinnt mit zunehmendem Alter an Relevanz. Erstaunlich ist dabei, dass nur die wenigsten Menschen regelmäßig ihren Blutdruck messen oder in einer Blutdrucktabelle schauen. Dabei sind Blutdruckmessgeräte vergleichsweise günstig zu kaufen und liefern einen guten Überblick.

Ein regelmäßig zu hoher Blutdruck bedarf dringend der Behandlung und kann Vorbote für Herz- und Kreislauferkrankungen bis hin zu Herzinfarkt oder Schlaganfall sein. Statistiken sagen aus, dass rund 20 Millionen Menschen in Deutschland unter zu hohem Blutdruck leiden.

Der Blutdruck wird durch ein körpereigenes System aus Gefäßen, Nerven und Hormonen gesteuert und passt sich der jeweiligen Situation an. Er bezeichnet den Druck, mit dem das Blut durch die Adern fließt. Je anstrengender eine Tätigkeit ist, desto höher steigt in der Regel der Blutdruck. Das Problem andauernd hohen Blutdrucks liegt in einer zu hohen Belastung für die Gefäße, die diesem Druck schließlich nicht mehr standhalten.

Wie wird der Blutdruck gemessen? Gemessen wird der Blutdruck an verschiedenen Punkten. Ein Blutdruckgerät arbeitet meist mit einer Manschette, die über den Oberarm gezogen wird. Alternativ lassen sich die Messwerte jedoch auch an der Halsschlagader oder am Puls gewinnen. Entscheidend für einen validen Messwert ist eine vorherige Ruhephase von mindestens fünf Minuten und eine entspannte Sitzhaltung.

Wer seinen Blutdruck misst oder in eine Blutdrucktabelle schaut, findet dort zwei Werte. Beide werden in Millimeter Quecksilbersäule (*mmHg*) angegeben und bezeichnen die Systole und die Diastole. Mit der Systole ist der maximale

Blutdruck gemeint, der dann entsteht, wenn das Herz gerade Blut ausgeworfen hat und dieses in die Aorta pumpt. Die Diastole (also der zweite Wert) bezeichnet wiederum den Blutdruck in der Entspannungsphase, während der neues Blut in die Herzkammern strömt.

Blutdruckwerte in der Tabelle

	systolisch (mm Hg)	**diastolisch (mm Hg)**
niedrig	< 105	< 65
optimal	< 120	< 80
normal	< 130	< 85
hochnormal	130-139	85-89
Hypertonie Grad 1	140-159	90-99
Hypertonie Grad 2	160-179	100-109
Hypertonie Grad 3	> 179	> 109

Wie funktionieren die Blutdrucktabellen? Ein optimaler Blutdruck liegt dann vor, wenn ein Wert von 120 zu 80, also 120 in der Systole und 80 in der Diastole nicht überschritten wird. Werte bis 130 zu 85 gelten als normale Blutdruckwerte und wer bis 139 bzw. 89 angezeigt bekommt, befindet sich im hochnormalen Zustand.

Danach beginnt die Hypertonie (Bluthochdruck), die einer Behandlung bedarf. Besonders kritisch ist eine Hypertonie dritten Grades, die bei Werte oberhalb von 179 zu 109 beginnt und unbedingt ärztlich behandelt werden muss.

Ein zu niedriger Blutdruck gilt wiederum nicht als problematisch und kann allenfalls zu gelegentlichem Schwindel oder Kreislaufproblemen führen. Aus medizinischer Hinsicht ist dies jedoch mit keinen Risiken verbunden.

DAS OHRREINIGEN: SEIN ODER NICHT SEIN?

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Das ist die Frage, die zurzeit vor allem die Mütter lösen heute müssen. Vor zwanzig und mehr Jahren empfehlen die medizinischen Bücher die Ohren sogar den Säuglingen putzen. So die medizinische Enzyklopädie. Da gab es einen Rat, wie man die Wattestäbchen machen soll, um die Ohren der Säuglinge zu putzen. Die Erwachsenen standen überhaupt nicht in Frage.

Zurzeit ist die Situation ganz anders. Die Hals-Nasen-Ohrenärzten sind der Meinung, dass das Herumstochern im Gehörgang sehr gefährlich und unnötig ist. Es geht natürlich nicht um das normale Waschen der Ohren. Die Rede ist von den Versuchen Ohrenschmalz mit allerlei abenteuerlichem Gerät zu entfernen.

Die Ursache besteht darin, dass der Gehörgang außerordentlich empfindlich ist. Der Gehörgang eines Erwachsenen Menschen ist zwischen 25 und 35 mm lang, 6 und 8 mm weit und verläuft etwa S-förmig. Er besteht aus knorpeligen und knöchernen Teil. Der Gehörgang wird durch das Trommelfell gegen das Mittelohr abgegrenzt. Ohrenschmalzdrüsen sind im knorpeligen Teil des Gehörganges angesiedelt. Sie geben eine klebrige, gelblich bräunliche, fettig wächserne Substanz ab. Diese Substanz heißt Ohrenschmalz. Es verhindert, dass Schmutz und Erregen in das Innere des Ohres eindringen können. Außerdem sorgt das Ohrenschmalz dafür, dass das Trommelfell elastisch bleibt. Der äußre Gehörgang ist mit einer dünnen Gehörgangshaut ausgekleidet. Sie wächst vom Trommelfell her nach außen in Richtung Ohrmuschel. An dem Ohrenschmalz haften Hautschuppen, Staub und Schmutzteilchen. Die Gehörgangshaut befördert es aus dem Ohr hinaus. Dann fällt das Ohrenschmalz in kleinen Krümeln in die Ohrmuschel. Auf diese Weise reinigt sich das Ohr selbst.

Dieser Selbstreinigungsmechanismus funktioniert nur in Ausnahmefällen nicht. Dann kommt es zur Bildung eines Ohrschmalzpfropfes. Diese Pfropfe entstehen meist bei den Reinungsversuchen. Dabei wird ein Teil des Ohrenschmalzes entfernt und ein anderer Teil wird bis an das Trommelfell geschoben. Die Folgen sind: Aufstau, Eintrocknen und Verhärtung des Pfropfes.

