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**Иностранные языки  
и  
современный мир**

**Foreign Languages  
and Contemporary World**

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международной научной конференции  
студентов, магистрантов, аспирантов

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*Рецензенты:*

Доцент кафедры немецкой филологии и лингводидактики  
УО «Брестский государственный университет имени А.С. Пушкина»,  
кандидат педагогических наук, доцент

**Л.Я. Дмитрачкова**

Доцент кафедры иностранных языков УО «Брестский государственный технический  
университет», кандидат филологических наук, доцент

**О.Л. Зозуля**

*Редакционная коллегия:*

**Л.М. Максимук, Н.В. Иванюк, И.В. Повх, Л.М. Калилец,  
О.Н. Коваленко, Л.Е. Левонюк, С.В. Милач, И.А. Полева**

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В сборник включены материалы, посвященные различным аспектам жизни современного общества: проблемам социально-экономического развития, вопросам окружающей среды, тенденциям в развитии современной науки и др.

Издание адресовано студентам, магистрантам и аспирантам высших учебных заведений. Может быть полезным для всех, кто интересуется проблемами современного мира и изучением иностранных языков.

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**В.А. Адамчук**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина

Научный руководитель – Л.М. Калилец

## **THE IMPORTANCE OF ORATORICAL SKILL OF AN ADVOCATE IN THE TRIAL**

To begin with, the oratorical skill was born in Ancient Greece, where with the gradual development of statehood, the activity of the masses in the domestic life of Greek polities increased. The fate of many politicians depended on their ability to speak publicly. So, this skill was taught and widely appreciated [1].

As for the present time, the oratorical skill, as an integral part of the professional competence of a lawyer, is a complex of the speaker's skills and knowledge in preparing and pronouncing of a public speech. First and foremost, this is the ability to select the appropriate material; this is the skill of constructing speech and public speaking with the task of having a certain impact on listeners; this is the ability to prove and disprove, the ability to persuade and over-persuade; it is a speech skill. The shortcoming of today's law graduate lies not in a deficient knowledge of law but that he has little, if any, training in dealing with facts or people – the stuff of which cases are really made. It is a rare graduate, for example, who knows how to ask questions – simple, single questions, one at a time, in order to develop facts in evidence either in interviewing a witness or examining him in a courtroom. And a lawyer who cannot do that cannot perform properly – in or out of court.

Inasmuch as the lawyer defends the interests of citizens in court, he will certainly participate in criminal proceedings, an integral part of which is judicial debate, in which the public prosecutor and the defender state their conclusions, namely, pronounce the court speeches. Trial advocacy is the art of persuasion. More completely, trial advocacy is the composition of fact extraction, legal reasoning, strategic judgment, and persuasive speech, structured by the rules of professional responsibility, evidence, procedure and substantive law. Cases are not won or lost merely by applying a particular principle of law or legal rule. Rather, these principles and rules become effective only in the hands of an advocate who supports them with a strong factual foundation and propounds them with persuasive argument.

The purpose of judicial speech, first of all, is to:

- 1) to establish the issue;
- 2) to promote certain persuasion of judges (jurors).

In the presence of the jury, the oratorical skill is even more powerful, because in this situation, the human factor is manifested to a greater extent. Also, judicial speeches increase the level of legal literacy of citizens and bring up respectful attitude to the law.

There is no doubt that oratory plays an important role in the professional activity of the lawyer. This is one of the most responsible, complex and creative moments of his participation in criminal proceedings. It should be noted that some other form of procedural activity does not impose so many demands on the lawyer and does not need such thorough and in-depth preparation as the pronouncement of court decisions in judicial debate [2].

When one thinks of “trial advocacy,” perhaps the first image is that of great courtroom orator, the “king of the advocacy”, Vladimir Danilovich Spasovich. He was not merely a technician trained in the mechanics of courtroom skills and etiquette, but a

lawyer who was able to extract the pertinent facts from a seeming maze of information, integrate those facts with legal principles, and present a reasoned argument. Though, according to Vladimir Ivanovich Taneyev (Russian lawyer), Spasovich's lectures at the School of Jurisprudence, shocked the listeners with "incredible tongue-tie": "He could not properly, coherently say two words. With incredible efforts he seemed to squeeze every word out of himself, helping himself with his hands, feet, head, and the whole body. He irritated the entire nervous system..." [3]. But eventually, thanks to constant hard work, a terrible effort, he became the most famous Russian skillful advocate. "Every thought was a picture, every word was a figure." The speeches of this great man are an example of the result of multilateral and long-term development not only as a lawyer, but also as a person.

It is also worth noting an important feature of Spasovich's oratorical manner: it is encyclopedic, obviously not only having legal knowledge with a deep understanding of any secrets of criminalistics, not only wise digressions into history, philosophy, literature, but also persuasive interpretation of ethical, logic, morality issues. In each case, he used his skills of persuasion, which were based on the following ten principles: comprehensiveness; theme; consistency; plausibility; legal Structure; accountability; congeniality; simplicity; community; flexibility. Spasovich always proceeded from the fact that judicial research "must consist in the investigation of truth in exactly the same ways as any study of truth. Therefore, the "nature of judicial speeches," according to Spasovich, "depends on what views the defender is guided by – whether he sets himself the task of only winning a case, defeating an opponent, or investigating the truth" [3].

Summarizing all of the above, it is worth repeating that legal advocacy is an art that transcends the courtroom walls. It is difficult to conceive of a legal practitioner who does not, in some way and at some time, utilize the skills of advocacy – fact analysis, legal integration, and persuasive presentation. Oratory is an advantage through which you can achieve success.

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В статье раскрываются основные аспекты ораторского мастерства как неотъемлемой составляющей профессиональной компетенции адвоката, как комплекса умений и знаний оратора по подготовке и произнесению публичной речи.

**Е.Р. Акопджанова**

Республика Беларусь, Минск, БГПУ имени М. Танка  
Научный руководитель – В.М. Шелег

**THE THEME OF HOMESICKNESS AND NOSTALGIA  
IN THE SHORT STORY OF WILLIAM SAROYAN  
“THE ARMENIAN AND THE ARMENIAN”**

William Saroyan is a well-known American writer of Armenian origin, the writer who made his initial impact during the Depression with a deluge of brash, original and irreverent stories celebrating the joy of living in spite of poverty, hunger and insecurity. Saroyan was concerned with the basic goodness of all people, especially the obscure and naive, and the value of life. His mastery of the vernacular makes his characters vibrantly alive. Most of his stories are based on his impressions of childhood and family priorities [1].

Dark, thin and hawk-like when he was young, peasant-stocky and heavily moustached in later years, Mr. Saroyan dominated all groups, everywhere, with his huge bass voice and his booming laugh. He explained that he came from an ancient tradition of Armenian singers and storytellers – “If I talk too much, it’s a cultural problem.”[2].

Saroyan’s famous short story “The Armenian and the Armenian” was written in August 1935 in New York and was first published in 1936. In the story, author tells about his meeting with an Armenian waiter he accidentally meets at a beer parlour in Rostov in 1935. The main hero – an Armenian, meets another one, also an Armenian. But it’s very interesting how the main hero explains his confidence about the nationality of the waiter: “I don’t know how I could tell he was an Armenian, but I could. It is not the dark complexion alone, nor the curve of nose, nor the thickness and abundance of hair, nor is it even the way the living eye is set within the head. There are many with the right complexion and the right curve of nose and the same kind of hair and eyes, but these are not Armenian. Our tribe is a remarkable one...” [3].

Fate and longing are the main key categories of consciousness of the Armenian people as we can prove it with the story: “There is a small area of land in Asia Minor that is called Armenia, but it is not so. It is not Armenia. It is a place. There are plains and mountains and rivers and lakes and cities in this place, and it is all fine, it is all no less fine than all the other places in the world, but it is not Armenia. There are only Armenians, and these inhabit the earth...” [3]. In these words the reader can feel peculiar nostalgia, because the author – Saroyan himself, innately worshiped and missed his homeland. By the way, some people say that your home, motherland, native place is where you were born, but I, just like Saroyan, feel nostalgia and longing for the place, for my home, that I’ve never been to. And for me it’s doesn’t matter where you were born, but if you realize Armenian roots and feel the call of Armenian ancestors you can’t make it vanish, it’s in your heart, mind, blood and soul until your death.

Both men start talking about their roots, the places they were born. We also can find homesickness in the words of main hero, words of regret and sadness altogether: “Moush. I love that city. I can love a place I have never seen, a place that no longer exists, whose inhabitants have been killed. It is the city my father sometimes visited as a young man” [3] and the feelings of pride and happiness: “Jesus, it was good to see this black Armenian from Moush. You have no idea how good it is for an Armenian to run into an Armenian in some far place of the world. And a guy in a beer parlour, at that. A place where men drink.

Who cares about the rotten quality of the beer? Who cares about the flies? Who, for that matter, cares about the dictatorship? It is simply impossible to change some things” [3].

The essence of the story is well-known among all the Armenians. The writer uses emotional words full of Armenian pain and bitterness that perpetually live in each Armenian heart and mind: “And the Armenian gestures, meaning so much. The slapping of the knee and roaring with laughter. The cursing. The subtle mockery of the world and its big ideas. The word in Armenian, the glance, the gesture, the smile, and through these things the swift rebirth of the race, timeless and again strong, though years have passed, though cities have been destroyed, fathers and brothers and sons killed, places forgotten, dreams violated, living hearts blackened with hate. I should like to see any power of the world destroy this race, this small tribe of unimportant people, whose history is ended, whose wars have all been fought and lost, whose structures have crumbled, whose literature is unread, whose music is unheard, whose prayers are no longer uttered. Go ahead, destroy this race. Let us say that it is again 1915. There is war in the world. Destroy Armenia. See if you can do it. Send them from their homes into the desert. Let them have neither bread nor water. Burn their houses and their churches. See if they will not live again. See if they will not laugh again. See if the race will not live again when two of them meet in a beer parlour, twenty years after, and laugh, and speak in their tongue. Go ahead, see if you can do anything about it. See if you can stop them from mocking the big ideas of the world, you sons of bitches, a couple of Armenians talking in the world, go ahead and try to destroy them” [3].

These words became very popular, because it shows the spirit of Armenian nation, courage and unstoppable power.

William Saroyan, whose plays, short stories and novels drew on the Armenian immigrant experience and depicted the variety and romance of American life, died of cancer yesterday at the Veterans Administration Hospital in Fresno, Calif. He was 72 years old.

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В статье представлен анализ одного из самых популярных рассказов известного американского писателя и драматурга армянского происхождения Уильяма Сарояна «Армянин и армянин». Перед читателями предстает богатый внутренний мир героев, их переживания и надежды. Автор пытается ответить на вопросы, которые всегда сопутствуют людям, живущим вдали от исторической родины.

**А.С. Аксенова, Е.А. Прокопович**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина

Научный руководитель – Е.Г. Сальникова

## **THE INTERNATIONAL RIDDLE MODEL**

One international formula that transcends many linguistic frontiers is the two-member antithetical formula as illustrated by the following riddles:

1. *Lies idle in summer, moves in winter. (A sledge.)*
2. *Stands in water, falls on land. (A net.)*
3. *Born twice, dies once. (A bird.)*
4. *In the "belly" in summer, on your back in winter. (A fur coat.)*
5. *Frontwise in the evening, backwise in the morning. (An oven vent.)*

The basis of the formula classification is the regularly recurring structural elements of the traditional genre and their manner of linkage. It is necessary to define the basic unit of the analysis so that we can name the criteria of the ground plan or model of the formula. We term this unit the formula member, and it is also the smallest independent structural unit of the analysis, though it, in turn, is made up of member components. The degree to which individual riddles are bound to the formula is determined by formula criteria. By examining the structure and number of the members as well as the regularities prevailing between them, we can elucidate the criteria of the formula.

The antithetical formula comprises a group of structurally fixed, two-part riddles. The formula members are an unspecified adverbial such as one of time, place, manner or other and a predicate verb (riddles 1–3), or an adverbial and either a nominal or an adverb (riddles 4–5). The formula itself is a combination of two antithetical members. It is not always a direct antithesis but an unusual relationship between states expressed by the members.

This formula is popular with riddles and our comparative examples clearly exhibit its creative variety. A formula element alone is not a sufficient criterion for conformity; it must be supplemented by an opposition between the components of two elements. The applications of the formula in different languages indicate that this antithetical structure is international at least within European limits. Let us take a few examples of English, German and Turkish riddles:

*Goes up unready (with difficulty), comes down ready. (Wall paper.)*

*Something goes down laughin' an' coming up cryin'. (A bucket.)*

*Hard on the edge, and soft in the middle. (A bed.)*

*Sweet when it is unripened, bitter when it is ripened. (An infant.)*

*My father has a thing, it's green outside and white inside. (A coconut.)*

*Grows in winter, dries in summer. (An icicle.)*

*Eats behind and comes in front. (A threshing machine.)*

*Empty by day, full by night. (A mousetrap.)*

*Pointed at the top and broad at the bottom, sweet throughout. (A sugar cone.)*

Some of the riddles demonstrate how lines that supplement or continue the riddle can be appended to the two-member antithetical formula. At its simplest this formula provides an easy-to-use model. Among the simple riddles are, for example, those based on the relationship of inside and outside.

In evaluating how formulae span cultures, more extensive study should be made of the verbal traditions germane to different languages and cultural areas.

Among the applications of the antithetical formula of 2+2 construction are riddles combining the expressive devices of several formulae. Often the syntactic-stylistic model does in fact provide a medium for ideas that vary somewhat in content. Every model is surrounded by a band of “borderline cases” – riddles that are structurally similar but that differ from one another in their semantic realisation. This also demonstrates that a formula can suggest ideas for expression, but that it does not act as a straitjacket, nor is it a pattern that is turned out mechanically.

The starting point for the classification was a corpus of riddles in which the applications of this antithetical formula are simultaneously regulated by four criteria, namely: 1) the structure of the formula members, 2) the minimum number of members, 3) the stylistic criterion and 4) the syntactic criterion. The riddles we have compared indicate that criteria 1–3 are adaptable as such to the classification, by means of the formula, of the riddle tradition in different languages. With reference to this formula the stylistic criterion of antithesis is all-pervasive and extends to the expression of both components of the members.

The two-member antithetical formula is an example of a riddle pattern in which the degree of crystallisation varies somewhat in the applications of the formula in different languages. Examples of this are English-language riddles in which the verbal component varies from a single verb to a verb plus modifiers. These divergences do not, however, change the overall picture of the formula crystallisation. All the generalisations concerning formulae are based on the frequencies in the material.

Some formulae operate at linguistic level. This represents the level that is completely dependent on the language in which the riddle is presented. This level covers, for example, rhyme, assonance, alliteration, onomatopoeic and other stylistic devices. It is also known as the textural level, in contrast to the structural level. An expressive model manifest at textural level may be characteristic of the entire genre, but still not suffice alone as the criterion for, say, defining a riddle. A riddle whose central idea operates at linguistic level cannot be translated into another language. The Cheremis riddles using onomatopoeia, i. e. the sound of the words, as their expressive device are a good example of this. The meaning of such onomatopoeic words is often only apparent from the context. Thus, descriptive words acquire fixed meanings in a way and they cannot be used completely at random. Contrary to expectation, the freedom to imitate words of the inventor of a riddle is thus very limited.

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В статье рассматривается международная модель загадки как формулы, в составе которой находятся регулярные повторяющиеся элементы, приведена классификация международных моделей, названы типичные для некоторых языков элементы образности в загадке, в частности антитеза и ее роль в построении международной модели. Описывается взаимосвязь критериев международной модели и структуры загадки.



**А.А. Алексеев**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Л.Е. Левонюк

## **COOPERATION BETWEEN THE WORLD INTELLECTUAL PROPERTY ORGANIZATION AND THE REPUBLIC OF BELARUS**

The World Intellectual Property Organization (WIPO) is an international organization designed to stimulate the usage and protection of works of the human mind – intellectual property. This organization is a specialized agency of the United Nations. Today 184 states are members of the World Intellectual Property Organization. It is more than 90 % of the countries of the world. Its general director is Francis Gurry.

The WIPO is the oldest international organization in the field of intellectual property protection. In fact, it was founded at a diplomatic conference in 1893. The two offices that carried out the administrative functions of the Paris and Berne Conventions united into one institution under the name United International Bureau for the Protection of Intellectual Property. In 1967, the Convention establishing the WIPO was signed in Stockholm. The headquarters of the WIPO is located in Geneva. In 1974, the organization became a specialized agency of the United Nations [2].

The essential task of the organization is to contribute to the development of a balanced and accessible international intellectual property system that provides rewarding for creative activities that stimulate innovation and contribute to economic development while respecting the interests of society.

The main functions of the World Intellectual Property Organization are:

- assistance in the development of activities designed to improve the protection of intellectual property throughout the world and the harmonization of national legislation in this field;
- the development of international laws and regulations in the field of intellectual property;
- the administrative functions of the Paris and Berne Union;
- legal assistance in the field of intellectual property;
- collection and dissemination of information, research and publication of their results [2].

The most important function of the WIPO is the administration of international conventions. It administers 24 international treaties (16 for industrial property, 7 for copyright, and the convention that establishes the WIPO).

Since 1998, the WIPO Worldwide Academy has been training personnel in the field of intellectual property protection. There is a Centre for Distance Learning, which allows you to gain knowledge through the Internet. The project of creating the WIPOnet, a global intellectual property network linking the business processes of national agencies online, is of certain interest. A promising area of the WIPO's activities is the settlement of commercial disputes related to intellectual property [1, p. 53–59].

The Republic of Belarus became a member of the World Intellectual Property Organization on April 26, 1970. The State Committee of Science and Technology was designated as the main body for cooperation with the WIPO, by the Resolution of the Council of Ministers of the Republic of Belarus of October 30, 2002.

Legal basis for cooperation between the Republic of Belarus and the WIPO was laid in December 2000 by signing the Programme of Cooperation between the Government of the Republic of Belarus and the WIPO. At this stage, the cooperation with the WIPO is also

regulated by the Memorandum of Understanding between the Government of the Republic of Belarus and the WIPO, the Protocol on Cooperation between the WIPO and the National Centre for Intellectual Property on training personnel in the field of intellectual property protection in the Republic of Belarus, as well as the Joint Declaration on the Strengthening of the Intellectual Property System property and development of innovations in the Republic of Belarus.

The main areas of cooperation between Belarus and the World Intellectual Property Organization are:

- improvement of national legislation in the field of intellectual property, taking into account the experience gained by other countries and international harmonization trends;
- strengthening the role of intellectual property in the relevant areas of scientific, technical and economic activities carried out in Belarus by various business entities;
- improvement of law enforcement activities in Belarus with a view to preventing, detecting and suppressing offenses in the field of intellectual property;
- strengthening the technical base and increasing the scientific and technical potential of the staff of the National Center for Intellectual Property.

Work on these areas is carried out through the interaction of the Ministry of Foreign Affairs, the National Centre for Intellectual Property and the State Committee for Science and Technology.

The WIPO experts advise the Belarusians on various aspects of intellectual property and its use for economic and social development, in particular, on the draft law of the Republic of Belarus “On Copyright and Related Rights”.

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Статья посвящена истории создания и основным задачам и функциям Всемирной организации интеллектуальной собственности (ВОИС). Автор подчеркивает, что 90 % стран мира являются членами этой организации. Республика Беларусь вступила в ВОИС в 1970 г., и с тех пор развивается активное сотрудничество в отношении совершенствования законодательной базы в области защиты прав интеллектуальной собственности в стране.

**А.Н. Антонюк**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Т.В. Василюк

#### **DEVIANT BEHAVIOUR OF PRIMARY SCHOOL STUDENTS**

Deviant behaviour of children of primary school age is a common problem today. In order to find out the reasons for the emergence of deviant behaviour it is necessary to consider in more detail the psychological characteristics of children of this age.

Junior school childhood is the period from 6 to 9 years old. During this period, children go to the first class and their adaptation to school occurs. It is natural that each child's adaptation takes place in different ways. It depends on their temperament, psychological characteristics and upbringing. Another feature of junior school students is physical changes of the body, the improvement of the central nervous system in particular. In addition to these factors, there are also increased demands from teachers and parents, changing lifestyles, increased emotional excitability and tension, which makes the period of starting school stressful for a child.

During adaptation, children are divided into three types. Children of the first type may have sleep and appetite disorders, they become more capricious and often cry. Children of the second type behave very actively: they make noise, run and are often distracted in the classroom. Children of the third type are quiet, modest, diffident and have difficulty in communicating. However, not all children are exposed to such a difficult period of adaptation. With some children, it goes smoothly and almost imperceptibly. Children can overcome the difficult period of adaptation only with the help of their parents and teachers.

In psychology these changes are referred to as "the crisis of seven years of age". Children's further behaviour and the process of becoming a personality depends largely on how they go through this crisis. If, during this period, a child is supported and given understanding and care, he or she will successfully overcome the crisis. But if a child is left alone with problematic situations, the crisis is likely to pass painfully, which will lead to the formation of deviant behaviour. Deviant behaviour involves certain actions that society does not approve of, actions that are contrary to cultural, moral and social norms [1].

Deviant behaviour goes through three stages. It is the first stage that concerns primary school age. At this stage, children are especially predisposed to deviant behaviour. The reason may be the child's unwillingness to go to school, mistakes in education, poor communication skills, which can lead to their isolation from the class. At the second stage, student constantly ignore the rules of conduct and social norms. This happens due to misunderstanding on the part of the class or the teacher or due to the child's irresponsible attitude to study. At the third stage the student's behaviour is neglected and very difficult to correct.

As it has been mentioned above, the first stage of the formation of deviant behaviour is of primary importance because if the child's problems are ignored, they may develop negative personal qualities and shortcomings in their behaviour.

A tremendous role in the life of a schoolchild is played by public opinion, that is how teachers, parents and peers speak of them. For example, if a child is called "lazy", he or she loses motivation to study. But if they are praised from time to time, even for minor acts, they begin to study much better.

The main causes of deviant behaviour are stress associated with starting school and not knowing how to cope with this stress. However, it is necessary to take into account the importance of raising a child in the family and his or her relationship with the family members. The atmosphere in which children live affects their behaviour. Psychologists distinguish the reasons which promote the development of deviant behaviour through the parents' fault:

1. Lack of attention. A child tries by all means to attract the attention of the adults, often doing something bad.
2. The demands that parents put on their child are too high. A child is afraid of disappointing their parents, and learns to lie on order to compensate for their failures.

3. Humiliation of a child in public. Such children are deeply hurt by their parents and vent all their anger on those who are weaker, i. e. on their classmates.

4. Excessive care. Such children are often very passive, they do not believe in themselves and suffer from low self-esteem.

One of the main problems of deviant behaviour of primary school students is that they do not know how to control their emotions, they cannot see their actions in a proper perspective, nor can they foresee the consequences of their actions.

Mischievousness, naughtiness, pranks, disobedience, stubbornness, whims, hysterics, willfulness, rudeness, disrespect, offenses, violation of discipline, refusal to fulfil the requirements are examples of deviating behaviour of children of this age group.

All types of deviant behaviour can be corrected with the help of teachers and parents. The most popular methods of correction of deviant behaviour are observation, conversation and persuasion. Children are quite receptive and open to dialogue and changes in behaviour. In especially severe cases behavioural psychotherapy may prove effective [2].

Creative groups and special interest studios have recently become a popular method of correction. In them, children's proper leisure activities are organized, children are engaged in creativity or sports, which gives them a chance to give way to all their energy and acquire new skills. Group-based rehabilitation or training is effective, since in a game a child forgets about what is happening around and reveals what he or she is really like.

When correcting a child's behaviour, the teacher should rely on the personality-oriented approach based on humanity, love, support and understanding. Only in this way teachers can achieve a positive result.

It is necessary to take into account age peculiarities and psychological characteristics of children, as it is at primary school age that active assimilation of behavioural, moral and ethical norms takes place and the personality is formed.

To sum it up, we can come to the conclusion that the manifestation of deviant behaviour by primary school children is directly related to their adaptation to school, as well as their academic progress and relationships in the school community.

As a recommendation for teachers and parents, it is important to note that the main activity should be aimed not only at correcting deviant behaviour, but also at building up a child's system of values, strengthening their self-esteem and self-confidence, finding external and internal resources that promote increase of interest and motivation of a child to positive changes in educational and social activities.

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Статья посвящена проблеме девиантного поведения детей младшего школьного возраста. Описываются его причины и виды. Автор уделяет особое внимание связи девиантного поведения с адаптацией к школе. Подчеркивается важная роль родителей и учителей в выявлении и коррекции девиантного поведения младших школьников.

**П.С. Артющкин**

Россия, Москва, РГАУ-МСХА имени К.А. Тимирязева

Научный руководитель – А.Ю. Алипичев

**OPTIMIZING ELECTRIC POWER CONSUMPTION  
IN RURAL AREAS BASING ON THE COMPARATIVE ANALYSIS  
OF ITS PATTERNS**

Consumers' demand for power sources is crucial for estimating the operating parameters of electrical systems and their maintenance. It is not easy to predict consumer demand as well as their behaviour. Power distribution feeders connect all consumers – without any account of their income, or location.

Today, electricity plays a crucial role in human life and the activity of various enterprises including farms. But the world that is constantly changing, electricity is not as equitably distributed to all its consumers as it is supposed to be. Possible reasons for this fact are social, economic, and geographic conditions shaping consumer behaviour towards power consumption. Regular surveys [1] tend to study either consumption or demand but not consumer behaviour. The purpose of this short paper is to map out how consumer behaviour can affect power consumption. We suppose that electric load patterns can be better understood and reflected through load forecasting methods and surveys.

In particular, we will consider typical variations of daily and seasonal power consumption patterns depending on demographical areas.

In *rural areas*, the working day of consumers begins fairly early for most records as compared with other demographic areas. It has been observed that the highest demand in rural areas fall on a period between 5:30 to 8:30–9:00 a.m. [2]. This is due to the use of heavy machinery required for various household purposes. Pumps and other machines are not used for farming solely but also for domestic purposes such as washing clothes, utensils, cleaning, bathing etc. During the daytime, there is no significant demand of power used for household purposes as during this time rural population is engaged in their work routines. In the evening demand increases again due to the use of artificial lights, fans, TV and other purposes.

*Urban and suburban* consumer behaviour tends to have a different pattern. Morning hours are busy till the providers of family are off to work, notably around 8:00 to 10:00 a. m. After which, demand slides to reach 1.5 to 2 kW or even lower considering there are few or no residents at that time. Later, as expected, the demand peaks during the evenings when lights and all other appliances come into effect. But what was found in this study was not in accordance with the assumptions and the actual demand pattern displayed anomalies caused by some behaviour patterns. To start off, morning hours did display similar characteristics as were expected. The morning peak consumption was not seen until later than 7:30–8:00 a. m. unlike the rural areas where the working day starts earlier [2]. After the members of household left for work/school, demand levels down but not to an extreme low as was expected. In the suburban areas, not every adult may work on a full-time basis; housewives in particular stay back to complete their chores. Housewives today use appliances for their daily chores like washing machines, dishwashers, vacuum cleaners etc. Finally, as expected, the consumption peaks during evening and remains high as long as till 11 p. m.

Average winter electricity consumption for rural residents is significantly greater than for those living in urban areas. The stock of electricity-using devices, climate, and demographic characteristics were the most important determinants of variations in household electricity consumption.

Winter consumption for respondents living in rural areas and in cities with population of 2,500 or less averaged 1157 KWH per month, while the average for households in cities larger than 2,500 was only 875 KWH per month [1].

There are possible explanations for the greater consumption reported by rural respondents [1].

- rural and urban households may have been billed under different tariffs;
- rural dwellings may have more electricity-using devices (especially electric space and water heating);
- the urban housing stock may be more energy efficient;
- rural locations may be colder than the urban areas;
- as has been mentioned, rural and urban residents may have different demographic characteristics which are related to electricity usage;
- there may have been variations in the intensity of use of electricity-consuming devices.

Differences in rural and urban electricity consumption are primarily the result of differences in the stock of electricity-using devices. Rural residents are far more likely to have electric space and water heating and somewhat more likely to have electric clothes dryers and freezers. For space heating, water heating, and clothes dryers, they still often lack alternative energy sources to perform these tasks in rural areas.

It is therefore seen that consumer behaviour is critical towards electricity consumption and in future, if any study of electrical consumption is done, it is very important that the behavioural aspect is given importance too, otherwise there can be serious imperfections in the data processed. Therefore, conventional methods of load forecasting and management need to pay attention to this fact. To increase efficiency and reduce wastage of electricity, it is crucial to first understand how the delivered power is exactly being used preferably, at real-time basis. Therefore, the use of Smart Grids and localized power sources can help in reducing ailments in the system. In case houses requiring less load received greater power, the household appliances were subject to surges and possible damage. Also, there is very little communication between the consumer and the electricity department about new loads or on any other issue except for complaints. The use of smart systems can improve that communication. This will eventually lead to a more efficient distribution of electricity. Although the concept of localized power sources is a little far-fetched at the current stage; still they are expected to contribute a great deal to cutting down losses and costs in a long term. The basic conclusion we may draw from this survey is that despite technical improvements, we will always have to turn to human behaviour and site-specific features to get a more complete actual picture.

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В статье дается обзор режимов использования электрической энергии жителями сельской и городской местности в зависимости от времени суток и времени года.

Автор анализирует исследования, проводимые в разных странах, обобщает полученные выводы и дает рекомендации по оптимизации энергопотребления, а также его учету на основе технологий «умных сетей» и расширенного применения локальных источников энергии.

**Я.В. Арчибасова**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Т.С. Троцюк

**PHYTOMANAGEMENT IN BELARUS**

Phytomanagement (phytoremediation) is a generalized term that unites various methods of using higher plants and symbiotic microorganisms for the restoration of anthropogenically disturbed lands.

All phytoremediation technologies can be divided into two groups:

- *Phytocleaning* – reduction of pollutant content in the environment.
- *Phytostabilization* – reduces pollutant mobility in soil.

It is possible to use two strategies: *phytoextraction* using plant-hyperaccumulators, which have high concentrations of PTTE (potentially toxic trace elements) in the aerial organs, but insignificant biomass, phytoextraction with the use of secondary accumulators – plants with large biomass and moderate concentrations of PTTE in the aerial organs [3].

Among a lot of cultivated in Belarus oil crops, the main one is sunflower. Plants with large biomass obtained for various chemical and biological purposes occupy large areas of land. Due to extensive use in the food industry, as well as biofuels, green fertilizers and phytoremediation, various ways are being developed to increase the effective yield of these technologies. One of such methods is the treatment with hormones – brassinosteroids, which have a growth stimulating effect [2].

Brassinosteroids (BS) constitute a new sixth class of plant hormones in addition to auxins, gibberellins, cytokinins, abscisic acid and ethylene. BS were found in all organs of plants, such as leaves, stems, roots, flowers (especially anthers, pollen), seeds and fruits. Young growing tissues contain higher concentrations of BS than in mature tissues. BS have high biological activity and are able to influence the physiological processes in plants at low concentrations, increasing their growth, yield and resistance to stress factors of the environment, including drought, extreme temperatures, heavy metals, salinity.

The effect of steroid compounds has not been studied enough, especially if it is a complex analysis of phenotypic parameters. Analysis of the effect of steroid compounds on the parameters of germination, growth and development of plants in the field experiment is necessary to identify the most sensitive varieties and the selection of optimal drug concentrations, as well as the extrapolation of laboratory and field data. The study of the effect of new steroid preparations on the functional parameters of sunflower one-year will make it possible to better understand the mechanism of their effect on living organisms, as well as the most promising areas for the use of phytohormones [4].

The most interesting parameters are phenotypic features of two cultivars: sunflowers M1 and Ethic (M1 is a mutant line possessing selective qualities of d-group metals absorption (copper, zinc, cadmium) (E – commercial cultivar of sunflower oil culture with large biomass and the weight of seeds). For this technology, the following brassinosteroids: epibrassinolide

(EBL), homobassinolide (GBL) and epicastasterone (ECS) in three concentrations (in %):  $10^{-8}$ ,  $10^{-7}$ ,  $10^{-6}$ .

Based on the literature data of the studies on other cultures and laboratory experiments, the following scheme of experiment was proposed: seeds of both cultivars (100 pieces each) were pre-soaked for 5 hours in solutions of epibrassinolide (EBL), homobassinolide (GBL) and epicastasterone (EKS) with concentrations of  $10^{-8}$ ,  $10^{-7}$ ,  $10^{-6}$  (previously tested in laboratory experiments) [1]. For the control a distilled water was used, totaling 10 options for each cultivar. Then the seeds were planted on the experimental field of the Agrobiology department of the Ecology Center.

The planting pattern was as follows: the distance between the plants was 25 cm, the distance between the rows was 1 m, which enabled the subsequent motorized tillage of the motor block. Thus, the density of planting was 40,000 plants/ha. Planting sunflower was carried out on April 12. The first shoots appeared on May 10. The growth parameters (the height of the stem was noted from this time every 7–10 days, the first weeding was carried out on June 5. The necessary agrotechnical measures were carried out: weeding, fertilizing, loosening the soil, protecting the baskets from eating pests.

During the vegetation period, parameters were measured: germination, stalk length, seed yield and yield of green mass of the studied plants. Collection of sunflower baskets was carried out on 09/06/2017. After that, the seed basket was placed for drying to air-dry mass in a closed ventilated area, the stems and leaves of model sunflower plants were subjected to the same drying, and the seeds were subsequently separated from the baskets, dried and weighed.

All statistical analysis was carried out using Microsoft Excel. The values were pre-processed, mean values and standard deviations for each replication were calculated. At the same time, the Student-test was performed to determine the differences between the mean values of the test parameters.

Taking into account the spheres of the plant usage, we come to the conclusion that the main parameters are of interest to us: the length of the stem, the yield of seeds and the yield of green biomass. The maximal stimulating effect in comparison with the control was observed at the 6–8 weeks of vegetation for practically all three hormones tested: EBL ( $10^{-7}$ –35 %), EKS ( $10^{-8}$ –34 %) and GBL ( $10^{-7}$ –41 %).

Comparing the data obtained in laboratory and field conditions, it can be stated that the most significant growth stimulating effect in both cases is EBL in a concentration of  $10^{-7}$ , GBL in a concentration of  $10^{-6}$  and ECS in a concentration of  $10^{-7}$ , while GBL in concentration  $10^{-7}$  and  $10^{-8}$  in most cases exhibits either a neutral or inhibitory effect.

During the fieldwork, due to regular monitoring of all stages of development of the cultivated crop, positive results were shown for the yield indication in the repeated, treated actions with EKS at a concentration of  $10^{-8}$ , however, due to damage to a part of the baskets by birds in this variant, the data turned out somewhat lower than expected.

Studying the effect of brassinosteroids on the various phenotypic signs of two sunflower cultivars, it can be concluded that for the mutant M1 line, the use of the studied hormones for increasing the seed yield is a promising direction, and in commercial grade E – for increasing the biomass of green organs.

At present, to determine the biochemical status of plants, the investigation of the contents of phenolic compounds and antioxidant activity in vegetative organs is provided.

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В статье речь идет о новой экологической технологии – фиторемедиации, в которой используются высшие растения и микроорганизмы для восстановления антропогенно нарушенных земель. Автор показывает применение современной технологии с использованием основной в Республике Беларусь масличной культуры – подсолнечника однолетнего (*Helianthus annuus* L.), выращиваемого на опытном поле отдела Агробиология Центра экологии БрГУ имени А.С. Пушкина, и брассиностероидов, синтезированных в Национальной академии наук Беларуси.

**А.И. Астапенко**

Республика Беларусь, Минск, БГУ

Научный руководитель – О.В. Синчук

## **BIOLOGY AND ECOLOGY OF LADYBUGS (COLEOPTERA, COCCINELLIDAE)**

Many people are fond of ladybugs because of their colorful, spotted appearance. But farmers love them for their appetite. Most ladybugs voraciously consume plant-eating insects, such as aphids, and in doing so they help to protect crops. Ladybugs lay hundreds of eggs in the colonies of aphids and other plant-eating pests. When they hatch, the ladybug larvae immediately begin to feed.

Ladybugs are also called lady beetles or, in Europe, ladybird beetles. There are about 5,000 different species of these insects, and not all of them have the same appetites. A few ladybugs prey not on plant-eaters but on plants. The Mexican bean beetle and the squash beetle are destructive pests that prey upon the crops mentioned in their names [4].

Coccinellids are best known as predators of Sternorrhyncha such as aphids and scale insects, but the range of prey species that various Coccinellidae may attack is much wider. A genus of small black ladybirds, *Stethorus*, presents one example of predation on non-Sternorrhyncha; they specialise in mites as prey, notably *Tetranychus* spider mites. *Stethorus* species accordingly are important in certain examples of biological control [1].

Various larger species of Coccinellidae attack caterpillars and other beetle larvae [1]. Several genera feed on various insects or their eggs; for example, *Coleomegilla* species are significant predators of the eggs and larvae of moths such as species of Spodoptera and the Plutellidae [6]. Larvae and eggs of ladybirds, either their own or of other species, can also be important food resources when alternative prey are scarce. As a family, the Coccinellidae used to be regarded as purely carnivorous [7], but they are now known to be far more omnivorous than previously thought, both as a family and in individual species;

examination of gut contents of apparently specialist predators commonly yield residues of pollen and other plant materials. Besides the prey they favour, most predatory coccinellids include other items in their diets, including honeydew, pollen, plant sap, nectar, and various fungi. The significance of such nonprey items in their diets is still under investigation and discussion [3].

Apart from the generalist aphid and scale predators and incidental substances of botanical origin, many Coccinellidae do favour or even specialise in certain prey types. This makes some of them particularly valuable as agents in biological control programmes. Determination of specialisation need not be a trivial matter, though; for example the larva of the Vedalia ladybird *Rodolia cardinalis* is a specialist predator on a few species of Monophlebidae, in particular *Icerya purchasi*, which is the most notorious of the cottony cushion scale species. However, the adult *R. cardinalis* can subsist for some months on a wider range of insects plus some nectar [1].

Certain species of coccinellids are thought to lay extra infertile eggs with the fertile eggs, apparently to provide a backup food source for the larvae when they hatch. The ratio of infertile to fertile eggs increases with scarcity of food at the time of egg laying. Such a strategy amounts to the production of trophic eggs [5].

Some species in the subfamily Epilachninae are herbivores, and can be very destructive agricultural pests (e. g., the Mexican bean beetle). Again, in the subfamily Coccinellinae, members of the tribe Halyziini and the genus *Tythaspis* are mycophagous.

While predatory species are often used as biological control agents, introduced species of coccinellids are not necessarily benign. Species such as *Harmonia axyridis* or *Coccinella septempunctata* in North America outcompete and displace native coccinellids and become pests themselves [1].

The main predators of coccinellids are usually birds, but they are also the prey of frogs, wasps, spiders, and dragonflies. The bright colours of many coccinellids discourage some potential predators from making a meal of them. This phenomenon, called aposematism, works because predators learn by experience to associate certain prey phenotypes with a bad taste. A further defense, known as “reflex bleeding”, exists in which an alkaloid toxin is exuded through the joints of the exoskeleton, triggered by mechanical stimulation (such as by predator attack) in both larval and adult beetles, deterring feeding.

Coccinellids in temperate regions enter diapause during the winter, so they often are among the first insects to appear in the spring. Some species (e. g., *Hippodamia convergens*) gather into groups and move to higher elevations, such as a mountain, to enter diapause.

Most coccinellids overwinter as adults, aggregating on the south sides of large objects such as trees or houses during the winter months, dispersing in response to increasing day length in the spring [2].

Predatory coccinellids are usually found on plants which harbour their prey. They lay their eggs near their prey, to increase the likelihood the larvae will find the prey easily. In *Harmonia axyridis*, eggs hatch in three to four days from clutches numbering from a few to several dozen. Depending on resource availability, the larvae pass through four instars over 10–14 days, after which pupation occurs. After a general period of several days, the adults become reproductively active and are able to reproduce again later, although they may become reproductively quiescent if enclosing late in the season. Total life span is one to two years on average [4].

Ladybugs live in a wide variety of habitats including forests, grasslands, fields, gardens, and in some cases people’s houses. Out of all these places they are particularly welcome in gardens. People have even begun intentionally putting them in their gardens as a natural pest

control instead of using harmful chemicals. This is because their main diet consists of aphids, mealy bugs, and mites, all of these being garden pests. Both adult ladybugs and their larvae share the same diet just in different portions. The larvae usually eat about 25 aphids a day as the adults can eat up to 50. Like most other insects ladybugs that live in more temperate regions enter diapause during the winter season. Just as they are the predators of aphids, mealy bugs and mites they too have predators. The main predator they seem to have is birds. When they sense attack they either act dead or they send out a strong chemical that takes bad to the predator, making them not want go any further with disturbing them.

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В статье идет речь об особенностях биологии и экологии божьих коровок (Coleoptera, Coccinellidae). Приводятся данные о питании и роли божьих коровок в качестве агентов биологической защиты, немаловажной роли данных насекомых в экосистемах.

**А.И. Астапенко, М.О. Кулишевич**  
Республика Беларусь, Брест, БрГТУ  
Научный руководитель – Д.В. Новик

#### THE FIRST PROGRAMMING LANGUAGES

In the fifties of the twentieth century, with the advent of computers on electronic tubes, the rapid development of programming languages began. Computers that were at that time much more expensive than the development of any programme required high-performance code. Such code was developed manually in the Assembler language. In the mid-50s, under the leadership of John Backus for IBM, the algorithmic programming language FORTRAN was developed. Despite the fact that there already existed language development that performs conversion of arithmetic expressions to machine code, the creation of the

FORTRAN (FORmula TRANslator) language, which provides the ability to write a computation algorithm using conditional statements and input / output statements, has become the starting point for the era of algorithmic programming languages.

FORTRAN language was required to create a highly efficient code. Therefore, many language constructs were originally developed taking into account the architecture of IBM 407. The success of the development of this language led to the fact that manufacturers of other computer systems began to create their own versions of translators. With the purpose of some possible at that time unification of the language FORTRAN IV, developed in 1966, became the first standard, called FORTRAN 66.

As an alternative to the FORTRAN language, originally oriented to the architecture of IBM, under the leadership of Peter Naur in the late 50s, ALGOL (ALGORithmic Language) was developed. The main goal pursued by the developers of this language was independence from the specific architecture of the computer system. In addition, the creators of the ALGOL language sought to develop a language that is convenient for describing algorithms and uses a notation system close to that adopted in mathematics.

The languages FORTRAN and ALGOL were the first languages, focused on programming computations.

Language PL/I, the first versions of which appeared in the early 60's, was initially focused on IBM 360 and expanded the capabilities of the FORTRAN language by some means of the COBOL language developed in the same years. Despite the definite popularity of the PL/I language among programmers working on IBM computers and the EU series machines, at present it is of purely theoretical interest.

In the late 1960s, under the direction of Nyard and Dahl, the Simula-67 language was developed, using the concept of user-defined data types. In fact, this is the first language that uses the notion of classes.

In the mid-70s, Wirth proposed the language Pascal, which immediately became widely used. At the same time, at the initiative of the US Department of Defense, work began on creating a high-level language, named Ada – in honour of Ada Lovelace, a programmer and daughter of Lord Byron. The creation of the language began with the definition of requirements and the development of specifications. Four independent groups worked on the project, but they all used Pascal as the basis. In the early 80s, the first commercial compiler for Ada was developed.

The universal programming language C was developed in the mid-70s by Denis Ritchie and Ken Thompson. This language has become a popular language of system programming and was once used to write the core of the UNIX operating system. The C language standard was first developed by the ANSI Standards Working Group in 1982. The international standard of language C was adopted in 1990. Language C is the basis for the development of C ++ and Java programming languages.

Along with algorithmic languages, languages developed for the processing of business information, as well as languages of artificial intelligence, developed in parallel. The first language is COBOL (COMMON Business Oriented Language), and the second language is LISP (LIST Processing) and Prolog. The LISP language, developed in the 1960s under the leadership of J. McCarthy, was the first functional language for processing lists, which found wide application in game theory.

With the advent of personal computers, languages have become integral parts of integrated development environments. There are languages used in various office programmes, for example VBA (Visual Basic for Application).

In the 90s, with the expansion of the Internet, the possibility of distributed data processing is expanding, which is reflected in the development of programming languages. There are languages designed to create server applications, such as Java, Perl and PHP, document description languages – HTML and XML. Traditional programming languages C++ and Pascal also undergo changes: the programming language begins to understand not only the functionality of the language itself, but also the class libraries provided by the programming environment. The emphasis on the specification of the programming languages themselves is shifted to the standardization of the mechanisms of interaction between distributed applications. There are new technologies – COM and CORBA, specifying the interaction of distributed objects.

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В статье анализируются первые языки программирования, приводятся их разновидности, время появления и решаемые ими задачи, а также отмечается их значимость для различных сфер жизнедеятельности общества.

#### **О.А. Баранова**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Т.С. Троицук

#### **PECULIAR PROPERTIES OF THE FORMATION OF THE SOCIOCULTURAL COMPETENCE IN THE PROCESS OF LEARNING A FOREIGN LANGUAGE**

A foreign language acquisition is inextricably linked with learning of the national culture, which involves mastering the peculiarities of the culture of a foreign country, behaviour, lifestyle, traditions and rituals of its people. These characteristics of skills include sociocultural competence.

As a component of communicative competence sociocultural competence is not only the ability to communicate, but it also takes part in the dialogue, thus taking into account the peculiarities of both the foreign country and representing the national culture of your own country.

According to the definition, sociocultural competence is a set of knowledge about the country of the studied language, national-cultural features of social and speech behaviour of native speakers and the ability to use such knowledge in communication, following customs, rules of conduct, standards of etiquette, social conditions and stereotypes of behaviour of native speakers [1, p. 288].

Sociocultural competence is an integrative phenomenon and according to P. V. Sysoev it includes four components:

- sociocultural knowledge, which means the knowledge about the country of the studied language, its traditions, features of mentality and norms of behaviour;
- communication experience, which means the correct interpretation of the phenomena of the foreign culture;

- personal attitude to the facts of culture, the ability to overcome sociocultural conflicts in communication;
- knowledge of how to use the language, that means the correct use of national-marked language units in speech [3, p. 87].

The immersion of the learner in the sociocultural competence should be implemented gradually through the reflection following each stage. First of all, it is important to create the atmosphere of friendliness and comfort during foreign language classes. The next step is to create the environment close to the authentic, using the elements of clarity and decoration of the classroom. Another important step is the constant viewing and listening to the authentic videos, songs and rhymes.

Such activity as gaming is one of the features of the formation of sociocultural competence in the following cases:

1. While studying the spiritual component of the people (proverbs, winged expressions, sayings), when one of the forms of the occupation can be an “excursion-lesson”. It means not just memorizing words, but the introduction of pupils into the conditions of a particular ethnic group of a certain country or even century.

2. While studying the separate lexical units within one theme, one can use the following forms of game: “staging of verses”, “ping-pong”, “say-it-again”. An important component of these forms of gaming is situationality and adoption of speaking manners of representatives of a foreign language culture.

3. While studying grammatical forms, such games as “voice image”, “play the situation” could be the most effective.

4. At the lessons of consolidation and systematization of knowledge “lesson-journey” might involve all pupils in the process of studying. The most effective lesson can be a journey through the country of the studied language, or a story of a visitor telling about the facts and features of their country. These games help compare the received information about the foreign country with the knowledge about your own country [2].

Before starting to form sociocultural competence it is important to find out whether the foreign language learner has the ability of cross-cultural communication. The presence of these abilities involves the formation of the qualities of tolerance, openness, while the absence leads to violation of the foreign language communication.

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В статье рассматривается социокультурная компетенция и пути ее формирования в ходе обучения иностранному языку. Автор подробно остановился на одной из главных особенностей формирования социокультурной компетенции – игровой деятельности, раскрыв этапы и формы реализации данной компетенции.

**М.О. Барболин, Д.А. Куц**  
 Республика Беларусь, Брест, БрГТУ  
 Научный руководитель – О.В. Прокопюк

## **TECHNOLOGIES THAT ARE CHANGING THE WORLD**

“Artificial Intelligence” (AI) is currently the hottest buzzword in tech. After decades of research and development, the last few years have seen a number of techniques that have previously been the preserve of science fiction slowly transform into science fact.

AI techniques are already a deep part of our lives: AI determines our search results, translates our voices into meaningful instructions for computers and can even help sort our cucumbers (more on that later). In the next few years we’ll be using AI to drive our cars, answer our customer service enquiries and, well, countless other things. Robots will significantly improve the quality of our lives and give people more time to focus on something interesting, important and exciting for them.

The Journal “MIT Technology Review” has named breakthrough technologies of 2017 [1]:

- Reversing Paralysis. Scientists are making remarkable progress at using brain implants to restore the freedom of movement that spinal cord injuries take away.
- Self-Driving Trucks. “Tractor-trailers without a human at the wheel will soon barrel onto highways near you. What will this mean for the nation’s 1.7 million truck drivers?”
- Paying With Your Face. Face-detecting systems in China now authorize payments, provide access to facilities, and track down criminals. Will other countries follow?
- Practical Quantum Computers. Advances at Google, Intel, and several research groups indicate that computers with previously unimaginable power are finally within reach.
- The 360-Degree Selfie. Inexpensive cameras that make spherical images are opening a new era in photography and changing the way people share stories.
- Hot Solar Cells. By converting heat to focused beams of light, a new solar device could create cheap and continuous power.
- Gene Therapy 2.0. Scientists have solved fundamental problems that were holding back cures for rare hereditary disorders. Next we’ll see if the same approach can take on cancer, heart disease, and other common illnesses.
- The Cell Atlas. Biology’s next mega-project will find out what we’re really made of.
- Reinforcement Learning. By experimenting, computers are figuring out how to do things that no programmer could teach them.

These technologies seem unreal and mind-blowing, don’t they? But we’d like to tell you about something even more exciting.

At the moment Airbus, an aeronautics company, is developing the CIMON – an astronaut assistance system for the DLR Space Administration. CIMON is designed to support astronauts in performing routine work, for example by displaying procedures or to offer solutions to problems. It uses Watson AI technology from the IBM cloud and, with its face, voice and artificial intelligence, becomes a genuine ‘colleague’ on board.

Airbus is the first company in Europe to carry a free flyer, a kind of flying brain, to the ISS and to develop artificial intelligence for the crew on the space station board. To create CIMON they have used pioneering manufacturing technologies: it is made of plastic and metal, using 3D printing. The technology demonstrator is the size of a medicine ball and weighs around 5 kg.

Before you can teach a machine to process information like a human brain, you need to understand how a human brain thinks. People go through four steps before making a decision. They can happen almost instantly, but we do it every time.

1. Observe: we take in information that we find around us. Whether it's visual, audio, or written, we take in everything around us.

2. Interpret: we analyse the information we're gathering and make sense of it. We create hypotheses about what is happening in front of us.

3. Evaluate: we go through those hypotheses and find out which are right or wrong to learn more about the situation.

4. Decide: we know exactly what is happening, and choose how to react.

This is how we learn how to operate in real life. Through trial and error, we find the best routes to take.

Watson is designed to go through that exact same process whenever it's presented with a problem to solve. This is how it learns so organically. Through these steps, Watson is capable of understanding, learning, reasoning, and interacting with the world around it [2].

Amongst other things, the Watson AI was trained to use voice samples and photos of Alexander Gerst, procedures and plans of the Columbus module of the International Space Station were uploaded into the database. Alexander Gerst also had a say in the selection of CIMON's screen face and computer voice so he could 'make friends' with his electronic colleague.

Once the functional testing of the system has been completed, Gerst will work in Space with CIMON a total of three times: they will experiment with crystals, work together to solve the Rubik's cube and perform a complex medical experiment using CIMON as an 'intelligent' flying camera.

In its first Space mission, CIMON will only be equipped with a selected range of capabilities. In future aerospace researchers also plan to use the CIMON project to examine group effects that can develop over a long period in small teams and that may arise during long-term missions to the Moon or Mars. Social interaction between people and machines, between astronauts and assistance systems equipped with emotional intelligence, could play an important role in the success of long-term missions. Airbus' developers are convinced that, here on Earth, developments of the assistance system could also find future use in hospitals and social care.

CIMON will get its first 'taste of space' as early as March, 2018: the 31st DLR parabolic flight campaign will focus in particular on testing and optimising GNC algorithms (Guidance, Navigation and Control) under zero G conditions [3].

Personal computers, wireless technologies, smartphones and downloadable applications have made information accessible and completely changed the way we live and work. In the future AI will contribute to digital revolution, expanding it into the physical world and everyday life, and the consequences of such development will be extremely important.

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В статье раскрываются новейшие достижения в области искусственного интеллекта, анализируются перспективы развития данного направления, а также отмечается роль технологий в современном мире.

**К.А. Берёзко**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – И.Н. Бахур

### **BREST IN SEPTEMBER 1939**

Many Belarusians believe that the Great Patriotic War began on June 22, 1941. It is certainly true, but the first German bombs fell on the territory of Belarus in 1939. During the first day of the Second World War Brest experienced the force of the fascist army. Brest has always played an important role in the economic, political and especially the military sphere. It was always a fortified town that was ready to repel any enemy. In 1836 Brest fortress was built and it became a symbol of the city of Brest, a symbol of perseverance and courage.

On September 1, 1939, at 4:45 am, the German troops crossed the Polish border. During the first day of the war 10 German bomber aircrafts were bombing the town. Their goals were the fortress, Brest railway station, Malashevichi airfield. Particularly strong bombardment was on September 7. That day the supreme commander-in-chief Marshal Edward Rydz-Smigly, as well as the General Staff arrived from Warsaw. Bombing continued until September 14, the population was not ready and did not know what to do during bombing. It explains the large civilian casualties, both in Brest and in other Polish cities. Despite the attempts of the Polish command the German army could not be stopped. Warsaw still defended itself, and the Germans entered Brest in the afternoon on September 14. And only the defenders of Brest Fortress decided to keep the defense. The 49-year-old retired general Konstantin Plisovsky managed to lead the defense of Brest, and then Brest Fortress. He organized a headquarters that was half-staffed with reserve officers, There were invalids among the staff that fought in the First World War. The number of soldiers that the general had managed to gather was about 4000 soldiers, 18 field guns, 8 antiaircraft guns, 36 tanks and tankettes. It was not enough to organize defense along the front line and the general decided to fight in the Citadel, and also strengthened his positions in Kobrin and Terespol fortifications. German army had a considerable advantage that guaranteed success. It is also necessary to take into account that the defenders of the fortress could not organize counterattacks against air strikes, as well as the powerful fire of German artillery. On September 14 the defenders of the fortress in the number of two groups organized a sortie. According to the report of the commander of one of the groups, they managed to destroy several enemy tanks and armored cars. In the morning of September 15, after the artillery and aviation training, the units of the 10th Tank and 20th Motorcycle Divisions began to attack the fortress. However, the stubborn resistance of the defenders of the fortress did not allow the German troops to achieve great success, the fighting went on all day. Sometimes it became a hand-to-hand fighting and the Germans had to retreat. The next day on September 16 at about 10 am the same 10th Tank and 20th Motorized Divisions began a stubborn offensive on the

Polish defense line. Again, the offensive did not have the expected results. And even General G. Guderian, concerned about this development of events, arrived at the fortress, but even with his presence the infantry did not succeed and retreated with heavy losses. Lieutenant Colonel Robert Braubach, the adjutant of the corps commander, was mortally wounded by a shot of a Polish sniper. Despite all the successes, the position of the defenders of the fortress was getting worse and worse, the garrison was on the verge of destruction, losses of the dead and wounded were about 40 percent. There was a more visible shortage of ammunition; there was no help from outside, no defense. Many fortifications were turned into ruins, barracks were burned, the White Palace, as well as the building of the Engineering Department, suffered great destruction. General K. Plisovsky himself received a fragmentation wound in the back. On October 16, around 17:00, General K. Plisovsky convened a conference of commanders, at which it was decided to leave the Citadel through another free path to Terespol – Koden. In three days on September 16–17 the remains of the garrison left the citadel.

The same day, September 17 at 2 am, the Soviet troops invaded Poland, they easily broken the resistance of the Polish border guard. Soviet troops consisted of 8 rifle, 5 cavalry and 2 tank corps, 16 tank and 2 motorized brigades, 21 rifle and 13 cavalry divisions, and also the Dnieper military flotilla took part. For the Polish authorities, the invasion of the USSR was a complete surprise. Polish intelligence service did not record any preparations of the Soviet army. The Polish troops, exhausted and weakened by the German invaders, could no longer repel the Soviet aggressor, and therefore the Polish troops did not, in the majority, resist and only isolated cases of struggle were registered.

On September 22, 1939, a joint parade of Soviet and German troops was held in Brest. For this purpose, on September 20, 1939, the commander of the 4th Chuikova Army ordered the subdivision of S. Krivoshein to occupy the city of Brest and the Brest fortress. To do this it was necessary to make a night-time 120-kilometer march from Pruzhan. On arrival, the Soviet commander solely went to have the negotiations with the German command. G. Guderian insisted on holding a parade with the preliminary construction of parts to both sides in the square; however S. Krivoshein did not agree for a long time, he referred to the fatigue and unpreparedness of his troops. However, S. Krivoshein had to cede to the German general, since G. Guderian referred to the agreement on the official procedure of handing Brest over to the Soviet authorities and the fact that there was a paragraph specifying the joint parade. The parade was supposed to begin at 11:00, however, difficulties arose and the parade was postponed to 14:00, but due to various problems it started only by 4:00 pm. The parade symbolized transference of Brest and the Brest Fortress according to the Soviet-German protocol and the establishment of a demarcation line on the territory of the former Polish state, which was signed in September 1939. At the end of the parade, the German orchestra played the national anthem of Germany, and then the hastily assembled Soviet orchestra performed the national anthem of the Soviet Union. To the sounds of the orchestra the German flag was lowered and the red flag of the Soviet Union was solemnly raised. This symbolized the friendship of the Soviet and German people, as well as the transfer of the city of Brest.

The news that Brest and Western Belarus in general was on the way of socialism, that there was no more Polish power was met by different groups of people in different ways. There were different reactions even among the Belarusians themselves, not to mention the Poles, Jews and the clergy.

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Статья освещает события, произошедшие на территории Бреста в период начала Второй мировой войны. Особое внимание уделено обороне Брестской крепости в это период и тому, как произошла смена власти в Бресте в сентябре 1939 г.

**В.П. Бирюкова**

Россия, Москва, РГАУ-МСХА имени К.А. Тимирязева  
 Научный руководитель – И.А. Шишкина

**SELBSTFAHRENDE FAHRZEUGE**

Es gibt eine große Vielfalt von Transportmitteln. Heutzutage wird eine große Aufmerksamkeit den ungewöhnlichen Projekten geschenkt. In verschiedenen Ländern werden Fahrzeuge ohne Fahrer entwickelt und getestet. Solche Fahrzeuge nennt man als selbstfahrende oder autonom fahrende. Beim autonomen Fahren gibt es keine technische Lösung, die alleine ausreicht. Das komplexe Zusammenspiel aus vielen verschiedenen Techniken macht es möglich, dass Fahrzeuge ohne das Eingreifen durch den Menschen selbständig fahren können. Zahlreiche Sensoren zeigen dem Auto die Abstände zu Gegenständen, Menschen oder anderen Autos an. Mit Hilfe von Radar können alle Hindernisse, Fahrzeuge oder Menschen, die sich auch selbst bewegen, erfasst werden. Mit Kameras wird die Umgebung des Fahrzeugs meist 360 Grad erfasst. Die installierte Kamera "liest" außerdem Verkehrsschilder und übermittelt die Informationen an das System. So können selbstfahrende Autos die Höchstgeschwindigkeiten einhalten. Über die Satellitendaten können autonom fahrende Autos ihren Standort bestimmen und diesen mit Kartenmaterial abgleichen. Auf diese Weise können mögliche Gefahren bei der Straßenführung früher erkannt werden. Jedes selbstfahrende Auto verfügt über ein eigenes, sehr genaues "Navigationssystem". Um die erhaltenen Daten der Erfassungssysteme zu verarbeiten, benötigt jedes selbstfahrende Auto eigene Computereinheiten.

Im bayerischen Kurort Bad Birnbach (Deutschland) ist seit Herbst 2017 ein Bus ohne Fahrer in Betrieb. Der selbstfahrende Bus fährt vom Bahnhof zum Ortszentrum, die Strecke beträgt dabei 10 km. Seine Geschwindigkeit ist etwa 20 km pro Stunde. Er kann 12 Fahrgäste mitnehmen. Der Bus ist mit der modernsten Technik ausgestattet. Er hat GPS

und Sensorsteuerung, um die Umgebung richtig wahrzunehmen. Die Deutsche Bahn (DB) hat das Projekt zusammen mit regionalen Partnern entwickelt. Die DB ist das erste Unternehmen, das autonom fahrende Busse in Deutschland anbietet. Das Ziel des Projektes ist es, für mehr innovative und umweltfreundliche Mobilität auf dem Land zu sorgen [2, S. 5].

In Russland wird auch an ähnlichen Projekten gearbeitet. In Skolkowo (Moskau) wird das erste Modell eines Smart-Busses getestet. Man nennt es "Matrjoschka", weil der Bus aus einigen Modulen besteht, die leicht innerhalb von 15 Minuten ersetzt werden können. Die Reichweite des Busses, der von 8 bis 12 Fahrgäste mitnehmen kann, beträgt 130 km, seine Geschwindigkeit ist auf 30 km/h. Matrjoschka hat einige Batterien von 32 kWh, die in den vorderen und hinteren Modulen integriert sind. Der Elektromotor hat eine Leistung von 45 kW. Matrjoschka ist ein intelligentes Fahrzeug. Es empfängt Informationen mit Hilfe von Kameras, 3D- und 2D-Sensoren und Scannern. Man kann eine vorgegebene Route planen, die von Matrjoschka ausgeführt wird. Scanner identifizieren die Menschen und verschiedene Hindernisse. 2018 werden mehrere ähnliche Kopien hergestellt, um Fußballmannschaften während der Fußballweltmeisterschaft zu fördern [1].

In China haben unbemannte Züge in der U-Bahn gestartet. Ein solcher Zug wurde vollständig in diesem Land entwickelt und hergestellt. Er ist fähig, die Höchstgeschwindigkeit von 80 Kilometer pro Stunde zu entwickeln. Frankreich wird das erste Land in der Welt sein, wo selbstfahrende Züge verkehren werden. Das Projekt, das im Jahr 2022 verwirklicht sein soll, sieht vor, dass die Züge die Geschwindigkeit von 320 km/h entwickeln können.

Selbstfahrende Fahrzeuge haben bestimmte Vorteile. Sie sind komfortabel für die Fahrgäste und ungefährlich für die Natur. Sie haben einen geringen Stromverbrauch. Die elektronischen Helfer kennen keine Müdigkeit, keine Zerstretheit und keine Schrecksekunde.

Aber es gibt einige Probleme, z.B. der Verlust der Arbeitsplätze bei den Fahrern. Es gibt keine Verantwortung für Haftpflicht. Die Menschen haben eine bestimmte Angst vor selbstfahrenden Fahrzeugen, sie sind an sie noch nicht gewohnt.

Die Hersteller arbeiten weiter an der Lösung dieser Probleme. Und selbstfahrende Fahrzeuge sollen in der Zukunft traditionelle Transportmittel teilweise ergänzen.

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Статья рассказывает о беспилотных транспортных средствах, которые способствуют инновационной и удовлетворяющей экологическим требованиям мобильности. Автор приводит примеры автономных транспортных средств, используемых в различных странах.

**В.П. Босак**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – В.В. Коваленко

## **APPLICATION OF ORGANOSILICON COMPOUNDS AS GROWTH REGULATORS OF PLANTS**

Silicon is an important biogenic element. Supporting formations in plants and skeletal ones in animals are made of it. Large quantities of silicon are concentrated in marine organisms – diatoms, Radiolaria, and sponges. Much silicon is also concentrated in grains, especially in rice. Silicon plays a particular role in protecting plants from fungal diseases and pests. For example, plant resistance depends on the silicon content in the leaves and can be increased by adding silica to the growing medium. The resistance of plants to various pests increases with increasing content of silicon. The protective properties of silicon in plants, as the researchers note, are probably explained by the fact that silicon helps to strengthen the walls of epidermal cells. Such silicon formations on the surface of some plants, such as spicules and hairs are their protection from animals.

Effective growth stimulators of different plants (e. g., citrus, tomatoes) are 2-halogenethylsilanes capable of forming ethylene as a result of  $\beta$ -decay. For example, the use of 2-chloroethyltris(4'-methoxybenzyloxy)silane in a concentration of 0.2 % at the beginning of the ripening of the tomato increased the harvest by 70 %. 2-chloroethyltrialcoxysilanes increase the yield of rubber produced from each tree for 7 weeks, by 160–190 % on average. Similar action is exhibited by 2-substituted triorganylethylsilanes containing in  $\beta$ -position relative to the silicon atom triorganyl, diorganylphosphate or diorganylsulphonic group. These  $\beta$ -substituted organosilicon compounds have certain advantages compared to the organophosphorus stimulator etrel (2-chloroethyl phosphonic acid): greater activity and prolongevity of the formation of latex, less toxicity, increased lipophilicity, preventing the washing of the drug by rain. In addition, the possibility of a wide variation of radicals in the silicon atom allows you to find the most suitable stimulant of this type for each plant species. Herbicidal activity is revealed by trimethylethynylsilane, trimethylsilylpropyl acid, some silyl esters of malonic acid. Introduction of silatrane group in the molecule of parachlorophenoxyacetic acid enhances the stimulation of their plant growth and prolong an auxin-like effect. Some alkoxysilanes were suitable for suppressing the development of phytoplankton during the flowering of reservoirs. Tetraethoxysilane, vinitriethoxysilane at the concentration of 0.01 mg/l inhibit the growth of cells of green algae by 93–96 % for 15 days. Tetraethoxysilane in the concentration of 0.1–1 mg/l inhibits the growth of various algae [1].

Polydimethylsiloxane liquids can be used as antitranspirants that prevent the loss of water by various plants (sunflower, pine, spruce, sugar maple, Rowan) as a result of evaporation.

In agriculture mival, migugen and other silatranes are widely used. Presowing soaking of seeds of cotton, wheat, oats, corn, peas, soybeans, tomatoes, radishes, grapes and other crops in 0,01–0,001 % aqueous solution of mival speeds up germination, and increases viability and the yield. A similar effect is provided by spraying plants with solutions of mival during the formation of buds, as well as when applied to the soil.

The ability of some silatranes to stimulate protein biosynthesis has led to the study of their influence on growth, development and, especially, on productivity of mulberry and oak silkworms, as the silk thread, released by caterpillars, is of a protein nature.

Synthesis and study of biological activity of organosilicon compounds, potential plant growth regulators, is one of the directions of scientific research of the Department of Chemistry in Brest State University. So, here for the first time 10 new compounds of hydrooxalates of  $\gamma$ -aminopropylsilanes were obtained. These compounds exhibit growth-regulating activity [2–4]. Currently, the Department continues systematic research of these compounds not only as growth regulators, but also as substances with protective activity in relation to a number of plant stress factors.

Biochemical experiments are carried out on wheat culture. The choice of the culture is not accidental, it is explained by the economic importance of this cereal. Wheat flour is used in baking, pasta, and confectionery industry. In 2016, wheat crops in the Republic of Belarus occupied the area of 714 thousand hectares, which is 12.2 % of the total area of the crop fields [5].

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В статье охарактеризованы важнейшие кремнийорганические соединения, проявляющие регулируемую рост растений активность, показаны области их применения.

#### **В.В. Будько**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – С.Н. Дягель

#### **NEUARTIGE FORMEN DER LITERATURPRODUKTION IM INTERNET**

Das Internet hat in den letzten Jahren eine dominierende Position im Medienspektrum eingenommen: Es ist so präsent im öffentlichen Bewusstsein, dass es einer ganzen Generation den Namen verschaffte („Generation @“). Das rasante Wachstum des Internets und seine stetig zunehmende Verbreitung bleiben nicht ohne Folgen: Seine neuartigen Kommunikationsformen dringen immer weiter in unterschiedliche gesellschaftliche Subsysteme ein und verändern traditionelle Arbeits- und Informationsprozesse. Im XXI. Jahrhundert sieht sich auch Literatur einer zunehmenden Konkurrenz zu den neuen Medien ausgesetzt. Mit der wachsenden Bedeutung und Nutzung von Computer- und Netzwerktechnologien erscheinen neue Formen von Literatur. Dabei unterscheiden heute die Experten zwischen *Literatur im Netz* und *Netzliteratur*.

Auf den ersten Blick mag die Unterscheidung dieser beiden Begriffe nicht offensichtlich sein. So in Metzler Literaturlexikon sind beide Begriffe unter dem Oberbegriff „*Internetliteratur*“ eingeordnet. Damit ist der Begriff sehr weit gefasst oder auch zu ungenau definiert, da hier alle vorstellbaren digitalen und digitalisierten Texte aus dem Internet gemeint sein könnten. Somit wäre dann Netzliteratur eine Unterkategorie von Literatur im Netz. Nach genauer Prüfung wird sich jedoch zeigen, dass es zwei klar voneinander zu trennende Ausdrücke sind, zu denen unterschiedliche Formen von Literatur zählen. Es ist daher sinnvoller, die beiden Begriffe voneinander abzugrenzen und weiterhin als eigenständige Kategorien zu behandeln.

Unter *Literatur im Netz* versteht man digitalisierte Literatur oder Texte, die zum Teil zuerst im Internet veröffentlicht, später aber noch als Printausgabe gedruckt werden sollen. Die technischen Möglichkeiten des Internets werden nur dahingehend genutzt, um das Produkt einer breiten Leserschaft zur Verfügung zu stellen. An dem literarischen Text ändert sich dadurch nichts. F. Hartling liefert dazu folgende Definition: „Literatur im Netz bedient sich des Internets [...] nur als preiswertes und räumlich nahezu unbeschränktes Publikations- und Distributionsmedium. Dabei handelt es sich durchweg um traditionelle Texte, die ursprünglich für eine Printpublikation geschrieben wurden bzw. völlig dem Erbe der Printliteratur verhaftet sind“ [1].

Solche Textsammlungen wie das *Projekt Gutenberg-DE* publizieren traditionelle Texte, deren Verwertungsrechte abgelaufen sind: Hier fungiert das Netz vor allem als preiswertes und leistungsfähiges Speichermedium. Immer häufiger „stellen“ heute Autoren Literatur „ins Netz“. Seit die Hamburger Wochenzeitung „Die Zeit“ 1996 den 1. Internet-Literaturwettbewerb im deutschsprachigen Raum veranstaltete, drängen immer mehr Literaten ins neue Medium, um den Lesern die Produkte ihrer kreativen Arbeit zu präsentieren. Auf ihren Webseiten präsentieren sich nicht nur etablierte Print-Autoren mit ihrem Werk (z.B. Elfriede Jelinek Homepage), sondern zunehmend immer mehr unbekannte Schriftsteller und Dichter, die allein im Netz Publikationsmöglichkeiten finden (z.B. Homepage Antje Thümmler). Die Homepage dient meist der Publikation von recht konventionellen Texten bzw. der Kommunikation mit dem Leser. Schließlich findet sich Literatur im Netz auch auf den Webseiten von Literaturmagazinen: Zumeist handelt es sich dabei schlicht um Online-Versionen der Printausgaben, die als zusätzliches Publikationsmedium und Werbeplattform fungieren sowie die Kommunikation mit den Lesern ermöglichen. So werden auf diesen Seiten vor allem traditionelle Texte publiziert, wobei meist auch die periodische Erscheinungsweise der gedruckten Ausgabe simuliert wird (z. B. Literaturmagazin „Blaue Schrift“).

Im Gegensatz zur *Literatur im Netz* macht *Netzliteratur* Gebrauch von den kommunikativen, sozialen und technischen Möglichkeiten des Internets. Software und Hardware des Computers sowie netzspezifische Techniken und Kommunikationsmuster des Internets werden dabei als Stilmittel zur Textproduktion eingesetzt. Hier zeigt sich, dass es nicht vordergründig um die Publikation und Distribution im Internet, sondern vielmehr um die Produktion und Rezeption in diesem geht. Eine andere Bezeichnung für die Netzliteratur ist *digitale Literatur*.

Es gibt eine Auswahl von Kriterien digitaler Literatur: Dazu gehören Interaktivität, Nicht-Linearität und Multimedialität. Mit dem Begriff *Interaktivität* verbindet man die neuartige Form der Kommunikation im Internet. Interaktivität wird abgeleitet von *Interaktion* bzw. *interaktiv* (aus dem lateinischen „interactio“) und bedeutet „Miteinanderhandeln“. Entscheidend ist dabei das „Miteinander“, also die gemeinsame Kommunikation von Sprecher und Hörer. Durch die Vernetzung kommt es zur Mensch-Mensch-Interaktion, die

ein wesentliches Kriterium für Netzliteratur ist. Die Interaktion bewirkt auch, dass das literarische Produkt immer wieder bearbeitet wird und es verschiedene Versionen geben kann. *Nicht-Linearität* zeigt sich in digitalen Texten in vielen Varianten, ist jedoch kein notwendiges Kriterium für digitale Literatur. Trotzdem trägt Nicht-Linearität dazu bei, digitale Literatur von Literatur im Netz zu unterscheiden. Die nicht-lineare Textstruktur, erzeugt durch die Links, lässt sich nicht ohne Verlust auf dem Papier darstellen. Ein weiteres wichtiges Merkmal für digitale Literatur ist die *Multimedialität*. Von Multimedialität spricht man, wenn innerhalb eines Textes unterschiedliche Medien genutzt werden. So kann ein multimedialer Text aus verschiedenen Elementen gebaut sein, wie beispielsweise aus Wort, Bild, Ton und Film. Eine Komposition aus den verschiedenen Medien ist heutzutage keine Ungewöhnlichkeit mehr. Sie begegnet den Nutzern des Internets auf fast allen Webseiten und auch viele andere Formen digitaler Literatur beinhalten multimediale Elemente. Zusammenfassend kann man sagen, dass alle Texte, die im Netz und unter den eben genannten Merkmalen entstanden sind, als Netzliteratur bezeichnet werden können. Die einzelnen Merkmale treten unterschiedlich häufig in Erscheinung und sind auch nicht zwangsweise notwendig für das Funktionieren von Netzliteratur [2].

Voraussetzung für die Produktion und Rezeption der elektronischen Form von Literatur ist der Computer. Netzliteratur ist ein relativ junges Phänomen, welches seine Wurzeln sowohl in den Experimenten der visuellen und konkreten Poesie als auch in den Anwendungen von Hypertext hat. Die Formen der Netzliteratur sind Digitale Poesie, Weblogs oder kollaboratives Schreiben im Netz. Es geht hier nicht mehr nur um literarische Inhalte, sondern um Sprache als Material. Die Symbiose des Inhalts mit der Symbolik spielt ebenso eine Rolle, wie die Loslösung von beiden. Als Beispiel der digitalen Poesie dient z.B. ein Poem von David Knoebel mit dem Titel „A Fine View auf“. Die Gemeinde der „Online-Literaten“ wächst ständig. Die Leser-Autoren experimentieren mit den neuen Formen der Chats und der Textbausteine, der Zitate und Verknüpfungen, der Text-Bild-Collagen und eingebauten Video-Animationen. Der Deutsche Taschenbuch Verlag (dtv) hat 2001 einen Literaturpreis „Literatur. digital“ veranstaltet, der seither jährlich verliehen wird. Nicht desto weniger bleibt Netzliteratur bislang die Literatur für eine Minderheit. Sie wird nur von einem kleinen Kreis Interessenten, vor allem den Mit-Schreibern zur Kenntnis genommen. Das liegt wahrscheinlich an der Tatsache, dass sie, wie übrigens Literatur im Netz auch, einem schnellen Verfall ausgesetzt ist. Wenn keine Sicherung der entsprechenden Texte und Webseiten vorgenommen wird, können diese jederzeit unwiderruflich gelöscht werden. Dies betrifft vor allem Literatur, die aus nicht-kommerziellem Interesse im Netz entsteht. Es sind auch kritische Stimmen zu hören. Es geht um die Frage, ob die Netzliteratur überhaupt der Literatur zu rechnen ist. Manche Experten behaupten, dass multimediale Literaturwerke eher zu „Net-Art“ (Netzkunst) gehören [3].

Man kann also ein Fazit ziehen, dass neue Formen der Literatur gerade heute im Internet entstehen. Dabei muss man zwischen den Texten unterscheiden, die sowohl am Bildschirm als auch im Buch gelesen werden können, und solchen, die medienspezifisch konzipiert und strukturiert sind. Die neuartigen Formen der Literatur genauso wie der dazugehörige akademische Diskurs beginnen „erwachsen“ zu werden: Seit drei Jahren ist eine Zunahme an Publikationen, Kongressen und Webseiten zu beobachten, die sich mit „Netzliteratur“ beschäftigen. Netzliteratur wird allmählich auch von der traditionellen Wissenschaft als ernstzunehmendes Thema erkannt und in Forschungsprogramme sowie Curricula aufgenommen.



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В статье раскрываются особенности функционирования литературы в сети Интернет. Автор рассматривает феномен сетевой литературы, возникший в современном медийном пространстве. Даются различные определения этого явления, анализируются формы его проявления, определяется его статус в современном литературном процессе Германии.

**А.А. Букзеева**

Республика Беларусь, Горки, БГСХА

Научный руководитель – Т.Л. Ляхнович

### **PROBLEMS OF INDUSTRIAL LIVESTOCK FARMING**

One of the inescapable facts of the modern age is that America does everything first and the rest of the world follows. America gave us electricity and aviation and extra-terrestrial travel, and recently it has given us social media, and the electronic devices which make that possible. So far so good. But now it's giving the world something it can do without: mega-farming.

An efficient and prosperous animal agriculture historically has been the mark of a strong, well-developed nation. Such an agriculture permits a nation to store large quantities of grains and other foodstuffs in concentrated form to be utilized to raise animals for human consumption during such emergencies as war or natural calamity. Furthermore, meat has long been known for its high nutritive value, producing stronger, healthier people [1].

But the new hyper-industrialised agriculture originating in the USA which is now spreading around the world in terms of animal welfare is hideous, and it brings in its train a great number of extremely serious new environmental problems (not least how to dispose of the millions of tonnes of excrement such facilities produce). This new, mammoth-scale livestock rearing takes place behind closed doors, in enormous, soulless sheds, where thousands upon thousands of animals are kept crammed and tightly restricted on concrete floors, for the whole of their lives.

This paper gives a brief summary of chilling consequences of modern factory farming which are discussed in mass media, the documentary film 'Farmageddon' (producer – Kristin Kanty) and a book with the same name written by Philp Lymbery, head of the estimable British charity 'Compassion in World Farming'. In his book *Farmageddon* (co-written with the journalist Isabel Oakeshott) Philp Lymbery sounds the alarm about the arrival of mega-farming.

Industrial livestock farming has become a part of our life. Large complexes provide the population with food at prices that are incomparable with the prices of so-called traditional livestock and poultry breeding. However, there are also negative aspects, which need to be clearly understood, and which it would be good to minimize.

The growing industrialization of meat production is accompanied by the concentration of capacities in the hands of several large firms. Currently, the US beef market is controlled by 4 leading producers. Another 4 large companies control 56 % of poultry meat production.

The world's largest "supplier of protein" is the American company Tyson Foods. The sales volume is 26 billion dollars a year. Sales and other operations of Tyson Foods are carried out in many countries, including Argentina, Brazil, China, India, Indonesia, Japan, Mexico, Holland, the Philippines, Russia, Spain, Venezuela.

The functioning of industrial livestock complexes depends to a large extent on the availability and use of artificial and potentially toxic ingredients, including polychlorinated biphenyls, arsenic, hormones and other substances that pollute the atmosphere, damage the ecosystem and harm the environment.

About half of all Europe's antibiotics are given to livestock, 350 tons of them a year in Britain alone. It's not surprising when, driven by supermarket price pressure, farmers rear animals in their thousands in cramped factory farms where infection spreads rapidly: it's much cheaper to dose them with drugs than treat them when they fall ill or look after them properly in the first place. The excessive use of antibiotics and other drugs to control microbes in order to prevent infection in livestock factories, ultimately, leads to a decrease in the effectiveness of these same drugs on people who consume the meat obtained in this way. Some scientists openly say that by feeding these drugs on healthy animals, we sacrifice the future when antibiotics will need to treat really sick people.

Hormonal supplements used in livestock and poultry farming can cause a number of diseases in humans. Moreover, they can lead to early sexual maturation of children. It is for this reason that the EU prohibits the importation of beef from the USA and Canada into Western Europe.

Industrial livestock production has a negative impact on species conservation. The biological diversity of the planet is shrinking. In Europe, for example, more than half of the total herd of domestic animals (species, subspecies, etc.) that existed 100 years ago has disappeared. Half of the remaining herd is under threat, since animals are not as productive as those used in industrial livestock.

In the opinion of some experts, the negative consequences of industrial farming of domestic animals cannot be eliminated by technical and technological tricks of the type of bioengineering, irradiating meat with high-frequency current, etc.

What can be offered as an alternative? First of all, this is enlightening and propaganda work, explaining the advantages of organic agriculture, small-scale breeding of animals and birds and other activities. Naturally, this includes the need to improve the maintenance of animals.

Some large Western companies, widely known in the world, have established their own rigid standards of animal husbandry. This is a positive phenomenon. It is noteworthy that the World Bank in 2001 decided to stop financing the creation of large livestock and poultry farms in developing countries. The creation of the World Organization for Animal Health is worthy of all respect. Members of this organization are 167 countries around the world [2].

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В статье раскрываются проблемы, возникающие в связи с интенсивным развитием промышленного животноводства. По мнению некоторых экспертов, негативные последствия промышленного разведения домашних животных нельзя устранить с помощью биоинженерии, облучения мяса током высокой частоты и т. д. Что же предлагается в качестве альтернативы? Прежде всего, это просветительская и пропагандистская работа, разъяснение преимуществ органического сельского хозяйства, мелкотоварное разведение животных и птиц и иные мероприятия.

**А.А. Быкова**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
 Научный руководитель – И.Н. Бахур

### **THE LIFE AND ETHNIC CULTURE OF IRELAND**

The Republic of Ireland is a country in Northern Europe occupying most of the island of Ireland. In the North it borders on Great Britain. The name of the country comes from the Irish word “Éire” that means country. The capital is the city of Dublin, home to about a quarter of the population of the whole country.

The purpose of this research is the study of life and ethnic culture of the inhabitants of Ireland on 7 aspects: the characters, history, art, mythology, holidays, food and geography.

Natural and climatic conditions are an important factor in human life. Ireland consists of an unchanged central plain and its lofty building. However, both the inner plain and the coastal mountains are very specific. On the surface of the plain individual hills can be met. Most of the territory is occupied by marshes. In the surrounding ring of mountains there are gaps along which the plain stretches to the coast, especially in the region between Dublin and Dundalk in the east of the coast. As a consequence of high humidity dense network of rivers lakes and swamps was formed in Ireland. 20 % of the territory is occupied by peat bogs. The most significant river is Shannon, crossing the country from east to west. The rivers do not freeze and they are deep.

The flora of Ireland is relatively poor. About 1,300 different species of plants are growing on the island. Among them are the northern and subtropical species. In Ireland you can find such trees as oak, ash, birch, alder and willow. On the island about half of all known species of moss grows, and flowering and meadow plants from different continents peacefully coexist.

The national symbol of the country is the Flag of Ireland. It represents a rectangular panel consisting of three vertical equal-sized stripes: green at the polished edge of the panel,

white in the middle, and orange at the free edge of the panel. An unofficial symbol of Ireland is the clover. Green colour is very popular in Ireland because it is associated with St. Patrick, one of the most famous and revered Christian saints, who used clover as a plant symbolizing the Christian cross.

The history of the emergence and development of Ireland extends for many millennia. The last two thousand years have been studied in sufficient detail and very rich in events. Conditionally history of Ireland is divided into the following periods: Early Middle Ages (400–1169), the Norman Conquest (1169–1536), British rule (1536–1916), the Kingdom of Ireland (1541–1801), (1801–1922), the Republic of Ireland (1922 – to present time). On the territory of Ireland, many monuments of the Stone Age and Bronze Age were discovered. The earliest of them date back to 2–3 century B.C. As for the Celts, the indigenous population of Ireland, they appeared on the island in the 6th century B.C. The Goidel language developed as a special dialect of the Celtic languages. In the early Middle Ages there was a division of Ireland onto 5 major areas-provinces – Ulster, Connaught, Munster, North and South Leinster. In the Middle Ages, the number of provinces number reached 150. Furthermore, Ireland was conquered by England in 1541. Henry VII declared himself the King of Ireland. Since 1801, Ireland was part of the United Kingdom of Great Britain and Ireland. In 1919–1921 there was an armed conflict between the Republic of Ireland and Great Britain, the result of which was the independence of Ireland.

Analyzing the sphere of art, it can be said that the most recognizable national brass instrument is a bagpipe, and among string instruments we can call the harps. The bagpipe (uilleann pipes) is a traditional musical arc-shaped reed instrument. It is a bag that is usually made from the skins of livestock sewn tightly and equipped with a tube to fill the sack with air, with one, two or three playing reed tubes attached to the bottom to create a polyphonic voice. Harp is a plucked stringed musical instrument. Its graceful contours conceal the shape of a triangle, a metal frame is decorated with carvings. Strings are pulled on the frame. The strings are of different length and thickness. All the strings together form a transparent grid.

One of the most important spheres of spiritual culture of every nation is the national identity. The art of dance is formed on the basis of cultural and community traditions. The history of the Irish beating feet is very curious, dramatic and even tragic. The feet beating became real symbols of the rebelliousness of stubborn islanders. The character of the dance was influenced by strangers.

The most frequently cited mythical creatures are considered to be leprechauns, goblins, gnomes, trolls, fairies and elves, as well as all other kinds of spirits. For example, Brownie is the closest relative of the boggart, about a meter in length, with brown hair. This spirit is the patron of home and family. Sid (irl. Sídhe, Gel'sk. Sith – “peace”) – the spirit of the forest, the creature of the other world living on the hills. In Celtic myths they are described as creatures of enormous growth taking people with them to the other world.

In addition to the traditional holidays that are celebrated all over the planet, there are those that are unique to the people of Ireland. Lughnasadh (irl. Lughnasadh – harvest festival) is a holiday of Celtic people, marking the beginning of autumn. According to the legend, it was installed by the god Lug in honour of his adoptive mother, the goddess Tyltuyu after her death. It is celebrated on the 1<sup>st</sup> of September, as the beginning of harvesting and cooking pies. Belteyn (irl. Bealtaine – “bright fire”) – the Celtic holiday symbolizing the beginning of summer. It is dedicated to the god of sun and fertility Belenus. The holiday is celebrated by making campfires on high places. Samhain sauin (irl. Samhain – Night of the Fires) is the Celtic holiday of the end of harvesting. It marks the end of one agricultural year and the beginning of the next. The festival lasts seven days.

Undoubtedly, it is interesting to learn about the national cuisine. In Ireland, they love the dishes of national cuisine for their satiety and simplicity. For example, Boxty is potato pancakes. The Boxty includes potatoes, milk, flour, eggs, sour cream, onion and butter. Very common is another dish, called Black Pudding. Many people know the taste of this food, because it's similar to blood sausage.

So, the conclusion can be drawn that the culture, national history, holidays and life of Irish people in general is very varied and worth studying.

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В статье раскрываются результаты исследования аспектов этнокультуры Республики Ирландии. Автор отмечает, что изучение этнокультуры разных стран является важным фактором межкультурного взаимодействия, способствующего формированию толерантности и понимания культур разных стран мира.

#### **Е.В. Быско**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Л.М. Калилец

#### **PROFESSIONAL “BURNOUT” OF A LAWYER**

In the age of stress, such a question as professional “burnout” becomes relevant for the lawyer. In this article, the aim is to identify, show the essence of professional “burnout” of a lawyer, as well as to show measures to prevent the existence, manifestations and ways to combat burnout.

For the first time the term “emotional burnout” was proposed in 1974 by the American psychiatrist Freudenberg. Freudenberg understood emotional burnout as a mental disorder affecting the personality of the subject, due to emotional “exhaustion”.

In his works, he highlighted the following signs of burnout:

- loss of any motivation;
- nervous exhaustion;
- reduced concentration;
- apathy [2].

In our time, the following definition has been further developed: mental “burnout” is a state of physical, mental and emotional exhaustion, manifested in the consequences of prolonged working stress primarily in the professions of the social sphere, which includes the profession of a lawyer [4].

At risk are those lawyers who have excessive sympathy, humanity, isolation, shyness, a tendency to idealize reality and internal conflicts, weak mental stability.

The occurrence of this problem is mainly due to the overexertion. This kind of overexertion is associated not only with a long stay at work, but with a specialist’s constant thought that he must be reserved, that he is constantly underestimated and he does not have the right to mistake, his effort is not enough to achieve the set objectives, hence the fear of

dismissal. One of the main reasons for the emergence of professional “burnout” is the excessive experience and “passing through” of a client’s problems, i.e. the introduction of the human factor in professional competence.

We think that “burnout” can be considered as a form of depression, because the subject has feelings of indifference towards those events that used to bring joy, there is emotional exhaustion, weariness, negative, increased irritability, and, which is characteristic of professional “burnout”, negative attitude towards colleagues, persons with whom you have to work and communicate, to their professional activities as a whole, as a conclusion-negative attitude to further prospects in career and life.

Burnout is scary because it seems that it leads to a complete regression of professional development, i.e. it concerns the person as a whole, destroys him and negatively affects the efficiency of work without disappearing after rest, which can lead to a decrease in the professional level of the lawyer, problems in family relations and, in extreme cases, the end of a career.

How to deal with professional burnout? Lawyers as a protection against constant empathy of others have such professional deformation as emotional coldness, i. e. neutrality of feelings in relation to the problems of their clients. Therefore we offer the following measures to prevent professional “burnout”, it is composed on the basis of the points of view of several specialists:

- think thoroughly about the allocation of workload during the working day, paying due attention to interruptions, even in cases where there is a feeling that there is no time to rest. After all breaks have a positive effect both on psychological and physical condition of the body;
- struggle against overloads: if there is fatigue from the working process, you need to rest, if there is the supersaturation of professional communication, change the circle of persons with whom you have recently had close contact, and if you have mental fatigue, you should take the time to yourself and your favorite hobby;
- switch from one activity to another. Life is not only a labor process; it has also a place for family, friends, and hobbies;
- don’t try to be the best always and in everything, it is easier to treat problems, because none of us are perfect and everyone has the right to be wrong;
- do not look for a competitor in each of your colleagues; achieve your goals for yourself, and not to prove superiority over someone;
- prevent mixing personal life with work; delineate your problems and those of your clients;
- master the techniques of self-regulation;
- improve your professional skills to combat professional “burnout” [2; 3].

As we have seen, the problem of professional “burnout” of a lawyer is relevant because in the age of stress, its causes are exacerbated, expanded and modified. On this basis, we believe that the study of this problem should continue, in order to develop ways to combat the professional burnout of specialists, especially lawyers, taking into account the specifics of their activities.

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В статье раскрывается проблема профессионального «выгорания» адвоката, представлены меры его предупреждения, а также проанализированы проявления и способы борьбы с выгоранием. В зоне риска находятся те адвокаты, которым присущи чрезмерное сочувствие, гуманность, замкнутость, застенчивость, склонность к идеализации действительности и внутренним конфликтам, слабая психическая устойчивость.

#### **Н.И. Вабищевич**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина

Научный руководитель – В.В. Коваленко

### **APPLICATION OF GROWTH REGULATORS ON CEREAL CROPS**

Throughout the life cycle, plants are under the negative impact of various stress factors that adversely affect the quality and yield of crop production. In order to overcome the stress factors that do not allow plants to use their full genetic potential, considerable effort is spent. Various protective and stimulant drugs including growth regulators are used to level a variety of stress factors. Growth regulators that increase the resistance of plants to adverse conditions have become an integral part of agriculture [1].

Currently in the cultivation of cereals, elements of agricultural technologies are being developed for the integrated use of growth regulators, fungicides and fertilizers, providing a significant increase in productivity and quality of agricultural products, reducing labor costs, energy and all kinds of resources, obtaining sustainable crops, in the zone of risky agriculture as well.

Plant growth regulators have multifunctional properties, which are expressed both in the regulation of plant growth and development, and in increasing their resistance to adverse weather conditions, as well as to diseases [2].

Natural growth regulators include gibberellins, auxins, cytokinins that stimulate cell growth and division, as well as abscisic acid and ethylene inhibitors of these processes. Auxins activate the growth of stems, leaves and roots, providing a tropism-type reaction, as well as stimulate the formation of roots in plant cuttings. Gibberellins induce or activate the growth of plant stems, cause the germination of seeds and the formation of parthenocarpic fruits, violate the rest period of plants. Cytokinins stimulate cytokinesis, initiation and growth of stem buds. Abscisic acid inhibits the growth of plants in the transition to a state of rest. Synthetic analogues of natural growth regulators (analogues of auxin and cytokinin, brassinolides), as well as substances of retardant action (producers of ethylene, antiauxins and antihibberillines) are of much greater practical importance. Synthetic inhibitors, unlike natural

ones, are capable of inhibiting growth processes more sharply. For a long period they cannot be inactivated by plant tissues and the nature of their action is often associated not only with growth, but also with a violation of morphogenetic processes.