Bei dem Reinigen des Ohres kann sogar das Trommelfell verletzt werden. Es kommt oft zu schlimmen Entzündungen und Infektionen. Besonders gefährlich ist das Herumhantieren mit Wattestäbchen bei Kindern und Säuglingen. Da können Verletzungen des Trommelfells auftreten.

Was muss man tun?

- Beschränken Sie sich auf die Reinigung der Ohrmuschel.
- Fall Sie unter Ohrenschmerzen leiden, sollten Sie unverzüglich einen Arzt aufsuchen.

THE BENEFITS OF BREAD FOR THE HUMAN BODY

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Bread has been consumed by people for thousands of years. This original food product, which is present in the diet of people about 10,000 years. Inevitably, people have changed, bread has also changed.

Bread is a healthy product and that's why:

1. It gives energy to our body and brain. It is a treasure trove of carbohydrates that are the base of the food pyramid. They should form the basis of a healthy daily menu. Carbohydrates are food for the brain, because it is the easiest way to deliver energy to the body.

2. Bread is a treasure trove of fiber and is good for intestinal health. Fiber changes the gastrointestinal tract, especially the small and large intestine. Plays an important role in preventing lifestyle diseases such as obesity, diabetes, cancer. There is no healthy diet without enough fiber. Bran bread, the use of which is largely obliged to fiber is desirable to include in your diet. However, do not overeat it, as a lot of fiber can also be harmful.

3. Bread provides many opportunities to diversify the daily diet. In stores there are dozens of types of this product, and even more options offers us homemade bread maker.

4. Bread contains amino acids, vitamins, minerals and nutrients. Black bread, the use of which is obvious because of the high content of B vitamins is very popular. Bread contains vitamins including B1, B2, Niacin, vitamin E and other necessary for normal metabolism in the body. This product can meet up to 30% of the daily demand for copper, zinc and iron.

5. Bread contains protein. This information is often overlooked and even considered trivial. Protein is the main building block of body tissues. This also applies to bread, as the same grains contain easily digestible protein.

All said above about the benefits of bread, bread products and their protein values, factors and indicators that determine it, suggests that the main objectives of increasing the protein value of these important foods are:

– an increase in the content of protein in these products by including in their formulation of additional raw materials and additives with increased protein content in comparison with flour and more scarce in flour and bread amino acids-lysine and threonine; protein of these raw materials and additives should have a correspondingly higher rate of lysine and methionine;

– a deep check of the selected protein fortifiers of healthy bread in terms of their food tolerance and the lack of substances and components that can adversely affect the physiological processes occurring in the human body. In this article I gave you five facts about bread as a necessary product for our body. It is needed in the diet of each person because it is a collection of all vitamins.

THE YOUTH IS THE FUTURE. SOLVING PROBLEMS WILL MAKE OUR FUTURE BETTER

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The problems of modern youth are becoming more urgent. Young people are the group of people who are beginning their path in the future. They can become anyone and replace the current generation eventually. The problems of young people reflect the imperfections and vices of the whole society, so the solution of these difficulties will have an impact on the welfare of the whole society.

There are several problems among the youth:

1. Ill health.

The growing generation is less physically and mentally healthy than the previous one. For example, in Russia, only 10% of school graduates can consider themselves absolutely healthy. This problem occurs due to the spread of bad habits: alcoholism, smoking, drug addiction. It is also associated with malnutrition and a sedentary lifestyle. Parents should treat their children more carefully, do not allow them to get into bad company, get them interested in sports and healthy food. Also the government can limit the opportunities for purchasing alcohol and cigarettes.

2. High level of crime.

The problem of criminal behavior among young people has not lost its relevance for many years. It is caused by many factors, the main of which, of course, is the family. Most often crime is committed by people from disadvantaged families. It is influenced by low income and immoral behavior. The government should support financially poor families, organize preventive conversations with teenagers and their parents to solve this problem.

3. Problem of the culture of modern youth.

The ideas of consumption attitude to life are becoming popular. They are reflected in the cult of money and fashion, in the desire to material well-being, pleasure. In addition, there are problems of youth leisure. There are no conditions in many cities and villages for cultural leisure: there are no free swimming pools, sports clubs, museums or hobby groups. So boys and girls sit in front of the TV or computers, in the company of peers with a cigarette and a bottle in their hands. The low level of education contributed to the development of slang, far from the rules of the literary language.

DIE ROLLE DES EPIDEMIOLOGERS IM GESUNDHEITSSYSTEM

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Auf die Frage, welcher Beruf am wichtigsten ist, wird jeder auf seine Weise antworten. Wenn Sie fragen, welcher Beruf die schwierigste und angespannt ist, werden Sie in erster Linie männliche Spezialitäten nennen: Feuerwehrmann, Rettungsschwimmer, Wissenschaftler, Militär und andere. Ich glaube, es gibt die Leute, deren Arbeit die Aufgaben aller genannten Fachleute vereint. Es gibt Menschen, vor denen die wichtigsten Aufgaben sind:

- die Krankheiten früh zu erkennen, zu warnen und zu behandeln;
- die Gesundheit der Menschen zu erhalten und zu stärken;
- die Arbeitsfähigkeit der Menschen zu gewährleisten;
- das Leben zu retten.

Und diese Leute sind die Ärzte. Die Epidemiologen sind die Fachleute besonderen Bereiches. Unter ihrer Kontrolle liegt fast alles, was die Gesundheit einer Person beeinflussen kann.

Epidemiologen arbeiten eng mit Kollegen – Fachleuten in verwandten Wissenschaften: Mikrobiologie, Bakteriologie, Virologie, Immunologie, Parasitologie, soziale Hygiene und viele andere Wissenschaften.

Die Hauptsache bei der Arbeit von Spezialisten für Infektionen und Epidemien ist ihre Prävention. Der Epidemiologe hat viele ähnliche Aufgaben wie der Ermittler oder der Staatsanwalt. Er untersucht gründlich und sorgfältigdie Ursachen von Massenvergiftungen, Darminfektionen (Ruhr, Cholera, Hepatitis), fokalen Ausbrüchen von Tollwut, Brucellose und anderen Krankheiten.