Retardants are inhibitors of gibberellin biosynthesis, which slows down the growth of the stem in height. They inhibit the stretching of stem cells during their growth, but enhance their division in the transverse direction without affecting other basic physiological processes. Due to this mechanism, the height of the plant is reduced, which guarantees an increase in the strength of the plant and growth of the ear size. The active substances of growth regulators contribute to the development of the root system, increase the formation of chlorophyll in the leaves, so that the color becomes more saturated and dark. This makes the plant more resistant to adverse environmental factors. The main task that growth regulators help to cope with is to prevent lodging of crops, which negatively affects the passage of the phases of earing, flowering, and grain filling. Lodging of crops complicates the process of its growing, technologically limiting the application of fertilizers, deteriorating the quality of the crop and complicating its harvesting [3].

Retardants make plants stronger and more resistant to adverse environmental factors and, as a result, to lodging crops. Due to the stem compaction, the risk of infection with various diseases is reduced.

Biologically active substances enhance metabolism and restructuring of cells, and as a result increase the resistance of plants to frost. The increase of frost resistance of winter crops by pre-sowing treatment of seeds, as well as spraying of plants at the beginning of the tillering phase by retardants is presupposed by the deep occurrence of the tillering node. Plants grown from seeds treated with retardants during the hardening period are characterized by high content of chlorophyll, soluble carbohydrates, protein and non-protein nitrogen. They accumulate more amino acids in tillering nodes [4].

The effectiveness of the application of growth regulators depends on the effectiveness of all other agricultural activities. A significant difficulty in the use of retardants is the need for precise compliance with the dosage, timing and technology of their application. However, low rates of consumption of regulators, the ability to control with their help the processes of growth and development of plants, and to change the resistance of plants to various external factors determine their prospects.

Growth regulators are those agricultural practices, which are used to obtain economically significant effects: optimization and stimulation of seed germination, activation of vegetative plant growth, plant protection from a number of diseases by strengthening the immune status of plants, increasing yields. The combined use of plant protection and growth regulators makes it possible to remove the phytotoxic effect of a number of pesticides. The positive effect of these substances influences the growth and development of soil biota, suffering from high doses of mineral fertilizers and plant protection products. The use of growth regulators is based not on the suppression of phytopathogens, but on the induction of the natural potential of plants [5].

Thus, the plant growth regulators allow to significantly reduce the risk of lodging of cereals, to increase productivity, to make higher rates of nitrogen fertilizers under the planned harvest, to reduce the risk of development of diseases of the ear, to accelerate and facilitate harvesting.



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В статье показаны преимущества применения регуляторов роста растений в сельском хозяйстве на злаковых культурах.

**А.С. Василюк**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
 Научный руководитель – Л.Е. Левонюк

**THE ROLE OF THE ENGLISH LANGUAGE IN IT-SPHERE**

Foreign languages play a big role nowadays. Every day more and more people are beginning to learn foreign languages. The most common today is English. There are definitely above 1.5 billion speakers of English globally. Out of the total 195 countries in the world, 67 nations have English as the primary language of “official status”. Plus there are also 27 countries where English is spoken as a secondary “official” language.

English plays quite a big role in day to day life. It is used in banks, railway stations, bus stations, airways, educational sector, medical, private sector, etc. English is a trade language with other countries. Most of the jobs in today world are based on English such as businesses, teaching job and IT sector.

Computers and programmable computing machines have become part of our daily lives. We can't imagine our lives without a computer, just like computers without software and a program without English.

Information technology (IT) is the application of computers to store, retrieve, transmit and manipulate data, or information, often in the context of a business or other enterprise. The term information technology in its modern sense first appeared in a 1958 article published in the Harvard Business Review; authors Harold J. Leavitt and Thomas L. Whisler commented that “the new technology does not yet have a single established name. We shall call it information technology (IT)”. Its definition consists of three categories:

- techniques for processing;
- the application of statistical mathematical methods to decision-making;
- the simulation of higher-order thinking through computer programs [4].

IT sector in the modern world is very popular and profitable. Last year, according to Bloomberg, the IT sector became the most profitable sector of the economy: 57 people who earned more than \$ 1 billion in this area, increased their fortune by a third.

Today, this sphere attracts not only individual businessmen: the construction of the digital economy in many countries is becoming a task of national importance. Belarus is moving in this direction. In 2018 Decree № 8 “On the development of the digital economy” – a unique document, due to which Belarus could become one of the world’s best sites for development of high-tech business – comes into force [6].

Changes which will occur with the entry into force of decree № 8:

- The list of HTP residents activities will be expanded. Among other things, the development of biotechnologies, medical, aviation and space technologies as well as e-Sports are added.

- ICO, crypto-currencies and smart contracts will become legal. In HTP will enable to work with crypto-exchange, and citizens will be able to mine, give, exchange bit-coins and other digital signs.

- Grocery companies will be given a green light. For example, foreign trade transactions can be concluded in electronic form via the Internet. And in General, the activities of all HTP residents will be simplified as much as possible.

- Separate institutions of English law will be introduced. This will increase the attractiveness of our country in the eyes of investors.

- There will be more IT frames. HTP residents will be allowed to engage in educational activities, in addition, conditions will be created for attracting foreign specialists, for example, visas will be canceled for foreign workers and HTP residents founders.

IT-sphere and computer technologies are developing very quickly. For example, officially the first programming language for a computer was Plankalkül, developed by Konrad Zuse for the Z3 between 1943 and 1945. However, it was not implemented until 1998. Short Code, which was proposed by John Mauchly in 1949, is considered to be the first high-level programming language. It was designed to represent mathematical expressions in a format readable by human beings [1].

Today there are more than 2,500 programming languages, and this is not the end. All programming languages rely on English, all commands and operations are written in this language. For example, in Delphi, the command “power” raises the number to some extent. In C++, C#, Pascal, etc. “integer” means the positive integer.

Many large companies which are creating software and computing machines are based in America. They make their products in English. For example Borland Software Corporation which was created in 1983. This company has designed a Delphi programming environment that is available only in English.

Any person who has started working in IT-sphere should understand that without knowledge of a foreign language he or she will not achieve great success. Many large companies enter international markets, so English is needed every day. An employee who does not know a foreign language will not be able to:

- understand the terminology;
- read the technical documentation (if a foreign customer);
- communicate with foreign customers;
- study professional literature (new articles and books written in English);

For people who do not know a foreign language, in our case English, educational centers offer a course “English for IT”. This program is designed specifically for future testers,

programmers, and other “IT workers”. Such courses help to improve speech skills in a professional environment, print e-mails of different target orientation, etc.

IT-sphere is one of the first to need knowledge and application of foreign languages but in a short time a foreign language will be required in all areas of activity without exception.

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В статье рассматривается роль английского языка в новой сфере компьютерных технологий, IT-технологиях. Подчеркивается, что сегодня английский язык используется во всех сферах повседневной жизни, которые связаны с использованием компьютеров. Особенно важно знание английского языка специалистам, работающим в области IT-технологий, т. к. все программное обеспечение создается на этом языке.

#### **В.В. Василюк**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
 Научный руководитель – И.А. Полева

#### **UNGEWÖHNLICHE MUSEEN VON BELARUS**

Geschichte ist etwas sehr Wertvolles, etwas, an das sich die Menschheit erinnern und für immer behalten muss. Und vor allem die Geschichte seiner Heimat. Wir lernen die Geschichte unseres Landes mit Hilfe von Büchern, Mythen, Legenden, Museen [3, S. 35].

Das Museum ist ein Ort, an dem die historischen Werte und die Kultur der Vergangenheit aufbewahrt werden. Wenn man ins Museum kommt, kann man in die vergangene Ära, die Welt, eindringen und sich wie eine andere Person fühlen. In der Republik Belarus arbeiten heute etwa 160 Museen. Darunter historische Palast- und Parkensembles und mittelalterliche Schlösser, Herrenhäuser und Häuser berühmter Persönlichkeiten, Aufbewahrungsorte für reiche Sammlungen und gemütliche Themen-Mini-Museen. Auch in Belarus gibt es einige interessante, ungewöhnliche Museen [2, S. 24].

#### **Das an Münzen reichste**

Wie sahen die ersten Münzen auf dem Gebiet von Belarus aus? Was ist “Bernsteinstrasse”, und wo verlief diese?

Darüber und über viel Anderes kann man erfahren, wenn man die Exposition der Nationalbank besucht, zu der auch die in Belarus seltene byzantinische Münzen aus dem X.-XI. Jahrhundert gehören, lederne Geldbörse mit 127 Münzen der Goldenen Horde Ende des 14-Anfang des XV. Jahrhunderts, numismatische Komplexe von Prager Groschen, westeuropäische Thaler, spanische Realen und andere gehören. Unter den Ausstellungsgegenständen des XIX. Jahrhunderts ruft ein besonderes Interesse der Schatz hervor, der in einer Champagnerflasche gefunden wurde. Er besteht aus 80 großen silbernen Münzen Russlands und Preußens der Periode vom Ende des 18.-erste Hälfte des XIX. Jahrhunderts. Als Bonus gibt es Münzen sowjetischer Periode, goldene Zehnrubelmünzen des Jahres 1923, Rubel, Gedenkmünzen und Münzen der Republik Belarus, die in der Periode von 1996 bis zu unseren Tagen geprägt wurden, Silber-, Gold- und Platinbarren mit Akronym der Nationalbank.

#### **Das Museum “Bezdezher Schürzche”**

Das belorussische Dorf Bezdezh im Drogitschiner Kreis Brester Gebietes war seit je in der ganzen Umgebung für Schönheiten und Handarbeiterinnen berühmt. Man erkannte eine Bezdezher Frau aus der Ferne von einem halben Kilometer an Mustern an der Schürze (ein Detail der Nationalkleidung, die sie bis zu den 80-ern Jahren des XX. Jahrhunderts getragen haben). Jede Bewohnerin des Dorfes hatte mindestens 12 Schürzen, die mit eigenen Händen aus dem selbstgewebten Tuch gemacht und mit farbigen (gefärbt mit Ruß, Zwiebelschalen, Eichenrinde und Erlenzapfen) Fäden bestickt wurden.

Jetzt wird eine einmalige Sammlung authentischer Muster des Volksschaffens im Museum “Bezdezher Schürzchen” verwahrt. Die älteste Schürze in der Exposition ist mehr als 130 Jahre alt.

#### **Das den Kindern am Nächsten stehende**

Das Kindermuseum der Stadt Polotsk ist das einzige in Belarus, wo man Ausstellungsgegenstände mit den Händen anfassen und mit denen spielen nicht nur darf, sondern muss. Es ist ein Raum der Kinderfantasie: in den Räumen des Museums können sich kleine Besucher mit verschiedensten Gegenständen (Uhren, Unterbogenglöckchen, Fotoapparaten, Samowars usw.) vertraut machen, die Geschichte deren Erfindung und Perfektionierung erfahren, verstehen, dass der Mensch seinem Wesen nach Schöpfer, Macher und kein Zerstörer ist.

Die Exposition ist durch 8 Sammlungen dargestellt, und das sind mehr als 1000 bewundernswerteste Gegenstände. In der Computerhalle des Kindermuseums kann man Spiele spielen, die das logische Denken, das Gedächtnis, die Aufmerksamkeit, das Vorstellungsvermögen entwickeln.

#### **Das dem Ozean gewidmete**

Es scheint, dass Belarus ein landfester Staat ist. Aber das Interesse für Unterwassertiefen kann jeder zur Seeromantik ungleichgültige Belorusse im kulturaufklärerischen Zentrum “Offener Ozean” befriedigen. Die Überreste des U-Bootes “Kursk” berühren, die Bewohner von fünf Weltozeanen sehen, zu Gesicht bekommen, wie sich in einem Aquarium der kleine Wels und erwachsene Piranhas vertragen. Dieses Zentrum wird nicht nur von Kindern sondern auch von Erwachsenen gern besucht, denn Ozeangeheimnisse sind für alle interessant.

Fünf Hallen sind den fünf Ozeanen der Erde gewidmet. Jede mit ihren eigenen Unterwasserbewohnern, die die Fachleute des Zentrums für ihre eigene Zöglinge halten. Im Zentrum gibt es eine Werkstätte, eine Bibliothek, eine kleine Videohalle mit einer wunderbaren Sammlung, einen speziellen Aquariumcomputer PROFILUX, der sogar im Aquarium Gewitter, Ebbe und Flut simulieren und allerlei Seeströmungen steuern kann.

### **Das am meisten mit dem Theaterleben verbundene**

Das Staatliche Museum der Geschichte der Theater- und Musikkultur der Republik Belarus wurde am 23. März 1990 gegründet.

Die Ausstellungsgegenstände des Museums bilden 10 Sammlungen, zu denen gehören: Musikinstrumente, Notenmanuskripte, dokumentarische Materialien (persönliche Papiere, Regieausarbeitungen, Bildschnitte, Rollentexte mit Bemerkungen von Darstellern), Reproduktionen und Aufnahmestreifen, Anschlagzettel und Programme, Phonaufnahmen, seltene Druckausgaben und andere.

### **Das rund um die Uhr zugängliche**

Das einzige Museum im Land, das rund um die Uhr, ohne Mittagszeiten und Feiertage offen ist – Museum der Rollsteine – befindet sich in der Parkanlage der belorussischen Hauptstadt. In der Exposition des Museums, der in Minsk 1985 gegründet wurde, sind mehr als 2130 Steine von ganz Belarus gesammelt. Hier gibt es Rollsteine, die auf den belorussischen Boden von Gletschern gebracht wurden, es treffen sich sedimentäre, magmatische, metamorphologische Gesteine. Sowie der Stein, der in alten Zeiten als Zentrum heidnischer Kultstätte diente. Nach Meinung von Fachleuten hat das Museum nach seinen Maßstäben (nimmt die Fläche von 6,5 ha ein) und der Gestaltung (die Steine sind in der Form der Landkarte ausgelegt) keine Analoga in Europa [1].

Museen spielen eine große Rolle in unserem Leben, da sie zuverlässige Hüter des historischen Gedächtnisses und des Erbes vergangener Epochen sind. Sie bereichern intellektuell unsere Innenwelt, erweitern unseren Horizont, verbinden uns mit dem Schönen, erlauben uns Teilhabe an der Welt und an der Zeit.

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В статье речь идет о необычных музеях нашей страны. Автор предлагает информацию об экспозициях белорусских музеев, которая может заинтересовать не только жителей нашей страны, но и зарубежных туристов.

**А.Ю. Вашкевич, А.А. Савко**

Республика Беларусь, Барановичи, БарГУ

Научный руководитель – А.А. Савко

## **SYNTACTIC MEANS OF EXPRESSION OF PROMISE IN THE PRE-ELECTION CAMPAIGN SPEECH OF DONALD TRUMP**

Political discourse can be characterized as a set of political texts which reflect the world events in the sphere of public and social relations, in economics, culture, art, history, military affairs, religion, and which are intended for political communication. The main function of the political discourse of any country is to produce a dual effect on the

addressee: on the one hand, on separate individuals, and on the other hand, on the nation as a whole. All this leads to the fact that political leaders build their political statements with their own life-defining principles.

For example, D. Trump, a Republican candidate, used certain strategies in his campaign speeches which were actively aimed at creating a picture of the world that was beneficial to this policy with the help of speech-processing operations. The main strategies of D. Trump included such things as self-presentation, discrediting an opponent, rational conviction of voters, emotional conviction of voters, self-defense, avoiding questions. At the same time, the macro strategy was, as in most cases, the strategy of self-presentation.

Within the framework of the present article, we will review the campaign speech of the US President in Gettysburg, Pennsylvania, which he delivered on 22 October 2016 [1]. This speech is of special interest to us as it is some kind of programme of the first hundred days of the presidency of D. Trump, in which the future president tries to present himself from the best possible side, using the strategy of self-presentation, which is realized most often with the help of the tactics of promise. The US President himself defined this speech as the final word before the voters in which he made an attempt to focus their attention on the priorities of his programme and to distract voters from the contradictions that pursued him recently.

Further, we will consider the syntactic means of expressing the tactics of promise in the pre-election campaign speech of the American political leader. The material studied has shown that the most common way of expressing the tactics of promise is:

1. a) Using the future tense in the *will* + verb construction. With the help of the future tense, D. Trump talks about his planned actions and intentions which he will realize in case he is elected president.

Let's look at the examples:

*A deal **we will not approve** in my administration because it's too much concentration of power in the hands of too few. Likewise, Amazon, which through its ownership controls "The Washington Post", should be paying massive taxes, but it's not paying.*

*Additionally, Comcast purchase of NBC concentrates far too much power in one massive entity that is trying to tell the voters what to think and what to do. Deals like this destroy democracy. **We'll look at breaking** that deal up and other deals like that.*

It should be noted that very often D. Trump uses the pronoun *we* with future tense to express the tactics of promise which allows him at the same time to formally switch to the implementation of cooperation tactics, demonstrating unity with listeners, and also to show that not only he will be doing something, but also all the politicians who relate to his party. We would like to note that the pronoun *we* represents the idea of consistency. D. Trump invites the audience into his personal zone in this way emphasizing the idea of community. This pronoun refers to an indefinite referent which allows the speaker to withdraw from a specific nomination; hence, we see the commitment to a group of people and the absence of a specific responsible person for this or that commitment.

b) D. Trump uses the tactics of promise not only on his own behalf but also on behalf of his entire administration: *Therefore, on the first day of my term of office, **my administration will immediately pursue** the following six measures to clean up the corruption and special interest collusion in Washington.* This approach allows him to get even closer to the audience while showing him as a sufficiently authoritative politician among the subordinates.

At the same time, in the speech of D. Trump, we find the tactics of promise that shows that the President's actions are aimed at those people who, in his opinion, are harmful to the country: *All of these **liars will be sued** after the election is over. **We'll find out** about their involvement at a later date through litigation. I look so forward to doing that.*

c) Further, we would like to note that D. Trump uses the tactics of promise on his own behalf. For example:

*On the same day, **I will begin taking and really taking strongly severe actions to protect American workers. My economic plan will deliver at least 25 million jobs in one decade. My security plan will bring safety to our poorest communities. Ethics plan will end the corruption in our government. We will – corruption is massive. We will drain the swamp in Washington, D.C. and replace it with a new government of, by and for the people.***

Using the personal pronoun *I* while implementing the tactics of promise, the US President also applies the tactics of implicit self-presentation, positioning himself as an active, strong personality. This pragmatic effect is reinforced by the fact that in the sentence *I will begin taking and really taking strongly severe actions to protect American workers* the speaker uses amplifying words *really taking, strongly severe actions*. It can be argued that the pronoun *I* expresses the politician's acceptance of his obligations. The participant of the situation performs the role in the situation that is expressed in a standard way by this particular grammatical form. Thus, at the pragmatic level, the effect of a bright, strong personality is created.

2. The tactics of promise in the speech of the American President is also realized with the help of construction *be going to*, which is used to show that this or that action will happen with a high probability if he is elected, and that there are all the signs of this. Let's consider some examples:

*It's a one-lane highway where they get the jobs, they get the factories, they get the money, and we get the drugs and we get the unemployment and **it's going to change, believe me, it's going change fast. And we are going to change that. We are going to change that very, very fast. We are going to allow the Keystone pipeline and so many other things to move forward, tremendous numbers of jobs and good for our country. We are going to cancel billions in payments to the United Nations climate change programs and use the money to fix America's water and environmental infrastructure. We are going to fix our own environment.***

3. A less common way to implement the tactics of promise in the speech of D. Trump is the use of modal verbs. Let's look at the examples:

***We have to do that. Cancel every unconstitutional executive action, memorandum, and order issued by President Obama. We have to be so tough, so smart, so vigilant. We can't allow that to happen.*** The tactics of promise in these examples is used implicitly, but at the same time these verbs strengthen the promise, so that the impact on the audience is stronger and that no one has any doubts that this promise will be fulfilled.

To conclude, we must say that the tactics of promise in D. Trump's speech at the syntactical level is realized with the help of the future tense (will + verb), the construction to be going to and modal verbs.

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В статье раскрывается понятие политического дискурса и рассматриваются языковые средства выражения речевой тактики обещания на синтаксическом уровне на материале предвыборной речи кандидата на пост Президента США от республиканцев Дональда Трампа.

**А.С. Вербицкая**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Л.М. Калилец

**THE CARELESS FORM OF GUILT IN THE CRIMINAL LEGISLATION OF THE REPUBLIC OF BELARUS: A DISTINCTION WITH A DELIBERATE FORM OF GUILT AND ITS FEATURES**

So far, in the theory and practice of the Republic of Belarus, crimes with the deliberate form of guilt have accounted for ninety percent of all crimes. This means that most people commit crime consciously, understanding the nature of the consequences. Thus, the relevance of considering a form of guilt, as careless, is obvious, since it constitutes a small part of all crimes and requires a careful legal assessment.

The careless form of guilt is less common than deliberate, but in their consequences reckless crimes can be no less dangerous than deliberate ones. A crime committed by negligence is a socially dangerous act committed by carelessness or negligence [1].

To distinguish the forms of guilt, it is necessary to designate what determines the careless form of guilt, that is, its types, characteristic only for this category of crimes and more revealing its essence. The types of negligence, according to the Criminal Code of the Republic of Belarus, include the following:

1. A crime shall be recognized as committed by carelessness if the person who committed it foresaw the possibility of the onset of socially dangerous consequences of its action or inaction, but without sufficient grounds counted on their prevention [1]. At the same time, a person does not regard his actions as socially dangerous, although he realizes that they violate certain precautionary rules.

2. A crime shall be recognized as committed by negligence, if the person who committed it did not foresee the possibility of the onset of socially dangerous consequences of its action or inaction, although with the necessary care and foresight it should and could foresee them [1]. A person can be made accountable for such actions, since his actions are associated with disregard of the law, security requirements and the interests of others.

The distinction between a careless and deliberate form of guilt is made according to various criteria, but the most important are the following:

1) A committed careless crime is recognized when the person who committed it does not realize the danger of his deed.

And if a deliberate crime is committed, the person who committed it realizes the socially dangerous character of his act and wishes to commit it.

2) When a careless crime is committed, the guilty person foresees the consequences, but counts on somehow to prevent them, or does not foresee the occurrence of dangerous consequences for society, which could be seen with due care.

In case of a deliberate crime, the person who commits it, wishes, deliberately allows the onset of socially dangerous consequences or treats them indifferently.

Having considered the specifics of the careless form of guilt, one can pass to its peculiarities. An important feature related to the category of careless crimes is the following: a crime committed by two or more persons cannot be careless, since everything indicates that these persons had the intent to act together and achieve the desired criminal result. The commission of a crime by two or more persons in the Belarusian legislation is enshrined in the concept of “complicity”. The above thesis is explained by the fact that the



actions committed by criminals in complicity complement each other, are aimed at a single criminal result, and consequently, there is a causal relationship between their actions and the eventual result. Thus, both intellectually and voluntarily, it can be judged that these persons consciously committed a crime, they knew how much damage it could cause and by joint efforts they achieved a criminal result [2].

Another feature of crimes with a careless form of guilt is that the approach of the legislator to responsibility for careless crimes is fundamentally different from the approach to deliberate crimes. In particular, such crimes fall into the category of crimes that do not pose a major public danger, or less serious. As a consequence, the sanctions of the articles of the Criminal Code, providing for responsibility for such crimes, are much milder. The term of imprisonment for crimes committed by negligence cannot exceed ten years. The person serves a sentence in the form of imprisonment for crimes committed by negligence, in the colonies in the conditions of settlement for persons who have committed crimes through negligence.

And the last but not least important feature is that the commission of a crime through negligence cannot constitute a relapse of crimes if there is a criminal record both for deliberate and for careless crime. The criminal record of the convicted for a crime committed by negligence is repaid immediately upon the execution of the main and additional sentences [3].

In conclusion, it should be said that when considering such a specific phenomenon as a careless form of guilt, many legal nuances can be noted. In particular, they are well seen in identifying the characteristics of reckless crimes of responsibility, relapse and complicity. It is worth mentioning that the development of the topic of careless form of guilt and its problems is really relevant for the theory of criminal law and criminal legislation of the Republic of Belarus.

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В настоящее время в теории и практике Республики Беларусь преступления с умышленной формой вины составляют 90 % из всех преступлений. Это означает, что большинство людей идут на преступления осознанно, понимая характер последствий. Автор дает правовую оценку такой формы вины, как неосторожная, и определяет ее место в теории уголовного права и уголовного законодательства Республики Беларусь.

**В.А. Волк, Е.А. Коляда, Д.С. Шагун**  
Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – О.Н. Коваленко

## **CYBORG TECHNOLOGIES OF TODAY**

If we have a look at the history of human culture, we will see that most of our technology was created with the purpose of making something easier. Recently people have turned to a new direction: instead of creating technology that we can use, we are making technology that makes it easier for us to use ourselves. Today, the bodies of people merge with technology in ways that we could not have imagined a few decades ago. Superhuman strength and agility have ceased to be a lot of science fiction – all this is already available to ordinary people. Despite the fact that the latest technology gives us the opportunity to see the possibilities of people in the future, these days they are most useful for people suffering from disabilities in one form or another. Technology is literally able to make people cyborgs, replacing missing limbs, internal organs and senses. Sometimes they can even improve the normal function of the body.

In this article we are going to explore the existing technologies that can make you a real cyborg right now.

For example nowadays it is possible to hear colors with special antennas. Artist Neil Harbisson was born an unusual child – he did not see the color [1]. In 2004, he decided to change this. To do this, he connected an electronic antenna to the bottom of the skull, which converts the frequencies of light into vibrations, and the brain interprets them as a sound, allowing the artist to “hear the colors”. These frequencies are even able to go beyond the visual spectrum, allowing it to “hear” invisible frequencies, infrared and ultraviolet.

His body modification was not always accepted with a bang: the British government had problems when the Harbisson antenna appeared on the artist’s photo in the passport. Harbisson struggled with the government for its preservation. He won, becoming the first “legally recognized” cyborg.

The LUKE arm, also called “Luke’s Hand” (named after Luke Skywalker from “Star Wars: The Force Awakens”), is a high-tech prosthesis that allows the wearer to feel [2]. A special motor provides feedback, simulating the resistance that various physical objects exert – the user can feel that the cushion has less resistance than the brick. Electronic sensors receive signals from the user’s muscles, which are then converted into physical movement. A carrier can simultaneously manipulate several joints using switches that can be controlled with the help of its feet. The LUKE arm is configurable for people who are amputated from shoulder to forearm. The hand has four pre-programmed grips. The first commercially available “Luke’s arm” is available to a small group of military amputees. Amputees can buy a prosthesis through their doctor, but they say that the device costs about \$ 150,000.

Artificial vision can replace the eyes nowadays [3]. At the age of 20, Jens Neumann survived two separate accidents, as a result of which metal fragments fell into his eyes, depriving him of the opportunity to see. In 2002, at the age of 37, Neumann took part in clinical trials conducted by the Lisbon Institute of Dobele. A television camera was connected to his brain, bypassing his non-working eyes. From the points of light around it, shapes were formed that delineate the surrounding world, giving it the same point vision as in the “Matrix”. The system allowed him to see the Christmas lights dancing at his home in Canada, the same year. Unfortunately, the system refused in a couple of weeks. And when William Dobele, the inventor of this technology, died in 2004, he left almost no documentation, so the

technicians could not repair the Neumann system. In 2010, the system was surgically removed, and Neumann again became completely blind.

Controlled by the power of thought, the bionic leg was first used by Zack Vauter in 2012, a software engineer from Seattle, who was amputated to a leg above the knee in 2009. The technology that converts brain signals into a physical movement is called TMR (Targeted Muscle Reinnervation) and was created in 2003 for upper limb prostheses. But Vauter's prosthesis was in some ways revolutionary, because he replaced the foot for the first time. In 2012, Zach Wouter crossed the 2100 steps of the Willis Tower in Chicago with his prosthetic foot. It took him 53 minutes and 9 seconds.

The company for the production of prosthetic bebionic creates the most modern prosthetic hands. Individual motors in each joint drive each part of the arm independently. To assist in everyday use, bebionic has 14 predefined capture schemes. High-sensitivity motors change the speed and force of capture in real time – they are delicate enough to allow the user to hold the egg between the forefinger and the thumb, and are reliable enough to withstand up to 45 kilograms. The hand of bebionic became commercially available already in 2010. Over the next seven years, the models only improved with respect to battery life, flexibility and software.

The film director from Toronto, Rob Spence, decided to replace the missing right eye with a prosthesis equipped with a video camera with wireless data transmission. Through a partnership with RF, which develops wireless data transmitters, and a group of electrical engineers, Spence made a prosthetic shell for the eye, which could fit a lot of electronics in a confined space. The camera can record up to 30 minutes of footage until the battery is completely discharged. Spence used frames shot with his prosthetic eyes in the documentary “Deus Ex: The Eyeborg Documentary”.

In conclusion, it should be mentioned that there is something terrifyingly romantic about the idea of a cyborg – the merging of man and machine – and these new technologies serve as subtle reminders that we are nudging our civilization inexorably closer to the brink of a cyborg age.

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Авторы изучают некоторые современные технологии аугментации человека, которые позволяют уже сейчас сделать его киборгом.

**И.А. Волк**

Республика Беларусь, Брест, БрГТУ  
 Научный руководитель – О.Л. Зозуля

## **ROBOTIK UND KÜNSTLICHE INTELLIGENZ**

Seit Jahren wird darüber berichtet, wie Roboter die Lebenswelt erobern: Sie ersetzen Arbeitsplätze, erledigen den Haushalt, hüten und unterhalten Kinder, besiegen Menschen im Schach, fahren Autos sicher durch die Straßen, steuern die Produktion in der Fabrik usw. In weniger als einem durchschnittlichen Menschenleben haben Computer und Roboter eine Evolution hingelegt, von der der Mensch nur träumen kann. Ein Roboter ist eine Maschine, die eine vorgegebene Aufgabe erfüllen kann. Bei Robotern wird zwischen zwei Varianten unterschieden: Roboter, die von Menschen ferngesteuert werden, und autonome Roboter, die in gewisser Weise selbstständig, unabhängig sind. Heute sind zwei Technologien schon ohne einander nicht zu denken: *Robotik*, Wissenschaft von der Entwicklung und dem Betreiben automatischer Maschinen (Roboter) zur Handhabung verschiedenartiger Güter oder zur Realisierung unterschiedlicher, auf den Menschen bezogener Funktionen, und *Künstliche Intelligenz* (KI), ein Gebiet der Computerwissenschaft (Informatik), das sich mit der Nachbildung formalisierbarer Aspekte des menschlichen Denkens und Erkennens befasst sowie mit deren Nutzbarmachung für Problemlösungen, die Intelligenzleistungen voraussetzen [1].

Der erste mobile Roboter der Welt Shakey wurde im Labor für KI des Stanford Research Institutes von 1966 bis 1972 unter der Leitung von Charles Rosen entwickelt. Schon zu seiner Zeit, Ende der 1960er Jahre, steckte mehr Technik in dieser intelligenten Maschine, als man auf den ersten Blick sieht. Denn Shakey besaß bereits eine Art der KI – er konnte seine Handlungen selbstständig planen. Um das zu ermöglichen, hatten Forscher damals erstmalig bei einem Roboter verschiedene Gebiete der KI-Forschung kombiniert – Bildverarbeitung und Computerlinguistik. Shakey erfasste seine Umgebung mithilfe von Kameras, konnte sich bewegen und Probleme lösen. Allerdings war der Roboter auch für damalige Verhältnisse noch nicht perfekt. Eine Schwäche brachte ihm sogar seinen Namen ein: Shakey – der Zitterer. Denn hinsichtlich Feinmotorik waren selbst seine Entwickler nicht ganz von Shakey überzeugt.

Deutschland ist das Land mit der höchsten Industrieroboterichte Europas. Auf 100 Mitarbeiter kommen hier drei Roboter, so nimmt Deutschland den 4. Platz nach Südkorea, Singapur und Japan. Meistens sind die intelligenten Maschinen in Fabrikhallen zu treffen, z.B. bei Autoherstellern. Industrieroboter sind so erfolgreich, denn ihre Aufgaben bestehen meist aus nur wenigen, klar umrissenen Schritten. Heutige Industrieroboter bestehen im Vergleich zu früher nur noch aus der Hälfte der Bauteile und können doch doppelt so viel. Möglich machen das eine sehr präzise Steuerung, Kameras und Sensortechnik, dadurch können sie eine Handlung unendlich oft ausführen. Ein anderer Grund ist die Energieversorgung. Weil Batterien oft schwer sind, lassen sie sich nicht immer komfortabel in den Robotern verbauen. In der Industrie arbeiten die Maschinen dagegen oft an einem festen Standort und können somit stationär mit Strom versorgt werden. Ein Pflegeroboter für die Wohnung sollte dagegen nicht ständig an der Ladestation stehen – er muss überall helfen können.

Die Roboter werden also gerne dort eingesetzt, wo es um Arbeiten in gefährlicher oder unwegsamer Umgebung, Messungen, sich wiederholende Tätigkeiten geht, oder bei gesundheitsschädlichen, unfallträchtigen Aufgaben usw. Der Grund, warum Roboter heute noch nicht überall zum Einsatz kommen, liegt jedoch an ihrer mangelnden Fähigkeit mit

Menschen zu interagieren. Denn dazu müssten sie auch die Gestik, Mimik und Sprache der Menschen richtig deuten können oder unvorhergesehene Situationen einordnen und darauf korrekt reagieren. An dieser Flexibilität mangelt es jedoch bisher noch. Ein anderes Problem besteht darin, die Fähigkeiten und Anpassungsfähigkeit des Menschen nachzubilden, denn die Anatomie des Menschen ist schwer kopierbar [4].

Die Experten meinen, dass in circa 30 Jahren mehr persönliche Roboter produziert werden als persönliche Computer. Der Grund hierfür soll den Prognosen nach der wachsende Bedarf an Servicerobotern sein. Und hier könnte man den humanoiden Roboter Pepper erwähnen, der seit kurzem an der Universität Siegen (Deutschland) arbeitet. Wissenschaftler vom Lehrstuhl für Wirtschaftsinformatik und Neue Medien und Studierende aus dem Masterstudiengang Human Computer Interaction machen ihn fit für seinen Einsatz im Altenheim. Dort soll er die älteren Menschen unterhalten, mit ihnen Rätsel raten, Musik spielen usw., wenn die Pfleger mit anderen Aufgaben beschäftigt sind. Pepper hat Sensoren am Kopf und an den Fingern, kann hören, sehen, sprechen und sogar Stimmlagen und Emotionen erkennen. Entwickelt wurde der Roboter in Frankreich, dann nach Japan verkauft und auf den Massenmarkt gebracht. In der japanischen Sprache fühlt er sich deshalb am wohlsten. In Siegen lernt Pepper auch im Deutschen auf Alltagssituationen reagieren. Die Wissenschaftler meinen dabei, dass Pepper Pflegekräfte nicht ersetzen wird: Roboter und Menschen sollten vielmehr hybride Teams bilden und sich gegenseitig ergänzen. Die Forscher wollen weiter gemeinsam forschen, bis die Roboter die Menschen halb-autonom oder sogar in Teilbereichen voll-autonom in der Pflege unterstützen können. Es gehe in der Zukunft dann viel mehr auch um ethische, soziale und rechtliche Fragestellungen, nicht nur um die Robotik-Programmierung [2].

Aus rechtlicher Sicht gibt es mit Hinblick auf die Robotik und die in den Robotern verbaute KI viele ungeklärte Fragen. Dies hat das Europäische Parlament dazu veranlasst, am 16. Februar 2017, mit 396 Ja-Stimmen (bei 123 Nein-Stimmen und 85 Enthaltungen) eine Entschließung mit Empfehlungen an die Kommission zu zivilrechtlichen Regelungen im Bereich Robotik zu verabschieden. Die Vorschläge betreffen vor allem Maschinen, die aufgrund ihrer Ausstattung mit einer KI und ihrer physischen Bewegungsfreiheit sehr autonom agieren und allein Entscheidungen treffen können. Diese Empfehlungen befassen sich mit allgemeinen Grundsätzen der Entwicklung von Robotik und der KI zur zivilen Nutzung. Es wird aufgefordert, einen eigenen rechtlichen Status für intelligente Roboter einzuführen, eine europäische Agentur für Robotik und KI einzurichten, die das erforderliche technische, ethische und regulatorische Fachwissen zur Verfügung stellt. Außerdem wird vorgeschlagen, eine Registrierungspflicht, sowie ein unionsweites Roboter-Register einzurichten und eine Versicherungspflicht für intelligente Roboter einzuführen. Besonders diskutiert wird dabei die Frage der Einführung eines eigenen Rechtsstatus für Roboter: Sollten Roboter wirklich einen eigenen Rechtsstatus – “Elektronische Person” oder “E-Person” – erhalten? [3]

Die Entwicklung hochintelligenter halbautonomer und/oder vollautonomer Systeme scheint also nur noch eine Frage der Zeit zu sein. Was die ethischen, sozialen und rechtlichen Fragen angeht, so werden hier viele Jahre vergehen, bevor entsprechende Regelungen und Vorschriften ausgearbeitet oder entsprechende Gesetze tatsächlich verabschiedet werden.

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В статье на примере двух роботов – первого мобильного робота Шеки и бытового робота Пеппер – кратко показывается эволюция умных машин, а также затрагиваются вопросы, которые влекут за собой стремительно развивающиеся робототехника и искусственный интеллект.

### **В.В. Гаврилова**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – М.П. Концевой

## **COMMUNICATIVE CONSENSUS IN WIKIPEDIA AS A SPECIAL CULTURAL ENVIRONMENT**

Wikipedia is a free public multilingual universal Internet encyclopedia that is being created by millions of volunteers from all over the world in 288 languages. The volunteers' free initiative interaction has made it possible to create an encyclopedic resource of the highest quality. When working on articles in Wikipedia, all the participants have equal rights, they are not even required to register on the site. According to the volume of information and thematic coverage Wikipedia is considered to be the most complete encyclopedia in the history of mankind and the most popular reference book on the Internet. The number of active users involved in the creation of Wikipedia, as of March 2018, is almost 315,000 people [3].

Being a successful experimental site for searching and constructing effective models of the multilingual and intercultural educational communication of various network communities Wikipedia itself can be considered as a special cultural environment. It is a self-regulating, actively developing cultural network community of the era of global computer communications. The specific character of the work in Wikipedia makes the participants interact closely, and the wiki community is distinguished by a high level of the development of various aspects of social interaction. Wikipedia is characterized by the elaborated system of regulating the behaviour of participants on the basis of some specific code expressed in several fundamental rules; there are also peculiar elements of cultural creativity and a specific lexicon.

Increasing the reliability of Wikipedia as an information resource is associated with establishing the effective tools for open network multilanguage communications. An important role in the support of multilingual communications plays the so-called "User space" which acts as a means of communicating with other participants of the project on issues related to the joint work on the encyclopedia. These pages contain a variety of information about the user. "User space" consists of special pages that are automatically assigned to each registered participant of Wikipedia. The language templates, used on personal pages that enable one to find members of the wiki community who speak certain

languages, are of particular importance in interlanguage communication. For example, the majority of Wikipedia's editors are the residents of the US and Europe, and about 90% of them are men.

In the information consumer society where attention is the most important communicative resource, any kind of popularity is used for improper purposes of manipulation of public consciousness. Wikipedia also appears in various reports dealing with unfair editing and correction of encyclopedic articles [1]. Such actions are said to have been committed by employees of government services, corporations, representatives of various ethnic and social groups, and individual users. To avoid such manipulations a special WikiScanner site (<http://wikiscanner.virgil.gr/>) which contains information about companies that make incorrect edits has been launched. A serious problem connected with the incorrect edits has made the developers of some language versions abandon the practice of immediate editing of articles by all comers, making it the prerogative of "proxies" to obtain the status of which it is necessary to make 30 "credible" revisions within 30 days. The main issue is that Wikipedia was created and has been developing as a free encyclopedia in which articles can be edited by any participant. The basis of Wikipedia is the belief that an open Internet community is able to create high-quality informative and communicative resource based on respectful neutral positions of its participants. Achieving this goal requires a balanced approach to the conduct of the debate, patience, and also a healthy atmosphere in the community as a whole. Thus, is not the technical means of fighting against manipulations [4] that are of primary concern but the very tools developed by the wiki community to find consensus.

Among the grossest violations of the principles of the self-organization of the information in Wikipedia was the phenomenon called "Editor wars" which represents a process in which two or more editors of the same article cannot come to a consensus and are constantly restore the article to that version of publication which, in their opinion, is more correct. In most cases the object of such disagreements are articles related to serious real-world conflicts: economic, religious, ethnic, political ones [2]. The "Editor wars" are often conducted by organized groups who are deliberately trying to manipulate public opinion.

All the types of communication carried out in Wikipedia are focused on the search for a consensus through polite discussions and negotiations. If it is found that for some reason a certain consensus is reached regularly, the corresponding procedures are written in the rules and guidelines. It is generally accepted that a consensus can only work among reasonable participants with good intentions who accurately describe different points of view on the subject matter of the article. It is assumed that participants seek a consensus that is consistent with the basic principles and rules of Wikipedia. During the "Editor wars" one can observe the situation when both sides claim that there is a consensus for their own version of the article. Therefore, it is important to note that the presence of consensus in the wiki community means a general agreement to obey the final decision, even if it has not gained the universal support. Among the participants who observe the consensus, there will be those that do not support it but are forced to obey it so as not to violate the principles and rules of Wikipedia.

The exact number for the limit of the "qualified majority" is determined differently yet usually it ranges from 60 % to 80 % of participants. The most important element in the development of the consensus is the belief that all the parties have been listened to and all the arguments have been taken into consideration. This fact implies a common desire for an effective cooperation so the discussion itself is more important than the statistics. The true consensus of the community is determined by the weight of the arguments made by the participants.

To sum up, the ongoing search for effective communication solutions for the revision of the generally accepted position in the wiki community and for the achievement of a new consensus on various issues is of great scientific and educational importance and needs a special theoretical interpretation.

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В статье раскрывается сущность и принципы Википедии как особой культурной среды, а также понятие такого явления, как коммуникативный консенсус. Автор описывает основные особенности данного культурного сообщества, особенности коммуникативного консенсуса в вики-сообществе и пути его достижения.

#### **Е.А. Герасимук**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – С.А. Пилипенко

#### **FORSCHUNGSANSÄTZE ZUR KONZEPTSTRUKTUR**

Die konzeptuellen Untersuchungen erfreuen sich in den letzten Jahrzehnten einer großen Beliebtheit. Das ist mit vielen Faktoren verbunden. Zum einen hat die “kognitive Wende” diese neue Forschungsrichtung stark beeinflusst, zum anderen gewinnt eine anthropozentrische Sichtweise an Bedeutung, was dazu führt, dass mentale Einheiten im Zentrum vieler Forschungen stehen.

Die kognitive Linguistik hat ihren festen Platz in der modernen Linguistik gefunden. Die Kognitivistik ist eine neue Stufe im Studium der komplexen Beziehungen von Sprache und Denken, der Rolle des Menschen in der Sprache und der Rolle der Sprache für den Menschen. Bis heute kann die kognitive Linguistik als eine der modernsten Linien der linguistischen Forschung bezeichnet werden.

Gegenwärtig sollte anerkannt werden, dass das Konzept das Schlüsselbegriff der kognitiven Linguistik ist. Obwohl das Konzept für die moderne Kognitologie in Betracht gezogen werden kann, variiert der Inhalt dieses Begriffs stark in den Auffassungen verschiedener wissenschaftlicher Schulen und einzelner Wissenschaftler. Tatsache ist, dass das Konzept eine Kategorie des Denkens ist, nicht beobachtbar, und das gibt viel Spielraum für seine Interpretation [2, S. 21].

Da das Konzept ein komplexes Phänomen ist und durch einzelne Merkmale, die in einer bestimmten Beziehung zueinander stehen, charakterisiert wird, wird über die so wie über die



Struktur jedes komplexen Objekts gesprochen. Die Konzeptstruktur, seine Heterogenität wurde den Forschern von Anfang an in der kognitiven Forschung deutlich. Die Meinungen zu den Hauptkomponenten der Konzepte wurden unterschiedlich formuliert.

J.S. Stepanov isoliert im Konzept das alltägliche, bekannte Wesen, das den einzelnen Sprechern bekannt ist, und etymologische Information.

S.G. Vorkachev deutet auf die konzeptuelle Komponente, die figurative Komponente und die signifikante Komponente.

W.I. Karasik unterscheidet bildliche Komponente, begriffliche (informationstheoretische) Komponente und Wertkomponente (Beurteilungs- und Verhaltensnormen) in der Konzeptstruktur. Der bildliche Teil umfasst durch Perzeption gewonnene Informationen in unserem Gedächtnis, die mit einigen Gegenständen, Ereignissen oder Qualitäten verbunden wird. Der begriffliche Teil des Konzeptes wird im Verstand in der Verbalform bewahrt. Der bildliche Teil ist dagegen nonverbal und lässt sich nur beschreiben und interpretieren. Die Wert-Seite ist ihrerseits dafür zuständig, die für das jeweilige Konzept Schlüsselbegriffe auszusuchen [2, S. 74]. Das dreidimensionale konzeptuelle Modell lässt sich der Auffassung von W.I. Karasik zufolge mit den Prinzipien der sprachlichen Wahrnehmung der Welt erklären, indem man den aktuellen Teil der Erfahrung aussondert (der Wert-Teil), anschließend diese Erfahrung in der Form eines Bildes speichert (der bildliche Teil) und abschließend das Erlebte deutet (der begriffliche Teil) [1, S. 94].

I.A. Sternin unterscheidet drei Strukturtypen der Konzepte: mit einer Ebene, mit mehreren Ebenen und segmentare. Das Konzept mit einer Ebene besteht nur aus einer Basisschicht. Solche Struktur haben die Konzepte im Verstand eines Kindes oder bei den nicht intellektuell entwickelten Personen. In den meisten Fällen zeichnen sich die Konzepte durch eine kompliziertere Struktur aus. Das Konzept kann auch mehrere Ebenen haben, d.h. es beinhaltet viele kognitive Schichten, die sich auf die Basisschicht ablagern. Der letzte Typ der Konzepte – die segmentaren Konzepte stellen eine Basisschicht dar, die von vielen Segmenten umfasst ist [2]. Der Kern des Konzeptes besteht aus dem Inhalt, der das Minimum der kognitiven Merkmale darstellt und sich daher den Definitionen der Wörterbücher annähert. Außer dem Kern hat das Konzept auch einen inhaltsreichen Interpretierungsteil, der von I.A. Sternin als “eine Gesamtheit schwach strukturierter Aussagen, die die Interpretation einzelner konzeptueller Merkmale und ihre Verbindung in Form Behauptung, Einstellung des Verstandes widerspiegeln, die in dieser Kultur aus dem Konzeptinhalt hervorgehen” aufgefasst ist [3, S. 61]. Während die Basisschicht der Konzeptkern ist, bildet das Interpretierungsfeld seine Peripherie. I.A. Sternin betont, dass man sich bei der Untersuchung des Konzepts sowohl auf den Kern, als auch auf die Peripherie fokussieren sollte.

Die meisten Forscher isolieren im Konzept ein Bild, einen bestimmten informationskonzeptuellen Kern und einige zusätzliche Merkmale. Heute werden drei grundlegende strukturelle Komponenten (Elemente) des Konzepts herausgegriffen: das Bild, der Informationsgehalt und das Interpretationsfeld.

Im weiteren Sinne kann die Struktur des Konzepts in Form eines Kreises dargestellt werden, in dessen Zentrum das Grundidee – der Kern des Konzepts – und an der Peripherie alles sind, was durch Kultur, Traditionen, Menschen und persönliche Erfahrung eingeführt wird.

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В статье рассматриваются подходы к пониманию структуры концепта. Автор представляет различные точки зрения отечественных когнитологов на вопрос о структуре концепта.

**М.С. Голикова**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина

Научный руководитель – Н.В. Иванюк

### **DEPRESSION AS A GLOBAL PROBLEM OF SOCIETY**

Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behaviour, feelings, and sense of well-being. A depressed mood is a normal temporary reaction to life events such as loss of a loved one. It is also a symptom of some physical diseases and a side effect of some drugs and medical treatments. Depressed mood is also a symptom of some mood disorders such as major depressive disorder and dysthymia.

People in a depressed mood may be notably sad, anxious, or empty; they may also feel notably hopeless, helpless, dejected, or worthless. Other symptoms expressed may include senses of guilt, irritability, or anger. Further feelings expressed by these individuals may include feeling ashamed or an expressed restlessness. These individuals may notably lose interest in activities that they once considered pleasurable to family and friends or otherwise experience either a loss of appetite or overeating. Experiencing problems concentrating, remembering general facts or details, otherwise making decisions or experiencing relationship difficulties may also be notable factors in these individuals' depression and may also lead to their attempting or actually committing suicide.

Expressed insomnia, excessive sleeping, fatigue, and vocalizing general aches, pains, and digestive problems and a reduced energy may also be present in individuals experiencing depression [5].

Depression isn't a single disorder, but rather a class of conditions separated by severity and duration. However, common factors exist among all types [1]. Sometimes physical problems can cause depression. But other times, symptoms of depression are part of a more complex psychiatric problem. An individual with major depression, or major depressive disorder, feels a profound and constant sense of hopelessness and despair. Major depression is marked by a combination of symptoms that interfere with the person's ability to work, study, sleep, eat, and enjoy once pleasurable activities. Major depression may occur only once but more commonly occurs several times in a lifetime [3].

Depression is likely to strike many people to some degree in their lifetime. According to the Centres for Disease Control and Prevention, 9.1 percent of people reported current major or minor depression. If you or someone you know is depressed, it can cause a marked drop in interest in pursuing life to the fullest, and can, unfortunately, drive a person to attempt suicide if left untreated [1].

Major depressive disorder occurs when the person has feelings of sadness, hopelessness, or anger that persist over a period of weeks and interfere with daily life.

The symptoms of major depression include sadness, irritability, loss of interest in activities once enjoyed, withdrawal from social activities, inability to concentrate, disrupted sleep, fatigue or loss of energy, appetite changes, thoughts of suicide [3].

Bipolar disorder is characterised by cycling between depressive periods and manic periods in which the person engages in a lot of activity and feels extremely empowered and positive. The time between phases varies from person to person.

Seasonal affective disorder (SAD) often strikes people during the winter months. A lack of sunlight, exercise, and fresh air causes irritability and lethargy in people who suffer SAD.

Postpartum depression occurs often with women who have recently given birth. The time of onset varies; it can occur as early as three months or as late as a year after delivery. It is moderate to severe [1].

Untreated depression can make it very difficult to go to class and complete assignments. That's because depression diminishes one's ability to concentrate, remember things and make decisions. For some people, even getting out of bed requires extra effort. That's why it's important to get help before symptoms get worse and start interfering with school and other aspects of one's life.

Consider how your relationships suffer when you're stressed out: You might lash out at loved ones, stop going to social events or just want to be left alone. The same thing can happen with untreated depression – except that it's worse, as depression's symptoms are more severe. Depression leaves people drained emotionally, mentally and physically, so it becomes hard to be there for friends and family.

Depression can become an unhealthy cycle. People with depression need to take good care of themselves to feel better, but because of the symptoms, they are unable to sleep (or sleep too much), don't want to eat and have no interest in exercise. Because they are unable or unwilling to do these things, the depression worsens and health suffers. When we don't take care of ourselves it can leave us vulnerable to other illnesses, such as the flu, or worsen health conditions we already have, such as diabetes [4].

It has been hypothesised that depression is an evolutionary adaptation because it helps prevent infection in both the affected individual and his/her kin. First, the associated symptoms of depression, such as inactivity and lethargy, encourage the affected individual to rest. Energy conserved through such methods is highly crucial, as immune activation against infections is relatively costly; there must be, for instance, a 10 % increase in metabolic activity for even a 1°C change in body temperature. Therefore, depression allows one to conserve and allocate energy to the immune system more efficiently [2].

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Статья посвящена депрессии, анализируется влияние этого заболевания на человека, его поведение и повседневную жизнь. Особое внимание уделено причинам появления болезни, а также последствиям не оказания своевременной помощи больным депрессией.

**Е.О. Головко**

Республика Беларусь, Минск, БГУ

Научный руководитель – В.С. Бурденкова

### **LA LEGITIMIDAD DE LA MATERNIDAD SUBROGADA EN BELARÚS Y ESPAÑA**

La gestación subrogada es una técnica de reproducción asistida regulada y legalizada en muy pocos países del mundo, pero actualmente se está extendiendo cada vez más, lo que requiere la adopción de nuevas leyes. Las tecnologías de reproducción asistida son más desarrolladas y legalmente aseguradas en los países de Europa occidental. En la gestación subrogada, una mujer se ofrece a gestar el hijo de otra persona, lo cual suscita en muchos casos la posibilidad de mercantilización del cuerpo femenino y la cosificación del bebé.

Además, cada uno de los países que permite la gestación subrogada tiene sus propias particularidades, como pueden ser permitir la gestación subrogada solo por incapacidad médica para gestar o permitirla solo en su modalidad altruista [3].

En este artículo hablaremos sobre cómo la maternidad subrogada está fijada en la legislación de Belarús y España.

La maternidad subrogada en España está prohibida. España se encuentra entre los cuatro países europeos que trata negativamente esta ley. Pero, a diferencia de Alemania, Italia y Francia, no existe ningún castigo por realizar tal procedimiento en España.

La práctica de otros métodos reproductivos de tratamiento de la infertilidad en España se lleva a cabo legalmente. Por ejemplo, se permite la donación anónima de óvulos y espermatozoides, incluso por una remuneración monetaria. La ausencia de la maternidad subrogada en el país obliga a las familias españolas a buscar oportunidades en otros países, donde una mujer puede ser legalmente la madre sustituta de su bebé.

La legislación del año 2010 no prohíbe a las parejas infértiles españolas recurrir a los servicios de una madre subrogada en los países donde tal práctica está permitida. En 2010 el 80 % de estos servicios para parejas españolas fueron proporcionados por los Estados Unidos. Actualmente, su parte es solo del 15 %. Ahora el lugar que goza de más demanda es Ucrania. En Rusia y Ucrania, la ley solo permite la realización de esta técnica reproductiva bajo justificación médica de incapacidad de gestar. México se está volviendo cada vez más importante porque a diferencia de Ucrania, esta práctica está permitida a homosexuales y personas solteras.

Pero el nacimiento de un hijo por parte de una madre subrogada en otro país conlleva ciertas dificultades para los ciudadanos españoles.

En febrero de 2014, el gobierno español suspendió la expedición de documentos para los hijos nacidos de una madre subrogada en el extranjero. El Tribunal de España se negó a otorgar la ciudadanía a un niño nacido de esa manera en América. La causa de esa decisión fue la Ley 14/2006, de 26 de mayo, sobre técnicas de reproducción humana asistida que prohíbe la participación de mujeres extranjeras como madre subrogada [2]. Aunque antes las autoridades españolas no impidieron el registro de documentos para recién nacidos que nacieron en países donde la maternidad subrogada está permitida oficialmente. Esto creó una contradicción legal, que causó una insatisfacción extrema entre los partidarios de la maternidad subrogada en España. Los funcionarios públicos apelaron al gobierno con una demanda para enmendar la legislación de España, que regula el registro de los niños nacidos con la ayuda de una madre subrogada en otros países. En apoyo de la demanda fueron recolectadas más de setenta mil firmas. Como resultado, el Ministerio de Justicia de España decidió renovar el derecho de otorgar la ciudadanía española a los niños nacidos en el territorio de otros estados.

En Belarús la maternidad subrogada está legalmente permitida. En enero de 2012 en Belarús se aprobó la Ley “Sobre tecnologías de reproducción asistida” [1]. Esta es la maternidad subrogada, la inseminación artificial y la fecundación in vitro. En Belarús la maternidad subrogada se fija legislativamente. Actualmente existen varias compañías de seguros que participan en la selección de las madres subrogadas.

Conforme a la Ley la selección de una madre subrogada incluye ciertos requisitos. Ella debe ser una mujer que esté casada necesariamente, su edad debe ser de 20 a 35 años, debe estar absolutamente sana, antes de firmar un contrato se someta a un reconocimiento médico especial. Todo lo demás está establecido en el contrato, a veces ambas partes desean que todo sea anónimo, a veces es completamente transparente, es decir, una pareja que recurre a los servicios de una madre subrogada puede verse con ella y tener información dónde reside la madre subrogada. Ella misma debe proporcionar información sobre su salud, sobre cómo está desarrollando el embarazo.

Actualmente algunos partidos apoyan la idea de legalizar la maternidad subrogada en España porque es un problema muy actual y grave.

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В статье рассматривается актуальная тема суррогатного материнства в Беларуси и Испании и его закрепления в законодательстве. Также рассматривается применение других репродуктивных методов лечения бесплодия в Беларуси и Испании.

**С.В. Головня**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Т.Ю. Тетенькина

## **DIE SOZIALEN NETZWERKE UND IHR EINFLUSS AUF DIE JUGEND**

Sicherlich interessiert man sich für solche Fragen, wie und wann die sozialen Netzwerke entstanden sind. Ihre Entstehungsgeschichte... Warum sind sie so beliebt? Die jungen Menschen, die in vielen Ländern leben, können keine Minute ohne soziale Netzwerke bleiben? So kann man ein wenig in die Geschichte der Entwicklung der sozialen Netzwerke eintauchen. Woher kamen die sozialen Netzwerke?

Wussten Sie schon, dass das Internet ganz in unserer Nähe entstanden ist? Damals war es ein Projekt im Forschungszentrum CERN in der Schweiz. Im Prinzip ganz einfach: Hyperlinks verknüpfen Inhalte. Das System wurde schnell von der US-amerikanischen Armee eingesetzt und sollte damals den Datenaustausch dienen. Irgendwann wurde das Protokoll frei zugänglich und seither profitieren die Menschen von dem unglaublichen Informationsfluss und der Geschwindigkeit, die mit den neuen digitalen Netzen möglich sind. Was waren die ersten Communities und wie erfolgte die Übertragung von Daten aus Benutzergruppen?

Vor zwanzig Jahren gab es Communities, die Daten teilten. Es war also nur eine Frage der Zeit, bis sich die Möglichkeiten dieser einzelnen, kleinen Communities beträchtlich erweitern würden. Die ersten ernst zu nehmenden Vorläufer kamen damals mit Portalen, wie MySpace oder auch nicht direkten sozialen Netzwerken, d. h. Tauschbörsen wie Napster. Auf beiden Plattformen verbinden sich die User und können Daten miteinander tauschen.

Soziale Netzwerke haben die gesamte Welt revolutioniert. Durch die gesamte Globalisierung und die Vernetzung der Welt gibt es heute kaum noch eine Abgrenzung zwischen einzelnen Städten, Regionen oder Ländern. Die Übergänge sind weitgehend fließend und so verändern die revolutionären Änderungen, die sich durch soziale Netzwerke ergeben, nicht nur einzelne Länder, sondern ganze Kontinente. Auch in Deutschland hat sich einiges verändert durch die sozialen Netzwerke. Menschen können heute kommunizieren, in jeder Situation, mit ihren Freunden oder mit ihrer Familie. Distanzen spielt durch Messenger-Dienste keine besondere Rolle mehr. Im Urlaub, auf Geschäftsreise oder vom weit entfernten Wohnort. Heute kann man nicht mehr nur Text austauschen, sondern auch Fotos oder Videos. Sogar ganze 360° Ansichten oder auch Slow Motion Videos von besonderen Momenten sind möglich.

Aber in Anbetracht der sozialen Netzwerke ist jeder daran interessiert zu wissen, welches das erste und größte Netzwerk ist. Kennen Sie noch StudiVZ? StudiVZ war das erste große, in Deutschland programmierte, soziale Netzwerk. Natürlich war es auch nur eine Kopie von einem amerikanischen System, dennoch hat es als Erster geschafft, eine große, relevante Zahl von Nutzern für sich zu begeistern. Deshalb wurde StudiVZ auch nur wenig später von der Holtzbrinck-Gruppe übernommen. Nach Spiegel Informationen wurde StudieVZ für bis zu 100 Millionen gekauft.

Facebook und Google werden Online Giganten. Gleichzeitig kam natürlich auch Facebook in Deutschland auf. Facebook war das populärste soziale Netzwerk in Deutschland. Gründer Mark Zuckerberg hat es geschafft, mit seinem Netzwerk ein weltweites Phänomen zu begründen. In Deutschland sind über zwanzig Millionen Menschen registriert. Dazu kommen hunderttausende Gruppen und Fanpages. Facebook hat damit fast die Hälfte aller Deutschen Internetnutzer bei sich registriert. Abseits von Facebook gibt es

YouTube. YouTube hat ebenso viele Nutzer, bietet allerdings nicht die selben Kommunikations- und Austauschmöglichkeiten. YouTube ist als Video Streaming Plattform nicht für den persönlichen und emotionalen Austausch von Informationen gedacht. Dennoch ist es eben so groß wie Facebook und hat in Deutschland und weltweit die absolute Vorherrschaft im Bereich Videostreaming.

Der Mensch ist durch andere formbar, gleichzeitig prägt er sich in der Auseinandersetzung mit sich und seiner materiellen und sozialen Umwelt selbst. Dabei kann er anders als Tiere auf über Jahrtausende entstandene Kulturen, soziale Strukturen und umfangreiches Wissen zurückgreifen.

Die Zahlen sprechen für sich: 80 % der Kinder zwischen 10 und 13 Jahren nutzen das Internet. 57 % der deutschen Internetnutzer sind bei Facebook. Das Internet und besonders die sozialen Netzwerke sind als Orte der Meinungsbildung, der Öffentlichkeit und des Sozialverhaltens Alltag geworden. Dieser Frage ging in Berlin die Tagung "Personale und soziale Identität und virtuelle Öffentlichkeit" der Friedrich-Ebert-Stiftung und der Philosophisch-politischen Akademie (PPA) Bonn nach.

Vereinzelt der Mensch vor dem Laptop, hält sich nur noch in Kreisen auf, die denken wie er selbst, und zieht sich komplett ins Private zurück, weil er keine sozialen Erfahrungen mit anderen teilt und keine Auseinandersetzungen mit anderen mehr hat? Oder ist das Gegenteil der Fall, vernetzt das Internet die unterschiedlichsten Menschen und gibt ihnen gemeinsamen Einfluss? Für beide Theorien gibt es seit den achtziger Jahren vielfältige Für- und Widersprecher.

So gibt es Studien, die belegen, dass das Internet jungen Menschen einerseits oft die Initialzündung gibt, sich mit politischen Themen auseinander zu setzen. Andererseits haben die Jugendlichen Angst davor, dass ihr Engagement Spuren im Netz hinterlässt, die sie vielleicht später bedauern.

Eine Mehrheit der Deutschen geht laut einer repräsentativen Umfrage davon aus, dass Kinder künftig mehr von elektronischen Medien als von Eltern und Schule beeinflusst werden. Einer entsprechenden Aussage stimmten 58 Prozent der vom Meinungsforschungsinstitut Ipsos befragten Bundesbürger zu. Die Studie wurde in Kooperation mit dem Hamburger Opaschowski Institut für Zukunftsforschung erstellt. In einer ähnlichen Befragung vor 20 Jahren hatten 28 Prozent diese Ansicht vertreten [1].

Die 14- bis 24-Jährigen selbst schätzen den Einfluss von Medien und Netzwerken ebenfalls höher ein als den von Eltern und Lehrern. 60 Prozent bejahten in der Umfrage die entsprechende Frage. 1997 hatte das 33 Prozent der jungen Leute so gesehen [2].

Ebenfalls 58 Prozent aller Befragten schlossen sich der Aussage an: "Für die junge Generation sind soziale Netzwerke im Internet wichtiger als persönliche Kontakte mit Freunden." Von den 14- bis 24-Jährigen stimmten dieser Ansicht 41 Prozent zu [1].

Man kann also sagen, dass der Einfluss der sozialen Netzwerke auf die Sozialisation der modernen Jugend ziemlich groß ist. Diese Schlussfolgerung ergibt sich aus zahlreichen Fakten. Die Studien werden auf diesem Gebiet durchgeführt.

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В статье идет речь об истории развития социальных сетей, а также о влиянии, которое они оказывают на молодых людей в современном мире. Автор приводит примеры различных популярных социальных сетей в Германии и указывает возрастные категории молодых людей, наиболее часто использующих Интернет, и их цели.

**Д.Е. Гололобов, А.А. Добрынец**

Республика Беларусь, Брест, БрГТУ

Научный руководитель – Н.С. Куличик

## **PLYWOOD SKYSCRAPERS**

There are a lot of skyscrapers in the world now. From the outside, these towers present the epitome of the modern city, combining weird and wonderful forms with seemingly endless curtain-wall glazing. But scratch below the surface and you will find essentially the same steel or concrete structure that supported the first skyscrapers in 19th century New York and Chicago.

Skyscrapers were changed due to the applying of timber – the oldest construction material.

These developments are led by Vancouver architect Michael Green and his proposal for the tallest timber-supported tower in the world – a 35-storeyed skyscraper that forms a part of a six-tower development called Baobab in Paris. The building is three times taller than the world's current tallest timber building, ten-storeyed Forté Apartments in Melbourne, and the UK's tallest, the nine-storeyed Stadthaus. Other 30-storey-plus wooden towers are planned in Stockholm, Vancouver and Vienna.

While the idea of timber towers may conjure up visions of multi-storeyed Swiss chalets, or high-rise log-cabins, these skyscrapers are not the traditional timber-framed buildings we're used to seeing. Instead, the designs take advantage of recent innovations in "mass wood" to create vast solid timber panels that can support buildings to a much taller height than ordinary wood can.

Green's Baobab uses Cross Laminated Timber, or CLT. It consists of several layers of timber board glued together at 90 degrees to form large structural sheets up to 40 cm thick. The cross-lamination provides the material dimensional stability and strength.

For the Baobab project, CLT sheets would be manufactured and cut to exact sizes before being transported to the site. Sheets can then be lifted into place and screwed together like a giant piece of IKEA furniture.

Baobab's structure consists of a series of these solid timber walls that cover the full height of the tower, along with timber columns and central timber "core" housing elevators and stairs. However, timber is not all of the structure. Steel beams are used to provide additional strength and flexibility to resist sideways force from the wind, while concrete is used in the foundations and ground floor to provide a stable basement for the construction.

While the use of sustainable materials in the construction is not new, the current battle for a more environmentally-friendly built environment focuses almost entirely on attempts to reduce the energy we use when operating our buildings: heating, cooling and lighting them. But buildings contribute to carbon emissions before they've even been occupied, from the mining of iron ore to create a steel beam, to the energy required to lift that beam into the place on site.

Green is convinced that timber is the solution, and not just because it is a low-energy material, but because it acts as a "carbon sink".



Through this method, as Green suggests, the timber used in Baobab would store 3,700 metric tons of carbon dioxide.

The problem with Green's theory is that if we dispose of or burn the timber structure at the end of the building's life, all the sequestered carbon is released. But here too, Green has a solution: disassembly and reuse.

In timber towers the thickness of the charcoal layer that would be formed in a fire can be predicted. To protect the structural integrity of the timber, this same thickness of wood can be added to the CLT sheets. This would form a sacrificial timber barrier which would char in a fire, and protect the material within.

"It's mother nature doing what she does best," says David Barber, a principal fire protection engineer at Arup in Washington DC, and an author on a report on the fire safety challenges of wood tall buildings. "In the aftermath of a forest fire you'll see trunks of trees that are black and charred. The timber inside the charcoal layer is still alive – after a fire you will see regeneration. This is the same physical property we utilise in timber towers."

Somewhat unexpectedly this even puts mass timber at an advantage against steel in terms of fire resistance.

Steel starts to lose some of its structural strength at around 550–600 C (1022–1112 F). Since typical fires burn at between 800 and 1000 C (1472–1832 F), steel buildings require fire protection. This can take the form of intumescent paint, which swells when exposed to heat, or other insulating materials such as gypsum or concrete cladding.

"CLT doesn't need fire protection. The thickness and inherent mass of the wood provides the performance. This gives you an inherent reliability", notes Barber.

While Green's 35-storey Baobab may become the world's tallest timber tower it is unlikely to stay so for long.

So, constructing Plywood Skyscrapers is an ecologically clean and practical method of building technology.

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В статье речь идет об одной из современных технологий в строительстве деревянных небоскребов (какие технологии будут использоваться и как будет происходить строительство), разработанной ванкуверским архитектором Грином и завоевавшей популярность во всем мире благодаря своей экологичности, компактности и практичности.

**О.О. Горбач**

Республика Беларусь, Минск, МГЛУ

Научный руководитель – И.М. Басовец

#### **GENDER AND LANGUAGE: DEVELOPMENT AND FORMATION**

From childhood people learn to make difference between men and women with their different theories, perceptions and mentality. Due to biological differences we do not only identify the difference between them, but we state that their behaviour and speech depend

greatly upon it. Even occupation plays an important role in our thinking. Thus according to the occupation of men and women they have different ideas in mind and so they talk differently. It has been observed that due to power and dominance of men and women language also varies.

There exist a lot of scientific researches concerning differences in the way how men and women use language, both in terms of what they say and how they choose to say it.

The investigation of gender-specific language variation started in the 1960s. Early studies on language and gender usually considered the language or speech behaviour of women in terms of a deficiency model, and the speech behaviour of men as stronger more prestigious and more desirable.

W. Labov was the first to notice the important role of sex/gender as sociolinguistic variable. To explain socio-phonological variation he used the concept of “prestige” to prove his points and considered sex as one of the factor [2].

Variation: Women use more standard variants than their equivalent men.

Hypercorrection: Women hypercorrect their language compared to equivalent men.

W. Labov did not go much deeper to study language variation due to gender but so did P. J. Trudgill. He worked within a framework similar to that of W. Labov, but he got a stronger emphasis on sociological reasons to account for the observed gender-specific difference in language variation. P. J. Trudgill stated: “The social position of women in our society is less secure than that of men... It may be ... that is more necessary for women to secure and signal their social status linguistically”. Furthermore men are judged according to their work, yet women are assessed according to their appearance, which includes language [3].

In 1975 R. Lakoff identified a “women’s register”, which in her opinion served to maintain women’s (inferior) role in society. R. Lakoff argued that women tend to use linguistic forms that reflect and reinforce a subordinate role. These include tag questions, question intonation, and “weak” directives. Studies such as R. Lakoff’s have been labeled the “deficit approach”, since they posit that one gender is deficient in terms of the other [5].

Then, in 1981 L. Milroy came up with the more specific explanation of the language variation due to gender. The key idea was to observe men and women language in their social group. L. Milroy got a conclusion that female linguistic behaviours are more tolerable compared to men mostly, so that women have more linguistic freedom than men and women’s style is standard and men’s style is not standard.

While the linguistic gender studies in the beginning of 1990s, research in linguistics and communication sciences investigated differences in the speech behaviour of men and women, resulting in a situational ranking of the sexes [4].

Later, in the next phase, emphasis was put on research on gender socialization. There is an extensive literature showing that boys and girls learn different verbal and nonverbal skills in their mainly same sex children’s and peer group and these skills remain relevant for adults in many situations. Women are generally believed to speak a better “language” than men do. This is a constant misconception, but scholars believe that no gender speaks a better language, but that each gender instead speaks its own unique language. This notion has sparked further research into the study of the differences between the way men and women communicate.

The differences in subcultures and socialization processes were also emphasized, yet the power aspect seems to have been neglected.

Most recently, social constructiveness has been taken into account. In this approach gender is understood as an indirectly developed identity category, integrated into the formation of other identity categories.

The linguistic anthropology and sociolinguistics engaged in studying of language and a gender have got several approaches to studying the concept of “gender”. And it should be also noted that the category of a gender has the history of development and formation.

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В статье раскрывается проблема пола/гендера в социолингвистике, взаимоотношение гендера и языка, описывается история исследований и взглядов ученых-лингвистов на данную проблему.

#### **В.В. Господарёва**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Л.С. Максимук

#### **LOS MEJORES SPA Y BALNEARIOS DE ESPAÑA**

Etimológicamente, la palabra “balneario” proviene del latín, *balneae*, que significa “baños” y, aunque los romanos lo pusieron definitivamente de moda, su origen se remonta a cientos de años atrás. A nadie le extrañaría pensar que los propios hombres primitivos se bañaran en aguas termales calentadas con el propio calor terrestre, aunque una de las primeras evidencias de la existencia de este tipo de lugares se remonta varios siglos antes del nacimiento de Jesucristo. Alrededor del siglo V a. C., en el valle del Peloponeso, se estableció la ciudad-estado de Epidauró, declarado Patrimonio Mundial de la Unesco en 1988 y que comprende, además de diversos monumentos y templos, un teatro y un balneario. La propia organización otorgó el título de Patrimonio Mundial por ser un “testimonio excepcional sobre los cultos terapéuticos de la antigüedad grecorromana”.

Sin embargo, los romanos fueron los más grandes impulsores de estos centros de esparcimiento y descanso. Allí donde llegaban aquellos grandes conquistadores, instalaban unos “balneae”. El hecho de bañarse ya no solo se entendió como sinónimo de pulcritud y limpieza, sino como sitio de recreo donde también se realizaban masajes, incluyendo esencias y aceites especiales, para lograr una mejor relajación.

La península Ibérica ofrece un amplio rango de posibilidades para un turismo que busca diferentes técnicas de relajación o terapias médicas naturales, además de una extensa gama de

tratamientos que van desde la talasoterapia (basado en aguas marinas) hasta la ampeloterapia (terapias que utilizan los derivados de la uva). Están dispuestos en un gran abanico de lugares: hoteles de lujo, spa emplazados en áreas rurales, en la nieve o en las propias ciudades, diseñados para disfrutar de los mejores tratamientos de salud y del cuidado del cuerpo, estimulantes y relajantes, complementados con otras actividades de ocio y deportes como el golf, el tenis o la equitación.

En España existe un gran número de ciudades con restos de termas romanas en muy buen estado, incluso reformadas para su uso en la actualidad. Hoy por hoy, como si fuéramos romanos, también disfrutamos del relax y el esparcimiento en este tipo de instalaciones, cada uno diferente tanto en su historia como en los servicios que ofrecen a los visitantes.

El sector de los spas y balnearios mueve nueve millones de euros al año. En España en los últimos años se han construido cerca de mil instalaciones específicas anuales con agua caliente en hoteles; de hecho, en cuanto a su distribución, alrededor del 80 % de los spas de España se encuentran ubicados en hoteles. Los hoteles rurales se están incorporando a esta tendencia y cada vez son más los que dedican una parte de su establecimiento a esta actividad.

El mejor de España, el único puntuado con tres gotas, es el spa del *Gran Hotel Bahía del Duque*, un establecimiento de cinco estrellas de gran lujo en Tenerife. Cuenta con una superficie de 3.500 metros cuadrados y su circuito de talasoterapia, al aire libre, se alimenta directamente con agua extraída del océano Atlántico.

El resto de los mejores spas cuentan con dos gotas en esta clasificación. En Alicante, a los pies de Altea, se erige un particular centro de lujo, el *Sha Wellness Clinic*. De filosofía importada de Asia, combina los saberes orientales junto a tratamientos médicos. A pocos kilómetros al sur, junto a Benidorm, el *Thai Spa del Hotel Asia Gardens* convierte la estancia en un viaje a ese continente.

En Asturias destacan dos balnearios. Uno, el muy reconocido *Las Caldas Villa Termal*. Su manantial es su corazón, donde disfrutar del agua en sus techos abovedados o en la sala de columnas, un exclusivo espacio privado de toque clásico.

En Málaga, la *Villa Padierna Thermas de Carratraca* ofrece aguas mineromedicinales en un ambiente de lujo y calma. Este hotel construido sobre un manantial de agua mineromedicinal con acción depurativa, antiinflamatoria y regeneradora cuyos beneficios se reciben tanto bebiéndola como a través de la piel y las mucosas; con ingerirla baja el nivel de colesterol malo LDL y se desintoxica el hígado. El programa de adelgazamiento/detox de 14 días combina menús dietéticos y revitalizantes con curas hidrotermales, hidroterapia de colon, drenajes, masajes reductores, envolturas de barros y algas, tratamientos linfoenergéticos, entrenador.

En Santiago de Compostela, *A Quinta da Auga* basa sus tratamientos en el ayurveda. En su hotel spa, perteneciente a la cadena de lujo Relais & Chateaux, se sigue una dieta baja en calorías. Se puede disfrutar de este lugar de bienestar y meditación y empacharse de terapias de relajación y belleza basadas en la filosofía ayurvédica.

En Pontevedra, *el Hotel Talaso Atlántico* es un centro de adelgazamiento donde se realizan paquetes que combinan la estancia en el mar y la montaña con dieta saludable y los beneficios terapéuticos del agua del mar. Los paquetes de una semana incluyen el alojamiento, cinco comidas dietéticas al día, estudio dietético y de ejercicio personalizado, reconocimiento médico inicial y final, seguimiento psicológico, clases con un entrenador personal y acceso libre a la zona de spa.

Ideal para desconectar de agotadoras jornadas de trabajo o turismo, *el Six Senses Spa del Hotel Arts Barcelona* ofrece saunas, piscinas de hidroterapia y baños de vapor, una amplia carta de masajes, cabinas de tratamiento y zonas de actividades y relax. El conjunto es una

mezcla de espíritu asiático, valores mediterráneos y productos orgánicos naturales. Sus tratamientos ofrecen terapias revitalizantes, relajantes y equilibrantes enfocadas al bienestar y a la estética.

*El Hotel Hacienda Na Ximena* es uno de los que aparecen en todas las listas de alojamientos de lujo del mundo, ya no solo por los servicios y prestaciones del hotel en sí, sino por encontrarse en una situación que nos hace recordar que el paraíso existe. Hotel Hacienda Na Ximena es un hotel spa de lujo de cinco estrellas al norte de Ibiza, situado en la cumbre de un acantilado y rodeado de bosque mediterráneo, que posee unas maravillosas y únicas vistas al mar.

*El Hotel Castilla Termal Monasterio de Valbuena* se encuentra situado en pleno corazón de la Ribera del Duero. Es el primer balneario de 5 estrellas de Castilla y León, y se encuentra ubicado en unos de los Monasterios Cistercienses mejor conservados de Europa y su edificio data del siglo XII. La zona termal tiene unos 2.000 metros cuadrados y ofrece varias piscinas termales, 16 cabinas de tratamientos, circuito de contrastes y piscina infantil.

*La Costa Brava* es uno de los principales reclamos turísticos del país. Allí, concretamente en Lloret de Mar en Gerona, encontrarás *el Alva Park Spa*. En él podrás disfrutar de masajes, un espectacular baño de la princesa hindú de agua salada, caliente y música subacuática.

España, además de ser, por su propia ubicación natural y su oferta cultural, uno de los principales destinos turísticos en el mundo, es también uno de los países europeos con mayor número de centros de salud, lugar donde se alberga, de acuerdo con la prestigiosa publicación inglesa Professional Spa, el mejor Hotel Resort & Spa de Europa, el Hotel Termes Montbrió, emplazado en Cataluña, a sólo una hora de Barcelona, en un complejo natural con grandes jardines y fuentes de enorme belleza, que cuenta con un centro termal atendido por terapeutas profesionales. Termes Montbrió tiene además un amplio centro de convenciones y una galería en la que se incluyen pinturas de artistas de la categoría de Salvador Dalí.

Los Spas son una forma sana como pocas de conocer distintos rincones de España. Sol, luz, mar, deporte y naturaleza: todo ello se une en una oferta que, por su profesionalidad y variedad, es única en el mundo. Las más avanzadas instalaciones y los mejores tratamientos de salud y belleza al servicio de una sola idea: la calidad de vida.

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В статье автор проводит исследование наиболее известных СПА-отелей и курортов в Испании. На основе анализа нескольких источников выявлены основные направления развития туризма с целью отдыха и оздоровления, приведены стандартные комплексы медицинских услуг и методов лечения.

**Ю.М. Грузинская**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина

Научный руководитель – И.А. Полева

## **RECHT UND GESETZ DEUTSCHLANDS: ZIVILGERICHTSBARKEIT**

„Recht haben und Recht bekommen sind zweierlei Dinge...“, sagt ein altes deutsches Sprichwort und verdeutlicht damit genau die Dualität von Recht und Gesetz in Deutschland. Deutschland ist ein Rechtsstaat und besitzt ein gesamtheitliches Rechtssystem, welches durch mehrere Instanzen an Gesetzen gesichert ist. Aus diesen Gesetzen leiten sich dann die Rechte eines jeden Bürgers und jeden, der sich gerade in Deutschland befindet, ab. Man teilt das Recht weiterhin in zwei große Bereiche ein, zum einen das Privatrecht, welches die Rechtsbeziehungen der einzelnen Bürger zueinander regelt, und dem öffentlichem Recht, welches die Beziehung des Einzelnen zur öffentlichen Gewalt regelt.

Die oberste Instanz an Gesetzgebung ist das Grundgesetz, welche dem Bürger gegenüber dem Staat gewisse Rechte einräumt. So muss der Staat jeden Menschen gleich behandeln, darf die Meinungsfreiheit nicht einschränken oder die Würde eines Menschen achten und nicht angreifen. Der Kern des bürgerlichen Rechts fußt im Bürgerlichen Gesetzbuch (BGB), welches Regelungen für den bürgerlichen Alltag enthält, die wiederum Kauf und Verkauf, Pacht, Leihe und Schenkung, Eheschließung und Ehescheidung, Unterhaltsansprüche und Vormundschaft oder auch Erbschaft regelt. Weiterhin zum Privatrecht gehört ebenfalls das Handelsrecht, welches die Beziehungen von Kaufleuten regelt und das Arbeitsrecht, welche die Rechtsbeziehungen zwischen Arbeitgebern und Arbeitnehmern umfasst, sowie das Urheber- und Patentrecht. Zum öffentlichen Recht wiederum gehören das Verwaltungsrecht, das Straf- und Prozessrecht, sowie das Verfassungsrecht, das Staatsrecht, als auch das Völkerrecht [1].

Die durch die Gewaltenteilung für das Rechtssprechende zuständige Gewalt ist in Deutschland wiederum in fünf selbstständige Gerichtszweige gegliedert, welche in ordentliche und besondere Gerichtsbarkeit unterschieden werden. Zivil- und Strafgerichte gehören zur ordentlichen Gerichtsbarkeit, während zur besonderen Gerichtsbarkeit Verwaltungsgerichte, Arbeitsgerichte, Sozialgerichte und Finanzgerichte gehören. Diese Unterscheidung ist durch die historische Tatsache geschuldet, dass bis 1877 nur die Zivil- und Strafgerichtsbarkeit mit unabhängigen Richtern besetzt wurden, während die anderen Gerichtsbarkeiten von weisungsgebundenen Beamten ausgeübt wurden.

In allen Gerichtszweigen befinden sich jeweils Gerichte der Länder und des Bundes, wobei es in den einzelnen Gerichtszweigen mehrere Instanzen gibt, welche die einander übergeordneten Stufen des gerichtlichen Verfahrens sind. In der Regel gibt es für ein Verfahren drei Instanzen, wobei die ersten beiden Gerichte der Länder sind. Die oberste Instanz ist immer ein Bundesgericht [2].

Zivilgerichte übernehmen die Zuständigkeit für bürgerliche (zivile) Rechtstreitigkeiten, also Streitigkeiten, welche zum Bereich des Privatrechts gehören. Sie werden zum Beispiel angerufen, wenn es Streit um einen Kaufvertrag gibt, weil der Schuldner seiner Zahlungspflicht nicht nachkommt, oder ein Mieter eine Mieterhöhung anfechten will, weil er sie für ungerechtfertigt hält. Zivilgerichten scheiden ebenso Ehen und regeln Unterhaltszahlungen und Sorgerecht für eventuelle Kinder fest. Sie entscheiden darüber hinaus über Haftung und Schadensersatz, wenn jemanden ein Schaden zugefügt wurde, egal ob an Person oder an Besitz.

So ein Zivilprozess beginnt mit einer Klage, welche von Kläger erhoben wurde, wobei Kläger und Beklagter als gleichberechtigte Parteien angesehen werden. Der Kläger begründet vor Gericht seinen Antrag und dem Beklagten steht es frei die Behauptungen insgesamt oder nur teilweise zu bestreiten. Zur Unterstützung ihrer Position können beide Parteien Beweismittel vorlegen oder dem Gericht Zeugen nennen. Darüber hinaus ermittelt das Gericht nicht selbst, sondern prüft nur das, was beide Parteien vorgebracht haben.

Das Verfahren beginnt beim Amtsgericht in der ersten Instanz, welche einen Streitwert von bis einschließlich 5000 Euro verhandelt. Ebenso verhandelt das Amtsgericht Mietstreitigkeiten, Ehescheidungen und daraus folgenden Streitigkeiten. Alle anderen Rechtsstreitigkeiten werden direkt an das Landgericht weitergeleitet. Wenn es nicht um eine bestimmte Geldsumme geht, wird der Streitwert durchs Gericht festgelegt. Nach diesem Streitwert werden Gerichtskosten und Anwaltsgebühren bestimmt. Das Verfahren endet mit einem Urteil, wenn es nicht durch andere Weise, wie einem Vergleich vorher abgeschlossen wurde und ist rechtskräftig, wenn keine weiteren Rechtsmittel mehr eingelegt werden oder zulässig sind. Darunter versteht man die Möglichkeit eine gerichtliche Entscheidung anzufechten und an ein höheres Gericht zu Überprüfung weiterzugeben [1].

Als gültige Rechtsmittel gibt es die Berufung und die Revision, wobei die Berufung eine Wiederaufrollung des gesamten Falles in einer neuen Instanz vor einem höheren Gericht darstellt, während bei der Revision nur überprüft wird, ob die Vorinstanz das Recht richtig angewandt hat, ohne den Fall in seiner Gänze wieder aufzurollen.

So prüft das Landesgericht die Urteile des Amtsgerichts, während das Oberlandesgericht die Urteile des Landesgerichts überprüft.

Bei einem Strafgericht werden Verstöße gegen das Strafgesetzbuch verhandelt, wobei die Strafrechtsvorschriften auch noch andere Gesetze enthält, wie Betäubungsmittelgesetz oder das Außenwirtschaftsgesetz.

Bei einem Strafverfahren erhebt die Staatsanwaltschaft die Anklage, welche für gewöhnlich eine Strafanzeige bei der Polizei, dem Amtsgericht oder bei der Staatsanwaltschaft selbst vorherging [3]. Wenn ein eingesetztes Ermittlungsverfahren einen hinreichenden Verdacht auf eine strafbare Handlung feststellt, dann muss Anklage erhoben werden, da die Staatsanwaltschaft durch das Legalitätsprinzip zur Verfolgung einer Straftat verpflichtet ist. Eine Ausnahme gibt es nur, wenn es ein Antragsdelikt ist, welches zugleich ein Privatklagedelikt ist. In diesem Fall wird nur dann Klage erhoben, wenn dies im öffentlichen Interesse liegt.

Durch die Eröffnung einer Anklage wird aus einem Beschuldigten ein Angeklagter und nun liegt es am Gericht den Sachverhalt zu ermitteln und dem Angeklagten seine Schuld nachzuweisen. Neben den Beweisen der Staatsanwaltschaft ist das Gericht dazu in der Lage selber Ermittlungen einzuleiten. Der Angeklagte wiederum hat das Recht auf eine Verteidigung und kann sich von einem Rechtsanwalt vertreten lassen. Wenn sich der Angeklagte keinen Rechtsanwalt leisten kann, wird von Gericht auf Staatskosten ein Pflichtverteidiger gestellt.

Auch das Strafverfahren endet mit einem Urteil, welches rechtskräftig und vollstreckt wird, falls keine Rechtsmittel eingelegt werden. Gültiges Rechtsmittel ist die Berufung bei einem Urteil eines Amtsgerichts und ab dem Urteil eines Landesgerichts steht die Möglichkeit der Revision offen.

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В статье описываются задачи и особенности функционирования правовых и законодательных органов в Германии. Автор поясняет требования и обязанности каждой юридической инстанции.

**А.Н. Гурда**

Республика Беларусь, Брест, средняя школа № 7

Научный руководитель – О.Ю. Терёшкина

### **AUSDRUCKSMITTEL DER MODALITÄT IN DER SCHÖNGEISTIGEN LITERATUR (ERICH MARIA REMARQUE „DREI KAMERADEN“)**

Die Modalität ist die Kategorie, die die Verhältnisse des Sprechers zum Inhalt der Aussage und Zielstellung der Aussage, ausdrückt. Auch zeigt sie das Verhältnis des Inhalts zur Realität.

Ausdrucksmittel der Modalität im Deutschen:

- Der Modus ist das besondere grammatische Mittel, das das Verhältnis des Sprechers zur Realität der Aussage ausdrückt. Man unterscheidet drei Modi: den Indikativ, den Imperativ, den Konjunktiv.

- Modalverben.

- Adverbien; modale Satzadverbien werden in der deutschen Grammatik manchmal als Modalwörter bezeichnet (z.B. möglicherweise, sicherlich). Ferner Adjektive: vermutlich, wahrscheinlich [2, S. 385].

- Modalpartikeln (z.B. eben, etwa, aber, schon, doch, eigentlich),

- Konstruktion aus einem Kopulaverb (sein, haben, bleiben) mit „zu-Infinitiv“, der sogenannte modale Infinitiv [1, S. 165].

Ausdrucksmittel der Modalität im Russischen:

- Modus (Indikativ, Imperativ, Konjunktiv),

- Im Russischen gibt es auch den unabhängigen Infinitiv (*Отдохнуть бы!*), der auch die Modalität ausdrückt [4, S. 368].

- Modalwörter,

- Einführungswörter und Adverbien (*кажется, пожалуй, возможно*),

- Modalpartikeln (ли, а, разве, неужели, да, точно, пусть),

- Interjektionen (Ах! Эй! Караул!), die die Gefühle ausdrücken; im Russischen gibt es 341 Interjektionen [3, S. 442],



- Modalverben (*хочу, могу, должен, обязан, надо, можно*),
- Intonation.

Wir haben einen Auszug (den 1. Kapitel) aus dem Roman von Erich Maria Remarque „Drei Kameraden“ in zwei Sprachen gelesen. Während des Lesens haben wir verschiedene Mittel des Ausdrucks der Modalität in beiden Sprachen analysiert.

- Indikativ wird am häufigsten gebraucht. Das gilt wie für Deutsch als auch für Russisch.
- Konjunktiv ist in beiden Sprachen zu treffen, aber im Deutschen können wir ihn mehr sehen („... , dass er höflicher sein könnte = Его тон указывал на возможность быть повежливей“) (8:4). Wie wir aus dem Beispiel sehen, kann der Konjunktiv im Russischen durch die anderen Mittel ersetzt sein.

- Imperativ ist doch mehr im Russischen zu sehen (9:11). Dieser Unterschied ist aber nicht groß.

- Aber die Modalverben treffen wir viel mehr im deutschen Text im Vergleich zum russischen („Muss verdammt schnell sein“ – «У нее, видимо, чертовская скорость») (36:15). Im Russischen ersetzt man oft dieses Mittel durch die Modalwörter (zum Beispiel durch Adverbien).

- Adverbien sind mehr im Russischen zu treffen (10:21).
- Partikeln sind im deutschen Text häufiger (9:6).
- Interjektionen sind mehr im russischen Text vorhanden (1:5).
- Im Russischen sind die **Modaladverbien** («Лучше и, вероятно, неосторожнее», – возразил я.) die häufigsten Mittel, die zum Ausdruck der Modalität dienen.

- Im Deutschen sind die **Modalverben** am häufigsten („Eigentlich konnte ich ganz zufrieden sein“).

Wenn wir den russischen Text mit dem deutschen vergleichen, so können wir beschließen, dass die Kategorie der Modalität mehr im Deutschen vertreten ist. Im deutschen Text haben wir 74 Mittel gezählt, im russischen Text haben wir 62 Ausdrucksmittel der Modalität gefunden.

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В статье приведены основные средства выражения модальности в русском и немецком языках, дано их краткое описание, сравнивается употребление этих средств в обоих языках на примере отрывка из литературного произведения Э.М. Ремарка «Три товарища».

**Н.С. Гусев**

Россия, Москва, РГАУ-МСХА имени К.А. Тимирязева

Научный руководитель – А.Ю. Алипичев

**OPTIMIZING PARAMETRES OF POWER TRANSMISSION LINES  
BY MEANS OF MAGNETIC AMPLIFIERS IN THE FORM OF SATURABLE  
AND CONTROLLED REACTORS**

Generally, a magnetic amplifier is an electromagnetic device that amplifies electrical signals utilizing the principle of transistor core saturation and non-linearity. It consists of an iron core with two or more coils wound around it. Current control is achieved by varying the magnetic flux in the cores using the appropriate DC current through the control winding. By consuming energy from a power supply an electronic amplifier increases the power of a signal to control over the shape of the output waveform which indicates the identical input signal but output signal will be with larger amplitude compared to the input [1]. The static device has no moving parts, no wear mechanism and has good mechanical and vibration tolerance. In addition, it requires no warm up time and can withstand momentary overloads better than the solid state devices. Main advantages and limitations of magnetic amplifiers are summarized in the following table [2].