Der Epidemiologe prüft, ob die Ärzte alles getan haben, um den infektiösen Fokus zu verhindern und zu beseitigen. Wenn medizinische Arbeiter eine Impfkampagne falsch durchgeführt haben, wurde die Krankheit nicht sofort diagnostiert, nicht über einen kommenden Ausbruch in der Sanitär-epidemiologischen Dienst berichtethaben oder andere Verletzungen erlaubt wurden, hat der Epidemiologe das Recht, eine Strafe für die medizinische Einrichtung oder einen bestimmten Arzt zu verhängen, deren Nachlässigkeit die Epidemie ausgebrochen ließ. Oder andere Sanktionen werden angewendet.

Der Beruf des Epidemiologers, sowie eines Infektionskrankenarztes, ist mit einem ständigen Berufsrisiko verbunden.Notwendige Qualitäten, die den Erfolg im Beruf gewährleisten, sind: Genauigkeit und Sorgfältigkeit bei der Durchführung von Experimenten, gute analytische Fähigkeiten, logisches Denken, Aufmerksamkeit, Geduld und Verantwortung. Ein Epidemiologe soll Initiative ergreifen, prinzipiell und gewissenhaft in der Arbeit zu sein.

BRONCHIAL ASTHMA

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I am a medical student at the Belgorod State National Research University with a degree in Medical science. My first scientific work is devoted to such a disease as bronchial asthma.

Currently, the incidence of bronchial asthma tends to increase worldwide. This disease can develop at any age, but it should be noted that almost half of the patients it begins in childhood and another 30% – under the age of 40 years.

Recognition of early symptoms of acute bronchial asthma, as early as possible the provision of skilled care in the prehospital stage fundamentally important conditions for improving care for patients with bronchial asthma, which will prevent the progression of deterioration, reduce the frequency and duration of hospital treatment.

The analysis showed that risk factors such as alcohol abuse, tobacco Smoking, untreated diseases or the presence of diseases of the respiratory system are of great importance for the development of bronchial asthma, and that heredity plays an important role in the development of bronchial asthma.

To keep all the symptoms of asthma under control, you should follow the correct and complete treatment. It should be remembered that the therapy and control of the disease are expensive for the patient, but if not treated or treated inadequately, it will be even more expensive.

It is established that bronchial asthma, like most chronic diseases, "not a disease, but a way of life", and in order for this image to be correct, first of all, close cooperation and trust between the patient and the doctor is necessary, since this is a necessary condition for the correct compliance with the recommendations for examination and treatment.

THE DEVELOPMENT OF MODELS, SOFTWARE ALGORITHMS TO ENSURE THE PROSESSERS OF DRUG RELEASE

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The theme of my qualification paper is "The development of models, software algorithms, to ensure the processes of drug release". I chose it because it is very actual problem in nowadays medicine.

Mathematical modeling of both normal physiological and pathological processes is currently one of the most relevant areas in scientific research. Modeling has a great value that expresses in a whole series of advantages:

1. With the help of the modeling method, you can develop a whole number of different models on one data set, interpret the phenomenon under study in different ways, and select the most productive of them for theoretical interpretation.
2. In the process of building a model, you can make various additions to the hypothesis under study and get its simplification.
3. In the case of complex mathematical models, computers can be used.

4. The possibility of the behavior of model experiments opens up.

The aim of my research is to develop software models and algorithms to ensure the processes of drug release. The interdisciplinary approach to research, together with the postgraduate student of the Institute of Pharmacy, Chemistry and Biology “BelSU”, helped develop a 3D model of an innovative therapeutic system for the treatment of otitis and model the release of the drug substance.

Therapeutic system for the treatment of otitis, includes the drug in the form of drops, as well as the ear insert with adsorption capacity in relation to the exudate of the middle ear and the desorption of the drug in the tympanum.

Ear therapeutic systems will help to solve the problem of drug leakage from the outer ear, thereby ensuring a therapeutic effect due to the full administration of the required dose.

At the first stage, we simulated a three-dimensional model of the ear insert using the 3ds Max Design program. The parameters of the ear insert took into account the physiological features of the external auditory canal in different age groups.

Then, using the PICASO 3D printer, experimental samples of the three-dimensional model of the ear insert were printed. Further, for the development of software models and algorithms for the drug release processes:

1. We simulated a physiological ear model using the ZBrash software.
2. Using mathematical modeling we calculated the area of the physiological external auditory canal.
3. Having known the force of pressure of the mandibular bone on the external auditory canal and its area, we calculated the distance, which will affect the compression of the ear insert in the ear cavity.

So, having the physico-chemical parameters of the medicinal solution that enters the therapeutic system, knowing the pressure in the external auditory canal, it is possible to simulate the process of releasing the active ingredient from the therapeutic system into the ear cavity.

At the last stage, we plan, that the software product will be tested and debugged, as well as conducting computational experiments and describing recommendations for using the developed program.

The government should open more parks, sports complexes, museums, libraries, schools in order to raise the level of education and spiritual development of young people.

The youth is the most active layer of society. All opportunities are open for young people and they determine the further development of the community. Youth problems affect the future state of society that is why it is important to solve them now. Ways to solve the problems of young people consist of the purposeful, systematic policy of the state and the efforts of parents. The authorities should truly realize that young boys and girls are the future of the country.

RAY TRAYCING METHOD

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The main task of any video game is an attempt to mislead your brain, to feel like you are really present here. And this is the right approach, physics of the real world is complex, but computer capabilities are limited. Repeating the physics of the real world in the game is beautiful, realistic, but not effective. For example, the model of the car is designed to create the illusion of a real car and there is no point in filling it with real content. In games, any models consist of points along which polygons are built. As a rule, polygonal modeling refers to hollow modeling, the object has a flat surface, but inside it is empty. The computer is not difficult to keep in memory a large number of vertices and triangles, even to store information about their animation.

So I want to introduce you to the ray tracing algorithm. Today it allows you to create photorealistic projections of three-dimensional scenes. It takes as a basis real physical processes: the movement of photons, their interaction with the surface and interaction with the retina of our eyes. That is why it is very useful, but resource-intensive.

Suppose you need to display a picture of 800 by 800 pixels. This picture will imitate the retina of your eye. And also we have a scene consisting of geometric objects. You choose the position where the camera will stand, and the direction in which it looks. Then you build a two-dimensional matrix in front of you - this very image is 800 by 800. Through each of the pixels we let the beam through - it will be a straight line that passes through the camera and this pixel. Well, then we check with which of the objects on the scene it intersects and color that pixel in the color of the object. But it may happen that the beam can intersect with several objects, in which case we take the one that is closer to us. In addition, the surface can be reflective, for simplicity, we take a mirror. If our beam enters the mirror, then a new beam is released from this point. So that the angle of reflection is equal to the angle of incidence, and everything starts all over again. If this beam hits a red object, then we color the pixel in red.

But one color of pixel is not enough to create a beautiful picture in games. The ray tracing method is very good at creating shadows and proper lighting. To understand how lighting works here, we need to understand how our point interacts with light sources. To do this, you release the beam from point to side of the light source. And if it turns out that this ray intersects with some other object, then the point is in the shadow. If there are no obstacles, then the point is illuminated. And then the effect of lighting from all sources is summed up and taken into account when choosing a pixel color.

And one of the most complex and most cunning things is refraction. If it turns out that the beam collides with an object that will refract it, then we release a new beam, taking into account the refractive index. (It depends on the density of the medium). The coefficients in the amount should give a unit.

As you can see, this method repeats the movement of light rays, but only in the opposite direction. There is only one problem - it all works correctly if it is calculated in advance. It is well used when creating animations in films and cartoons, when it is possible to calculate everything in advance. And when we do not know what the next frame will be. Even a modern computer is not able to calculate it in real time. And here in March of this year, companies such as Microsoft N Video and others stepped up for ray tracing and showed demos that demonstrate all the features of this method: beautiful shadows, realistic reflections. Well, they said that we needed to strive to implement tracing in real time.

I am sure that any 3D graphics, any 3D modeling, as well as the world of video games, are moving closer and closer to the real laws of physics and how they work. Therefore, I believe that ray tracing method is the future of video games.

CREATION OF A KEYBOARD SIMULATOR

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To have the skill of keyboard printing means to be able to type words, phrases and sentences quickly and correctly, and to type large texts on the keyboard. Nowadays almost everyone has a mobile phone or smartphone. This means that everyone should have the skill of keyboard printing: from an office worker to an sportsman, from a housewife to a businessman, from a student to a Professor.

Accordingly, the question arises: how to learn effectively to print on the keyboard? For this purpose, special programs are created – keyboard simulators. They are very easy to use, even a child can learn with their help.

Thus, the goals and the objectives of our research work are:

1. Creating the easiest simulator to use
2. Creating a simulator that is more like a game
3. Adding a user's skill assessment system to the simulator
4. Creating a simulator that includes a huge list of topics and words from different fields that will allow people with different interests or professions to use this simulator.

How does it work?

1. The user sees the word on the screen
2. Tries to repeat the word by typing it on the keyboard
3. The user sees if he has repeated the word correctly or not
4. Repeats these actions until a condition is true (until words run out, until time runs out).

The program is implemented by connecting text files. A specific number of files are created (55 in my case), and 10 words are written to each file depending on the topic. The words of one theme are located in one file. The user will select the theme name, and the corresponding file will be opened, and the words containing in it will be shown on the screen. The timer and the counter of incorrect answers will be started, and after writing the last word, a special algorithm will give the user a rating, for a more interesting game music plays in the background.

DEVELOPMENT OF BEET CHIPS

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Annotation: the relevance of the development of chips beetroot recipes is to justify the alternative replacement of potato chips more useful, due to the characteristics of the chemical composition. The article studied the chemical composition of raw beets, as well as the analysis of the chemical composition of beet chips.

Each of us at least once tried chips. It is no secret that most children and adults adore them. This is a product that you can quickly eat during a hike, quickly quench a strong hunger. But not everyone knows that chips can be harmful to our health.

The goal is to expand the assortment of chips using beet as a raw material. The object of the study is the formulation and technology of producing beet chips, and the subject of the study is beet chips.

Based on the objectives of the tasks were set:

1) The study of the chemical composition of beets;

2) Development of the recipe for chips of beet;

3) Development of technology for the preparation of beet chips;

4) Study of the chemical composition of beet chips

In this work, we studied the composition of raw beets (Fig. 1), (Fig. 2), as well as chips based on it, as well as methods of cooking at home. The relevance of the work lies in the fact that the majority of students have their diet disrupted, regularly eating chips, they worsen the state of their health, so while diseases of the digestive system, kidneys, and edema develop.