Table – Main advantages and limitations of magnetic amplifiers

Advantages of magnetic amplifiers	Limitations of magnetic amplifiers
<ul style="list-style-type: none"> <li>• no wear since there are no moving parts</li> <li>• tolerance to mechanical shock and vibration</li> <li>• no warm-up time is required</li> <li>• withstanding momentary overloads better than solid-state devices</li> <li>• withstanding neutron radiation</li> </ul>	<ul style="list-style-type: none"> <li>• low and limited single stage gain as compared to electronics amplifiers</li> <li>• frequency response limited to about one-tenth of excitation frequency</li> <li>• bulky size</li> <li>• complicated process of designing multistage amplifiers</li> </ul>

Magnetic amplifiers are used in power supplies, in measurement systems, in nuclear power applications amongst other uses. Here we shall concentrate on their utilization in power transmission applications.

At the end of the 1920s, power researchers noticed that long-distance high voltage transmission was significantly affected by capacitive conductance of lines and the capacitive current increased markedly, thus reducing the line capacity. This phenomenon was accompanied by an unacceptable increase in voltage in the line. In the early 1940s, R. Rüdberg (Germany) proposed using strong magnetic saturation of electrical steel to solve this and some other problems of electric power transmission [3]. In 1954, M.S. Libkind proposed a new principle for a self-saturating reactor (without DC bias), the magnetic circuit of which would be made as a magnetic circuit of an electric machine with an alternating current, but with a fixed rotor and a minimum technological gap between the stator and the rotor. In 1957, he also proposed a schematic diagram of the reactor with power control due to the bias of the stator yoke and the rotor by direct current [3]. Self-saturated and controlled reactors with a rotating magnetic field were investigated and

further developed at Power Engineering Institute (Moscow), Polytechnic Institute (St. Petersburg) and in a number of other organizations. These devices were also developed and analyzed at the Institute of Electronics and Electrical Engineering of the University of Padua (Italy).

Rapid continuous regulation of reactive power with these devices is a relatively new but actively developing technology in the power industry.

The use of controlled reactors will allow [3]:

1) to reduce the use of expensive and complicated equipment (synchronous expansion joints, static thyristor expansion joints);

2) to reduce the use of generators in power plants as regulated sources of reactive power and decrease losses in power transmission lines;

3) to limit the use of a complex switching system of shunt reactors (unregulated);

4) as a result – to increase the technical and economic performance of electric power systems and alternating current transmission.

Further practical implementation of the accumulated experience in the field of reactor design and operation was aimed at the development of electric transmissions with an unlimitedly increased natural capacity of overhead lines. That could be achieved by increasing the number of wires in a phase without any limitations of distances between them. These lines are referred to as power transmission lines of natural power. To ensure normal and emergency operation of power systems in this case, it is necessary to use regulated reactors. For long lines, they must be spread over distances of no more than 600 km from one another. The development of a wide range of such reactors is the most important task of the electrical industry. Such reactors should be operated automatically by comparing the current flowing along the line with the natural current at the site of the reactor installation. With this method of regulation, the control system functions of reactors and generators are clearly distributed: the reactors compensate for the excess reactive power of the lines, the generators provide the output of active power and maintain constant voltage at the beginning of a line. As studies show, this separation of control functions between generators and reactors makes it possible to sustainably transmit power to any distances (up to many thousands of kilometers) and at any scale without any restriction.

At the same time, the installation of controlled and saturable reactors in electric power systems, which is required to improve the operating modes of the systems, results in an increased number of equipment installed, which has negative consequences [3]. To eliminate them, and therefore increase reliability, decrease material consumption, reduce capital and operating costs, and simplify the maintenance of systems, etc., it is necessary to develop and study *integrated* saturable and controlled reactors and reactor transformers in the form of multipurpose system devices that can simultaneously perform functions of individual reactors and power transformers, as well as serve as a direct current source powering control winding, capacitor banks, etc.

It is essential that the operation of the coordinated controlled reactor-transformer should be fully consistent with the features of the electric power system operation based on the fact that the maximum load of a transformer should be accompanied by minimum power of a reactor, and vice versa.

Thus, the problem of developing simple, reliable and economical controlled devices for the consumption of excess reactive power is rather vital today. Finding solutions to this problem is of major economic importance, as determined by the large scale of the introduction of these devices, the considerable length of the electric power systems and

the need to solve the following tasks for controlling the system modes: compensation of the excess charge capacity of transmission lines and increasing their throughput, limiting switching overvoltages, limiting short-circuit currents, reducing voltage fluctuations, rational distributing of voltage and current, etc [3].

The problem of developing highly efficient regulated consumers of reactive power for control systems in the electric power industry is solved by combining the functions of separate power engineering devices as well as combining the functions of their elements in the integrated multipurpose system devices required to improve the modes of operation of long-distance AC power transmission lines, electric distribution grids and power supply systems of industrial enterprises.

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В статье рассматривается проблема оптимизации параметров электропередачи путем создания высокоэффективных регулируемых потребителей реактивной мощности – магнитных усилителей для систем управления в электроэнергетике. Данная проблема решается путем объединения как функций отдельных электроэнергетических устройств, так и функций отдельных их элементов в совмещенных системных устройствах многоцелевого назначения, необходимых для улучшения режимов работы дальних электропередач переменного тока, распределительных электросетей и систем электроснабжения промышленных предприятий.

**А.С. Давыдовский, А.О. Рубанова**  
Республика Беларусь, Горки, БГСХА  
Научный руководитель – М.Н. Гаврилова

#### ECONOMIC CRISIS

The current financial crisis has become an earthquake to the world's economic system. Having started in the USA, it has rapidly overcome the boundaries of the States and has spread over the Europe and Asia, bringing unemployment and financial recession along.

One can hardly say whether it will last long or is going to slump. The following remains obvious, if we want to prevent its recurrence in future, we should investigate its root causes now.

The world economic system endures times of prosperity followed by inevitable declines. The circulating scheme is characterized by the rise of manufacturing and its following recession, thus permitting to keep to the world financial and economic balance. No one in the world was ready to shoulder the burden of the economic crisis and to resist its unpredictable consequences. In spite of the fact that almost everybody understood how important it was we should examine the reasons for it.

In our opinion there are several important factors to discuss, which obviously have affected the present economic situation. First and foremost, free market capitalism creates its own crisis. The fallacy that markets can regulate themselves has now been exposed as false. The system created a global casino system which rests on virtual wealth. Finance has been detached from real economy. Secondly, new financial instruments and institutions were formed to manage this unjust and unfair system that punishes those who produce real assets and rewards those who do nothing except to speculate. Usury has been legitimized and institutionalized. This system has created financial bubbles that have burst. In particular it is the spendthrift lending or, in other words, the so-called housing price bubble. Every family buying a house can take a loan from the bank, which should be given back. In order to return money to the bank, the family first of all should take the house it can afford. Otherwise it will not be able to pay the money back. In the recent years the prices on real estate have been so high and raising so quickly like a bubble. It has resulted in the fact that people started taking loans, which they couldn't pay off. Many banks' borrowers got unable to make their mortgage payments. As a result, the mortgage market was undermined.

This was just the beginning. One of the consequences was the fall of prices on real estate. The institutions and businesses depending on real estate prices or making money on real estate underwent the risk and suffered losses. It was the blow to the financial system in general, which led to the problems in other pecuniary stocks. This process, started with the bank system and led to the banking liquidity crisis, affected all financial and economic sectors of business all over the world.

Another reason for the present economic crisis is the unrestricted emission of American dollars. The emission of the most widespread world currency was strictly controlled by the government of the USA. Each dollar had gold equivalent in the gold reserve of the States. Purchasing capacity of it corresponded to the quantities of products manufactured. That's not how things stack any more up today. As a result while the USA was losing its positions on the world market, the dollar was weakening in the world. Besides, what we observe today is that most of the money that circulates around the world is virtual or phantom wealth. It is unreal, imaginary, fake and just air. What is disturbing is that on this air that the huge and influential financial institutions have been built and many banks are connected to. Entire economies of the world rest on this system and the lives and livelihoods of millions are entangled with it.

This could be attributed to the fact that in economics, unlike in other sciences, assumptions play a more important role than facts. Classical economics is built on very strong assumptions that quickly become axioms: the rationality of economic agents, the invisible hand and market efficiency. These concepts are so strong that they supersede any empirical observation. For instance the assumption is that liberalization reduces poverty. Empirically this is not substantiated. The reverse has been the case. Today we are faced with a challenge of linking finance to real economy as a solution to the current crisis. This task should, however not be left to economists alone. Ethicists, ecologists, theologians and people on the ground should be involved in working out a just and ethical system.

To sum it up we can say that the root cause of the current economic crisis lies in the ineffective policies of the economic and financial sectors of the leading and developing countries in the world. One should take into account the root causes to oust its re-occurrence in future.

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Статья посвящена современным проблемам мировой экономической системы, изучению причин их возникновения, а также их неизбежных последствий. Авторы рассуждают о вероятности их повторения и приходят к выводу о возможности и необходимости их предотвращения в будущем.

**В.В. Данилёнок**

Республика Беларусь, Минск, БГУ

Научный руководитель – О.В. Синчук

## **INVASIVE INSECTS: COST TO THE WORLD ECONOMY**

Globalization has integrated widely dispersed human communities into a worldwide economy. This process provides many benefits through the movement of people and goods, but also leads to the intentional and unintentional transfer of organisms among ecosystems that were previously separate [4]. Some of these species become established beyond their native range, a subset of them spread, and some of these have negative impacts and are termed invasive [6]. Although not all species moved beyond their native range become established [10], the large number of species transported and the range of pathways that move species mean that non-native species are now recognized as one of the major drivers of global biodiversity loss. They also cause significant damage to economies and human health [3].

An invasive species is a non-native species whose introduction causes or is likely to cause economic harm, environmental harm, or harm to human health [5]. Of invasive terrestrial arthropods, insects make up 87.4 % (1215 species) in Europe [8]. We determined that invasive insects cost a minimum of US\$ 70.0 billion per year globally for goods and services, of which US\$ 25.2 billion per year comes from reproducible studies. There was no temporal pattern in annual cost rates, and most estimates were direct measures. Regionally, North America reported the highest annual costs (US\$ 27.3 billion), followed by Europe (US\$ 3.6 billion per year) although this is likely more a function of the intensity of research effort rather than a true reflection of relative regional costs. The 10 costliest species change slightly whether including all or only reproducible estimates.

According to a single study, the most expensive insect is purportedly the Formosan subterranean termite *Coptotermes formosanus* estimated at US\$ 30.2 billion per year globally. However, that irreproducible estimate is based on a single non-sourced value of US\$ 2.2 billion per year for the United States of America, a personal communication supporting a ratio of 1:4 of control: repair costs in a single US city (New Orleans) and an unvalidated assumption that the US costs represent 50 % of the global total. A more realistic ranking based on the reproducible estimates only places the diamondback moth *Plutella xylostella* as the most expensive (US\$ 4.6 billion per year). Other costly insects include the brown spruce longhorn beetle *Tetropium fuscum* (US\$ 4.5 billion per year in Canada), the gypsy moth *Lymantria dispar* (US\$ 3.2 billion per year in North America) and the Asian

long-horned beetle *Anoplophora glabripennis* (US\$ 3.0 billion per year in North America and Europe) [7].

However *Cameraria ohridella* is suspected to cause the decline of horse-chestnut because defoliation induces a second flowering, decreasing frost hardness [1]. In Germany it was estimated that the additional leaf removal caused by *C. ohridella* costs about 8 million Euro per year [2]. Despite a low risk for the survival of the trees in urban areas, the aesthetic damage is so severe that many municipalities are replacing this highly valuable tree by other species. The replacement costs for the all horse-chestnut trees in Germany would be as high as 10.7 billion.

Economic impacts alone are estimated to be at least 12.5 billion EUR per year, and are probably over 20 billion EUR. Overall, invasive terrestrial invertebrate species cause costs of at least 1.5 billion EUR per year in Europe [9]. Ecologists have estimated that invasive (non-native) insects cost humanity tens of billions of dollars (minimum of US\$ 70.0 billion) a year – and are likely to increase under climate change and growing international trade [7].

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В статье идет речь об инвазивных насекомых, которые оказывают серьезное влияние на природные экосистемы и, как следствие, на мировую экономику. Так, экологи подсчитали, что инвазивные насекомые стоят человечеству десятки миллиардов долларов в год и, вероятно, расходы будут увеличиваться в условиях изменения климата и роста международной торговли.

**Ю.М. Данилькевич**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина

Научный руководитель – О.Н. Коваленко

## **VERTICAL FARMING**

The concept sounds like science fiction: instead of spreading out across acres and acres, the farms of the future will grow lettuce and strawberries inside climate-controlled, light-controlled cylinders. Less land, less water, but year-round light and perfectly controlled moisture.

The plants (fruit, vegetables) grow in 20-foot tall towers inside a climate-controlled facility with LED lights without using pesticides, herbicides, synthetic fertilizers, or GMOs. Instead, thousands of infrared cameras and sensors collect data that is analyzed to optimize how the plants grow. It seems to be genius idea.

In this article we are going to explore the origin of the idea, as well as advantages and disadvantages of the development of vertical farming.

Ed Harwood is the inventor and agricultural expert who came up with the technology that has made this possible. He got the idea years ago while working for Cornell University, where aeroponic systems were being used to grow plants in a lab setting. Why, he wondered, was this approach not being used on a bigger scale?

“I kept asking, ‘how come’ – people said, ‘Oh, it would never make money, the sun is free, it’s expensive to add lights and everything else, it won’t happen,’” recalls Harwood. But he wasn’t satisfied with that. After years of experimentation he came up with a system and nozzle design for spraying the aeroponic mist onto his plants’ roots. At AeroFarms, the roots grow through a fine cloth rather than soil. But the details of how he solved the key problem – keeping the nozzles clean over time – remain a trade secret.

“Every nozzle I purchased off the shelf had significant issues,” says Harwood. “I had to do something about it – it was just a cool moment of, I guess, serendipity.” But he’s not telling anyone how he did it [1].

There are a few main models for indoor agriculture that vertical farmers tend to choose from: hydroponics – in which plants are grown in a nutrient-rich basin of water – and aeroponics, where crops’ roots are periodically sprayed with mist containing water and nutrients. The latter uses less water overall, but comes with some greater technical challenges. There’s also aquaponics, which is slightly different, in that it involves breeding fish to help cultivate bacteria that’s used for plant nutrients.

Having greater output from a small cultivation area is not the only advantage of vertical farming. There are some of the major benefits of vertical farming. By 2050, around 80 percent of world population is expected to live in urban areas, and the growing population will lead to an increasing demand for food. The efficient use of vertical farming may perhaps play a significant role in preparing for such a challenge.

Vertical farming allows us to produce more crops from the same square footage of growing area. In fact, 1 acre of an indoor area offers equivalent production to at least 4–6 acres of outdoor capacity. According to an independent estimate, a 30-story building with a basal area of 5 acres can potentially produce an equivalent of 2,400 acres of conventional horizontal farming. Additionally, year-round crop production is possible in a controlled indoor environment which is completely controlled by the vertical farming technologies.

Vertical farming allows us to produce crops with 70–95 percent less water than required for normal cultivation.



Crops in a field can be adversely affected by natural calamities such as torrential rains, cyclones, flooding or severe droughts – events which are becoming increasingly common as a result of global warming. Indoor vertical farms are less likely to feel the brunt of the unfavorable weather, providing a greater certainty of harvest output throughout the year.

As crops are produced in a well-controlled indoor environment without the use of chemical pesticides, vertical farming allows us to grow pesticide-free and organic crops.

Indoor vertical farming can significantly lessen the occupational hazards associated with traditional farming. Farmers will not be exposed to hazards related to heavy farming equipment, diseases like malaria, poisonous chemicals and so on. As it does not disturb animals and trees inland areas, it is good for biodiversity as well.

Vertical farming has not only pros, but cons too, like other things. Sometimes the pros of vertical farming are highlighted and not the cons. There are the major limitations of vertical farming.

The financial feasibility of this new farming method remains uncertain. The cost of building skyscrapers for farming, combined with other costs such as lighting, heating, and labor, can be more than the benefits we can get from the output of vertical farming. For a 60 hectare vertical farm, the building cost can be well over \$ 100 million. And while vertical farms are attractive to locate close to cities, the high price of real estate will impede the financial viability of urban locations. The financial situation is changing, however, as the industry matures. One company, Newbean Capital (USA), recently announced equipment financing services aimed at the indoor farming sector.

Vertical farming takes place in a controlled environment without the presence of insects. As such, the pollination process needs to be done manually, which will be labor intensive and costly.

In vertical farming, the labor cost can be very high due to the need for highly skilled workers. So, the hourly cost of workers may be significantly higher than for agriculture in general. And vertical farming technologies will require significant training, which will add to labor costs.

Automation in vertical farms may lead to the need for fewer workers. Manual pollination may become one of the more labor-intensive functions in vertical farms.

The layout of a vertical farm may pose a challenge for the workers to reach each layer. Climbing to upper layers takes time and energy, decreasing the overall employee efficiency.

The development of better technologies can always increase efficiency and lessen costs. But the entire vertical farming is extremely dependent on various technologies for lighting, maintaining temperature, and humidity. Losing power for just a single day can prove very costly for a vertical farm. Many believe the technologies in use today are not ready for mass adoption [2].

The main reason that vertical farms are not being built by the millions already is that it is a completely new industry, meaning that there's still a lot of uncertainty about the return on investment. Now there's the need for more proven vertical farms, knowledge & research, experts, investments, innovative business plans, engineering solutions and architecture that integrates food productions into new and existing infrastructure. The technical limiting factor for VF's plants is still energy costs related to lighting, but these are being overcome rapidly as more investors and entrepreneurs get involved [3].

However, there are a few benefits. If the indoor systems are well-maintained, then the technology should in theory allow for reproducible results with every harvest – you'll likely get the same quality of crops every time. Plus, while it costs a lot of money to set up a vertical farm in the first instance, it's potentially a more attractive option to people getting into the

agriculture business for the first time – they won't need to spend years learning how to contend with the vagaries of the sun and seasons. For that, there's no substitute yet for experience [1].

Such a big companies like Ikea, Philips, Microsoft are supporting developing of vertical farming by being a members of Association for Vertical Farming (AVF). This association was founded in 2013 in Munich and started out by gathering data to map out the urban farms all over the world and by developing a glossary to bring consistency to the industry while making the complex growing methods easier to understand for newcomers to the vertical farming space [4].

Now the Association for Vertical Farming is an internationally active nonprofit organization of individuals, companies, research institutions and universities focusing on leading and advancing the sustainable growth and development of the vertical farming movement. The purposes of the Association are the advancement of science and research, the encouragement of education in the fields of environmental protection, as well as charitable purposes. The AVF hosts summits, workshops, and infodays and collaborates with other organizations around the world [3].

In conclusion, it should be stressed that the two main reasons will encourage development of vertical farming despite its disadvantages:

First, with the development of vertical farming technologies, and the likely fall in cost associated with them in coming years, some are betting that all kinds of people will want to start growing their own greens – even at home.

Second, in 30 years by the year 2050, there will be 3 billion more people living on the planet, and close to 80 % of the world's population will live in urban areas. The demand for food will be unprecedented, and we will need to figure out how to get food to the cities in the most effective way. The most comfortable way is vertical farming.

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В статье речь идет об альтернативе традиционного сельского хозяйства – вертикальном сельском хозяйстве. Актуальность темы обоснована фактом стремительного роста населения планеты, реальной угрозы перенаселения ее уже через три десятилетия, а также этическими и экологическими проблемами. Автор уделяет внимание не только преимуществам вертикальных ферм, но и рассматривает причины, сдерживающие их развитие в настоящее время.

**Д.Д. Дедюля, А.В. Куркуль**

Республика Беларусь, Минск, БГПУ имени М. Танка

Научный руководитель – Т.В. Пятигор

## **INTERNATIONALE ZUSAMMENARBEIT DER REPUBLIK BELARUS MIT DER REPUBLIK KASACHSTAN**

Im Jahre 2018 wird der 25. Jahrestag der Eröffnung der Botschaft der Republik Belarus in der Republik Kasachstan gefeiert werden. Dieses Datum hat uns veranlasst, über die Entwicklung der Beziehungen zwischen diesen Ländern zu berichten. Der Zweck des Artikels ist, die Geschichte der Entwicklung der Beziehungen zwischen Belarus und Kasachstan im letzten Vierteljahrhundert zu betrachten. Die Relevanz des Artikels liegt darin, dass er die belarussischen politischen und wirtschaftlichen Beziehungen mit seinem langjährigen Freund und Partner behandelt, die zur Erweiterung der Märkte für belarussische Waren beitragen.

Die Geschichte der Zusammenarbeit dieser souveränen Staaten beginnt seit dem Zusammenbruch der Sowjetunion. Als es 1991 über den Zerfall der UdSSR entschieden wurde, befanden sich die auf ihrer Grundlage entstandenen Länder in einer schwierigen wirtschaftlichen Situation. Um die schwierige Situation in Wiskuli zu überwinden, wurde eine Vereinbarung unterzeichnet, die den Beginn der Gründung der Gemeinschaft Unabhängiger Staaten markierte. Der Bildungsprozess in Kasachstan endete mit dem Abschluss der Alma-Ata-Erklärung am 21. Dezember 1991.

Beide Staaten hielten an der Politik der nuklearen Nichtverbreitung und Abrüstung fest. Die Republik Belarus wurde im Juli 1993 das erste Land auf dem postsowjetischen Raum, das durch die Unterzeichnung des Vertrags über die Nichtverbreitung von Kernwaffen freiwillig aufgab. Nach dem Beispiel der Republik Belarus nahm die Republik Kasachstan an der Vereinbarung teil. Im Januar 1993 wurde in Minsk die Botschaft der Republik Kasachstan eröffnet.

Der offizielle Besuch des Präsidenten der Republik Belarus A.G. Lukaschenko in die Republik Kasachstan im Jahre 1995 hat die Beziehungen befestigt. Bereits im nächsten Jahr hat der Präsident Kasachstans, N. Nasarbajew, einen Gegenbesuch nach Belarus unternommen.

Nach diesen Besuchen im Jahre 1996 wurde der Vertrag über Freundschaft und Zusammenarbeit zwischen den Ländern geschlossen. Dieses Abkommen wurde zur Grundlage der belarussisch-kasachischen Beziehungen und ist immer noch gültig. Im selben Zeitraum wurde die zwischenstaatliche Handels- und Wirtschaftskommission Kasachstan-Weißrussland gegründet, die die Zusammenarbeit im Bereich der Wirtschaft erweitern konnte. Und 1997 begann die belarussische Botschaft ihre Arbeit in Kasachstan.

Die erste Frucht der Zusammenarbeit zwischen den beiden Staaten wurde 2005 erreicht, als der Handelsumsatz zwischen den beiden Ländern 215 Millionen US-Dollar erreichte. Die intensive Entwicklung der Handelsbeziehungen hat 2008 zu einem zweifachen Anstieg der Handelsumsätze geführt.

Die Weltwirtschaftskrise von 2008–2009 war ein großer Test für die finanziellen und wirtschaftlichen Beziehungen zwischen den beiden Ländern. Mit der Zeit haben die von den Regierungen ergriffenen Maßnahmen ihre negativen Auswirkungen verringert. Im Jahr 2009 wurde das gemeinsame Anti-Krisen-Programm "Roadmap" verabschiedet, das dazu beitrug, die Krise erfolgreich zu überwinden und einen Handelsumsatz von 1 Milliarde US-Dollar zu erzielen.

Im Jahre 2010 wurde die Zollunion gegründet, die fünf Länder umfasste: Kasachstan, Russland, Belarus, Armenien und Kirgistan. Sie beeinflusste die zwischenstaatlichen Beziehungen der Republik Belarus mit der Republik Kasachstan positiv.

Kasachstan nahm aktiv an den Aktivitäten von 12 Gemeinschaftsunternehmen wie BelAZ, MTZ, Minsk Automobilwerk, Belcard, RUE Mogilewliftmash usw. teil.

Seit 2013 wird die Regionalpolitik aktiv verfolgt. Delegationen aus den belarussischen Regionen Minsk, Gomel und Grodno besuchten die Republik Kasachstan. Im Gegenzug wurde die Republik Belarus von den Delegationen von Karaganda, Atyrau, Nordkasachstan und vier weiteren Regionen Kasachstans besucht.

Während dieser Zeit fanden Treffen auf höchster Ebene statt, bei denen mehrere wichtige Vereinbarungen unterzeichnet wurden. Eine von ihnen erleichterte es den Bürgern, auf dem Territorium eines befreundeten Landes zu bleiben.

Im Warenumsatz zwischen Belarus und der Republik Kasachstan nehmen belarussische Milchprodukte, Traktoren, Lastwagen, Fleischprodukte, Möbel und Medikamente einen großen Platz ein. Im Gegenzug importierte Kasachstan 197 Arten von Waren, von denen die wichtigsten Ölprodukte, chemische Rohstoffe, Aluminium, Kleidung und Nüsse waren. Infolge des intensiven Handels stieg der Handelsumsatz zwischen unseren Ländern um 64,6 % und belief sich auf mehr als 550 Millionen US-Dollar.

Neben den Handels- und Wirtschaftsbeziehungen hat Kasachstan enge wissenschaftliche und technologische Beziehungen zu Belarus. Im Jahre 2012 wurde das Abaj-Zentrum der kasachischen Sprache, Geschichte und Kultur auf der Grundlage der Belarussischen Nationalen Technischen Universität eröffnet. Das Zentrum für Sprache und Kultur von Belarus nahm seine Arbeit in Astana auf der Grundlage der Eurasischen Nationalen Universität namens L. Gumilew auf. Seit kurzem haben viele kasachische Staatsbürger die Möglichkeit, an belarussischen Universitäten ausgebildet zu werden. Am 2. März 2018 wurde auf der Grundlage unserer Universität das belarussisch-kasachische Kultur- und Bildungszentrum eröffnet.

All dies zeigt einen positiven Trend in der Entwicklung der Handels- und Wirtschaftsbeziehungen zwischen Astana und Minsk, nach einem katastrophalen Fall im Jahre 2015. Die kulturelle und wissenschaftlich-technische Zusammenarbeit entwickelt sich produktiv. Die weitere Entwicklung der Handels- und Wirtschaftsbeziehungen zwischen Belarus und Kasachstan hat große Aussichten.

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Статья отражает развитие политических, экономических, образовательных взаимоотношений между бывшими союзными республиками, а ныне суверенными независимыми государствами Беларусью и Казахстаном. На основе фактического материала авторы доказывают неуклонное развитие и укрепление связей между странами, что является взаимовыгодным содружеством.

**А.Е. Демчук**

Республика Беларусь, Брест, БрГТУ  
 Научный руководитель – Д.В. Новик

## **WHO ARE HACKERS? TYPES OF HACKER ATTACKS**

A hacker is an individual who uses computer, networking or other skills to overcome a technical problem. The term *hacker* may refer to anyone with technical skills, but it often refers to a person who uses his or her abilities to gain unauthorized access to systems or networks in order to commit crimes. A hacker may steal information to hurt people via identity theft, damage or bring down systems and, often, hold those systems hostage to collect ransom.

The term *hacker* has historically been a divisive one, sometimes being used as a term of admiration for an individual who exhibits a high degree of skill, as well as creativity in his or her approach to technical problems. However, the term is more commonly applied to an individual who uses this skill for illegal or unethical purposes.

The security community has informally used references to hat colour as a way different types of hacker are identified, usually divided into three types: white hat, black hat and grey hat.

- White hat hackers, also known as ethical hackers, strive to operate in the public's best interest, rather than to create turmoil. Many white hat hackers work doing penetration testing, hired to attempt to break into the company's networks to find and report on security vulnerabilities. The security firms then help their customers mitigate security issues before criminal hackers can exploit them.

- Black hat hackers intentionally gain unauthorized access to networks and systems with malicious intent, whether to steal data, spread malware or profit from ransomware, vandalize or otherwise damage systems or for any other reason including gaining notoriety. Black hat hackers are criminals by definition because they violate laws against accessing systems without authorization, but they may also engage in other illegal activity, including identity theft and distributed denial-of-service attacks.

- Grey hat hackers fall somewhere between white hat hackers and black hat hackers. While their motives may be similar to those of white hat hackers, grey hats are more likely than white hat hackers to access systems without authorization; at the same time, they are more likely than black hat hackers to avoid doing unnecessary damage to the systems they hack. Although they aren't typically motivated by money, grey hat hackers may offer to fix vulnerabilities they have discovered through their own, unauthorized, activities rather than using their knowledge to exploit vulnerabilities for illegal profit.

A black hat hacker accesses systems without authorization and steals or damages data.

Hackers of all types participate in forums to exchange hacking information and tradecraft. There are a number of hacker forums where white hat hackers can discuss or ask questions about hacking. Other white hat forums offer technical guides with step-by-step instructions on hacking.

Forums and marketplaces serving black hat hackers are often hosted on the dark web, and offer black hat hackers with an outlet for offering, trading and soliciting illegal hacking services.

Criminal hackers, who sometimes lack their own technical skills, often use scripts and other specifically designed software programmes to break into corporate networks. This software may manipulate network data, network connection to gather intelligence about the workings of the target system.

Today's digital data thieves are able to gain access to confidential business and customer data through an ever-increasing number of creative hacking schemes.

Here are five of the more common ways digital thieves steal data:

#### 1. Phishing Scams

Email phishing is one of the oldest, and most successful, web hacking techniques out there. Perpetrators send out mass emails that appear to be an authentic communication from a bank, subscription service or online payment site. The email tells the recipients to verify their account information by clicking on a special link. Once people click the link and supply their login information, the hackers are able to divert money away from the account.

Another common phishing scam involves the hacker contacting a target and advising them that they have been the victim of a scam. The perpetrator offers to help the target and asks them for the very same confidential information – such as social security numbers and banking details – they are claiming has been stolen.

#### 2. Buffer Overflow

Buffer overflow techniques are used by more sophisticated hackers who are able to gain access to customer data via online forms. The hacker navigates to an online form and proceeds to provide excessive data in a form field.

Simple security techniques are unable to respond when a large volume of data is input into an unexpected entry point.

The hacker might for example, be filling out a web form that asks for a zip code. The form is programmed to expect five to nine characters, but a knowledgeable hacker can actually break through the system with complex lines of code that are designed to either steal data, cause damage, or provide the hacker with an alternate point of entry.

#### 3. Password Hacking

The use of overly simple passwords is one of the easiest ways you can prevent this type of hacking. The most secure passwords are ones that use a combination of letters, numbers and special characters. And while it may seem inconvenient, passwords should be changed every 30 to 60 days to keep your business network safe.

#### 4. Downloading Free Software

Downloading free software is almost never a good idea for business owners.

Teams of programmers that may not have your best interests at heart are usually the ones designing and offering free or cheap software. So unless you know that software is absolutely safe, it's best to spend the money for a tested commercial version.

## 5. Fault Injection

Also known as “fuzzing,” fault injection is one of the more complicated web hacking techniques where criminals research ways to infiltrate your source code and then try inputting different code to see if they can crash the system. An example would be a hacker using a database query that could erase content, or typing in a Web URL that delivers a worm into your network.

While no company is ever 100 % safe against cyber-attacks, there are strong defenses that can be put in place to either stop a threat in its tracks or deter would-be hackers from spending their time trying to overcome additional layers of security.

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В статье затрагиваются проблемы распространения в современном обществе такого явления, как хакерство, проанализированы опасные последствия воздействия этого явления на общество.

## **Н.Ю. Дерябина**

Республика Беларусь, Минск, БГПУ имени М. Танка

Научный руководитель – И.Ю. Костенко

## **NATURAL HERITAGE IN DANGER OF EXTINCTION**

At present, the ecological condition of the land is deteriorating every year. The greenhouse effect, ozone holes, acid rain, deforestation and many other environmental problems have a significant impact on the environment. In this article, we try to touch on the problem that concerns the Republic of Belarus directly. Namely, cutting down of Belovezhskaya Pushcha.

At 140 hectares, Belavezhskaya Pushcha remains one of the largest ancient forests in Europe. The forest is famous for both its flora and fauna. In 1979, UNESCO included it on its World Heritage List. While the forest is situated on the territories of Poland and Belarus, the most part of it is situated within Belarus.

In March 2016, Polish environment minister approved a three stage-logging programme in Poland’s forest territory. Later, Polish authorities also allowed the removal of trees damaged by bark beetles, insects that infest and destroy tree trunks.

The bark beetle loves to eat spruce, which is known as the queen of the conifers. Nevertheless, scientists say we should not fell spruce trees, even if they are infected with beetles. They provide a habitat for worms, insects and fungi, and the dead tree trunks are used as nesting sites by woodpeckers.

Some time ago, Polish environmental activists together with Greenpeace sent an open letter to the EU with a request to intervene and prevent further deforestation. A month after the activists’ appeal, the EU initiated an investigation into Poland’s deforestation of

Belovezhskaya Pushcha. UNESCO has also been following the situation closely on the Polish side of the forest.

Later both Poland and Belarus presented reports to UNESCO on Belovezhskaya Pushcha. Polish authorities indicated an increasing number of bark beetle infested trees. At the same time, environmental activists argued that bark beetles are a natural part of the forest's ecosystem and have minimal impact on the overall health of the forest.

Polish authorities cut down Europe's last primeval forest in defiance of international protests. The European Court of Justice ordered an immediate halt to logging operations, while environmentalists were physically impeding them.

Immediately following the announcement of the logging programme, Polish civil society reacted with protests. Environmental activists formed human-chains and obstructed logging activities with their bodies.

Activists around the world were fighting to protect Poland's Forest, as authorities continued to fell trees despite an EU injunction to stop.

Belovezhskaya Pushcha spans Poland and Belarus. 35 percent of the forest on the Polish side of the border is made up of protected national parks and nature reserves. The government says logging only happens in cultivated areas, rather than natural old-growth forest. But activists say the clearance is far more extensive.

For hundreds of years, the 15,000 square-meter forest was left in peace. Moreover, it should stay that way, environmentalists say. The Polish government has closed off logging area in an attempt to avoid disturbances from activists. And police and forest management security personnel supervise any protests to make sure activists don't chain themselves to the machinery.

The clearing of the forest has also become an issue outside of Poland. Recently, activists in Berlin protested against it. Now even the EU is getting involved, warning that logging activity may be added to the ongoing EU treaty violation proceedings against Poland if the country doesn't stick to the commission's deforestation ban.

All the media attention focused on the Polish side of Belavezha Forest might suggest the Belarusian side remains untouched and protected. However, the reality seems to be otherwise. Whether Belovezhskaya Pushcha will remain inscribed on the list of the UNESCO World Heritage Sites will be known in 2019.

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В статье рассматривается проблема сохранения природного наследия Беларуси – Беловежской пушчи. Большое внимание уделяется современным проблемам природного заповедника, таким как вырубка лесов из-за нашествия жука-короеда, в частности на территории Польши.



**М.А. Дичко**

Республика Беларусь, Горки, УО БГСХА

Научный руководитель – Т.Л. Ляхнович

## **SCUPPIES: LIVING WELL WHILE DOING GOOD**

Each of us heard about the existence of such subcultures as hippies and yuppies. The hippies appeared by the end of the 60's, and the yuppies appeared ten years later. The former became possible because of economic growth and general improvement in the standard of living, and the latter – for reasons of the exact opposite.

If hippies are notable for their respectful attitude to all living things – they tried to live as befits human nature, that is, in harmony with nature (natural food, simple dwelling), then yuppies, on the contrary, are a class of wealthy business people spending money on fashionable clothes, fitness, cars, prestigious accessories and so on. No wonder the word itself is an acronym which stands for “Young Upwardly-mobile Professional”.

Not long ago in our lives appeared a new word – scuppie. One can come across this strange word in the press, at lectures, in private conversations. The term “scuppie” was coined by Chuck Failla – president of Manhattan-based Sovereign Financial Group, Inc. to denote a new lifestyle of young urban professionals. The essence of this movement is reflected in the term: “scuppie” means “Socially Conscious Upwardly-mobile Person”.

For most people, the name of this subculture is associated with “hippies” and “yuppies”. And this is not accidental, because you can imagine the scuppies as a very fancy hybrid of “children of flowers”, i. e. hippies, and rich yuppies.

A scuppie, who is a successful business person, considers it his duty to help various funds that are struggling to save the planet. Scuppies are not just the community of citizens of one state, but of the whole Earth, they are not only thinking about meeting their own needs, but also caring for the planet. Thanks to Chuck Failla, of the brilliant marketing idea scuppies have become a fashionable movement.

So, who are the scuppies? Usually they are wealthy people who think about environmental problems and try to live at the expense of nature. A scuppie knows that exhaust fumes are harmful to the environment, so he travels either by bicycle or by car, which is as close as possible to the standards of ecology. He prefers clothes made from natural materials (such as cannabis), carefully chooses food, and gently pays money to various charitable foundations. A real scuppie is an opponent of civilization in principle, although it is its product. He is against cars, but still uses transport (if not personal, then public), he is against aircraft (they pollute the atmosphere), but still makes long flights. He uses even a mobile phone, however, there is an eco-friendly option – a Bamboo phone that contains inside a bamboo seed and is charged by twisting the handle. For example, a true scuppie will not use a conventional computer, but will purchase an eco-laptop, the body of which is made of real bamboo, and the “insides” – from recycled plastic. The computer is designed for upgrading, so its owner will not have to buy a new model if the beloved “bamboo friend” loses relevance – it will simply be enough to replace the outdated eco-friendly electronics with a new one. Into his ball-point pen, a scuppie will never insert a refill with gel, oil or other “chemical” ink. Instead, he uses natural ink based on berry juice.

But the most amazing thing in the new “defenders” of nature is that any, let's call it – “injustice” in relation to nature is justified, or rather, pays off, if you are willing to pay for, say, driving a car, not a bicycle.

Scuppies are not alien to luxury, because they can afford it. Therefore, if they could not refrain from buying a table of valuable wood for their office, the scuppies would immediately transfer a certain amount to the corresponding fund (the revival of the Amazonian forests, for example).

This happens almost in all spheres of life, with which a representative of this type of person comes into contact.

The philosophy of the new subculture is mainly based on the belief that one must think not only about one's own well-being, but also has to protect one's own planet, and this means:

- using, at the maximum, easily recyclable items that do not pollute the environment during production;

- deducting a kind of “tax of the scuppies” for funds that organize all kinds of activities to “treat” our planet.

This philosophy makes many people grin skeptically – in their opinion, this is just another quirk of wealthy businessmen and, especially, of their non-working wives – they are engaged in charity, and their children are bought reusable diapers and sneakers from old recycled tires.

However, one cannot help but admit that in a slightly fanciful philosophy of a scuppie there is a valuable rational grain that should be taken into account by all the inhabitants of the Earth.

On the website of Scuppies there is a terrific section – “A Scuppie Believes...”:

...that not only is it possible to be an environmentalist and own a dinner table made from expensive, endangered Brazilian mahogany, but you get status points by explaining to visitors that it was well worth spending the extra money because the designer uses only wood salvaged from 100-year-old houses in Sao Paulo.

...that it's okay to have a “My other car is a bicycle” bumper sticker on your Lexus, because you're making a really important point about personally taking the initiative to reduce greenhouse emissions, even if you're fibbing a bit and your other car is actually a Volvo wagon.

...that when you tell your kid that it would be immoral to buy the latest trendy \$ 150 sneakers because they're made in Asia by horribly exploited workers, it's a chance to teach him or her a valuable lesson about personal responsibility. Not only that, but a pair of 100-percent organic hemp and recycled-rubber sneakers made in non-sweat-shop conditions are even trendier, and only cost half as much [3].

In Belarus and Russia, there are no such sophisticated youth movements although by analogy with Europe we already have many similar ecological ideas. For example, fashionable and beautiful bags for products are being sewn to avoid the constant use of non-environmentally friendly plastic bags.

You can call yourself anything: a scuppie, a Greenpeace fan or an eco-cultural person, you can spend a lot of money on eco-fashion, or you can just be socially responsible. No doubt, it is in the power of everyone to turn off the tap, when brushing your teeth, to print a not very important text on the back side of the sheet already used, not to make bonfires under the trees and pick up the garbage after a picnic in the forest.

Scuppies are called reformers of the consumer society, fighters for the preservation of nature. It is possible that this reformation can do a lot, but in order to “fight” for the preservation of nature, first of all, one must know what ruins it, and simply avoid damaging the environment.

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В статье речь идет о современных социально-сознательных, позитивно настроенных людях, именуемых «Скаппи». Раскрыта сущность и история образования данного термина. Выявлены характерные особенности представителей этой субкультуры, а также отличия от предшествующих движений, которые оказали влияние на ее образование.

**А.Г. Дмитрук**

Республика Беларусь, Брест, БрГТУ  
Научный руководитель – И.И. Гайдук

## **DRONE TECHNOLOGY**

Drones are simply defined as unmanned aircraft that has a variety of purposes. For instance, they are used by the military, police, firefighters, civilian sectors and hobbyists. As you know there are very advanced drones which are capable of having their missions programed into them. Some of the vast majority are still reliant on human pilots, who control the drone from a remote location. For example, the drones used by hobbyist can rarely get farther than 400 feet from their pilot, while the drones used by the military pilots can control their drones from thousands of miles away.

The drones have a controller, which drone pilots can use via radio waves. The launching, landing, and navigation of drones are controlled by these controllers. There are many types of controllers. Some of them looks similar to a game-pad. When Wi-Fi is accessed even smartphones and tablets can be used to control these drones.

Many drones have built-in features that allow them a level to be autonomous, although they need pilots. Sometimes, without the input of a pilot they have the ability to fly, hover and navigate their way up in the air. These drones can keep themselves a loft without human touch with technologies such as gyroscopes. These technologies allow the drones to collect sensory data from their surrounding environment.

Unmanned aerial vehicle technology covers everything from the aerodynamics of the drone, materials in the manufacture of the physical UAV, to the circuit boards, chipset and software, which are the brains of the drone.

One of the most popular drones on the market is the DJI Phantom 3. It includes the UAV, gimbal and camera.

A typical unmanned aircraft is made of light composite materials to reduce weight and increase maneuverability. This composite material strength allows military drones to cruise at extremely high altitudes.

Drones are equipped with different state of the art technology such as infrared cameras (military UAV), GPS and laser (military UAV). Drones are controlled by remote control system also sometimes referred to as a ground cockpit.

An unmanned aerial vehicle system has two parts, the drone itself and the control system.

The nose of the unmanned aerial vehicle is where all the sensors and navigational systems are present. The rest of the body is complete innovation since there is no need for space to accommodate humans. The engineering materials used to build the drone are highly complex composites, which can absorb vibration, which decreases the noise produced and light weight.

Drones come in a wide variety of sizes, with the largest being mostly used for military purposes such as the Predator drone. The next in size are unmanned aircraft, which have fixed wings and require short runways. These are generally used to cover large areas, working in areas such as geographical surveying or to combat wildlife poaching.

Next in size are drones, which are known as VTOL drones. Many of these are quadcopters but not all. VTOL drones can take off, fly, hover and land vertically. The exact meaning of VTOL is “Vertical Take-Off and Landing”.

Many of the latest small drones such as the DJI Spark can be launched from the palm of your hand.

The motors and propellers are the drone technology, which get the UAV into the air and fly in any direction or hover. On a quadcopter, the motors and propellers work in pairs with two motors / propellers rotating clockwise (CW Propellers) and two motors rotating Counter Clockwise (CCW Propellers).

They receive data from the flight controller and the electronic speed controllers (ESC) on the drone motor direction to either hover or fly.

The flight control system communicates with a PC Assistant through a Micro-USB cable. This allows configuration of the UAV and upgrade of the drone firmware.

Drone manufacturers release firmware upgrades to fix bugs and add new features to the aircraft, remote control unit or software if it is used to fly the drone.

Cameras can shoot film in 4k video and can take 12 megapixel stills.

Gimbal technology is vital to capture quality aerial photos, film or 3D imagery. The gimbal allows for any vibration from the drone not to reach the camera. The gimbal allows you to tilt the camera while in flight, creating unique angles.

Multispectral, Lidar, Photogrammetry and Thermal vision sensors are now used on drones to provide 3D models of buildings and landscape; Digital Elevation Maps (DEMS) of land, and provide precision data on the health of crops, flowers, fauna, shrubs and trees.

With Lidar and photogrammetry mapping, the drone will be programmed to fly over particular area using autonomous GPS waypoint navigation. The camera on the drone will take photographs at say 0.5 or 1-second intervals. These photos are then stitched together using specialized software to create the 3D images.

Drone vision systems use obstacle detection sensors to scan the surroundings while software algorithms and SLAM technology produce the images into 3D maps allowing the flight controller to sense and avoid the object. These systems fuse one or more of the following sensors to sense and avoid obstacles: Vision Sensor, Ultrasonic, Infrared, Lidar, Time of Flight (ToF), Monocular Vision, Anti-Drop Kit.

All the latest drones have intelligent flight controllers and modes such as Active Track (Profile, Spotlight, Circle), Draw Waypoints, TapFly, Terrain Follow Mode, Tripod Mode, Gesture Mode, S-Mode (Sport), P-Mode (Position), A-Mode (Attitude), Beginner Mode, Course Lock, Home Lock, Obstacle Avoidance, Drone Uses.

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В статье автор рассматривает, что такое беспилотный летательный аппарат и как он работает. Технология Drone постоянно развивается, поскольку инновации и большие инвестиции постоянно выводят на рынок более продвинутые беспилотные летательные аппараты.

**В.О. Дмитрук, Д.А. Чмель, О.С. Яроцкий**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
 Научный руководитель – О.Н. Коваленко

## THE HISTORY OF CRYPTOGRAPHY

Cryptography is the science of methods for ensuring confidentiality, data integrity, authentication, and the impossibility of renouncing authorship. The history of cryptography is about 4 thousand years old. It must have been invented together with writing. The purpose of this article is to outline the development of cryptography and cryptology. As a basic criterion for the periodization of cryptography, it is possible to use the technological characteristics of the encryption methods.

The first period (approximately since the 3<sup>rd</sup> millennium BC) is characterized by the dominance of mono-alphabetic ciphers (the main principle is the replacement of the alphabet of the source text by another alphabet through the replacement of letters with other letters or symbols) [1].