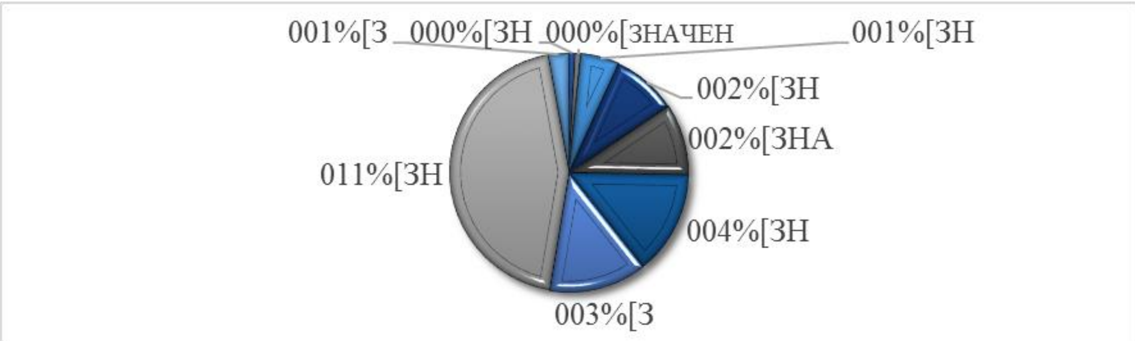

Fig.1 Composition of vitamins of raw beet

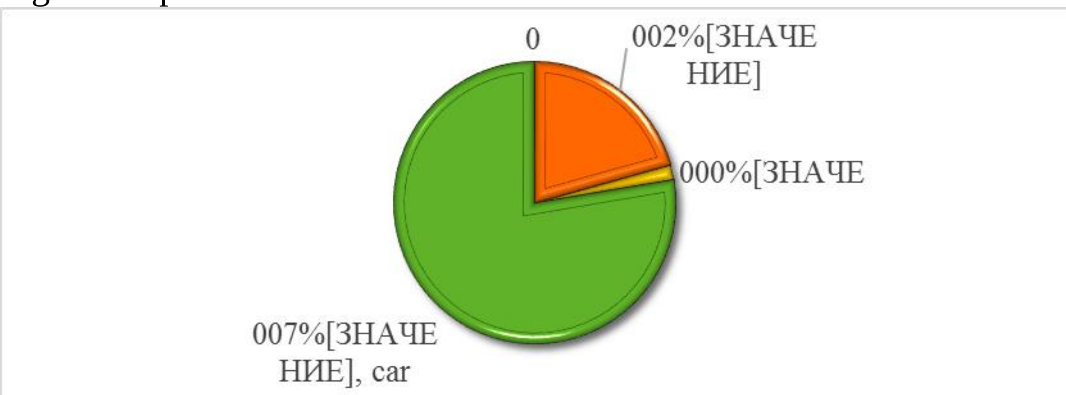

Fig.2 Chemical composition of raw beets

Useful chips will not cause harm to health, on the contrary, they will saturate with vitamins, they will satisfy hunger, and also they will not give up the taste of potato chips themselves.

Why, then, for the preparation of chips, beets were chosen as raw materials? Beet is a storehouse of useful substances, a unique vegetable that is indispensable to a person’s diet.

The beneficial properties of beets, its special nutritional value are associated with two aspects. Firstly, it is a unique set of elements that is not found anywhere else, and, secondly, beets contain a large number of substances that are not subject to destruction during temperature cooking.

Raw beets contain the following vitamins: Vitamin PP (Niacin), Vitamin E (alpha-tocopherol), Vitamin C (ascorbic acid), Vitamin B9 (folic acid), Vitamin B6 (pyridoxin), Vitamin B5 (pantothenic acid), Vitamin B2 (riboflavin), Vitamin B1 (thiamine), Vitamin A, Beta-carotene, Vitamin B3 (PP).

The energy value of raw beets (in 100 grams): calories – 42,93 kcal, Proteins – 1,97 g, Fats – 0.11 g, carbohydrates – 8,93g.

Organic acids: citric, oxalic, malic.

Amino acids: betaine, betanin, lysine, valine, arginine, histidine.

Beets have a large amount of fiber.

The content of micro and macro elements of raw beet is presented in Fig.3.

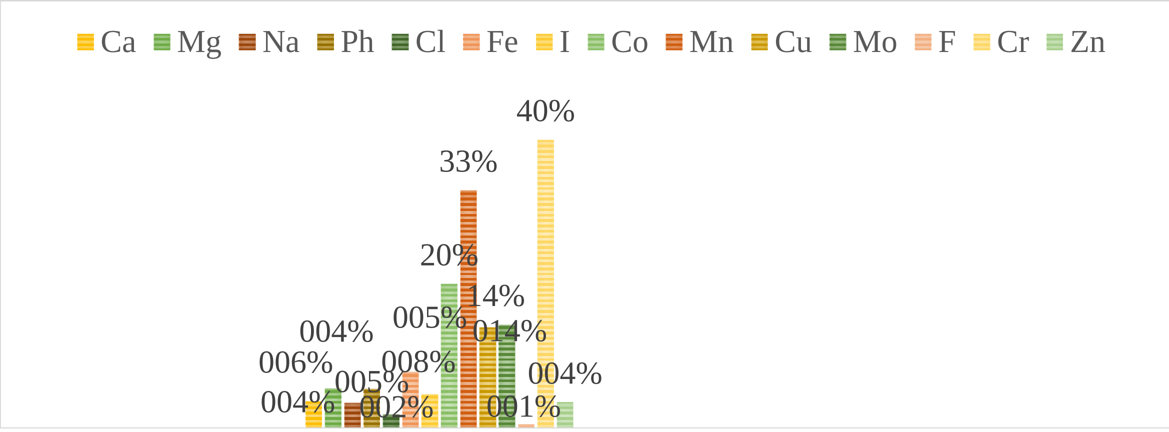

Fig.3 The content of micro and macro elements of raw beet

Therefore, the raw material for the production of chips has become a beet. Raw materials for the preparation of beet chips: beets, raw, peeled – 100 g; sea salt – 2 g; French blend – 4 g; Italian mix – 4 g; dried basil – 3 g; vegetable oil – 10 g.

Cooking technology:

1. Wash the beets thoroughly;
2. Cut into thin rings;
3. Mix with seasonings and spices;
4. Grease baking sheet with vegetable oil;
5. Posting beet rings so that they do not touch each other;
6. Put in a baking tray preheated to 100 degrees for an hour;
7. Take the beetroot chips out of the oven and let cool.

The study of the chemical composition showed that, after heat cooking in the form of drying, beet chips retained most of the vitamins, micro and macronutrients, and the use of vegetable oil will contribute to better absorption of fat-soluble vitamins contained in beets.

It was established that in the process of drying the beets lost 87, 08% of moisture, the output was 12,92 g of the finished product.

After assessing the quality of products (organoleptic: appearance, texture, color, and physicochemical parameters: mass fraction of moisture, mass fraction of defective vegetables, as well as defects were not detected). The product completely conforms to all indicators and the standards provided by state standard specification for chips.

Beet chips should be stored in dry, clean, well-ventilated rooms at a temperature not exceeding 20 ° C and relative humidity of air not more than 75% up to 6 months.

"Man is what he eats" – LA Feuerbach. Nutrition – one of the most important factors in the development of the body, ensuring the proper development of the body. Therefore, for the normal functioning of the body, organisms must be used high-quality and useful products for food and energy. As a result, it was found that the developed chips from beetroot can be used as a snack.

After evaluating the products according to the established requirements for product quality, it can be argued that beet chips are safe for the life and health of the population, useful and can be used for their intended purpose: intended for sale.

ANALYSIS OF METHODS AND ALGORITHMS FOR SELECTING OBJECTS IN THE IMAGE

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Solving the problem of automatic allocation of complex objects opens up a huge number of potential applications for "machine vision" systems, such as industrial inspection and quality control, robotics, navigation and transportation, medicine and biomechanics, engineering, design automation and many others.

The object of the study is digital images obtained from a sequence of video frames. The subject of the research is methods, algorithms and programs of classification of objects in the image and recognition of situations.

Along with the term "machine vision" in the literature are often used concepts such as vision robots (robot vision), computer vision (computer vision), image processing (image processing), image understanding (image understanding). Consider the relationship between these concepts in order to establish the meaning of the terms that will be used later in this paper.

Computer vision is a scientific discipline that studies the theory behind and basic algorithms for analyzing images and scenes.

The concept of robot vision is interpreted by the authors as a narrower area of machine vision technologies, namely the part that ensures the functioning of machine vision systems under severe time constraints. This concept, of course, includes the problems of developing image-based information systems that are part of the control systems of complex dynamic objects (aircraft, car, control systems of technical and technological processes in production), since the need to form feedbacks on the results of processing input images in control systems, obviously, requires their rapid analysis in real time.

In the field of machine vision, it is common to distinguish the following main stages of data processing:

- image preprocessing;
- segmentation;
- identification of the geometric structure;
- definition of relative structure and semantics.

The process of identifying special points is achieved by using a detector and a descriptor.

A detector is a method of extracting specific points from an image.

A handle is an identifier of a singular point that distinguishes it from the rest of the set of singular points.

There are many algorithms for determining special points for different applications. In this paper, we consider angle detectors (or, as they are called, angle detectors).

Next, we will consider the description of the main detectors of special points that determine the angles.

1. Moravec Detector (Moravec)

One of the most common types of singular points is the corners on the image, because unlike edges, the angles on a pair of images can be uniquely matched. The location of the angles can be determined using local detectors. The input of the local detectors is a black and white image. The output is a matrix with elements whose values determine the degree of plausibility of finding the angle in the corresponding pixels of the image. Moravec detector (Moravec) is the simplest angle detector.

2. Harris Detector (Harris)

Studies have shown that the most optimal connected angle detector is the well-known Harris detector.

Harris and Stephens improved the Moravec detector by introducing anisotropy in all directions, that is, they consider derivatives of image brightness to investigate changes in brightness in many directions.

Harris detector is invariant to rotations, partially invariant to affine intensity changes. The disadvantages include the sensitivity to noise and the dependence of the detector on the image scale.

3. The MSER detector

During the development of the MSER detector (Maximally Stable Extremal Regions) to solve the problem of the invariance of singular points when scaling the image. The detector identifies many different regions with extreme properties of the intensity function within the region and at its outer boundary.

Although the Moravec detector is the simplest angle detector, it is still superior to the Harris detector, thanks to the invariance to the turns.

TEACHING ARTIFICIAL NEURAL NETWORKS

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The artificial neural network (ANN) is a mathematical model, as well as its software or hardware implementation, built on the principle of organization and functioning of biological neural networks – networks of nerve cells of a living organism. This concept has arisen in the study of processes occurring in the brain, and when trying to simulate these processes. The first such attempt was the neural networks of W. McCulloc and W. Pitts. After developing learning algorithms, the resulting models were used for practical purposes: in forecasting problems, for pattern recognition, in tasks of control, etc.

The first step in the process of ANN training will be “Data Collection for Training”.

The selection of data for network training and their processing is the most difficult step in solving the problem. A training dataset must be satisfied by several criteria:

• Representativeness - the data should illustrate the true state of affairs in the subject area;

• Consistency – conflicting data in the training set will lead to poor quality network training.

The source data is converted to a form in which they can be submitted to the inputs of the network. Each entry in the data file is called a training pair or training vector. The training vector contains one meaning for each input of the network and, depending on the type of training (with or without a teacher), one meaning for each output of the network. Network training on the “raw” set, as a rule, does not give qualitative results. There are a number of ways to improve the “perception” of the network.

• Normalization is performed when different inputs are supplied with data of different dimensions. For example, the first input of the network is supplied with values from zero to one, and the second – from one hundred to one thousand. In the absence of normalization, the values at the second input will always have a significantly greater impact on the network output than the values at the first input.

• Quantization is performed on continuous values for which a finite set of discrete values is selected. For example, quantization is used to specify the frequencies of audio signals in speech recognition.

• Filtering is performed for "noisy" data.

The second stage will be "Training".

In the process of learning, the network in a certain order views the training sample. The viewing order may be sequential, random, etc. Some non-teacher networks (for example, the Hopfield network) scan the sample only once. Others (for example, Kohonen's networks), as well as networks studying with a teacher, scan the sample many times, with one full pass through the sample called the learning era. When training with a teacher, the set of source data is divided into two parts - the learning sample itself and the test data; the principle of separation can be arbitrary. The training data is provided to the network for training, and the verification data is used to calculate the network error.

Thus, if the error is reduced on the verification data, then the network does indeed generalize. If the error on the training data continues to decrease, and the error on the test data increases, it means that the network has ceased to perform the generalization and simply "remembers" the training data. This phenomenon is called network retraining or overfitting. In such cases, training is usually stopped.

The third, and, roughly speaking, concluding stage will be "Checking the adequacy of networks".

This is an important stage, because even if the training is successful, at first sight the network does not always learn exactly what the creator wanted from it. There is a known case when the network was trained to recognize images of tanks from photographs, but later it turned out that all the tanks were photographed against the same background. As a result, the network "learned" to recognize this type of landscape, instead of "learning" to recognize tanks. Thus, the network "understands" not what was required, but what was easiest to summarize.

Testing the quality of training of the neural network should be carried out with examples that did not participate in its training. Moreover, the number of tests should be greater for quality training. If neural network errors have a probability close to one billionth, then a billion tests are needed to confirm this probability. It turns out that testing well-trained neural networks becomes a very difficult task.

Thus, if all the stages have been successfully completed, then we will get a trained, ready-to-work artificial neural network.

CLASSIFICATION OF ALGORITHMS FOR SORTING AND SEARCHING INFORMATION

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The purpose of our research work is to analyze the classifications of algorithms for sorting and searching information.