The second period (from the 9<sup>th</sup> century in the Middle East (Al-Kindi) and from the 15<sup>th</sup> century in Europe (Leon Battista Alberti) till the beginning of the 20<sup>th</sup> century) was marked by the introduction of poly-alphabet ciphers.

The third period (from the beginning till the middle of the 20<sup>th</sup> century) is characterized by the introduction of electromechanical devices into the work of cryptographers. At the same time, the use of polyalphabetic ciphers continued.

The fourth period (since the mid to the 1970s) is the transition period to mathematical cryptography. In Shannon's work there are strict mathematical definitions of the amount of information, data transfer, entropy, encryption functions [2].

There is evidence that cryptography as a technique for protecting the text arose with writing, and methods of secret writing were already known to the ancient civilizations of India, Egypt and Mesopotamia. The first known use of cryptography is considered to be the use of special hieroglyphs about 4000 years ago in Ancient Egypt.

Examples of the use of cryptography can be found in the holy Jewish books, including the book of Jeremiah (6<sup>th</sup> century BC), where a simple encryption method called Atbash was used [3]. The encryption rule consists in replacing the  $i^{\text{th}}$  letter of the alphabet with the letter numbered  $n-i + 1$ , where  $n$  is the number of letters in the alphabet).

In the Middle Ages cryptography – mostly mono-alphabetic ciphers – is beginning to be widely used by diplomats, merchants and even ordinary citizens. Gradually, as the technique of frequency cryptanalysis spreads, the ciphers become more complicated, which leads to the appearance of ciphers of homophonic replacement, and then of polyalphabetic ciphers.

Since the 8<sup>th</sup> century AD the development of cryptography occurs mainly in the Arab countries. It is believed that the Arabic philologist Khalil al-Farahidi first drew attention to the possibility of using standard open-text phrases for decryption. He suggested that the first words in a Greek letter to the Byzantine emperor would be “In the Name of Allah,” which allowed him to read the rest of the message. In the dictionary of cryptology, Arabs introduced such concepts as algorithm and code.

The first European book describing the use of cryptography is Roger Bacon’s work of the 13<sup>th</sup> century “The Epistle of a Monk.”

The first organization, dedicated entirely to cryptography, was established in Venice (Italy) in 1452. Three secretaries of this organization were engaged in breaking and creating ciphers on government assignments. In 1469, the code for the proportional replacement “Milan key” appears.

The father of Western cryptography is called the Renaissance scholar Leon Battista Alberti. Having studied the methods of opening the mono-alphabet ciphers used in Europe, he tried to create a cipher that would be resistant to frequency cryptanalysis.

In 1550, the Italian mathematician Gerolamo Cardano proposed a new encryption technique – the Cardano grid. This method combined both steganography (the art of hidden writing) and cryptography. The difficulty was even to understand that the message contains encrypted text, and to decipher it without having a key at that time was almost impossible. The Cardano grid is considered the first transpositional cipher or, as it is also called, a geometric cipher based on the position of the letters in the ciphertext. Another transposition cipher, much easier, was used in the 17<sup>th</sup> century when John Trevanion escaped from Cromwell’s forces, as well as during World War II, for attempts to transmit information by officers of the captured German submarine in letters home.

Francis Bacon, in his first work of 1580, proposed a binary method for coding the Latin alphabet, in a manner analogous to what is now used in computers.

In the 16<sup>th</sup> century, with the diplomatic correspondence of Emperor Charles I, the nomenclator method, a geographical names index, became popular.

To decipher messages in Russia there worked such mathematicians as Christian Goldbach, Leonard Euler and Franz Epinus. At the same time during the Seven Years’ War (1756–1763) Euler, while in Prussia, continued to correspond with the highest persons of the Russian Empire and also dealt with deciphering intercepted letters of Russian officers.

The invention of the telegraph gave a significant impetus to cryptography. The data transmission itself ceased to be secret, and the message, in theory, could be intercepted by anyone. The advantage of the telegraph was obvious, and on the battlefield where the commander had to give immediate orders for the front line or at least all over the field of battle, and get information from the field. This was the impetus for the development of field ciphers.

In 1883 Auguste Kerckhoffs published a work entitled “Military cryptography”, where he described requirements to be met by a secure system. Although some of them should be treated with suspicion, it is worth noting the work for the attempt.

Cryptography as a kind of professional activity appeared in Russia under Ivan IV. Before the First World War, Russia, along with France, was a leader in the field of cryptanalysis at the state level. England, the USA, Germany had no state decryption service at all, and

Austria-Hungary read correspondence of the neighboring states. At the same time, if in France and Austria-Hungary, the decryption service was military, then in Russia – civil. For intercepting radio messages there was built a special listening station.

Before the beginning of the Second World War, the world's leading powers had electromechanical encryption devices, the result of which was considered undisguised. These devices were divided into two types – rotary machines and machines on the disks. The first type includes “Enigma”, used by the land forces of Germany and its allies, the second – the American M-209. The Soviet Union produced both types of machines.

The history of the most famous electric rotary encryption machine – Enigma – begins in 1917 with a patent obtained by the Dutchman Hugo Koch. The following year, the patent was bought by Arthur Scherbius, who began his business with the sale of copies of the machine to both individuals and the German army and Navy. The German military continues to improve Enigma. Without taking into account the position of the rings, the number of different keys was 10. There were “live” copies of Enigma, and electromechanical machine Bomba consisting of six paired Enigma (a prototype for a later Bombe by Alan Turing). From a modern point of view, the code Enigma was not very reliable, but only the combination of this factor with the presence of many intercepted messages, code books, intelligence reports, the results of the efforts of the military and even terrorist attacks allowed to “open” the code.

However, since 1940, the German high command began to use a new method of encryption, called by the British “Fish”. For encryption a new device “Lorenz SZ 40” was used. The encryption was based on the principle of a disposable pad (Vernam cipher, one of the modifications of the Vigenère cipher, described in 1917) and, when used properly, guaranteed absolute security (which was proven later in the works of Shannon). However, for the cipher to work, a “reliable” random sequence generator was required, which would be synchronized on the transmitting and receiving sides. If a cryptanalyst is able to predict the next number given by the generator, it will be able to decipher the text.

Unfortunately for Germany, the generator used in Lorenz SZ 40 machines turned out to be “weak”. However, it was still impossible to carry out hacking manually. This device was one of the first programmable computers “Colossus”, created by Max Newman and Tommy Flowers with the participation of Alan Turing in 1943 (although some sources indicate that it was made for hacking Enigma). The machine included 1,600 electronic lamps and reduced the time required to hack messages from six weeks to several hours.

After the First World War, the governments of the countries classified all work in the field of cryptography. By the early 1930s, the sections of mathematics were finally formed, which formed the basis for future science – general algebra, number theory, probability theory and mathematical statistics. By the end of the 1940s, the first programmable counting machines were built, the foundations of the theory of algorithms and cybernetics were laid.

A key milestone in the development of cryptography is Claude Shannon's fundamental work “The theory of communication in secret systems” – a secret report submitted by the author in 1945. Its theoretical foundations were formulated and concepts were introduced, with the explanation of which students begin to study cryptography today [2].

Nowadays cryptography finds many different applications. In addition to the obvious transmission of information, it is used in cellular communication, in digital television connected to Wi-Fi and in transportation to protect tickets from counterfeiting, and in banking operations, and even to protect e-mail from spam.

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В статье авторы приводят обзор методов и способов шифрования и этапов развития криптографии как науки.

**О.О. Дорожко**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Н.В. Иванюк

**PECULIARITIES OF BIOCLIMATE OF BREST REGION  
IN 2000–2015 ON THE EXAMPLE OF ATMOSPHERIC PRESSURE**

Unlike other meteorological elements, atmospheric pressure is almost completely determined by atmospheric processes, geographical location and altitude above sea level [1].

The initial data were the materials of the State Institution “Brest Regional Centre for Hydrometeorology and Environmental Monitoring”: average daily atmospheric pressure changes for 2001–2015.

To assess climatic conditions, either separate meteorological indicators or complex indices reflecting the cumulative effect are used. In this paper, the pathogenicity index of the diurnal change in atmospheric pressure (PIDCAP) was used to estimate the degree of change in atmospheric pressure.

This index is:

$$i\Delta p = 0,06 * (\Delta p)^2,$$

where  $\Delta p$  is the diurnal change in atmospheric pressure, hPa/day.

The main features of the annual course of atmospheric pressure are characterised by a maximum in the coldest month – January (the average over the territory of Brest region is 3), the minimum in the warmest month is July. For January, there are also significant differences in atmospheric pressure, while for the summer months they are minimal (average values range from 0.6 to 0.8). Spring and autumn are characterised by intermediate values.

The average annual value of IPCIAP for the period of the study on the territory of Brest region is 1.7 and is characterised by a maximum in the northern, north-western and northeastern parts and gradual decrease to the west and east, reaching its minimum in Brest, Vysokoe and at the Polesskaya meteorological station (figure).



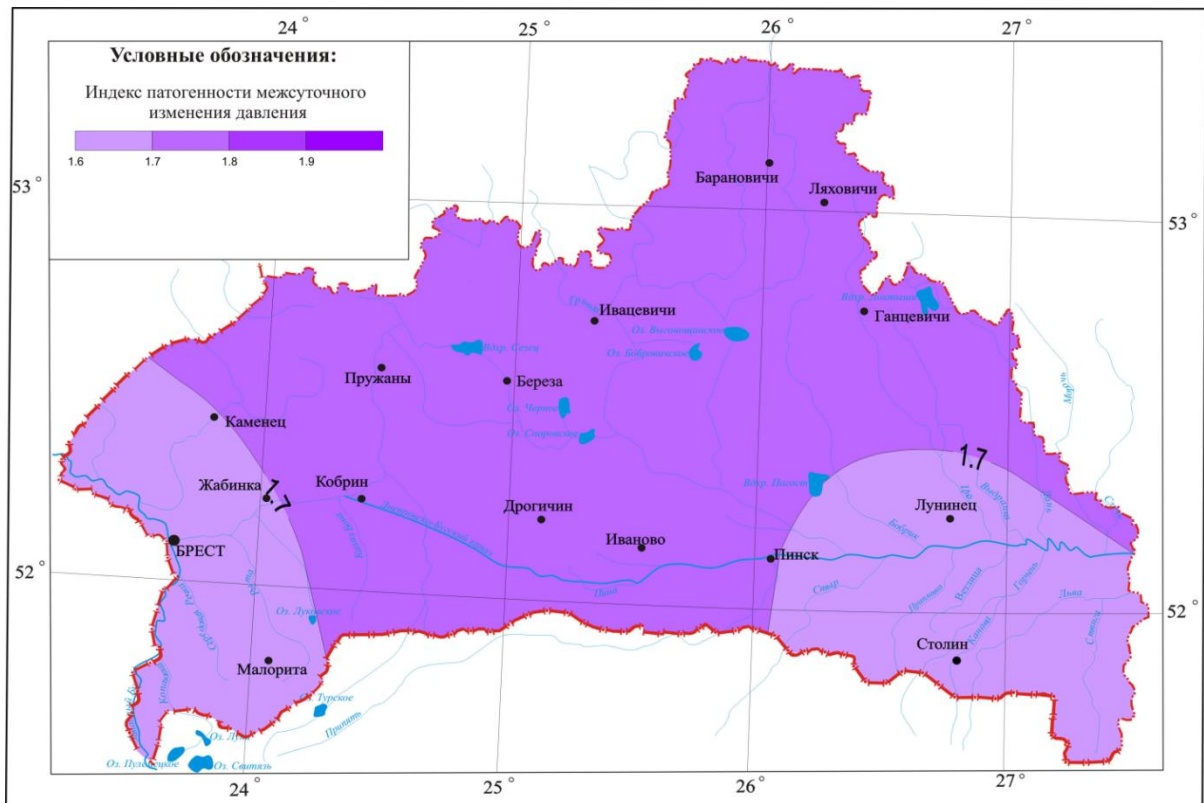


Figure – Index of pathogenicity of day-to-day variation in atmospheric pressure from meteorological stations in Brest region for 2001–2015

The most favourable indicator for PIDCAP is July, a less favourable – June and August. The most unfavourable is December; January and February are also characterised by unfavourable conditions.

The highest PIDCAP values were recorded in the predominant part of the territory of Brest region in 2003, 2004 and 2015. Indicators vary from 2 (Brest, Vysokoe, Baranovichi, Polesskaya, Gantsevichi, Pinsk) to 7.2 (Pruzhany, Ivatsevichi). The lowest average annual value of IPVV for the period under the study was observed in 2014, when the values varied from 1.1 (Brest, Vysokoe) to 1.2 (Polesskaya, Baranovichi and Pinsk).

Winter is characterised by differences in atmospheric pressure, which are due to the temperature differences. Great variety and inconsistency of PIDCAP are associated with the peculiarities of atmospheric circulation during this period of the year. As a result of such volatility of weather conditions there are quite significant differences of PIDCAP [1]. The maximum values of this indicator are observed in the north-west of Brest region. The mean annual values are distributed fairly uniformly over the territory of the region and vary from 2.7 to 3.1. The most unfavourable conditions of atmospheric circulation occur in December, less unfavourable conditions are registered in December and February.

The process of the restructuring of pressure field to the summer type occurs in spring, and atmospheric pressure gradually decreases. The mean annual values of PIDCAP are 0.9–2.5 indicating a rather heterogeneous distribution of them across the territory. They tend to decrease during summer months. However, due to the frequent change of air masses over the territory of Brest region, they vary every year. The maximum figures are observed in the north and north-west of Brest region and their minimum is reached in the west and south-west

of the region. March is characterised by the most unfavourable conditions, which is largely due to the predominance of the winter weather regime.

In summer, the high pressure region associated with the Azores anticyclone shifts to the north and is located to the south-west of the territory of Belarus. Thus, baric gradients are attenuated in summer [1]. The average long-term values are distributed fairly uniformly and vary from 0.6 to 0.8. The maximum values are observed in June, and the minimum values – in July, reaching their minimum in the annual cycle.

Autumn is characterised by the increase in the differences of pressure and the intensification of cyclonic activity. The pressure field is formed, which is characteristic for the cold period. These processes are associated with the increase in PIDCAP towards winter months [1]. The average annual indicators are distributed quite unevenly and vary from 1.1 to 2.3. The maximum values are observed in the north-west, and the minimum values can be registered in the south and south-west of Brest region. The most favourable conditions are in September, which can be explained by the prevalence of the regime of atmospheric circulation, which is typical for the warm season.

The analysis of PIDCAP for Brest region during the period under the study showed that changes of monthly averages tend to increase. However, the decrease in the PIDCAP indicators can be observed only in Pinsk. The reduction of pathogenic conditions is fixed in all the towns only in November, December and February, i.e. mainly in the cold period.

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В статье проведен анализ особенностей общей циркуляции атмосферы Брестской области за 2001–2015 гг., который в свою очередь включает описание индекса патогенности межсуточного изменения атмосферного давления. На основе изучения индекса дается оценка степени изменения данного показателя с целью выявления комфортных и дискомфортных погодных условий.

**А.Н. Драбеня**

Республика Беларусь, Минск, БГПУ имени М. Танка  
Научный руководитель – И.В. Волосюк

#### **SOME PECULIARITIES OF THE TRANSLATION OF FOREIGN FICTION INTO THE NATIVE LANGUAGE**

There are more than 7000 languages in the world. Each of them took their own historical way, which contains all the linguistic features during this time. And one of the manifestations of this way was the literary heritage. Each country has people who put in the treasury of their literary homeland immeasurable treasure: poets, writers, playwrights. Today, we have an incredible opportunity to get acquainted with the literature of England, Spain, France, Germany, Czech Republic, Poland and many other countries. We should be grateful to the translator of literature for this opportunity.

Who is the translator today? It is a person who translates fiction and non-fiction, as well as articles, reviews, news.

Literary translation is the creative direction of translation. For translation of fiction, as a rule, highly specialized knowledge of terminology is not required, but it is necessary to have the possession of composition, as well as a fine sense of literary style.

The translation of literary texts into a foreign language or vice versa is considered the most difficult. It provides not only excellent knowledge of a foreign language, but also requires creative intuition.

The great number of works of world literature has become known to readers, first of all, thanks to the creative intuition and skills of the interpreters.

A translator for good literary translation should know the country, culture and mentality of the people, to convey the author's style and reflect the meaning of the text. An experienced translator should be a writer, should be able to penetrate into the essence of the text and convey the message that the author puts into the text.

There are several main features of literary translation:

1. The absence of a literal translation of the text. Literary translation can't be word-for-word. It's more translator's creative work.

2. Translation of stable expressions, idioms. If necessary, the translator can use the dictionary of idioms. Ignorance of stable expressions can lead to incorrect perception of the text as a whole. Especially it concerns aphorisms, proverbs and sayings.

For example, the translation of Belarusian idioms into English and vice versa: “Зычлівага прыяцеля ў няшчасці пазнаюць; прыяцеля ў няшчасці пазнаеш; хто ў бядзе не быў, той праўдзівых прыяцеляў не знае” is “ A friend in need is a friend indeed”. “A cat in gloves catches no mice” is “Каб рыбу есці, трэба ў ваду лезці; трэба нахіліцца, каб з ручая напіцца; каб вады напіцца, трэба ёй паклانیцца; па дарозе ідучы, грыбоў не набярэш”.

The translation of Russian idioms into English and vice versa: «Зарубить на носу» is “Put it into your pipe and smoke it”, «Кататься как сыр в масле» – “To live in clover”. “One's heart sank into one's boots” – «Душа ушла в пятки», “When hell freezes” – «Когда рак на горе свиснет; после дождичка в четверг».

3. The mandatory puns, humor, etc. The translator must have a special skill to give the reader the wordplay, which the author has in mind exactly.

Here is one of the English jokes where one word is used, but another is implied, similar by pronunciation. Usually in such cases, the pronunciation of two words differs slightly, and the author's intention is easy to understand.

A policeman pulled over a speeding motorist and asked: “Do you have any ID?” The motorist replied: “About what?”.

English ID means “documents”, which can be perceived by hearing as an idea. But translating into Russian should contain translator's own pun: Полицейский спрашивает гонцицу на мотоцикле: «Права?» Та отвечает: «Я всегда права».

Here is another joke, based on playing upon the parts of the words: “Greenland is ice but Iceland is green”. The literal translation into Russian: «Гренландия – ледяная, а Исландия – зеленая». Perhaps, it's better to translate this way: «Гренландия – не зеленая, а ледяная, а Исландия – не ледяная, а зеленая».

4. Preservation of style, culture and epoch. The translator of literary texts should be in some way a scientist, researcher. It's difficult to translate the text of another epoch, another culture, if you are not familiar with its features.

Aerobatics is the translation of poetry. Any poem in a literal translation turns into a nonsensical rabble. The translator has almost re-write a poem again, by means of the native

language. However, there is some special features in this process. Poetry translation can be different. There are several groups:

1. Prose translation (prosaic poem without rhyme).
2. Poetic translation (contains poetic form, but does not carry the rhyme, that is to say “blank verse”).
3. Full translation (the translator retains the meaning, style, form, rhyme of the original).

For comparison, we studied the poem “Annabel Lee” of Edgar Poe in the original, Balmont’s professional translation into Russian. In addition, we offer our own version of the poem’s fragment in Belarusian:

Гэта было невядома калі  
 Ля прыморскага замку зямлі.  
 Там расквітнела паненка адна –  
 Прыгажуня Аннабэль Лі.  
 Мы пакахалі адно аднаго,  
 І адзінаю марай жылі.  
 Калі я быў падлеткам, дзяўчынай яна,  
 Ля прыморскага замку зямлі  
 Зараджалася наша каханне –  
 Паміж мной і Аннабэль Лі.  
 Анёлы, убачыўшы гэта з нябёс,  
 Прабачыць нам не змаглі. (our translation. – *A. Drabenyia*).

Summarizing all of the above, several conclusions can be drawn.

Creative thinking, language education, the lack of a literal translation, excellent knowledge of culture and traditions of the country, the mastery of certain styles of literary translation – these are the qualities that every translator of literary texts should have.

A true translation of fiction can be done only by a translator with a pen-craft and creative abilities. It means that he can evoke in the readers the same feelings and experiences that would arise during the reading of the original.

Nowadays, we cannot meet everyone who is able to speak foreign languages, and only thanks to the work of literary translators, masterpieces of world literature have become the property of the readership in every corner of our planet.

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В статье раскрывается проблема перевода произведений зарубежной, в частности английской, литературы на родной (белорусский) язык. В статье анализируются особенности перевода прозы и поэзии, приводится собственный стихотворный перевод автора статьи произведения Э. По на белорусский язык.

**О.В. Дубовская, Д.В. Гордиевич**

Республика Беларусь, Минск, БГПУ имени М. Танка

Научный руководитель – Т.В. Пятигор

## **MANGELHAFTIGKEIT AN REINEM WASSER**

Das Gewässer ist ein wichtiger Teil des Ökosystems. Die Frage seiner Reinheit ist jetzt sehr relevant in der ganzen Welt. Und nämlich besteht das Problem in der Mangelhaftigkeit an reinem Wasser. Die Aufgabe der Weltgesellschaft ist, Menschen zu ermutigen, damit sie Wasser schützen; zeigen, dass die Situation im Moment gefährlich ist.

Die Möglichkeit, frisches Wasser zu erhalten, war eine der wichtigsten Bedingungen (oder Voraussetzungen) der Entstehung der Zivilisation, der Existenz der Menschen und der Entwicklung der einzelnen Produktion. Für ihre Siedlungen wählten die antiken Menschen Orte in der Nähe der Wasserläufe. Wenn man die Weltkarte sieht, bemerkt man, dass alle großen Städte (und die kleinsten) sind in unmittelbarer Nähe der Wasserquellen. Wasser ist seit langem die wichtigste und unverzichtbare Komponente unseres Lebens. Aber jeder fünfte Mensch auf dem Planeten hat keinen Zugang zu sauberem Trinkwasser.

Das Problem des reinen Trinkwassers ist eine der Hauptursachen für Krankheiten bei Menschen, die die ökologische Seite des Problems behindern. Es ist eine wichtige Notwendigkeit für eine Person, sauberes Trinkwasser jeden Tag zu trinken. Die Erschöpfung dieser Ressource, und die ständige Nutzung vom Trinkwasser für andere Zwecke, nicht rationale Nutzung von sauberem Wasser, Abfälle der Fabriken, Deponien, landwirtschaftliche Tätigkeiten des Menschen sind die wichtigsten Gründe der Verschmutzung des Gewässers. Was dieses Problem verschärft, ist, dass es keine effizienten und relativ kostengünstigen Möglichkeiten zur Reinigung oder Entsalzung vom Meerwasser gibt. Es gibt einige Technologien, aber sie sind entweder unwirksam, oder erfordern eine große Menge an Energie.

Neben der Verschmutzung von sauberem Wasser, verwendet es der Mensch in seinen Bedürfnissen auch zu verschwenderisch. Wenn Sie beispielsweise auf die Drucktaste des Toilettenablaufbehälters drücken, verlieren Sie 5 bis 12 Liter sauberen Trinkwassers, das für 3 bis 9 Tage in der Region, wo ein Problem oder ein Mangel an Wasser auftreten würde, ausreichend ist.

Wasser ist nicht nur für den Menschen notwendig, sondern auch für alle anderen Lebewesen: für die Auflösung der Stoffe und deren Transport durch Gewebe, für die Photosynthese, für das Funktionieren der verschiedenen Systeme des Organismus, für das Wachstum und die Entwicklung der Organismen und so weiter. Daher ist der Bedarf an Wasser bei den Organismen sehr groß.

Mehr als eine Milliarde Menschen, d.h. der siebente Teil der Weltbevölkerung hat derzeit keinen ständigen Zugang zu Süßwasser, etwa zwei Milliarden leben in schlechten sanitären Bedingungen; 3 Millionen Kinder sterben jährlich an Wassermangel; 80 % der Krankheiten in den Entwicklungsländern stammen aus schmutzigem Wasser. Nach der Meinung vieler Experten wird die Ursache für die meisten wirtschaftlichen und politischen Konflikte des XXI. Jahrhunderts der Kampf um Süßwasser. Jeder Einwohner der zivilisierten Gesellschaft gewöhnt sich, dass es möglich ist, nur den Hahn zudrehen, weil davon hier Wasserstrahl fließt. Für uns ist es eine übliche Sache, und nicht für Afrika.

Wassermangel, seine geringe Qualität wirkt sich direkt auf die Gesundheit der Menschen. Einige der gefährlichsten Krankheiten sind genau an Orten, wo es sehr schwierig ist, den

Zugang zu Quellen von sauberem Wasser zu bekommen. Die Landwirtschaft erfordert große Wasserkosten. Der Wasserverbrauch von der Menschheit macht etwa 70 %. Und wenn Sie hinzufügen, inwiefern die Wasserverbraucher und die Industrie das Wasser verschwenderisch verwenden, wird es klar, warum langsam, aber sicher die Reserven vom Süßwasser auf dem Planeten austrocknen.

Aufgrund der Verschmutzung der natürlichen Gewässer sind viele Städte gezwungen, Wasserreserven aus Quellen, die weit von Ihnen entfernt sind, zu suchen oder tiefe Wassereinlagerungen zu bohren und sie zu füllen. All dies erfordert enorme Ausgaben. Die Qualität des Süßwassers verschlechtert sich ständig. Wasserobjekte werden zunehmend durch Abwasser und andere Abfälle verunreinigt. Deshalb sollte die Lösung des Wassersproblems in drei Hauptrichtungen durchgeführt werden: die Beschränkung der Betriebe der unterirdischen Wasserbecken, die Einsparung des Wassers wegen der wirksameren Zustellung und die Unterbrechung der Regeln seines Konsums, sowie die Wiedergeburt der einmal reinen, und zurzeit verschmutzenden Naturwasserbecken.

Wasser hat einen großen Einfluss auf die menschliche Gesundheit. Um sich gut zu fühlen, sollte man nur reines Trinkwasser benutzen. Wissenschaftler haben lange eine direkte Verbindung zwischen der Qualität des Trinkwassers und der Lebensdauer etabliert. Zurzeit sind die Fragen der Qualität des Trinkwassers sehr aktuell.

Hochwertiges Trinkwasser ist solches Wasser, das nicht wiederverwertet wird, das für die Menschheit gesund geworden ist. Es sollte geruchlos und nicht farbig sein, und ist für den langfristigen Einsatz geeignet. Das weltweite Wasserspiel, das sich in einem Mangel an Süßwasser und in einem wachsenden Schaden manifestiert, übersetzt die Ansammlung von Süßwasser in mehr als zweimal so viel als im weltweiten cloud-Wachstum. In letzter Zeit hat man immer mehr darüber nachgedacht, welches Wasser wir trinken. Trotz der Tatsache, dass das Leitungswasser sanitären Normen entspricht, bleibt es nicht sauer. Ein Teil des Leitungswassers wird in der Praxis desinfiziert, aber nach Stella Gabe, lassen sie nur das Gerät an den Menschenkörper, da die Chlorzurückhaltung ein geteiltes und giftiges Element darin ist. Nach dem Glauben, bringt das Quellwasser in den sogenannten Brunnen die Gesundheit. In diesem Wasser entdeckt die Laboranalyse Pestizide, Phosphate und Meeresprodukte, sehr hohe Umsetzung von Nitraten.

Welche Möglichkeiten gibt es für die Behebung des Frischwassermangels?

1) Halten Sie die Reserven von Süßwasser in den Gewässern, um nicht nur zu helfen, das Wasser rein zu halten, sondern auch Ersatzoptionen im Falle unvorhergesehener Katastrophen durchzuführen.

2) Jede Technologie zur Wasserreinigung. Die Umwandlung von Salzwasser in Süßwasser wird durch die Lösung dieses globalen Problems gekennzeichnet werden.

3) Wasseraufbereitung mit Haushaltsbedarf. Da die Kosten in diesem Bereich zu groß sind, können Sie eine anständige Menge an Wasser sparen.

Nun, der einfachste Weg das Wasserproblem zu lösen, ist der, wenn jeder Bewohner des Planeten nur daran teilnehmen kann, Wasser zu sparen und es nicht so einfach zu verschwenden.

Für uns ist es unmöglich, die Rolle des Wassers in der Natur und für lebende Organismen zu überdenken. Wasser ist absolut notwendig für alle menschlichen Lebenserhaltungssysteme. Wir leihen Wasser und denken oft nicht darüber nach, wie viel wir für diese fiktive Substanz bezahlt haben. So müssen wir davon ausgehen, dass die meisten Gewässer mit der Entwicklung der Zivilisation und der Technologien verschmutzt sein werden, dass die Menschen fühlen müssen, dass es ohne Wasser unmöglich zu leben ist.

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В статье раскрывается проблема, возникающая в связи с большим потреблением пресной воды и нерационального использования ее человеком. Авторы предлагают несколько путей решения данной проблемы, которые могли бы существенно изменить ситуацию.

**А.О. Евтодьева**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
 Научный руководитель – Л.М. Калилец

**PROFESSIONAL DEFORMATION OF A LAW  
 ENFORCEMENT OFFICER**

In modern times, the problem of professional deformation of a law enforcement officer cannot be overestimated. Most of all, this is due to the influence of extreme conditions and the specifics of the activities of the security agencies, which can lead to negative consequences: aggressiveness, burnout, stress, frustration. That is why it is necessary to identify the causes and to study some types of professional deformation of law enforcement officers with subsequent proposals for their prevention and overcoming.

*Causes of professional deformation*

The main reason for the occurrence of professional deformation is the absence of a certain level of psychological and moral stability. In addition, the psychological disorientation of the personality is facilitated by a whole list of factors that can be conditionally divided into three groups:

1. Reasons for specific activities:
  - specifics of the immediate environment and the main activity of the employee;
  - position in the power structure and the resulting privileges;
  - psychological pressure from outside, caused by someone's reluctance to disclose a case;
  - increased responsibility for the results of their activities;
  - key job over a number of years, which, in the end, forms professional habits and stereotypes, determines the styles of thinking and communication.
2. Personal reasons:
  - lack of professional training or an unstable psychological portrait;
  - features of social and psychological maladaptation of the personality of law enforcement agencies;
  - exaggerated employee's personal expectations and excessively high level of aspiration.
3. Socio-psychological reasons:
  - inadequate and rude style of subordinates' management;
  - adverse impact of the nearest social environment outside the service;

- undeservedly negative public evaluation of the activities of law enforcement agencies. This can lead to hopelessness in the activities of employees of law enforcement agencies, the emergence of professional impotence and uncertainty about the need for their profession [2].

#### *Signs of professional deformation*

The main signs of the manifestation of professional deformation are associated with violations directly in the individual concept of the employee, with the manifestation in it of rigid stereotypes reflecting the misperception of the organization and of itself in its structure. Studies allow us to distinguish six stereotypes:

- the stereotype “the boss must be tough, firm, persistent”, which changes the structure of managerial interaction, transferring it to command communication and an increased threat regime, mandatory punishment for misconduct;
- the stereotype “the chief is always right” adversely affects the independence of decisions and judgments of the employee, forms in him the lack of initiative and the inert waiting for the orders;
- the stereotype of dogmatic following orders is some continuation of the above stereotype and gives rise to an unthinking execution of any order “from above”;
- the stereotype of the “little man” is most often manifested in employees who occupy one post for a long time, who are for some reason deprived of promotion on the career ladder. It leads to a decrease in personal and professional self-esteem, the manifestation of conformism and a decline in initiative;
- the stereotype of “optimal” role behavior, which often acts as an adaptation to certain service situations and specific professional actions. For example, threatening and aggressive behavior can be seen by the employee as optimal when receiving testimony from the suspect, and compliant and sycophantic – when communicating with superiors;
- the stereotype of “finding the culprit” justifies all actions in the process of finding the culprit, his punishment, etc. At the same time, the work on identifying the true causes of inefficiency of activities goes to the background, and its shortcomings are not revealed [9].

In addition to stereotypes, the employee’s professional deformation is also manifested through:

- confidence in his own infallibility in solving professional problems, excessive self-esteem and excessive self-esteem;
- suspicion, mistakes in perception and evaluation of behavior, actions and conduct of other people;
- legal nihilism, professional selfishness;
- transfer of his service role and professional skills to off-duty relations;
- explanation of his unlawful actions with the interests of solving the case, etc. [5].

#### *Methods to overcome professional deformation*

Analyzing the factors, causes and signs of the emergence and development of professional deformation among law enforcement officers, it becomes possible to identify a certain set of prevention-oriented measures that pre-admonish prerequisites and manifestations of deformation. For one thing, it should be noted that in the process of work, the employee must develop moral and psychological stability and professional immunity to complexities. Besides, the counterbalance to professional deformation is the optimally formed team and a reliable moral and psychological climate in it, the usual positive personal sense of achieving high professionalism, everyday comradely control and assistance from colleagues, friends and relatives.

In addition to the above, it is also necessary to list the main ways and skills essential for the employee to overcome and prevent professional deformation:



- the ability to solve personal problems in a timely manner and not to connect them with business ones;
- the need to improve the level of professional competence, skills and abilities in the required field;
- the ability to self-regulate professional activities through the implementation of targeted psychological programming of their actions;
- the need to remember the correct mode of work and its reasonable alternation with rest [8].

The list of theoretical recommendations on this issue should include the importance of optimizing and improving the procedure for professional selection of law enforcement personnel. After all, the reason for the inefficiency of this system is most often the basis for the emergence and development of professional deformation among law enforcement officers. Guided by the practice of student psychologists in the divisions of internal affairs, there are several reasons for this inefficiency:

- lack of a uniform procedure for professional selection of employees;
- a small number of staff of psychologists in the bodies of internal affairs;
- building a procedure for professional selection based on personal experience of psychologists due to the lack of a clear scientific basis;
- conducting psychological selection in the conditions of time deficit [10].

Based on the research carried out in the field of professional deformation of law enforcement officers, we have revealed the causes of deformation, the signs through which it manifests, the ways of solving this problem.

This study is important both for the public and for the staff directly – such violations are fraught with deterioration in performance and distortion of the psychological portrait of the employee. Consequently, the application of the above measures to prevent the emergence of professional deformation of servicemen of law enforcement agencies is an urgent task in modern days.

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Статья посвящена проблемам профессиональной деформации сотрудников правоохранительной системы, выявляются причины, исследуются некоторые виды профессиональной деформации сотрудников правоохранительных органов с последующими предложениями по их предупреждению и преодолению.

**А.М. Емельянчик**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – С.В. Милач

## **BERLINER MAUER: SYMBOL FÜR DEN KALTEN KRIEG**

28 Jahre, zwei Monate und 27 Tage trennte die Berliner Mauer die Menschen in Ost und West. Am 5. Februar 2018 gibt es die Mauer genauso lange nicht mehr, wie sie einst existierte. Das ist das Ende einer Epoche. Und auch ein Anfang.

Die Mauer durchschnitt die Infrastruktur der Stadt, verlief mitten durch Gebäude, unterbrach Straßen, Wasserwege und Schienenverkehr, zerriss Familien, trennte Freunde und Liebespaare und zerstörte Hoffnungen und Leben. Die Mauer war omnipräsent. Allein der Versuch, die Berliner Mauer zu überwinden, endete zwischen 1961 und 1989 für mehr als 100 Menschen tödlich. Zehntausende, die die DDR verlassen wollten, wurden diskriminiert, kriminalisiert und eingesperrt. Der Bau der Berliner Mauer am 13. August 1961 zementierte die politische Spaltung Deutschlands und Europas. Sie wurde weltweit zum Symbol für den Kalten Krieg, der die Welt politisch in eine östliche und eine westliche Hemisphäre spaltete.

Um zu verstehen, wie es dazu kam, müssen wir zum Zweiten Weltkrieg zurückgehen, nach dessen Ende (1945) Deutschland gemäß den EAC-Zonenprotokollen bzw. den Vereinbarungen der Konferenz von Jalta in vier Besatzungszonen aufgeteilt wurde, die von den alliierten Siegermächten USA, UdSSR, Großbritannien und Frankreich kontrolliert und verwaltet werden sollten. Analog wurde Groß-Berlin als ehemalige Reichshauptstadt in vier Sektoren geteilt. Im Sommer 1945 wurden Demarkationslinien zwischen den Besatzungszonen, die sogenannten “Zonengrenzen” gezogen. Es war nun eine Genehmigung erforderlich, um die Zonengrenze zu überschreiten, nur für Pendler und Bauern wurde ein kleiner Grenzverkehr eingeführt.

Seit 1952 hatte die Führung der Deutschen Demokratischen Republik (DDR) die sowjetische Besatzungszone zum Westen hin abgeriegelt. Die innerdeutsche Grenze hatte eine mehrere Kilometer breite Sperrzone und reichte mit fast 1400 Kilometern von Bayern bis an die Ostsee. Für den Verkehr zwischen der Bundesrepublik und der DDR und Berlin waren nur noch sechs Eisenbahnübergänge und fünf Straßen- bzw. Autobahnübergänge offen. Aus der unmittelbaren Nähe der innerdeutschen Grenze wurden die Bewohner zwangsumgesiedelt. Trotzdem war Berlin immer noch Schlupfloch für waghalsige Flüchtlinge. Mit dem Bau der Mauer wurde es gestopft.

Am 13. August 1961 versperrten Volkspolizei, Betriebskampfgruppen und Nationale Volksarmee (NVA) die durch Berlin verlaufende Sektorengrenze mit Stacheldrahtverhauen und Steinwällen. In den folgenden Tagen und Monaten entstanden zwischen Ost- und Westberlin eine 46 Kilometer lange Mauer und schließlich um ganz Westberlin befestigte Grenzanlagen auf einer Strecke von insgesamt gut 155 Kilometern. Die Bewohner Ost-Berlins und der DDR durften und konnten den Westen fortan nicht mehr erreichen. Familien, Verwandte, Freunde und Kollegen waren voneinander getrennt.

Die Berliner waren fassungslos; die internationalen Reaktionen eher verhalten. Mit dem Mauerbau wurde deutlich, dass die USA die Interessen und die Einflussphäre der UdSSR respektierten. Die Teilung Deutschlands gehörte inzwischen zum Status quo zwischen den Siegermächten.

Die politische Führung der DDR feierte den Bau der Mauer – in der Sprache der SED-Propaganda “antifaschistischer Schutzwall“ – als “Sieg des sozialistischen Lagers“ über den westlichen Imperialismus. Im Wesentlichen ging es der DDR-Führung darum, den Flüchtlingsstrom zu stoppen, denn bis zum Mauerbau hatte die DDR jedes Jahr Hunderttausende ihrer Bürger an den Westen verloren.

Die Mauer wurde ebenso wie die gesamte innerdeutsche Grenze durch Kontrollstreifen, Minenfelder, Wachtürme, Gräben, Hundelaufanlagen und Selbstschussautomaten perfektioniert. Die Überwachung der Grenze fand durch die Grenztruppen der DDR statt. Der Schießbefehl sollte die Überwindung der Grenzanlagen durch Flüchtlinge verhindern. Entlang der Sperranlagen erstreckte sich das Grenzgebiet mit Schutzstreifen und Sperrzonen, das ebenfalls kontrolliert wurde und nur mit einem Sonderausweis betreten werden durfte. Diese Sperrmaßnahmen sollten vor allem die Flucht aus der DDR in den freien Teil Deutschlands verhindern.

Die tatsächlichen Ursachen dafür, dass so viele Menschen fliehen bzw. ausreisen wollten, lagen sowohl in dem Wohlstandsgefälle zwischen der Bundesrepublik und der DDR als auch in der Unfreiheit des Individuums. Dem SED-Regime fehlte es einerseits an Legitimation, andererseits war es entschlossen, die “sozialistische Umgestaltung“ massiv zu forcieren. Die Existenz der DDR war damit an eine strikte Abschottung durch Mauer und Stacheldraht gebunden, die von der Sowjetunion und den anderen Mitgliedstaaten des Warschauer Paktes politisch abgesegnet worden war.

**Die friedliche Wende.** 1989 zeigten sich immer mehr Menschen unzufrieden mit ihrer Regierung, vor allem, weil es keine Reisefreiheit und keine freien Wahlen gab. Nach einer Reihe von friedlichen Demonstrationen wurde am 9. November 1989 die Mauer geöffnet: Das SED-Politbüromitglied Günter Schabowski erwähnte auf einer Pressekonferenz scheinbar beiläufig, die DDR habe mit sofortiger Wirkung die Grenzen geöffnet. Statt des beabsichtigten kontrollierten Reiseverkehrs ab dem 10. November lösten Schabowskis Mitteilungen und die Berichterstattung über die Pressekonferenz einen Ansturm von Ost-Berlinern auf die Grenzübergänge aus. Am Grenzübergang Bornholmer Straße war der Ansturm am stärksten. Zunächst reagierten die Grenzwächter abwartend, verwiesen die Menschen auf den nächsten Tag. Dann erlaubten sie Einzelnen die Ausreise. Der Druck vor dem Schlagbaum wurde so stark, dass die Passkontrolleure und die Grenzsoldaten um ihr Leben fürchteten. Auf eigene Entscheidung stellten sie gegen 23:30 Uhr alle Kontrollen ein. Dann wurden die Schlagbäume geöffnet. Ca. 20.000 Menschen konnten in der folgenden Stunde ohne Kontrolle die Bösebrücke passieren. Die Öffnung der Bornholmer Straße löste eine Kettenreaktion aus: Um Mitternacht standen alle innerstädtischen Grenzübergänge offen. Infolge der friedlichen Revolution in der DDR und der politischen Veränderungen in den Staaten Ost-Europas war in dieser Nacht die Berliner Mauer gefallen. In der Folgezeit wurden

immer mehr Übergänge zwischen den beiden Stadthälften geschaffen, am 22. Dezember 1989 auch am Brandenburger Tor. Der Abriss der innerstädtischen Mauer erfolgte in der Hauptsache von Juni bis November 1990. In demselben Jahr traten fünf neue Bundesländer der Bundesrepublik Deutschland bei.

Auf dem Gelände des ehemaligen Grenzübergangs Bornholmer Straße ist der "Platz des 9. November 1989" angelegt worden. Dort ist eine Open-Air-Ausstellung zu den historischen Ereignissen zu besichtigen. Seit vielen Jahren findet am 9. November jeden Jahres gegen 20:30 Uhr auf der einstigen "Grenzübergangsstelle" eine ökumenische Andacht statt.

Der Fall der Mauer war ein welthistorisches Ereignis, das als Symbol für das Ende des Kalten Krieges, die Aufhebung der Teilung Deutschlands und des europäischen Kontinents steht. Dass nun die Mauer also seit genau so vielen Tagen nicht mehr steht, wie sie einst gestanden hat, ist erst einmal natürlich eine tolle Nachricht. Das bedeutet 28 Jahre, zwei Monate und genau 27 Tage Freiheit. Bedeutet herumreisen und sich die Welt ansehen, bedeutet, Freunde überall haben zu können, bedeutet, jeden Morgen eine von vielen Zeitungen lesen und dazu italienischen Kaffee trinken zu können, bedeutet, sich seinen Studienplatz selbst ausgesucht zu haben und seine Meinung, natürlich demokratische, eigentlich offen äußern zu können. Seinen Glauben ebenso wie seinen Nichtglauben ohne Einschränkung leben zu können. Wählen zu gehen. Bedeutet, selbstbestimmt Frau und Mann und Kind zu sein. Und alles dazwischen natürlich auch.

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Статья посвящена Берлинской стене как символу «холодной войны» и разделения Германии. Автор описывает историю ее возведения и падения, а также ее значение в жизни немецкого народа.

**А.Л. Жук**

Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Н.В. Иванюк

#### AGNOSTICISM

People who follow agnosticism are referred to as agnostics. Agnosticism is not exactly a religion, but more like a set of beliefs surrounding the absolute knowledge that a god or supreme being actually exists. The premise of agnosticism is that humans do not have enough knowledge of the world, the universe, or the supernatural to claim the definite existence or non-existence of a supreme being. Agnosticism deals primarily with knowledge and evidence, rather than with beliefs.

Agnostic beliefs date as far back as the 5th century BC, when philosophers from both Greece and India began to question the human origin story, the existence of gods, and the idea of life after death. Despite this long history, the term agnostic was not created until the late 19th century. This word, in its literal definition, means "without knowledge". This ideology is rooted in the scientific belief that evidence is required for true knowledge to be obtained.

The agnostic approach to understanding life, death, and what happens after is very scientific in nature. It first begins with basic doubt. In other words, all claims must first be questioned rather than believed. This step is followed by establishing a solid understanding of the language being used to describe the situation in question. In other words, a proper definition of specific terms must be established. Then the situation must be analysed in a non-biased manner, meaning that all possibilities must be considered with no preference given to a particular outcome. The situation in question must be examined from all points of view in order to gather as many truths as possible. An educated decision or claim can only be reached once all possible information has been gathered.

To an agnostic, suggesting the existence of a higher power or an afterlife is like having a hypothesis without a method to test the theory. This lack of evidence means that the scientific method cannot be used to prove or disprove the hypothesis. The truth behind the hypothesis that god exists will remain unresolved. Some philosophers have thus referred to agnosticism as a manner of making skeptical inquiries into human knowledge of spiritual topics. Still, other philosophers have suggested that the imperfect nature of humans means that no claim may be made with the absolute certainty that religions make of god and the afterlife.

Several philosophers have attempted to describe how the human relationship with reality supports agnostic beliefs. One of these philosophers, Immanuel Kant, claimed that humans obtain knowledge through the sensory perception of personal experiences. Humans, however, do not share the same perception of reality. Reality can only be understood on an individual level as one person could never understand life as another person has experienced it. Because each person has a different personal reality, the human understanding of supernatural deities is impossible as these deities would be a different thing for each person.

Given that agnosticism is rooted in actual knowledge rather than belief, holding agnostic thought or beliefs may be possible while belonging to a particular organised religion. Just because an agnostic person admits to not knowing if the existence of God is real, does not mean that the same agnostic person cannot believe in a supernatural being. In this case, belief and knowledge are not necessarily mutually exclusive and may, therefore, exist together. Additionally, in a religion that requires faith (not belief), agnostic belief is almost a requirement. This is because faith requires the faith holder to confess to a lack of knowledge. In other words, the religious person does not need to know that something is true in order to have faith. In these faith-based religions, acknowledging that the truth is impossible to obtain directly aligns with agnostic belief.

Most organised religions attempt to offer an explanation about what happens after a person dies. This explanation generally involves some sort of afterlife, where the human soul is either rewarded or punished for how they chose to live. Other beliefs of the afterlife include: reincarnation, nothing, returning to life in the same body, joining another sort of afterlife that is neither a reward nor a punishment.