In computer science, a sorting algorithm is an algorithm that puts elements of a list in a certain order. The most frequently used orders are numerical order and lexicographical order.

Efficient sorting is important for optimizing the efficiency of other algorithms (such as search and merge algorithms) which require input data to be in sorted lists. Sorting is also often useful for canonicalizing data and for producing human-readable output. More formally, the output of any sorting algorithm must satisfy two conditions:

1. The output is in nondecreasing order (each element is no smaller than the previous element according to the desired total order);

2. The output is a permutation (a reordering, yet retaining all of the original elements) of the input.

Further the input data is often stored in an array, which allows random access, rather than a stack, which only allows sequential access; though many algorithms can be applied to either type of data after suitable modification.

Sorting algorithms are often classified by:

- Computational complexity (the worst, average and the best behavior) in terms of the size of the list (n). For typical serial sorting algorithms good behavior is O (n log n), with parallel sort in O(log2 n), and bad behavior is O(n2). Ideal behavior for a serial sort is O(n), but this is not possible in the average case. Optimal parallel sorting is O (log n). Comparison-based sorting algorithms need at least Ω (n log n) comparisons for most inputs.
- Computational complexity of swaps (for “in-place” algorithms).
- Memory usage (and use of other computer resources). In particular, some sorting algorithms are “in-place”. Strictly, an in-place sort needs only O(1) memory beyond the items being sorted; sometimes O(log(n)) additional memory is considered “in-place”.

- Recursion. Some algorithms are either recursive or non-recursive, while others may be both (e.g., merge sort).
- Stability: stable sorting algorithms maintain the relative order of records with equal keys (i.e., values).
- Regardless of whether they are sorting. A comparison sort examines the data only by comparing two elements with a comparison operator.
- General method: insertion, exchange, selection, merging, etc. Exchange sorts include bubble sort and quick sort. Selection sorts include shaker sort and heapsort.
- Whether the algorithm is serial or parallel. The serial number of the algorithms involves consistent work. The remainder of this discussion almost exclusively concentrates upon serial algorithms and assumes serial operation.
- Adaptability: Whether or not the presortedness of the input affects the running time. Algorithms that take this into account are known to be adaptive.

Thus, we came to the conclusion that sorting algorithms can differ from each other in many ways, therefore the programmer can choose from all existing classifications one of the acceptable sorting algorithms based on the conditions of the problem.

THE FIRST STAGE OF RESEARCH OF THE MICROFLORA OF THE MIXING RESERVOIR OF THE BIOGAS STATION "LUCHKY" (BELGOROD REGION)

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Primary qualitative analysis (to type) of the microflora of substrate of mixing tank (reservoir) of the biogas station "Luchky" allows us to approach the solution of the question of monitoring the dynamic of microbial variety in different organic substances used in the technology of receipt methane in conditions of the BGS "Luchky" acting.

Such researches are expedient to realize, taking into consideration of regional features of and chemical composition of the used substrate. At the BGS "Luchky" one of the main components of the substrate are slaughtering waste and corn silage – both determine the initial composition of the microflora. Knowledge of the composition of the microflora of the substrate which is used in the preparation of biogas is significant, especially during the start-up period of biogas stations.

Analysis of the literature showed no common technologies of a plan of such stations start, as well as absence of data on species composition of the substrates' microflora.

Goal: determination to type of the microflora of substrate of mixing tank (reservoir) of the biogas station "Luchky".

Achieving the goal was defined in solving problems:

- group quantitative analysis of the mixing tank(reservoir) microflora;
- certain kinds of microorganisms belonging detected in the analyzed substrates.

Quantitative and qualitative composition of microflora of the substrate was determined by decimal dilutions, seeding on the general and selective nutrient mediums was held from three higher dilutions threefold repetition.

Seeding was incubated at 32 0C for 48 hours.

Quantitative analysis of general microflora of the mixing tank showed quite high degree of microbial population of the substrate.

Monitoring of colonies was conducted primarily by visual analysis of the Petri dishes. If the colonies were few, they were considered the whole surface of the medium. The study was carried out by standard colony counting methods.

Definitely a high number of bacteria in analyzed substrate indicates favorable conditions and as a consequence of the active course of the processes of splitting of organic compounds. The correlation of bacteria belonging to different genera, was not determined.

The total number of bacteria is determined by the top breeding as the most approximate to the true.

Qualitative analysis of the generic composition of the bacterial flora was determined by morphological characteristics of colonies on nutritive medium and cells on micropreparations. The study used the Gram staining method.

We have found the following kinds of microorganisms: Proteus, Edwardsiella, Xenorhabdus, Providencia, Photorhabdus, Hafnia, Yersinia.

Bacteria were investigated to genus and reseeded in a pure culture.

We conducted a series of biochemical tests ENTEROtest 24, by which bacteria were identified to species.

The following types of bacteria were detected (expressed as a percentage of probability, in which 100% corresponds to full compliance of mind):

- Proteus penneri 91, 23%
- Edwardsiella ictaluri 77, 26%
- Xenorhabdus nematophilus 45, 58%
- Providencia rustigianii 25, 69%
- Photorhabdus luminescens 17, 44%

Besides, the species with small percent probability were found that talks about their small amount of sample taken:

- Hafnia alvei 16, 72%

- Proteus vulgoris 4, 09%
- Yersinia aldorae 1, 72%

As a result of the research of quantitative and qualitative composition of the substrate's microflora of mixing tank (reservoir), we found a significant diversity of the microflora. As a result of the work done the following species of microorganisms have been found: Proteus penneri, Edwardsiella ictaluri, Xenorhabdus nematophilus, Providencia rustigianii, Photorhabdus luminescens, Hafnia alvei, Proteus vulgoris and Yersinia aldorae.

The results were obtained with the consent of management "AltEnergo" LLC – owner of the BGS "Luchky".

ABSOLUTELY HARMLESS TO THE ENVIRONMENT AND SAFE NATURAL GAS ISOBUTANE - A HYDROCARBON "FUTURE REFRIGERANT" FOR HOUSEHOLD REFRIGERATORS

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The chemical industry, in particular, the production of organ of luorine compounds, produces dozens of different substances based on hydrocarbons of a number of methane.