According to the scientific method, as used by an agnostic, not all of these possibilities can be true. Therefore, the majority (if not all) of them must be false. In fact, the idea that humans have a soul or that the soul continues to exist over a long period of time is illogical in agnostic reasoning.

Agnosticism can be divided into three basic types: strong, weak, and apathetic.

Strong agnosticism, also known as closed or strict, is the idea that humans may never come to know if god, or some other all-powerful deity, actually exists. This inability to know is grounded in the idea that the human experience is a very personal event. This

means that what one person experiences or feels in a particular situation may not be what another person feels in the same situation. Because of these differences, the idea of God cannot be agreed upon; therefore, the existence of God is impossible to confirm.

Weak agnosticism, also known as open or empirical, is the idea that humans do not have enough information at this time to ascertain the existence of a deity. This type of agnosticism leaves open the possibility of discovering scientific evidence of god in the future. Because of this lack of evidence and knowledge, weak agnosticism can neither deny nor confirm the existence of god.

Apathetic agnosticism takes the stance that the existence or non-existence of a supreme being is of little to no consequence in the lives of humans. An apathetic agnostic questions the importance of gods, claiming that if they exist, they have done little to influence the lives of humans so far.

Agnosticism has come under criticism from a number of individuals and groups. It is criticised because it places too much importance on material knowledge and proof. Critics also claim that this belief system cannot be applied to daily life because humans may only live under one of two absolutes: god exists or god does not exist.

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Статья посвящена агностицизму, который анализируется как теория, утверждающая, что существование Бога не поддается ни подтверждению, ни опровержению. Также рассматривается отношение агностицизма к научным методам, реальности, религии и загробной жизни.

**К.Р. Жук**

Республика Беларусь, Брест, БрГТУ

Научный руководитель – О.А. Обуховская

#### SPRACHE ALS SCHLÜSSEL FÜR EINE ERFOLGREICHE INTEGRATION

Was ist eine Sprache? Die Art, nach deren wir unsere Gedanken reflektieren und ausdrücken, ein komplexes System von Zeichen oder Mittel der Kommunikation zwischen Menschen? Tatsächlich ist eine Sprache nicht nur ein System von Zeichen, das für die Kommunikation zwischen Menschen und den Austausch von Gedanken existiert, sondern auch ein Mittel, Generationen zu verbinden, die in verschiedenen Epochen leben. Die Sprache charakterisiert am treffendsten die Menschen, denn sie ist eine Form ihres Selbstbewusstseins. Es wird als das wichtigste ethno-diskriminierende Merkmal und ein ethnischer Wert anerkannt.

Im Laufe unserer Forschung haben wir festgestellt, dass sich eine Sprache nicht von einfach zu komplex entwickelt, sondern von komplex zu einfach. Das heißt, wenn wir alte

Sprachen forschen würden, so würden wir feststellen, dass sie viel reicher und vielfältiger ihrer Formen und Enden nach sind. Zum Beispiel ist altes Englisch reichhaltiger als modernes Englisch.

Sprache kann nicht als eine Menge von Wörtern oder grammatischen Regeln betrachtet werden. Die Sprache ist ein voluminöser Raum, der seinen eigenen Geschmack, Geruch, Farbe und Empfindungen hat. So lernen die Kinder im Alter von 2–3 Jahren ihre Muttersprache.

In der modernen Welt gibt es eine Tendenz, internationale Kontakte in verschiedenen Bereichen des wirtschaftlichen, sozialen, politischen und kulturellen Lebens zu erweitern und zu vertiefen, was die Notwendigkeit, die Probleme der interkulturellen Kommunikation anzugehen, bestimmt.

Fremdsprache ist eine wichtige Voraussetzung für den Erfolg in vielen Berufsfeldern. Die Fremdsprachenkenntnisse ermöglichen es zudem, selbständig zu reisen, ein Praktikum in einem anderen Land zu absolvieren, neue Menschen kennenzulernen. Eine Fremdsprache beeinflusst auch die geistige Aktivität positiv.

In Verbindung mit diesen und anderen (politischen, wirtschaftlichen) Gründen wechseln viele Menschen ihren Wohnsitz. Dieser Prozess wird als Bevölkerungsmigration bezeichnet. Die Hauptprobleme, mit denen Migranten zusammenstoßen, betrachten wir am Beispiel eines europäischen Landes, an Deutschland. Im Januar 2005 hat Deutschland ein Bundesgesetz über Zuwanderung verabschiedet. Nach diesem Gesetz verpflichtete sich der Staat, Integrationskurse für Migranten zu organisieren. Diese Kurse können sowohl für Migranten als auch für Menschen, die nicht gut Deutsch sprechen, durchgeführt werden.

Nach Angaben der sozialdemokratischen Fraktion im Bundestag für Integration Aydan Özoguz warten heute jedoch rund 9.000 Migranten auf die Teilnahme an Integrationskursen. Das Bundesamt für Migration und Flüchtlinge in Nürnberg, das für ihre Organisation zuständig ist, kann noch nicht jedem einen Studienplatz bieten.

Nach den Prognosen der Experten wird sich in den nächsten Jahren die Anzahl derer, die diese Kurse belegen wollen, auf 20 Tausend erhöhen.

Für viele erwachsene Migranten sind solche Kurse eine der wenigen Möglichkeiten, um aus den vier Wänden auszubrechen, Kontakte mit Menschen anzuknüpfen, viel über das Land und seine Bewohner zu erfahren und ihre Sprache zu erlernen. Dies ist das erste Problem von Migranten.

Das zweite Problem ist, dass hochqualifizierte Fachkräfte, die aus anderen Ländern kommen, oft nicht über ausreichende Kenntnisse der deutschen Sprache verfügen, um auf dem Arbeitsmarkt wettbewerbsfähig zu werden.

Das dritte Problem ist, dass viele fälschlicherweise glauben, dass die deutsche Sprache in kurzer Zeit studiert werden kann. Aber das ist nicht ganz richtig. Laut dem Professor der Universität Jena Bernt Arenholz wird für das Studium der deutschen Sprache von 3 bis 5 Jahren benötigt. Für erwachsene Migranten muss Deutsch oft dominieren. Ohne diese Bedingung ist eine erfolgreiche soziale und berufliche Integration kaum vorstellbar.

Integration beginnt mit dem Erlernen einer Sprache in der Kindheit. In den letzten Jahren hat die Zahl der Kinder mit ausländischen Wurzeln in der BRD zugenommen. Es gibt viele zweisprachige Schulen in Deutschland. Bis heute gibt es in der BRD rund 150 zweisprachige Grundschulen. Darin studieren die Kinder aus Familien von Migranten einige Fächer in der Muttersprache ihrer Eltern.

In diesen Schulen lernen gerne auch Menschen, für die die Muttersprache Deutsch ist. Die Hauptidee ist, dass die Kinder in der Sprache lernen können, die sie zu Hause benutzen. Zuvor war die Muttersprache oft ein Hindernis für die Integration, aber das Wissen von zwei Sprachen erweitert den Horizont eines Kindes. Fremdsprache fördert die Entwicklung von Kommunikationsfähigkeiten sowie die Beseitigung von psychologischen Barrieren. Das Kind wird durch das Sprachenlernen geselliger und damit in der Zukunft erfolgreicher.

Zweisprachiger Unterricht in deutschen Schulen wurde in den 70-er Jahren des letzten Jahrhunderts weit verbreitet. Die Eltern freuen sich, dass ihre Kinder eine zweisprachige Schule besuchen, weil sie eine Fremdsprache seit der ersten Klasse erlernen können. Dieses Wissen ist eine gute Investition in die Zukunft. Die Schulen nutzen auch gute Methoden, nach denen einem Kind aus einer deutschen Familie, ein Peer aus einer gemischten Familie oder einer Migrantenfamilie hilft, die zu Hause die Heimatsprache der Eltern spricht.

Es ist wichtig zu verstehen, dass die Menschen, die neben Arbeitswissen auch Fremdsprachen beherrschen, in ihrer Laufbahn viel erfolgreicher sind. Abschließend muss betont werden, dass das Studium einer Fremdsprache in einer modernen Gesellschaft, die sich auf eine universelle Globalisierung hin entwickelt, wirklich wichtig und notwendig ist.

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В статье раскрываются понятие языка и его развитие, роль иностранного языка в современном обществе, преимущества знания иностранных языков, понятие интеграции и проблемы, с которыми сталкиваются мигранты в Германии.

**Е.А. Завадич, В.Р. Панкевич**

Республика Беларусь, Горки, БГСХА

Научный руководитель – В.Л. Новицкая

#### ENVIRONMENTAL PROTECTION

Environmental pollution is a global problem of our time, which is regularly discussed in the news and scientific circles. Many international organizations have been established to combat the deterioration of natural conditions. Scientists have long sounded the alarm about the imminent environmental disaster in the near future.

At the moment, much is known about environmental pollution – a large number of scientific works and books have been written, numerous studies have been conducted. But in solving the problem, humanity has made very little progress. The pollution of the



environment remains an important and relevant issue, which long can turn into tragedy if delayed for too long [1, p. 1].

Due to the intensive industrialization of the society, environmental pollution has become especially acute in recent decades. However, despite this fact, natural pollution is one of the oldest problems in human history. Even in the prehistoric period, people began to barbarously destroy forests, kill animals and change the landscape of the earth to expand the territory of residence and obtain valuable resources.

The above processes led to climate change and other environmental problems. Population growth and the progress of civilizations was accompanied by increased extraction of minerals, drainage of water bodies, as well as chemical pollution of the biosphere. The industrial revolution marked not only a new era in social order, but also a new wave of pollution.

With the development of science and technology, scientists received tools that made it possible to accurately and thoroughly analyze the ecological state of the planet. Meteorological surveys, monitoring of the chemical composition of air, water and soil, satellite data, as well as widespread chimneys and oil spills on the water indicate that the problem is rapidly worsening with the expansion of technosphere. No wonder the appearance of man is called the main ecological disaster [2, p. 1].

Water is the most important liquid on earth. It is part of every organism, and every organism uses it in their life. All of us depend on water, but there is a major problem – every year water bodies are becoming dirtier, they are exposed to the negative impact of the environment.

Today water bodies are polluted much more, than we can imagine. The oil slick floating on the surface of the bottle is only the visible side of water pollution. A significant proportion of the pollutants are dissolved.

Water damage can occur naturally. As a result of mudslides and floods, magnesium is washed out from the mainland soil, enters water bodies and harms fish. As a result of chemical transformations aluminum gets into fresh water. But natural contamination is a negligibly small fraction compared to the anthropogenic. The following components get into the water through the fault of man:

- surface-active compounds;
- pesticides;
- phosphates, nitrates and other salts;
- drugs;
- mineral oils;
- radioactive isotope.

The sources of these pollutants are farms, fisheries, oil platforms, power plants, chemical industry, and sewage.

Acid rain, which is also the result of human activity, washes out heavy metals dissolving the soil.

In addition to chemical pollution of water there is a physical, namely thermal, pollution. Most water is used in the production of electricity. Thermal stations use it for cooling turbines, and the heated fluid waste is discharged into water bodies.

Mechanical deterioration of water quality by household waste in human settlements leads to a reduction in the habitat of living beings. Some species are dying [3, p. 1].

Contaminated water is the main cause of most diseases. As a result of liquid poisoning, a lot of living creatures die, the ocean ecosystem suffers, the normal course of natural processes is disturbed. In the end, all these contaminants are consumed by people.

So how shall we protect water from pollution and preserve human health?

We shouldn't use environmentally harmful cleaning products. A lot of harmful substances come into the water from domestic wastewater. The artificial detergents we use cause a lot of damage to the environment, including water. Consequently, we should carefully check the packages and give preference to those that are marked as environmentally friendly.

Going to the countryside (on picnics, barbecues, hikes with tents and so on), do not throw garbage into water bodies. This garbage remains in water, is dissolved and becomes another polluter. Always take the garbage with you and dispose of it in the specially designed places.

Another thing is not to wash clothes in rivers or lakes with laundry powder or other detergents. There is no system of treatment facilities in open waters. Research has shown that all these chemicals remain in water, cause damage to living organisms in it and to the people who want to swim. Take care of the purity of the reservoirs!

Do not overuse clean water. Save water, turn it off while brushing your teeth or when you don't need it, fix the leaking taps. Try to use only environmentally friendly products. This concerns not only their disposal – factories and plants that manufacture such things, guarantee that environmentally friendly products do no harm to nature. Remember the terrible pollution of water by industrial facilities and work hard to support only those production facilities that do not cause damage to the environment.

First and foremost, you must save energy. It seems that there is no connection between water and light, but this is far from being true. Turning off the light, computer or TV, you save electricity produced by hydropower plants, which are one of the main sources of water pollution.

Environmental pollution is a large-scale global problem, which can be solved only with the active participation of everyone who calls the planet Earth their home, otherwise an environmental disaster will be inevitable.

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В статье рассмотрены проблемы регулярного загрязнения окружающей среды. Выявлены, обоснованы и проанализированы основные источники загрязнения воздуха, водных ресурсов, почвы. На основе приведенных доводов предлагаются альтернативные решения насущных проблем, что может содействовать направлению данной информации в положительную сторону в отношении к окружающей среде.

**Д.О. Заваленый**

Республика Беларусь, Брест, БрГТУ

Научный руководитель – О.В. Бань

## **PERSPECTIVES OF SPACE EXPLORATION**

We can talk about numerous technologies from little domestic tools to discoveries that would eliminate fatal diseases or even the word 'disease' from our world. We can talk about our planet and the fact that we should not stay on it forever waiting for one good asteroid hit. Have you noticed how the weather is changing? Of course, we can talk about all pleasant emotions that we feel while working on the project that is not connected with killing ourselves but with the ideas of saving our planet. We can also say that going away from the Solar system as soon as possible is a wonderful plan. We can talk about all these directions, about the reasons to find a way to settle anywhere besides Earth, reasons to start building space stations and moon bases, cities on Mars or on the satellite of some planet in the nebula 'Horsehead'. Sooner or later all these thoughts will force us to look up at the stars. Will we be able to reach them? Will we do it?

This is a very difficult project, a kind of the impossible one for humanity, the one that does not correspond with the modern level of technology development. But will it stop us? We were born on the Earth. Will we stay there forever? Of course, not.

Nowadays interstellar travelling is impossible. Certainly, we can launch our rocket into space and even accelerate it to the unbelievable, by the Earth standards, speed of 240 00 km/ph. Look at this number. This is an absolute speed record that any spacecraft has ever reached. And now, let us dream a little bit. Let us suppose that we gave our spacecraft such a magic space pendel XDD that its velocity rose to incredible 1 000 000 km/ph! It is pretty cool, isn't it? But there is a problem: moving with the speed of 1 000 000 km/ph our spacecraft – Sonic will have passed 8 760 000 000 km! However, before our space tortoise reached the nearest star, besides the Sun or the Alpha Centauri, 4708.8 years would pass.

Throughout its history humanity made huge amount of revolutionary discoveries. And it is quite the right time for another one. Fortunately, not all people in the world have become crazy arguing whose rocket is longer, whose country is more democratic and who is more equal among the equal.

The idea of a brand new interstellar travel has captured the minds of many scientists, explorers, fiction writers and enthusiasts. The main problem of interstellar travels is time. Almost everyone has seen the so-called hyper-jumps and hyper-drives that allow a space craft to overcome the light speed. But does it have anything in common with reality? All researches and thoughts in this sphere face the theory of one of the most famous physicists in the history of mankind – Special Theory of Relativity of Albert Einstein.

Does anyone know what the main problem of superlight motion is? The main problem of superlight motion is Albert Einstein! The case is that if we want to increase an object's speed, we need to give some energy to it. According to physics laws, an object's mass increases when its speed approaches the light's one. Mass is a measure of inertness, it is the measure that shows how much energy is necessary to increase the object's speed. When the object's speed comes closer and closer to the light's one, its mass streams to infinity, so the amount of energy that will allow to continue the increasing of speed also streams to infinity. It means that if we want to overcome the

light's speed, we need to give the object an infinite amount of energy. Therefore, it is impossible to overcome the speed of light. Nevertheless, there are some concepts, hypotheses and phenomena that give us hope for the interstellar travel that will not last thousands of years.

Let us look at some of them. Wormhole – a hypothetical topological singularity of space-time, which is a kind of a tunnel in space [1]. These areas can be both connected, representing areas of a single space and completely disconnected, representing separate spaces, connected only by means of a wormhole. The general theory of relativity admits the existence of such tunnels. Although to make a wormhole passable, it must be filled with some exotic type of matter. A hypothetical existence of passable wormholes found its reflection in science fiction, because they can give us a real opportunity for the interstellar travel [1].

All that have been said is a little piece of a huge pancake called “superlight motion”. You have to possess enormous amount of enthusiasm and optimism to work in this sphere. There is nothing to compare with, there are no any standards and there is no one to ask for advice, too. No one has done it before; therefore, if you are not able to solve your problems, you cannot just “Google” it or write “guys, need your help to understand why this hyper-drive isn't working”.

Think about such phrases as “researches are too expensive”, “flights are not profitable now, so we closed our moon program”, “space is a big platform for business”. Tell me, please, whom do you pay all this money? Each other? Space is something that is absolutely free of sick human intelligence. There is no business there. There is only death for the humans like us. And it is a source of infinite knowledge for humans, if they become smarter one day.

In conclusion it is necessary to mention recent news from the Internet, “Hackers mined cryptocurrency on the Tesla's account” [2]. This is the account of a person who is absolutely different, who alone forces humanity to unite for creating our future. Our future, think about it. Not someone's, but ours. What will you do with your cryptocurrency when a titanic asteroid annihilates our planet? There would be nothing to do but burning in a world fire. It will be the end, so... Why not build our future together?

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В статье автор в живой манере размышляет о перспективах развития областей исследования и освоения космоса. Он задает серьезные вопросы, касающиеся судеб всего человечества, и приводит примеры возможных путей покорения галактического пространства благодаря новым научным открытиям в области космических исследований.

**А.В. Золотарёва**

Республика Беларусь, Минск, БГМУ

Научный руководитель – Г.И. Саянова

## **ANOREXIA NERVOSA AND BODY POSITIVE MOVEMENT**

Anorexia nervosa, or Anorexia, is a disease of the developed countries, because living in Western communities is recognized as a risk factor for anorexia nervosa. It results from the fact that in such community success is made dependent on attractive appearance.

This is a mental illness characterized by a deliberate weight loss in the absence of medical indications. The patient loses the body weight, avoids eating, induces vomiting, takes laxatives, and does sports too much. The patient's weight falls to the critical level, but she or he sees his body as if in a "funhouse mirror" and thinks, that he or she is too fat. Studies have shown that at least once in life from 0.9 to 4.3 % of women and from 0.2 to 0.3 % of men have suffered from the problems related to anorexia. Annually about 1000 females from the age of 13 to 23 have anorexia in Belarus.

For a physician, the main symptom of a disease is a weight deficit in which the body weight is at least 15 % less than normal. To estimate the body mass index (BMI) suggested by Quetelet, the body weight in kilograms should be divided by the height in meters, squared, and then the result should be compared with the normal index.

In accordance with the recommendations of the WHO, the following interpretation of the BMI indicators was developed:

- 16 and less – Marked weight deficit;
- 16.5–18.49 – Insufficient body weight;
- 18.5–24.99 – Normal body weight;
- 25–29.99 – Excess body weight;
- 30–34.99 – First-degree obesity;
- 35–39.99 – Second-degree obesity;
- 40 and more – Third-degree obesity.

It is necessary for a young woman to realize the potential ability to give birth, and it does not depend on the size of the waist or thighs, the best coefficient of the circumference of the waist to thighs below 0.75.

Adolescent overweight is often a risk factor for bulimia. Most patients with anorexia do not have an excessive body weight. Girls mostly begin to reduce weight because of low self-esteem and dissatisfaction with their appearance. More often, decent and diligent persons, who can be called perfectionists, fall ill. Anorexia is truly called a disease of top students.

Patients think that slenderness is a synonym of success. "The less you weigh, the better you look", they think. But after losing pounds, life does not rise sharply uphill and crowds of fans do not fall at the feet.

It all starts harmlessly. First, the person refuses taking a cake, a candy, and then excludes bread and pasta from the diet. When starvation becomes a way of life, the patient can't stop. The brain is constantly warning not to eat. The person begins to be afraid of eating. This is also one of the symptoms of anorexia. They hide the food; they lie to their parents and friends. Patients can rub butter into hair to hide it and do not eat, replace a full bowl of soup with an empty one, hide food under the pillow, in bags, in their own navel and ears. They bite an apple when somebody comes in and spit it out when they stay alone. You will not find large plates at home. The so-called Barbie syndrome is developing.

During a hunger attack a person loses not only body fat. The muscle and bone tissues are destroyed and disrupt all systems and organs of the body. You can see the protruding scapula,

ribs, pelvic bones sticking out, sunken cheeks, through which the outlines of the teeth appear. Bloody cracks around the mouth, yellow skin and black shadows under the dead eyes are the patients' frequent friends. Osteoporosis, infertility, arrhythmia, tachycardia, gastritis, ulcers, constipation typically accompany long starvation. And death from cardiac arrest at the age of 18 turns out to be a common outcome.

Young people do not differ from elderly people. Hair falls out, teeth crumble. The skin becomes wrinkled with spots appearing on it. Fingers look like a chicken paw. Patients resemble skeletons. The smell of death, which flies over them at the beginning of the treatment, is very easy to feel.

Treatment consists, primarily, of the psychiatric and psychotherapeutic advice. The doctor works not only with the patient, but also with his environment. But this step is taken only after the physical recovery of the body. The average duration of psychotherapy is 5 years. If the treatment starts later than 3 years after the onset of the disease, the potential for recovery is not more than 30 %.

At the same time, the movement against the existing world fashion standards of beauty is developing. The Body Positive Movement is a campaign that encourages people to accept themselves in order to improve overall health and well-being. The Body Positive Movement focuses on building self-esteem through improving one's self-image.

Body positivity is for everyone: fat, thin, colored and any gender. But in all groups and movements, there are some ignorant people who identify with the goal of the movement but don't actually take the time to educate themselves properly. In the context of body positivity, this often sounds as "slimness is shameful".

The Body Positive Movement seeks to liberate fatness from the opinion that it is ugliness and illness. The goal is to reconstruct and broaden the popular terms of physical wellbeing and beauty. It is not a secret that "culture fixated on female thinness is not an obsession about female beauty, but an obsession about female obedience".

The Body Positive Movement is about the body, and using diversity for body acceptance is a really productive idea.

If you want to improve your body, do not follow any specific diet! The best way to maintain the health of the body is a healthy lifestyle which includes a healthy diet and doing sports. Remember that having a healthy mind and body is much more important than foolish standards of beauty created by marketers and designers to decrease the cost of clothing production.

Love yourself and remember: beauty is more than only a body.

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В статье поднимается проблема нервной анорексии – опасного заболевания, жертвами которого являются миллионы людей по всему миру. Анорексия считается болезнью цивилизации, поскольку ей подвержены преимущественно жители развитых стран. В то же время появляется движение, направленное на нормализацию восприятия человеком собственного тела. В СМИ оно фигурирует как «бодипозитив».

**Т.А. Игнатюк**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
 Научный руководитель – С.В. Милач

## **GESUNDHEITSTOURISMUS IN DEUTSCHLAND**

Gesundheit ist das wohl wichtigste menschliche Gut und Grundlage für ein langes und glückliches Leben. Gesundheit ist ein wichtiges Thema in unserer Gesellschaft und eng mit der Reisebranche verknüpft. Yoga-Reisen, Wanderurlaub bei Bergluft, Wellness-Wochenenden oder der Aufenthalt in einer Spezialklinik – unser Gesundheitsbewusstsein wächst und ein gesunder Lifestyle wird vielen Menschen immer wichtiger. Es wundert also nicht, dass das touristische Angebot in diesem Segment steigt und stark nachgefragt wird. Megatrend, Boom, Wachstumsmarkt, Konjunkturmotor – die Superlativ- und Positiv-Attribute sind zahlreich, wenn vom Gesundheitstourismus die Rede ist. Gesundheit und Tourismus sind für viele Touristen zwei Seiten einer Medaille.

Gesundheitstourismus ist ein Oberbegriff für Reisen, bei denen medizinische Behandlungen und Gesundheitsdienstleistungen einen Schwerpunkt bilden. Zweck des touristischen Aufenthalts sind die physische wie auch psychische Erhaltung, Stabilisierung und Wiederherstellung der Gesundheit. Der Begriff umfasst weitere Bezeichnungen wie gesundheitsorientierter Urlaub, Erholungstourismus, Kur- und Rehabilitationstourismus, Wellness- und Fitness-Tourismus sowie Patienten- und Medizintourismus. Die Abgrenzungen zwischen den verschiedenen Termini sind dabei nicht immer eindeutig [2].

Die Welttourismusorganisation sieht den Gesundheitstourismus als einen eigenständigen Teilbereich des Tourismus. Und es macht diesen Tourismus noch mehr populär. Gesundheitstourismus ist von großer gesellschaftlicher und wirtschaftlicher Bedeutung. Triebkräfte sind vor allem das gestiegene Gesundheitsbewusstsein, der demografische Wandel und der medizinisch-technische Fortschritt. Kern des deutschen Gesundheitstourismus sind über 350 prädikatisierte Heilbäder und Kurorte. Vorsorge- und Rehabilitationskuren, Gesundheits- und Wellnessurlaub, Kompaktkuren und Rehabilitationsmaßnahmen, Erholung, Sport und Freizeit bestimmen die Angebotspalette. Dazu kommen herausragendes wissenschaftliches Know-how, Life-Science-Technologien, gesunde Ernährungsangebote und moderne Wellness-Einrichtungen unter Nutzung natürlicher Heilkräfte wie Wasser, Sole, Moor und Kreide.

Der Gesundheitstourismus hat viele Facetten: Neben dem Wellness- und Gesundheitsurlaub zählen dazu der Kur- und Reha-Reiseverkehr sowie der Medizintourismus. Zwischen diesen Formen des Gesundheitstourismus gibt es Überschneidungen; die Grenzen sind zum Teil fließend.

Der **Medizintourismus** umschreibt diejenigen Formen des Gesundheitstourismus, bei denen ärztliche Behandlungen und operative Eingriffe, vornehmlich im Ausland, in Anspruch genommen werden. Deutschland ist die führende Destination für medizinisch motivierte Reisen innerhalb Europas inklusive der Türkei. Nach Deutschland lassen sich jedes Jahr bis 250.000 Patienten aus 177 Ländern in deutschen Gesundheitseinrichtungen stationär oder ambulant behandeln. Etwas über 100.000 Patienten werden stationär im Krankenhaus aufgenommen. Vor allem Patienten in den Grenzregionen nutzen die Behandlungsmöglichkeiten im nahen Ausland. Die meisten Patienten kommen aus Nachbarländern wie Polen, den Niederlanden oder Frankreich. In Deutschland gibt es auch sehr viele Patienten aus Russland, aus den anderen GUS-Staaten und den arabischen Golfstaaten. Die am häufigsten nachgefragten Fachbereiche sind Orthopädie, Innere Medizin, Kardiologie

und Chirurgie. Bei Patienten aus dem GUS-Raum dominieren vor allem Behandlungen aus der Onkologie. Das liegt noch an den Schäden Tschernobyl verursacht hat [1].

**Kur- und Rehabilitationstourismus.** Die „klassische“ Kur in Bade- und Klimakurorten ist eine therapeutische Maßnahme. Sie ist vor allem durch die wiederholte Anwendung von wissenschaftlich anerkannten und durch Erfahrung bewährten natürlichen Heilfaktoren als ortsgebundene, sowie zusätzliche Kurmittel bestimmt und wird durch andere therapeutische Maßnahmen ergänzt. Eine Kur sollte während der ärztlich verordneten Dauer mit einem Orts- und Milieuwechsel verbunden sein. Das Ziel der Kur ist die Prävention oder Heilung bzw. Rehabilitation krankhafter Zustände. Rehabilitation ist eine wichtige Säule des Tourismus.

Beim **Wellnesstourismus** handelt es sich um selbstinitiierte und -finanzierte Gesundheitsförderung, für die Fitness, Körperpflege, gesunde Ernährung, Entspannung, Meditation, geistige und soziale Aktivität/Bindung konstitutiv sind. Reisemotive sind das eigene Wohlbefinden sowie die Suche nach Erholung. Der Wellness-Tourismus verfügt aufgrund der stetig wachsenden Nachfrage über ein erhebliches Entwicklungspotential. Interessant an den Angeboten aus dem Wellnessbereich ist, dass sie sich in jegliche Arten von touristischen Leistungen einbauen lassen. Ob es sich um Fernreisen oder Kurztrips, um Kreuzfahrtschiffe oder Familienhotels handelt, eine Zusatzleistung aus dem Wellness-Bereich ist ein einfacher zu integrierbarer Baustein. Als besonders gefragt erweist sich der Wellness-Kurzurlaub, wobei Distanzen über 250 km im Trend vermieden werden. Dies macht Deutschland und Österreich zu den Haupt-Destinationen der Deutschen.

Der **gesundheitsorientierte Urlaub** stellt eine rein präventive Möglichkeit des Gesundheitstourismus dar, zumal nicht medizinische Leistungen, sondern Bewegung/Sport, gesunde Ernährung und therapeutische Beratung für eine gesunde Lebensweise im Vordergrund stehen. Die Rolle von Gesundheit auf ansonsten anders motivierten Urlaubsreisen:

- im Sinne von „etwas für die Gesundheit tun“ (ggf. schon alleine durch Aufenthalt an der frischen Luft) in einem Urlaub,
- die Abwesenheit von Risiken (nicht krank werden),
- touristische Aktivitäten für gesundheitlich eingeschränkte Personengruppen bzw. Menschen mit Behinderungen bzw. deren Betreuer.

Das zukünftige Potenzial für alle drei gesundheitsorientierten Urlaubsformen ist im Vergleich zu bisherigen Erfahrung groß. Die Ergebnisse einer Untersuchung zeigen, wie sich die Nachfrage nach Gesundheitsurlaub entwickelt hat und erlauben einen Ausblick auf die zukünftigen Trends. Einige Zahlenbeispiele:

- Motiv: 33 % der Bevölkerung ist „etwas für die Gesundheit tun“ im Urlaub besonders wichtig (2014),
- Präferenzen: 18 % der Bevölkerung können sich einen Gesundheitsurlaub, 22 % einen Wellnessurlaub, 15 % eine Kur im Urlaub und 8 % Fitnessferien in den nächsten drei Jahren vorstellen (2014),
- Verhalten: 6 % (4 Mio.) aller Urlaubsreisen werden vom Reisenden explizit als Gesundheitsurlaub eingestuft (2013) [3].

So ist das Thema Gesundheit fest in den Urlaubsmotiven und -aktivitäten der Deutschen verankert.

Aufgrund des wachsenden Gesundheitsbewusstseins und in Folge des demographischen Wandels scheint die Möglichkeit geschaffen, dass sich die Nachfrage im Gesundheitstourismus in den nächsten Jahren vergrößern wird. Zudem geht es hierbei nicht nur um den Fakt, dass die Menschen immer mehr Eigenverantwortung für ihre Gesundheit übernehmen, sondern dass auch immer mehr Betriebe in die Gesundheit ihrer Mitarbeiter



investieren. Demzufolge erhält Gesundheit im Urlaub eine immer wichtigere Bedeutung. Der Gesundheitstourismus wird in der Zukunft eine immer wichtigere Rolle im Leben jedes Menschen spielen.

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Статья посвящена оздоровительному туризму в Германии. Автор рассматривает определяет значение оздоровительного туризма в Германии, а также характеризует основные его виды.

**А.Д. Ильина**

Республика Беларусь, Минск, БГПУ имени М. Танка  
Научный руководитель – И.Ю. Костенко

#### **SUCH A SMALL, BUT SUCH A BIG**

The world around us stands out for a wide variety: from a giant blue whale to a small hard worker-ant, from a gigantic sequoia to the most widespread dandelion. All living organisms are different, but there is something that unites them. It would seem a small particle, but it is this that shows us who we are in this world.

The human body consists of trillions of cells working together, forming the tissues of its body, such as muscles and skin, liver and lungs, as well as body fluids such as blood and saliva.

DNA, or deoxyribonucleic acid, is the hereditary material in humans and almost all other organisms. Nearly every cell in a person's body has the same DNA. Most DNA is located in the cell nucleus (where it is called nuclear DNA), but a small amount of DNA can also be found in the mitochondria (where it is called mitochondrial DNA or mtDNA).

The information in DNA is stored as a code made up of four chemical bases: adenine (A), guanine (G), cytosine (C) and thymine (T). The DNA nucleotides include: a nitrogenous base, deoxyribose and a phosphoric acid residue. Nitrogen bases are divided into purine (adenine and guanine) and pyrimidine (thymine and cytosine). Two chains of nucleotides are joined together through nitrogenous bases on the principle of complementarity: between the adenine and thymine there are two hydrogen bonds, between guanine and cytosine three. These nucleotides are attached to the sugar-phosphate chain. In its structure, DNA resembles a rope ladder, twisted to the right [1].

If we imagine that the nucleotides A, G, C and T are letters of a simple four-letter alphabet, then by arranging these letters in different sequences within a single text, we get several different words, and if so, alternate the resulting words, placing them in one line, then we can write a huge biological instruction in the form of a linear "teletype" tape.

The number of different DNA sequences gives a colossal biological diversity of species on Earth. That is, it turns out that living organisms of different species differ from each other, because their DNA molecules have a different sequence of nucleotides, different number of links, they alternate in different ways and, consequently, they have different information content.

The DNA molecule consists of separate fragments called genes.

What is the meaning of DNA in the life of each organism?

From generation to generation, from parents to their children, there are signs that are characteristic only to them. It is not surprising that children always look like their parents. After all, it is the storage, transmission and reproduction in a series of generations of genetic information that is the most important function of DNA. The DNA of any cell encodes information about all the proteins of a given organism, what proteins, in what sequence and quantity they will be synthesized.

DNA research has led to some interesting, and important findings about the known molecule.

1. If you unwind the DNA of all the cells in your body, they will stretch out to a distance of 16 billion kilometers – this is roughly equal to the distance from Earth to Pluto and back.

2. In addition to the nucleus in the cell, there are mitochondria and chloroplasts, which have their own DNA. Therefore, these organelles have some autonomy in their work. This gives a hypothetical assumption that for a long time these organelles were independent organisms, but in the course of evolution they were absorbed by the cells, as a result of which symbiotic relationships were formed. Later they lost their independence.

3. Researchers from the Dana-Farber Cancer Institute in Boston designed a mouse telomerase that can be turned on and off. When the enzyme was activated, new brain cells appeared in the mice, and they lived longer.

4. Stealing for survival is a typical situation in our world. Leech-shaped rotifers are microscopic creatures. This species has existed for more than 80 million years, and for all this time it has not been possible to find a single male. You ask how in this case this species managed to live so long? The answer is simple - for the reproduction of rotifers, the DNA of other animals is used.

5. Make sure that you trust the person from whom you are taking the bone marrow. If you ever get a bone marrow transplant, then there is a possibility that you will be able to detect donor DNA in your blood. There were cases when people were mistakenly arrested for this reason.

6. Random mistakes in DNA, not heredity or environmental factors, accounts for two-thirds of cancer mutations in cells [4].

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Статья посвящена одной из самых информативных частиц всех живых организмов, а именно молекуле ДНК, состоящей из нуклеиновых кислот. В ней раскрывается состав, строение и функции данной молекулы, а также приводятся некоторые интересные факты.

**М.И. Ильючик**

Республика Беларусь, Минск, БГПУ имени М. Танка

Научный руководитель – Т.В. Пятигор

## **DIE PROPAGANDA UND DIE BILDUNG EINES GESUNDEN LEBENSSTILS**

Heute sind die Fragen und Probleme eines gesunden Lebensstils aktuell in Verbindung mit der Erhöhung der Krankheitsfälle unter Jugendlichen. Immer mehr fangen sie zu rauchen an, benutzen psychotrope Substanzen, auch sind mehrere Fälle der Übertragung von sexuellen Infektionen registriert. Alkohol, Zigaretten und Drogen sind unter den verschiedenen Altersgruppen von Menschen für den Stressabbau verbreitet, weil Menschen viele Stresssituationen haben, die depressive Zustände aufrufen. Die Depression ist episodisch wiederkehrende Krankheit. Und jede Episode kann von einigen Monaten bis einige Jahre dauern.

Alle diese Fakten beweisen, dass das Gesundheitsniveau der Nation heute halbhoch ist. In diesem Fall spielt die Propaganda eines gesunden Lebensstils eine große Rolle in unserem Leben. Um diesen Terminus zu verstehen, muss man seine Komponenten lernen. Die Gesundheit ist das wichtigste Element in unserem Leben. Die moderne Wissenschaft hat das Einflussniveau verschiedener Faktoren bestimmt. Das sind die Lebensweise der Menschen (50 %), die erblichen Faktoren (20 %), die Ökologie (20 %), die Arbeit der Gesundheitseinrichtungen (10 %).

Die Ergebnisse verschiedener Studien beweisen, dass der richtige und gesunde Lebensstil der Hauptfaktor der Lebens- und Gesundheitserhaltung ist. Der gesunde Lebensstil ist eine optimale Lebensqualität. Der hängt vom Wunsch des Menschen, seine Gesundheit unter den Bedingungen des Einflusses auf die natürlichen und sozialen Faktoren der Umwelt zu verstärken. Der gesunde Lebensstil versteht die rationale Ernährung, Sport, Härten, Ablehnung von Alkohol und Rauchen [2, S. 28–32].

Die rationale Ernährung spielt eine große Rolle in gesunder Lebensweise. Die rationale Ernährung ist die Ernährung im ausgewogenen Energieplan und im Nährstoffgehalt vom Geschlecht, Alter und der Art der Tätigkeit abhängig. Sie hat einige Prinzipien:

- Bereitstellung eines Gleichgewichts aus Energie, die aus Nahrung kommt und von einer Person im Lebensprozess verbraucht wird;
- Befriedigung der Bedürfnisse des Körpers nach bestimmten Nährstoffen;
- Einhaltung der Diät.

Die Propaganda des gesunden Lebensstils ist das System von Maßnahmen, das die Essenz eines gesunden Lebensstils im Leben der modernen Gesellschaft enthüllt.

Der Staat hilft den gesunden Lebensstil beizubehalten und zu entwickeln. In Belarus wurde 2007 zum Jahr des Kindes und 2015 zum Jahr der Jugend erklärt. 2015 wurden viele Aktionen durchgeführt, um den gesunden Lebensstil zu erhalten und zu formen. Kindheit und Jugend ist das beste Alter für die Bildung des Konzeptes des gesunden Lebensstils. Dessen Propaganda sollte in einer Familie durchgeführt werden. Die Eltern sind Beispiel für Kinder. Die Hauptaufgabe für Eltern ist es, ihr Kind vor den schädlichen Auswirkungen der Umwelt zu schützen.

Man sollte nicht nur Interesse an einer gesunden Lebensweise aufbringen, sondern diese auch erhalten und stärken. Deshalb sollte die Propaganda in allen Lebensbereichen des Kindes so aktiv wie möglich durchgeführt werden.

Theoretisch kommt das Bedürfnis nach Gesundheit und deren Erhaltung in dieser Lebensphase in den Vordergrund. Die Gesundheit hat einen großen Einfluss auf die Qualität und Quantität der Arbeit, auf die Arbeitsproduktivität, von der das ganze Leben im Allgemeinen abhängt.

Im Sozialplan können mehrere Prinzipien für die Entwicklung eines gesunden Lebensstils bestimmt werden:

- die Existenz einer historisch etablierten nationalen Kultur,
- die Konsistenz der staatlichen Ideologie,
- das Vorhandensein einer attraktiven und realen Zukunft,
- die Existenz von Freiheit, um unabhängige Entscheidungen zu treffen,
- die Möglichkeit, die sozialen und menschlichen Bedürfnisse einer Person zu befriedigen [3, S. 118–120].

Der wichtigste psychologische Faktor ist Motivation! Jeder Einzelne muss sehen, fühlen und verstehen, dass er alles so macht, wie es sollte, denn er mag es, dass er jederzeit unterstützt wird. Unterstützung sollte nicht nur von Verwandten, sondern auch vom Staat kommen. Zum Beispiel, wenn irgendwelche Leistungen unserer Athleten erreicht werden, gratuliert ihnen der Präsident unseres Landes persönlich (dankt für alles und wünscht weiteren Erfolg in ihrer Lieblingstätigkeit). Mit dieser Motivation möchte man mehr Erfolg haben und sich in allen Richtungen entwickeln.

Unter 120 Studenten der BSPU namens M. Tank wurde eine Umfrage durchgeführt. Die Studenten beantworteten die Frage, wo sie Informationen über den gesunden Lebensstil und über Gesundheit im Allgemeinen erhalten. Es wurden folgende Ergebnisse bekommen: 49 % der Befragten erhalten Informationen darüber von Eltern, 39 % – in Bildungseinrichtungen, 11 % – aus verschiedenen TV-Shows und 1 % von der Polizei.

Die weitere Frage „*Wo möchten Sie Informationen über den gesunden Lebensstil erhalten?*“ wurde folgenderweise beantwortet: 75 % der Studenten wollen Informationen aus verschiedenen Internetquellen erhalten, 10 % – von Eltern, 5 % – aus TV-Sendungen und 10 % – in Bildungseinrichtungen.

Die Studenten streben, Informationen aus verschiedenen Internetquellen zu erhalten, weil neue Technologien zurzeit sehr populär unter Jugendlichen sind und aktiv benutzt werden. In derselben Universität an der Fakultät für Naturwissenschaften wurde beispielsweise eine Studentin interviewt:

– *Wiktoria, ist an der Fakultät für Naturwissenschaften eine würdige Propaganda des gesunden Lebensstils? Was sagst du?*

– *Ja, an unserer Fakultät gibt es eine würdige Propaganda des gesunden Lebensstils. Wir halten viele Aktionen ab, an denen nicht nur die Studenten des ersten Studienjahres, sondern auch des zweiten und sogar des vierten aktiv teilnehmen.*

– *Wie oft werden ähnliche Aktionen abgehalten? Kannst du ein Beispiel?*

– *Eine Vielzahl von Aktionen findet einmal pro Monat und manchmal alle zwei Monate statt. Wir haben eine Vielzahl von Videos über unseren Sportunterricht gefilmt, wo man klar sehen kann, wie die Jugendlichen ihre Freizeit verbringen. Die Propagandaaktionen eines gesunden Lebensstils finden vor allem an besonderen Tagen statt, so zum Beispiel am 1. Dezember – dem Welt-Aids-Tag, viele Diskussionen zu diesem Thema fanden an unserer Fakultät statt und viele Flugblätter wurden verteilt. Unsere Fakultät nimmt auch aktiv an Sportveranstaltungen teil, eines der bemerkenswerte Beispiele ist der Minsker Halbmarathon.*

*Nicht nur unsere Fakultät, sondern die ganze Universität, die vom Rektor geleitet wird, nimmt aktiv an solchen Maßnahmen teil.*

Wenn wir all das analysieren, können wir folgende Konsequenzen ziehen: Wir können mit Zuversicht sagen, dass die führende pädagogische Universität der Republik Belarus die Propaganda eines gesunden Lebensstils auf hohem Niveau fördert. Auf der Grundlage der Umfrage haben wir gelernt, dass die meisten Jugendlichen über einen gesunden Lebensstil wissen und sich am meisten an diesen Lebensstil halten.

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Автор статьи обращается к актуальной теме пропаганды здорового образа жизни среди детей и молодежи. Это задача не только государства в целом, но и конкретного коллектива, отдельно взятого человека. Автор приводит примеры пропаганды здорового образа жизни среди студентов БГПУ имени М. Танка.

#### **В.Н. Исаченко**

Республика Беларусь, Горки, БГСХА

Научный руководитель – И.П. Макаренко

#### **TYPES OF GENETIC ENGINEERING**

The advance of genetic engineering makes it quite conceivable that we will begin to design our own evolutionary progress.

*Isaac Asimov*

Whether or not we begin to actually design our evolutionary progress is a matter of dispute, but the fact that genetic engineering widens the scope of treating and curing various hereditary and terminal illnesses surely deserves some amount of attention and respect. Contrary to what most of us have been made to believe, thanks to extravagant Hollywood sci-fi films, genetic engineering is not just about creating weird new species or making mutants out of men. Genetic engineering, as it exists today, is more about improving the quality of the existing species of various organisms by way of enhancing their health, yield (in agriculture and livestock) and overall quality. This is usually done by tampering with the subjects' genetic matter in such a way that their anatomies get conditioned to work in the survival mode, rather than the victim mode, in the face of disabling defects and life-threatening illnesses. For achieving these and similarly related ends, there exist three different types of genetic engineering, based upon their functions and fields of application [1].

### *Analytical Genetic Engineering*

This is the research branch of genetic engineering in which virtual genetic models are created using computer software. Various computer programs are used to theoretically study the implications of various genetic engineering activities if they are to be carried out in practice. For instance, before going ahead and splicing two different genes in actual practice, preparing an analytical model based upon an appropriate program, developed for the purpose, will give the researchers an idea whether such splicing would be successful at all and if successful, if the desired end would be achieved. This is a better way of carrying out the trial-and-error stage and reduces risks of disaster during experiments using real organisms, especially animals [2].

### *Applied Genetic Engineering*

Applied genetic engineering, as the name suggests, is that field of genetic engineering, which pertains to practical application of genetic engineering tools to manipulate the genes of living organisms for making genetic copies of them or to introduce certain different characteristics in them that are not usual for the subjects. The first instance is typically referred to as cloning and the second instance refers to transgenesis. While cloning is a highly regulated and controversial field, it has been carried out in various subjects of animal and plant species with mixed results and uncertain success rates. Transgenesis, on the other hand, is a comparatively common area. Hybrid fruits and vegetables they are the most common and abundant examples of transgenesis [3].

### *Chemical Genetic Engineering*

Chemical genetic engineering can be called the grass root level of applied genetic engineering as it deals with separating, classifying and graphing genes to prepare them for applied genetic engineering activities and experiments. Chemical genetic engineering includes genetic mapping, studying genetic interaction and genetic coding. In genetic mapping, DNA fragments are assigned to individual chromosomes and thus, a genetic map is created after the complete DNA sequencing of a subject is done. Genetic mapping is very crucial to understanding the disease-gene link and this understanding lays the foundation of various gene therapies. Studying genetic interactions helps researchers understand exactly what set and combination of genes would produce a particular phenotype or set of morphological, physiological and behavioral characteristics. Genetic coding deals with studying and experimenting with amino acid sequences of DNA and RNA so as to understand the heredity trends and characteristics of a subject. This helps in understanding the bases, possibilities and conditions of undesirable hereditary characteristics, defects and disease in a bid to come out with medical solutions for the same.