In its essence, isobutane is an isomer of butane (n-butane), in the natural environment is present in the composition of natural and oil gases and gas condensate. The boiling point of isobutane is –11,73 °C, self-ignition occurs when the gas is heated to 462,2 °C. At high temperatures, the risk of an explosion of isobutane is high. It is possible to obtain isobutane by catalytic isomerization of n-butane.

This process relates to heterogeneous catalysis, since the reagent (butane) and the catalyst (Al^2O^3) are in different phases – gaseous and solid. Moreover, the mechanism of action of acid catalysts can be illustrated by the example of the isomerization reaction of n-butane to isobutane in the presence of $HCl\text{-}AlCl^3$ or $Pt\text{-}Cl\text{-}Al^2O^3$.

The traditional field of application of such compounds (freons, etc.) are various cooling systems (refrigerators, air conditioners) and heat pumps. Some substances can be used as: propellants in the production of aerosols, reagents for dry etching of integrated circuits in electronics, raw materials for the production of high-molecular compounds in the chemical industry.

In connection with the expansion of the scope of use of organ of luorine compounds, the demand for products of increased purity increases. Due to technological limitations, chemical plants cannot guarantee the production of ultrapure products. These factors open wide opportunities for the creation of new technologies for the purification of technical gases.

The main methods used in the enrichment and purification processes of most technical gases are condensation and adsorption methods for separation of mixtures at low temperatures.

Choosing an economical system of heat and cool supply of an industrial plant is a complex design task and therefore does not lose its relevance. In the temperature range of 150-300 K, the most effective vapor compression refrigerating machines are used as a cold source. Industrial refrigeration units, as a rule, use freons, for example, R-12, R-22, R-134-a, R-142-b, R-508-b and R-600-a.

Refrigerant R-600-a -–very promising freon for household refrigerators for replacing refrigerant R-12. Compared with the R-12 and R-134-a refrigerants, isobutane has significant environmental benefits:

- This natural gas does not destroy the ozone layer (ODP = 0) and does not contribute to the appearance of a greenhouse effect (GWP = 0.001).
- The mass of the refrigerant circulating in the refrigeration unit using isobutane is significantly reduced (by about 30%).
- Compressors work on mineral oils using typical electrical insulation, sealing materials and pipes of the same diameter as when the compressor is operating, for example, on R-12. Refrigeration units with freon R-600-a are characterized by a lower noise level due to low pressure in the working circuit.
- Isobutane is highly soluble in mineral oil and has a higher cooling coefficient than the R-12, which reduces energy consumption.

Modern designs of household and commercial refrigeration equipment contain a permissible concentration of R-600-a.

Currently, about 10% of household refrigerators in the world and more than 35% in Europe (including “Atlant” refrigerators) operate on the R-600-a. Italian and German companies use R-600-a in domestic refrigeration. Firms “Necci compressor” and “Zanussi” of the international concern “Electrolux compressors” produce compressors working on isobutane.

To date, the potential of existing capacities for the production of butane and isobutane exceeds the existing demand for them from the Russian petrochemical industry. The most effective enterprises are vertically integrated companies with the availability of raw materials base before the production of petrochemical products of high conversion (rubbers, polymers). These, in particular, are “Sibur” and “Tatneft”.

In this way, it is proved that isobutane is an isomer of butane; Its main advantages are also identified: it has good miscibility, and its use reduces energy consumption. In addition, the scope of this gas is considered.

INVESTIGATION OF THE METHOD OF SEGMENTATION OF VIDEO DATA OBJECT BASED ON OPTICAL FLOW

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Currently image processing is reduced to detecting the displacement of objects while moving. There are a number of methods that help to determine how much the object has moved in relation to its position on the original frame. The same segmentation method cannot be used to solve multiple problems in different areas. Most often in computer vision systems it is necessary to choose only one approach and then modify it taking into account the peculiarities of a certain task.

Segmentation is an intermediate step between determining whether there is movement (defined boundaries) and recognizing objects in an image. On this level is the combination of plots in one area of an image or splitting of the site into areas that belong to different objects. Combining is performed on the basis of belonging to a number of features: color, color depth, texture, brightness, direction and speed, size, format, etc. Purpose of the task is the basis for the choice of the method of grouping.

The exact estimation of the scene shift on several images is the main task, therefore, the approach that determines the motion of each pixel is considered further, provided that the displacement rate is not a significant criterion. This approach includes the definition of “optical flow”.

An optical stream is an image of the visible movement of objects, surfaces, or edges in a scene as a result of the movement of an observer (eye or camera) relative to the scene.

Methods based on optical flow are called differential methods, which calculate the displacement of selected areas of images at a time in each pixel. The name “differential” is justified by the fact that it is based on the use of partial derivatives in two directions of the image.

To find the displacement of the object is not enough to calculate the derivatives, so we have developed several methods for determining the optical flow, one of which Lucas-Canada algorithm.

The Lucas-Canada method is easy to understand as the image is considered in parts and an affine motion model is used.

The method is based on the following assumptions:

1. pixels that belong to the same object can be offset without changing the value;
2. the shift of the function is well approximated by the first derivative;
3. adjacent pixels have the same offset distance.

The disadvantages of the method of Lucas-Canada:

1. The above assumptions introduce an error, but help to calculate the optical flux.
2. The algorithm doesn't work well with a moving camera.
3. The method is local, so there is a problem of selecting areas within the local neighborhood (uniformly colored area).
4. Some textures on the image give a degenerate matrix, for which it is impossible to find the inverse matrix and, as a consequence, the displacement.

In conclusion, the Lucas-Canada method can provide sub-pixel accuracy, which suggests that the displacement of objects will be found with high confidence. Most of the methods are oriented to certain signs of segmentation and each of them has a number of disadvantages. The choice of algorithm for the computation of the optical flow must be based in connection with the requirements of a specific task.

Also, when choosing a segmentation method, it is necessary to take into account the fact that the properties of objects under the influence of external factors can change.

In the case of finding a set of objects in the frame with similar features, moving along arbitrary trajectories, overlapping each other, it is almost impossible to conduct an accurate segmentation.