These three major categories of genetic engineering have been developed so far. Other than the above mentioned genetic engineering types, two emerging fields in genetic engineering are somatic cell engineering and germ-line engineering. Both of these are, at present, the most significant types of genetic engineering in humans and both are used in gene therapy for correcting defective genes and for preventing the transmission of hereditary defects or diseases from one generation to subsequent generations. Both of these classes of genetic engineering hold the potential of coming up with effective cures for degenerative conditions such as Parkinson's, Alzheimer's and Huntington's disease [4].

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В статье рассматриваются различные типы генной инженерии. Несмотря на все противоречия, связанные с генетической инженерией, она стремительно и быстро развивается. Это связано с широким спектром ее применения и с тем, что с помощью генной инженерии возможно получить результаты, которых не достичь, используя традиционные методы.

**В.В. Кабушко, А.И. Лобова**

Республика Беларусь, Минск, БГПУ имени М. Танка, средняя школа № 1  
Научный руководитель – И.В. Волосюк

## **THE INTERACTION OF VARIOUS LANGUAGE SYSTEMS ON THE EXAMPLE OF RUSSISMS IN THE ENGLISH LANGUAGE**

The problem of language contacts is one of the most interesting problems of modern linguistics. The history of the language is always closely connected with the history of people and the vocabulary faster than other linguistic spheres reacts to changes in the life of society. The result of language contacts between different peoples is borrowing. Borrowings are elements of another language (word, morpheme, syntactic structure, etc.), transferred from one language to another as a result of linguistic contacts, and also the process of transition of elements of one language to another [1, p. 354].

If you look at the vocabulary of English, you can see that the vast majority of words are perceived as native English words. But from a historical point of view, the original words in English are the words of the Old English period, which have correspondences in Germanic languages. They make up 30 % of English vocabulary. The remaining 70 % are the words of foreign origin. National English, unlike Germanic or Romance languages, arose from the confusion of nations. The peculiarity of the vocabulary of the English language has determined the tendency in foreign linguistics to overestimate the role of borrowing in the process of replenishing English vocabulary. However, English subordinated them to the laws of their sound system, grammar and lexical system.

Among this large number of borrowings, penetrated from different languages into the English language, are words from the Russian language. The problems of interaction of Russian and English language systems are devoted to the works of such linguists as V.P. Sekirin, L. Bloomfield (2002); V.V. Vinogradov (1998); V.G. Kostomarov (2005);

L.P. Krysin (1999), S.G. Ter-Minasova, V.A. Akulenkov, G.Yu. Ball and others. The problem of Russian borrowings in the works of foreign linguists is considered superficially.

To clarify the history of the penetration of Russian words into English and vice versa, it is necessary to dwell on the most important moments of historical ties between the English and the Russians. The beginning of the rapprochement between Russia and England is considered to be the year of 1553, when the captain of the merchant ship, Richard Chansler, was received by Ivan IV and handed the letter from Edward VI. The interest of England in trade with Russia was exceptionally high. In 1554 in London, Queen Mary approved the establishment of the Moscow Company of British merchants. By 1626, 22 English merchants lived in Russia. With the beginning of trade relations, Russia and England began to establish regular and lasting political and diplomatic relations and related trips of Russians to England and the British to Russia. Since the XVII century, young people were sent to England to study English and Latin. In the same century, the first Russian manuscripts and dictionaries appeared in England, as well as “Russian grammar” by Henry Ludolf (1696). With the beginning of Peter’s epoch, the era of strong ties with almost all European states, Russian trips to England are becoming more frequent, and the study of English is given great importance. The training of Russians in English colleges, the establishment of a translation society by Catherine II, the publication of translated literature contributed to the mutual enrichment of Russian and English. Interest in England, observed in Russia increased in the early XIXth century. Many progressive people of that time studied English in order to be able to read literature that has gained worldwide fame. Dictionaries of the XIXth century reflected the penetration of Russian borrowings into English and vice versa. At the same time, after the defeat of Napoleon, Europe met the Russian army as an army-liberator. Interest in Russia, towards Russian culture is growing. Russian language is taught in many private schools in England. In the XX-th century, during the Soviet period, the teaching of the Russian language in the UK was broadened. The influence of the Russian language and the growth of its international significance intensified in the post-war period. The sharp increased interest in the Russian language was also associated with the successes of the Soviet Union in the exploration of outer space. In 1978, 28 thousand people studied Russian at 40 universities and 802 schools in England. Thus, the establishment of trade and diplomatic relations between England and Russia, the periods of intensification of these relationships have caused the penetration of words of Russian origin into English.

After studying the history of the penetration of Russian words into English: chronologically it can be divided into the following periods: the period of Kiev Rus; the second half of the XVIth century; the middle of the XIXth century; the second half of the XIXth century – 1917; the Soviet period; post-Soviet period. Most of the Russian borrowings penetrate into English in a written and a transfer way.

Below are the examples of Russian borrowed words in their chronological order. Professor V. D. Arakin calls the only word that got into English before the XIVth century – sable – соболь (sable fur came from many Eastern Slavs to many countries). V. P. Sekirin gives other words, for example: meody – мёд, plough – плуг, tovg – рыночная площадь. In the XVIth century English words include: telega – телега, kvass – квас, belouga – белуга, starlet – стерлядь, astrakhan – астрахань (from the geographical name “Astrakhan in the meaning of “karakul”). In the XVIIth century, the following words came to English: Kremlin – кремль, copeck – копейка (borrowed by all languages), knout – кнут, steppe – степь. In the XVIIIth century in English were such words as: ukase – указ, suslik – суслик, kubitka – кибитка. Social and political, cultural and scientific terms penetrate into English in the XIXth century, for example: samovar – самовар, vodka – водка (borrowed in many languages),



polyna – полынья, tundra – тундра, chernozem – чернозем, tarantas – тарантас, troika – тройка, narodnik – народник, nihilist – нигилист, intelligentsia – интеллигенция, Russian ballet – русский балет, Periodic law – периодическая система элементов Менделеева, obrok – оброк, barschina – барщина. In the twentieth century, the Soviet period brought new concepts and ideas and, correspondingly, new words for referring to these concepts: дума – дума, Soviet – Совет, Bolshevik – большевик, kolkhoz – колхоз, the Pravda – Правда, Leninism – ленинизм, komsomol – комсомол, and many others. Such words are usually called sovietisms. In the post-Soviet period English included such neologisms as: perestroika, glasnost, hozraschot (khozraschyot) [2].

Russian borrowings penetrate the vocabulary of English in many ways. The fastest is the borrowing of words in a material form: sovkhos, presidium, artel. The next, the most productive way, is the tracing: Soviet farm, Five-Year Plan, labour day. Another way is to use it in an unusual way: pioneer, patronage, shock. There is also a way of “descriptive translation”: poor-peasant, lay-judge, army council. And, finally, we can single out a group of “hybrid borrowings”: Soviet power, Soviet Union.

Russian borrowings, like all others, are assimilated, and then the EU is transformed in its sound form and grammatical structure. Russian borrowings played a big role in replenishing the vocabulary with lexical units, word combinations and even phraseology, which influenced the improvement of modern English terminology.

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Статья посвящена проблеме языковых контактов, в частности русским заимствованиям в английском языке. В статье рассматриваются основные исторические этапы и способы проникновения русизмов в английский язык, их роль в обогащении словарного запаса английского языка.

**Г.В. Калодько**

Республика Беларусь, Минск, БГПУ имени М. Танка  
Научный руководитель – И.В. Волосюк

#### AMERICAN MENTALITY: SOME QUESTIONS OF LANGUAGE COMMUNICATION

We live in the century of information technology, the century when the boundaries between peoples are becoming thinner and weaker. And information about other peoples, their culture penetrates into other territories. Now people know much more about the mentality of other nationalities, their traditions and customs.

The image of a typical American is a person who believes that victory is always his, a person with a broad smile, active, friendly. All these ideas are inspired by films and books. But few people think that language can be a direct reflection of the mentality. The main cultural load is vocabulary – words and phrases.

“Americans are trying to consolidate their optimistic attitude to life in the language,” noted journalist Stephanie Fall in the book “These Weird Americans” [2, p. 30]. If a person was almost dead, he went through the “life-affirming experience”. Goods that can hardly be sold at half price are called “not the most optimal assortment” (minor flaws / imperfections / defects), not “illiquid”. A “fine” answer can be heard from a person whose state is by no means fine. For example, he has just lost his job, his child is ill or a fire has occurred in the house. An American will only share a nuisance with the closest friend, saying to him: “Well, I’ve been having some problems lately”, or, more conversationally: “Not so great / hot”. If things go wrong badly, the answer becomes more frank: “Pretty bad / lousy”. And then “fine” can be clarified: “Well, we’ve been having a few problems lately. My mother has not been feeling so well”. Or: “Well, actually / in fact, I’ve been a bit under the weather with the flu, but I’m feeling better / I’ve got a bad cold” or, as a last resort, “I’ve been having some health problems recently” – that’s probably all that an American will dare to say about his health.

Due to the fact that the native speaker of the English language, “thinking positively”, in principle prefers positive constructions, and that of the Russian language – negative ones, these words are at least clumsy when translated literally.

Wrong: Do not disappear!

Correct: Stay in touch!

Wrong: Do not be sick again!

Correctly: Stay well [2, p. 58].

“We shall overcome” is the motto of Americans.

Another distinguishing feature of this language is the reference “you”. It can be used when referring to any person. In the Russian language there is also a polite form of reference, which has no equivalent in English. For comparison: in Korean there are generally 4 forms of polite reference. Once upon a time in the English language there was a reference “thou”. It began to go out of use in the 16th century and was completely replaced by “you” at the beginning of the 18th century. Today in English everyone says “you” to each other, thereby emphasizing that everyone is equal (a subordinate and a supervisor, a professor and a student, general and private). The distance in the relationship is reduced to a minimum.

Americans like the phrase “it’s special”, and they do not like the phrase “it’s typically American” – Americans generally do not like generalizations at the national level.

In modern American dialogue these days the so-called political correctness is widely used, which has led to the emergence of many new euphemisms. So, in reference to the elderly or people with disabilities “careful” category is used: elderly people or senior citizens (instead of the old), visually impaired (instead of the blind), with a hearing disability (instead of the deaf), handicapped / physically challenged / differently able (instead of the crippled), with physical / emotional problems (instead of the mentally ill).

If we look at the heroes of American books, films, TV series and even the lyrics, we can conclude that the person must be active, rational, positive and he determines how to build his life. And if the Russian term “fate” is often used to describe the entire life – from birth to death, and involves a high degree of determinism, in English, the word “fate” is used to speak about the particulars, for example: “I guess he was not fated to get that job”, “She was not fated to marry him” [2, p. 71].

In many situations, where in the Russian language the word “fate” or “destined” is used in English the “neutral” equivalent is preferable:

“I guess that job was not in the cards for her”. Apparently, this work is not for her.

We can conclude that for successful communication with Americans, it is not enough to study grammar rules and have a large vocabulary. It is necessary to understand the

peculiarities of their mentality. A lack of understanding of these features leads to a number of errors. Even just the wrong end of a conversation can spoil the impression of you. The way it is done in Russian speech culture seems to Americans too harsh: “By then / Well, all / Well, I went” etc. Americans do this longer, slowing the pace of exchange of cues in the last phase of the dialogue and withstanding longer pauses between them. “It was nice talking to you. I really should be going / running along / I’ll be seeing you / I’ll be in touch / Stay well” – these are just a few of the most common phrases that are spoken by Americans at farewell before the final good-bye.

However, a study conducted by Russian and American researches showed that, despite the objective difficulties of communication between Russians and Americans, there is a significant interest of peoples to each other and the desire for closer professional and personal contacts. It takes all sorts to make a world [1, p. 12].

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Статья посвящена проблематике национального менталитета американцев. Автор рассматривает основные ситуации языкового общения и некоторые правила речевого этикета американцев как способа отражения особенностей их национального характера.

#### **В.А. Капуза**

Беларусь, Брест, БрГУ имени А.С. Пушкина  
 Научный руководитель – Н.В. Иванюк

#### **PHOBIA AND ITS TYPES**

A phobia is an irrational fear, a kind of anxiety disorder in which the individual has a relentless dread of a situation, living creature, place, or thing.

Individuals with a phobia go to great lengths to avoid a perceived danger which is much greater in their minds than in real life.

If confronted with the source of their phobia, the person will suffer enormous distress, which can interfere with their normal function; it can sometimes lead to total panic.

For some people, even thinking about their phobia is immensely distressing.

A phobia starts when a person begins organising their lives around avoiding the object of their fear. A phobia is much more serious than a simple fear. People with a phobia have an overpowering need to steer clear of anything which triggers their anxiety.

President Franklin D. Roosevelt once said: “...we have nothing to fear but fear itself.” For many people, however, there are many other things to fear, some of them seemingly strange or unusual to other people who don’t fear them.

In industrial nations, phobias are the most common kind of anxiety disorder. They can affect people of any age, sex, and socioeconomic status.

An estimated 19 million Americans have a specific phobia, 15 million have a social anxiety disorder, and 1.8 million have agoraphobia.

A higher percentage of women suffer from phobias than men.

Simple phobias usually start early in life – during childhood, and often go away by the time the person reaches late teens. Complex phobias generally start later on.

There are three main groups of phobias which include: specific (simple) phobias, which are the most common and focus on specific objects; social phobia, which causes extreme anxiety in social or public situations; agoraphobia, which is the fear of being alone in public places from which there is no easy escape.

Specific or simple phobias produce intense fear of a particular object or situation that is, in fact, relatively safe. People who suffer from specific phobias are aware that their fear is irrational, but the thought of facing the object or situation often brings on a panic attack or severe anxiety.

Examples include a fear of dentists (dentophobia); bats (chiroptophobia); dogs (cynophobia); flying (aviophobia); snakes (ophidiophobia); birds (ornithophobia); frogs (ranidaphobia).

The two examples, social phobia and agoraphobia, are known as complex phobias. They are linked to a deep-rooted fear or anxiety about certain situations, incidents, or circumstances, which make them much more disabling than simple phobias.

Specific phobias may include persistent fear of dogs, insects, or snakes; driving a car; heights; tunnels or bridges; thunderstorms; and/or flying. No one knows what causes them, though they seem to run in families and are slightly more prevalent in women. Specific phobias usually begin in adolescence or adulthood. They start suddenly and tend to be more persistent than childhood phobias. When children have specific phobias – for example, a fear of animals – those fears usually disappear over time, though they may continue into adulthood. No one knows why they persist in some people and disappear in others.

Social phobia can produce fear of being humiliated or embarrassed in front of other people. This problem may also be related to feelings of inferiority and low self-esteem, and can drive a person to drop out of school, avoid making friends, and remain unemployed.

It is unusual for a phobia to start after the age of 30; most of them begin during early childhood, teenage years, or early adulthood. They can be caused by a stressful situation or experience, a frightening event, or a parent or household member who has a phobia which the child becomes progressively aware of.

There are also a number of phobias about which people do not know.

*Phobophobia* (fear of having a phobia). Unfortunately, people with this condition are fighting a losing battle: the fear of acquiring a phobia.

*Ablutophobia* (fear of bathing and cleaning). This fear is more common in women and children than in men. Often this is due to a traumatic past event and can lead to social exclusion.

*Plutophobia* (fear of money). Some of us might almost wish we had this problem: the fear of money. This phobia can manifest as dread around money itself, the chance of getting rich or wealthy people.

*Geliophobia* (fear of laughter). People with the fear of laughter – not to be confused with gelotophobia, the fear of being laughed at – might hate chuckling or the sound of others' giggles. Some just feel slightly uncomfortable, but others could start to hyperventilate.

*Chaetophobia* (fear of hair). Whether their own or other people's tresses, those with chaetophobia have the fear of hair. They might hate running their fingers through their locks, or even be immobilised by a clump of hair on the floor.

*Nostophobia* (fear of returning home). Home might be where the heart is for some, but others have the fear of returning home. These people might have experienced abuse there, or be afraid of shame if coming back is seen as failure.

*Caligynephobia* (fear of beautiful women). Also known as venustraphobia, the fear of beautiful women goes way beyond nervousness or intimidation around someone pretty.

Phobias are much more serious than simple fears. In the US, more than 50 million people suffer from phobia, of which women are more likely to suffer from phobias than men.

Despite the fact that phobic people realise that their fear is irrational, they cannot control the senses, as special areas of the brain are involved in the phobia. Symptoms of phobias may include sweating, chest pain, pins and needles.

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Статья посвящена изучению состояния навязчивого страха, с которым невозможно справиться самостоятельно, а именно изучению такого явления, как фобия. Автор раскрывает сущность понятия «фобия», называет ее основные группы, а также характеризует ряд фобий.

**А.А. Карпович**

Республика Беларусь, Минск, БГПУ имени М. Танка

Научный руководитель – Л.В. Викторко

#### THE ECONOMICS OF RUSSIA BEFORE WORLD WAR I

The economic situation in the state at any time is closely related to its domestic and foreign policies. The Russian Empire before World War I was not an exception.

For example, the income to the Russian Empire's treasury amounted to 3.5 billion rubles (with the expenditures of 3.3 billion) in 1913. Thus, the surplus was maintained, which allowed avoiding budget deficit and maintaining economic growth [1, p. 4].

There was still a problem connected with the fact that the main income to the treasury was provided by indirect taxes (excises) on necessities, food products, as well as on all imported goods.

Thus, it should be observed that in case of war outbreak, budget deficit formed due to the purchasing capacity decrease, economic blockade and the increase in military expenditures of the state [1, p. 7].

By the beginning of the war, Russia had a gold reserve of 1.5 billion rubles [6, p. 17]. However, the state was in dire need of currency to repay the pre-war loans and the interest. Thus, a depreciation of the ruble was provoked [2, p. 14].

It should be noted that participation of foreign capital in the industrial sphere of the Russian Empire had some peculiar features [5, p. 1]. In particular, at the time of war outbreak, the role of German capital was great.

At the beginning of the XX<sup>th</sup> century, German capital was in third place among foreign investments in Russia's industry after Great Britain and France's capitals. By 1913, the investments amounted to 378,108.7 thousand rubles, of which 287,180.0 thousand rubles participated in Russian joint-stock companies. 3/4 of German capital was invested in the shares of Russian companies and only 1/4 – in the creation of their own companies.

It is also worth noting that German entrepreneurs preferred the so-called "Branch system" as the profit from such enterprises opened in Russia, flowed to the German accounts [3, p. 2].

German capital appeared almost in all major branches of Russia's industry, however, it prevailed in metallurgical, electrical, chemical and gas and electric lighting enterprises. German capital, unlike British and French capitals, was distributed much more evenly across individual branches of industry. The largest share of German capital was in metal processing and machine building enterprises, namely 87.2 million rubles, or 19.8 % of all German capital invested in the enterprises of the Russian Empire.

Due to its considerable amount in Russia's economy German capital gained important positions in the output of the means of production.

First and foremost, German capital played an important role in investing and creating metal processing enterprises and metallurgical industry which was basic in Russia at that period of time.

German influence on Russian machine-building industry was also great. There were many machine-building plants, which, according to various indications, were usually ranked as Russian, Belgian or French, but in reality, turned out to be German, because Germans were the major shareholders. The thing is, when French and Belgian enterprises were formed, the intermediaries were often Germans who were more familiar with the conditions of the Russian market. Subsequently, German mediators appeared at the head of such enterprises.

At the same time, such enterprises cannot be regarded as purely German, since the Germans, who played an important role in these enterprises, remained in Russia and their capitals did not reach Germany. Only the enterprises financed by German banks or other German financial and industrial organizations which net profit largely went to Germany were considered German.

The establishment and development of German engineering plants took place mainly at the end of the XIX<sup>th</sup> century. At the same time there were individual German mechanical and machine-building plants in Russia, which had appeared earlier, though their capital turnover was insignificant. In the 1900s, these sole enterprises began to take a joint-stock form for the further development and expansion of production. German financial and industrial firms took an active part in the transformation of these enterprises.

Simultaneously, new German machine-building plants were built in Russia's new industrial regions or in the areas where industry took major steps forward [3, p. 3].

At the beginning of the war, the attitude towards German capital changed significantly. The government took measures to close the enterprises, which had German capital as the main financial base. This process was actively supported by small and medium-sized businesses, which tried to get rid of the German competitor in the Russian market. The result of this policy was the outflow of foreign capital from the country on the one hand and the further development of Russian entrepreneurship on the other hand [4, p. 4].

In the result of German capital withdrawal from the country most of these enterprises were closed, but the damage on the state economy wasn't great. As only the taxation of these enterprises ceased and the workers lost their jobs.

The financial role of France in the economy of the Russian Empire is also worth noting. French capital was concentrated selectively in the Russian economy, mainly in metal processing enterprises, foundries, chemical enterprises, and coal mining. In these industries, the share of French capital could reach 60–70 % of the total value. The influence of French capital in the military industry in the last prewar years was also great.

So to sum up, foreign financing contributed to the development of the state's economy on the one hand, but on the other hand, the Russian Empire increasingly came under the influence of the Entente countries [2, p. 19].

Thus, Russia became a hostage of Western capital in technical development.

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В статье описывается ситуация, в которой оказалась экономика Российской империи накануне Первой мировой войны. Автор показывает, что в последние предвоенные годы наблюдалось устойчивое увеличение государственных доходов и расходов, а также притока иностранного капитала, что, с одной стороны, способствовало развитию экономики государства, с другой – Российская империя все больше подпадала под влияние стран Антанты.

**П.В. Качанович, Ю.А. Лысюк**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина

Научный руководитель – Т.С. Троцюк

## **METHODS OF PHYTOHORMONES IN PLANT GROWING**

Increase in efficiency, intensification of reproduction and development of plants is an important problem of crop production. Weather conditions, diseases and other exogenous influences interfere with growth and development of plants. Various xenobiotics get to the plants because of increased influence of anthropogenic factor. It reduces biological efficiency and quality of crop production.

Plants continuously face a myriad of biotic (i. e. fungi, bacteria, viruses, nematodes, and insects) and abiotic (e. g. extreme temperatures, drought, and salt) stresses in the natural environment. To survive such stresses, plants have evolved intricate defence mechanisms to increase their tolerance [2].

Phytohormones, such as auxins, gibberellins, abscisic acid, cytokines, salicylic acid, ethylene, jasmonates, brassinosteroids, and peptide hormones, are all involved in plant adaptation to biotic and abiotic stresses by mediating a wide range of adaptive responses.

These protection mechanisms can be artificially stimulated by exposure to various drugs, so one of the most important tasks of crop production is to develop the most rational methods for their application.

Phytohormones participate in many physiological processes throughout the plant's life cycle. With the competent use of phytohormones, it is possible to increase the vegetative mass of the plant and accelerate its growth, restore plant growth during hibernation (winter period), stimulate and accelerate the flowering period, accelerate seed germination, change the sex of the plant, delay the aging of the leaves, increase the number of ovaries, increase the number, length and suction surface of roots, acceleration of root growth [3].

There are two main methods of treating plants before reproduction: presowing seed treatment and stimulation of root formation in cuttings during vegetative propagation. Plant hormones affect seed germination and dormancy by acting on different parts of the seed. In order to release the seed from dormancy and initiate seed germination, an alteration in hormone biosynthesis and degradation is needed.

A dormant seed is one that is unable to germinate in a specified period of time under a combination of environmental factors that are normally suitable for the germination of the non-dormant seed. Dormancy is a mechanism to prevent germination during unsuitable ecological conditions, when the probability of seedling survival is low.

A correlation was found between the timing of seed treatment by growth regulators and their germination and the subsequent growth of seedlings.

Under their action, the reserve nutrients are mobilized during the germination of the seeds. Seed is composed of embryo, endosperm and seed rind. A stock of nutrients is concentrated in the endosperm in the form of starch, fats, and proteins. Phytohormones start the process of destruction of starch in seeds; the seed receives the nutrients necessary to initiate active development. It is enough to process seeds with a weak solution of growth hormones, and the amount and speed of germination of seeds will increase dramatically.



Propagation by stem cuttings is the most commonly used method to propagate many ornamental plants. Stem cuttings of many shrubs and herbs are quite easy to root. Typically, stem cuttings of tree species are more difficult to root.

Certain conditions lead to more favourable outcomes for cuttings; timing, size, location of the plant, and amount of foliage are all important. Stem cuttings of young wood should be taken in spring from the upper branches, while cuttings of hardened wood should be taken in winter from the lower branches. Common bounds on the length of stem cuttings are between 5–15 centimetres (2.0–5.9 in) for soft wood and between 20–25 centimetres (7.9–9.8 in) for hard wood. Soft wood cuttings do best when about two thirds of the foliage removed, while hard wood stem cuttings need complete foliage removal [1].

Rooting is due to the formation of an adventitious root (AR). AR formation is a developmental process, where new roots are generated spontaneously or in response to certain stimuli from stems, leaves, or non-pericycle tissues of older roots. On the one hand, this process presents a model for the enormous plasticity of plants. On the other hand, it provides the basis for clonal multiplication, a technology which is utilized for breeding and production of a great proportion of crop, adornment and forestry plants.

The four main types of stem cuttings are herbaceous, softwood, semi-hardwood, and hardwood. These terms reflect the growth stage of the stock plant, which is one of the most important factors influencing whether or not cuttings will root.

A rooting hormone may be administered to “encourage” growth and can increase the success rate of plant growth.

Green cuttings soak for 10–16 hours, and lignified – 16–24 hours, after which they are immediately planted in the prepared soil.

Processing is carried out in a shaded room with an air temperature of 20–23 °C. The depth of immersion of the cuttings depends on the degree of their lignification: green cuttings are immersed in  $\frac{1}{3}$  lengths, and lignified – by  $\frac{1}{2}$  or  $\frac{2}{3}$  their length. Cuttings are processed immediately after slicing.

Large doses of phytohormones will not bring good, but harm and may even be the cause of plant death. We recommend freshly prepared solutions of phytohormones and a clear adherence to the indicated concentrations.

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В статье речь идет о применении фитогормонов для стимулирования роста и развития растений. Перечислены основные классы фитогормонов и преимущества их применения. Рассматриваются предпосевная обработка семян и стимулирование корнеобразования при вегетативном размножении растений стеблевыми черенками. Указаны особенности черенкования травянистых и древесных растений.

**A.V. Клименко**

Россия, Москва, РГАУ-МСХА имени К.А. Тимирязева  
 Научный руководитель – Н.А. Яковлева

## **DIE VERMINDERUNG VON RISIKEN UND DER BETRUGSBEDROHUNG IM WIRTSCHAFTSSICHERHEITSSYSTEM DES MODERNEN BETRIEBS**

Mancher Betrug ist für die kleinen Unternehmen charakteristisch, anderer kann nur auf den Großunternehmen erscheinen. Einige Machenschaften sind auf die Unaufmerksamkeit des Leiters gezielt, für die Begehung von anderen werden die Schemen mit der Teilnahme einiger Mitarbeiter ausgearbeitet.

Die Assoziation von diplomierten Experten auf dem Betrugsgebiet (Association of Certified Fraud Examiners, ACFE) hat das Zurechnungsmodell der bekannten Betrugsarten nach den Kategorien ausgearbeitet, das als „der Betrugsbaum“ bekannt ist. Die Hauptkategorien des Betrugs sind laut dieses Modells: der Betrug in der Finanzberichterstattung, die ungesetzliche Aneignung des Vermögens und die Korruption. Die Kategorien des Betrugs kann man nach folgenden 7 Merkmalen charakterisieren: der Betrüger, die Betrugsgröße, die Betrugshäufigkeit, die Motivation, die Bedeutsamkeit (die Wichtigkeit), auf wessen Nutzen oder wen ist es gerichtet, die Größe des Verlustträgers.

Den wesentlichen Schaden bringt den Unternehmen der Betrug in Bezug auf die Grundmittel, wie:

- Der Kauf/Verkauf von Grundmittel auf den für das Unternehmen unvorteilhaften Bedingungen zwecks des Erhaltens der Belohnung.
- Die Nutzung von Grundmittel in den persönlichen Zielen (für die Produktherstellung, das Krediterhaltens gegen ihr Pfand).
- Die Übergabe von Grundmittel auf die verantwortliche Aufbewahrung den dritten Personen, die mit der Zweiggesellschaft verbunden sind, und ihre weitere Nutzung in den persönlichen Zielen.

Die Verbreitung bekamen die Schemas, die mit den Vorräten verbunden sind [2]:

- der Betrug im Bereich der Vorräteinkäufe, der zur Erwerbung des materiellen Anlagevermögens der unpassenden Qualität nach den überhöhten Preisen zwecks des Erhaltens der Belohnung zuführt;

- der Diebstahl von Vorräten;
- die unbegründete Vorräteentlastung auf das Kosten zwecks ihrer weiteren Managementaneignung;

- die falschen Vorräteverkäufe zum Nutzen des Managements.

Die Betrugserhöhung von Kosten wird infolge der folgenden Schemas verwirklicht:

- Die Preisüberhöhung für kaufende Ressourcen zwecks des Erhaltens der Belohnung von Lieferanten. Die Qualitäts- und Umfangsmanipulation der Einkäufe, was zum Wachsen der Unternehmenskosten und zum Erhalten der Belohnung von den Lieferanten zuführt.

- Die Verwendung von falschen Lieferanten oder Vermittlern. Die Berichtigung der Rechnungen für die unerfüllten Dienstleistungen oder die nicht gelieferten Waren.

- Die Verwendung teurer Rohstoffen, als es notwendig ist.
- Der Zusatz der persönlichen Kosten des Managements zu den Kosten des Unternehmens.

- Die Bruttolohnabrechnung den fiktiven Mitarbeitern.

- Die Missbräuche mit den Urlaubs- und Dienstreisegeld.

- Die Fälschung von Arbeitsstunden und die Bruttolohnabrechnung für nicht genutzte Arbeitszeit, die unbegründete Überstundenanrechnung.

Irgendwann wird der Betrug im Unternehmen aufgedeckt. Das bedeutet unvermeidliche Strafe für den Schuldigen. Wenn die Summe der Entwendung 1000 Rubeln nicht übertritt, fällt sie unter den Artikel 7.27 OWiG der Russischen Föderation. Das bedeutet: Die Strafe im fünffachen Wert des gestohlenen Vermögens, aber nicht weniger als 1000 Rubeln, oder die administrative Verhaftung bis 15 Tagen, oder die obligatorischen Arbeiten bis 50 Stunden beim Fehlen der Merkmale des Verbrechens, die im Artikel angegeben sind. Wenn die Summe der Entwendung mehr als 1000 Rubel übertritt, d.h. die Strafe im fünffachen Wert des gestohlenen Vermögens, aber nicht weniger als 3000 Rubel oder die administrative Verhaftung von 10 bis 15 Tagen, oder die obligatorischen Arbeiten bis 120 Stunden. Dem Betrug und der Aneignung oder der Unterschlagung entsprechen die Artikeln 159 und 160 im Strafgesetzbuch. Die Strafe hängt davon ab, ob die gesetzwidrigen Handlungen von einer Person begangen oder die Verabredung mit anderen vorhanden sind, ob die Dienststellung benutzt war und wie groß der verursachte Schaden ist.

Zur Planung der Sicherheitsmaßnahmen gehören die Entscheidung über die Mitarbeiterzahl des Sicherheitsdienstes und ihre Aufgaben, die richtige Nutzung von Rechnern und Kommunikationsmitteln, Zutritt zu den Objekten, die Regeln für den Umgang mit vertraulichen Informationen, sowie verschiedene Prozeduren zur Verhinderung der Sicherheitslücken [3].

Um das mögliche Vorhandensein der Entwendung im Betrieb zu prüfen, muss man regelmäßig die Dokumente der Buchführung untersuchen, die entgegenkommenden Dokumente bei den Kontrahenten periodisch anfordern, inventarisieren, der materiellenverantwortlichen Personen und der Mitarbeiter der Buchhaltung ermuntern. Vor allem muss man beachten: die Einnahme- und Ausgabekassenordern, die Zeitschriften ihrer Registrierung, das Kassenbuch, die Lohnlisten und die übrigen Dokumente, die die Operationen bestätigen. Bei der Prüfung der primären und Gesamtbuchhaltungsdokumente muss man aufklären, inwiefern gesetzlich und notwendig vollkommene finanzielle Operationen sind, auf welche Weise sie aufgemacht sind, ob die Preise laut Verträgen nicht überschritten sind.

Um zu bestimmen, inwiefern voll und rechtzeitig der in die Kasse eingetragene Barbestand aktiviert ist, muss man die Daten auf den Konten der synthetischen Erfassung die 51 „Kontokorrente“ und 50 „Kasse“ nachprüfen. Auch werden die Daten in der Summen- und Saldenliste und auf dem Konto 50 Hauptbücher nachgeprüft. Wenn es die Divergenz gibt, muss man alle Erstbelege (die Berichte des Kassierers, die Einnahmekassenordern, die ausgedehnten Bankauszüge nach den Kontokorrenten) prüfen, sowie die Anfrage in die Bank richten.

Die eingehenden und ausgesonderten Geldmittel, die unterschriebenen Verträge müssen unter der ständigen Kontrolle der Hauptabteilung sein. Es wäre wünschenswert die reale Bestandsaufnahme mit der Beiladung des Personals durchzuführen [1]. Man muss solche Bedingungen schaffen, bei denen die Mitarbeiter ihre Arbeit ehrlich erledigen, an die persönliche Bereicherung auf Kosten von irgendwelchen Machenschaften nicht denkend.

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В статье рассматриваются актуальные вопросы стратегии безопасности и мер предотвращения мошенничества на предприятии в соответствии с законодательством Российской Федерации. Автор анализирует необходимость принятия соответствующих мер для защиты предприятий в разных аспектах.

### **В.А. Климентова**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Л.Е. Левонюк

## **LE CANADA FRANÇAIS : LE TOUTISME AU QUÉBEC**

Le tourisme au Québec représente le cinquième produit d'exportation en importance. Près de 30 000 entreprises sont liées à cette industrie, dont 70 % sont situées à l'extérieur de Montréal et de la ville de Québec. Elles emploient plus de 400 000 personnes, la majorité dans les secteurs de la restauration et de l'hébergement.

Le Québec est une île de la francophonie sur le continent anglais et espagnol. Le premier voyage des Européens au Québec date de 1534. C'était Jacques Cartier, qui, au nom du roi français François Ier, a déclaré que le Canada appartenait au roi français. Dans les années 1535–1536 Jacques Cartier était engagé dans la construction de futur Montréal. Après un siècle, Samuel de Champlain a fondé la ville de Québec. En 1609, le territoire a reçu le nom de la Nouvelle-France. Un peu plus tard, Richelieu a établi une société à laquelle il a confié le développement de la Nouvelle-France.

Le plus grand fleuve du pays est le Saint-Laurent, qui prend sa source dans les Grands Lacs et se jette dans l'océan Atlantique. Les plus hauts sommets du Québec sont les montagnes d'Iberville (1622 m) et le mont Jacques-Cartier (1268 m). Environ 80 % de la population vit le long des rives du Saint-Laurent. Le Québec a un climat continental, modéré dans la partie méridionale et le climat nord polaire sur la péninsule d'Ungava.

La plupart de la population de l'Amérique du Nord est anglophone, mais la population canadienne-française du Québec n'a pas cessé d'exiger l'autodétermination. Isolés, les francophones du Québec ont réussi à préserver leur langue et leur identité, et cela malgré le fait qu'ils sont entourés de 250 millions d'anglophones. Malgré la rupture formelle avec la France, survenue au XVIIIe siècle, l'âme du Québec reste française [1].

Au Québec, il y a vingt régions touristiques. C'est un vaste territoire de ressources naturelles, où le paysage est en constante évolution – forêts, rivières, lacs, montagnes, 19 parcs nationaux. Des lieux magnifiques, envoûtants par leur beauté, attirent les amateurs d'un grand espace. Au Québec, notamment dans une cinquantaine de villages dispersés sur une superficie de 1 600 000 mètres carrés, il y a 11 nations de la population indigène. Ces colonies sont en même temps une sorte de base touristique, car ici on peut se plonger dans la vie des Indiens – essayer des plats locaux de la viande de caribou, d'ours, du canard sauvage, du poisson, faire

une promenade en canoë, aller à la pêche. Au printemps, à l'embouchure du fleuve Saint-Laurent, les baleines naviguent. Ils peuvent être observés à partir de la rive, et de l'eau [2].

Les deux principales grandes villes touristiques du Québec sont Montréal et la ville de Québec. Plus de 50 % de toutes les dépenses des touristes au Québec y sont effectuées.

La ville de Québec a été fondée en 1608 par Samuel de Champlain. Tout d'abord, ce fut la capitale de la Nouvelle-France. Puis elle est devenue une forteresse et la capitale de la colonie britannique du Bas-Canada, et plus tard la capitale de la province pendant la période de la Confédération canadienne en 1867. Québec est intéressant par ses monuments historiques, son Parlement, ses bâtiments anciens. Son charme est conditionné par des facteurs historiques, culturels et architecturaux. En parcourant le vieux Québec on peut voir l'église Notre-Dame de Québec. La cathédrale a été déclarée monument historique en 1966, son histoire dure 300 ans. Les maîtres français travaillaient sur son intérieur. De splendides vitraux illuminent les cryptes, dans lesquelles sont enterrés les restes des évêques de Québec et des souverains de la Nouvelle-France. Pour avoir une meilleure idée de Québec, il vaut la peine de visiter le Musée de Québec, qui renferme la plus intéressante collection d'art québécois qui reflète la période du XVIIe siècle à nos jours [3].

Montréal est une ville beaucoup plus grande que Québec. Elle est considérée comme la métropole ou la ville la plus importante du Québec et la deuxième ville francophone du monde. C'est une ville moderne, admirée pour sa diversité d'architecture et de cosmopolitisme. Ici on trouve des quartiers italiens, latins, portugais et chinois. Montréal a reçu une reconnaissance mondiale en tant que la ville, dont la gamme de restaurants est énorme et la vie nocturne est incroyablement diversifiée. Les habitants et les visiteurs n'ont pas l'occasion de s'ennuyer. En plus de nombreux restaurants et bars, les musées comme le Musée d'Art Moderne, le Musée des Beaux-Arts de Montréal, le Centre canadien d'architecture méritent une visite.

Dans la rue de Notre Dame, en plus de l'église qui porte le même nom, il y a des bâtiments administratifs – l'hôtel de ville, trois palais de justice. La cathédrale Notre-Dame est le premier édifice de style gothique à Montréal. L'intérieur est riche en sculptures, ornements en bois sculptés, dorures. La chapelle du Sacré-Cœur frappe par sa splendeur.

Chinatown avant de devenir le centre de résidence et de commerce de milliers de Chinois, était un lieu de prédilection pour les Irlandais, qui au milieu du XIXe siècle en ont fait un petit Dublin. Cependant, la construction du chemin de fer menant à l'ouest du Canada en 1877 a amené beaucoup de Chinois ici, et l'aspect des rues du quartier a changé pour toujours.

Dans le quartier Carré Dorrit, où à la fin du XIXe siècle habitait les familles les plus riches de Montréal, il y a la maison Notman, qui est devenue un monument historique. Ce bâtiment est situé à côté des Sœurs hospitalières de l'Église anglicane St.Margaret, construite en 1894.

Le quartier portugais était autrefois un village à côté de Montréal. En 1909 il est devenu une partie de la ville. Le mélange des cultures dans ce quartier est indiqué par le voisinage des synagogues, des cathédrales catholiques, des stèles funéraires en pierre, la décoration des maisons à carreaux arabes azulezhu, caractéristique du Portugal [3].

Le quartier italien regorge de cafés et de restaurants italiens, de marchés alimentaires, de boutiques de viande et de fromages, de boulangeries. Les Italiens, dont la plupart sont arrivés à Montréal au début du XXe siècle, ont érigé ici une cathédrale catholique – l'église Notre-Dame de la Défense dans la rue Dante, créée par un architecte italien.

Le Québec devient une des plus populaires destinations touristiques du monde. Les touristes français sont ceux qui séjournent le plus longtemps au Québec. Les marchés hors

Québec génèrent la moitié des recettes touristiques. Ce sont les touristes espagnols qui dépensent le plus par nuitée au Québec, immédiatement suivis par les touristes des États-Unis.

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Статья посвящена франкоговорящей провинции Канады, Квебеку. История Квебека тесно связана с именем Жака Картье. Сегодня Квебек, сохранивший свою идентичность и французский язык в англо-испанском мире Канады, становится одним из популярных туристических направлений, благодаря своим просторам, необычным ландшафтам, природе и двум крупнейшим городам, Квебеку и Монреалю.

**А.Д. Ключин**

Республика Беларусь, Горки, БГСХА  
 Научный руководитель – И.В. Осипова

#### **IMPORTANCE OF SPORT AND TOURISM, PROMOTION OF A HEALTHY LIFESTYLE**

Physical training and sport in our country has always been given great importance.

Sports achievements of Belarusian athletes allowed the whole world to find something out about our great country. Talented immigrants from Belarus have long been great performers in the international arena: the World Championship, the European Championship, the European Games, the Summer Olympics, the Winter Olympics and many other sports events.

Over 130 sports are successfully developing in our country. The most popular of them are football, hockey, athletics, weightlifting, tennis, biathlon, freestyle, swimming. Now over 280 Belarusians are world and European champions in various sports. The most significant is that our country has brought up over 76 Olympic winners.

In the republic there are 25.7 thousand sports facilities, the national treasures are the ski centers Silichi and Logoysk, ice palaces. Since 2009, a cycle track with tribunes for more than 2 thousand spectators has been opened in Minsk.

The system of training of high-class athletes is developing in the country. It includes children's and youth sports schools, specialized schools, Olympic reserve schools, schools of higher sports skills, Olympic training centers. In addition, children and youth clubs of physical training are functioning in Belarus. The network of sports schools is oriented mainly to Olympic sports.

In addition to sports facilities, the Republican Olympic Training Center for Winter Sports "Raubichi" has two 4-star hotels, restaurants, cafes, and conference rooms.

Belarus has brought up and trained 76 Olympic winners. The first Olympic champion from among our fellow countrymen was Karol Rummel, who participated in the Olympic

Games three times. At the 9<sup>th</sup> Olympic Games in Amsterdam in 1928, being a part of the Polish team, he won a bronze medal in triathlon.

The further participation of our country in the Olympic Games is also directly related to Soviet history. For the first time, the natives of Belarus – four athletes and two fencers – took part in the 15<sup>th</sup> Olympic Games, held in Helsinki in 1952, but then our athletes returned without awards. After 4 years, our compatriot M. Krivonosov, a hammer thrower at the Olympics in Melbourne (Australia), brought the silver medal for the first time.

Only since 1996, after the collapse of the USSR, Belarus made its debut at the Olympic Games in Atlanta (USA), as a sovereign state. At the XXVI Olympic Games in Atlanta, 162 people arrived in the Belarusian team. Then Belarusian athletes managed to win one gold medal (Ekaterina Khodotovich, rowing in single kayaks), 6 silver and 8 bronze medals [2].

In 2000, at the Olympic Games in Australia, Belarusian athletes won 3 gold (Yanina Korolchik – kernel throwing, Ellina Zvereva – discus throwing, Ekaterina Karsten-Khodotovich – single rowing competition), 3 silver and 11 bronze medals.

In 2004, 147 athletes who took part in 23 sports came to Athens as a part of the national team. Then Belarusian athletes took 2 gold medals (Julia Nesterenko – running, Igor Makarov – judo), as well as 6 silver and 7 bronze medals.

The participation in Beijing Olympics in 2008 was the absolute record for Belarus. Then our athletes received 19 awards. Our compatriots brought home 4 gold medals (Andrei Armyanov – athletics, Oksana Menkova – hammer throwing, Roman Petrushenko, Alexey Abalmasov, Arthur Litvinchuk, Vadim Makhnev – canoe and kayak rowing: 1,000 meters, Alexander and Andrei Bogdanovich – canoe C-2 1000 metres, 1000 meters), 4 silver and 6 bronze medals.

In 2012, 173 Belarusian sportsmen in 25 sports went to London to win Olympic awards. Our countrymen brought home 2 gold medals (Sergei Martynov – shooting, Victoria Azarenko and Maxim Mirny – tennis), 5 silver and 5 bronze medals.

In 2016, 124 sportsmen in 19 sports from our country went to the Olympic Games in Rio de Janeiro. This Olympiad has become the most ineffective for our country. Our athletes managed to win only 9 awards: 1 gold (Vladislav Goncharov – jumping on the trampoline), and 4 silver and bronze medals.

It is impossible not to mention the achievements of Belarusians in winter sports.

In 1994, Belarus took part in the Winter Olympic Games in Lillehammer (Norway). Then our athletes managed to win 2 silver medals.

In 1998, 59 Belarusian athletes went to the Olympics in Nagano, Japan, where they managed to win only 2 bronze medals.

The worst in terms of the number of medals for our country was the Olympics in Salt Lake City (USA), where the Belarusian Aleksey Grishin managed to win a bronze medal.

The 2006 Olympics (Turin, Italy) was not happy to us, too. Our country got only 1 silver medal (freestyle, Dmitry Dashchinsky).

In 2010, the Olympic Games were held in Vancouver, Canada. 47 athletes in 4 sports went to the Olympics from our country. Then our country got medals of all merits: a gold medal (Alex Grishin, freestyle), a silver one (Sergei Novikov, biathlon, individual race), a bronze one (Daria Domracheva, biathlon, individual race).

The most effective for Belarus was the 2014 Olympics in Sochi, Russia. Then our athletes could win 6 medals: 5 gold medals (3 medals were won by Daria Domracheva in biathlon, Alla Zuper, freestyle, Anton Kushnir, freestyle) and 1 bronze medal.

This year, the Olympic Games were held in Korean Phyonchkhan, where 33 athletes represented our team. This time our compatriots brought home 2 gold medals

(Anna Guskova – freestyle, Nadezhda Scardino, Irina Krivko, Dinara Alimbekova, Daria Domracheva – biathlon, relay race) and 1 silver medal.

Each new sports facility is equipped to the highest standards, which allows us to hold international competitions: the Second European Games-2019, the European Rowing Championship-2018, the European Figure Skating Championships-2019, etc. [3].

Physical training and sports are among the important factors for increasing longevity, prolonging the life of the population, and active recreation. The sports and sports movement has been given the status of one of the main priorities of state policy.

In our opinion, Belarus has enough conditions for involving each person in regular classes in various forms of physical activity. In our country there is wide development of children's and youth sports, there are many sports schools. All conditions are created for the youth to be able to connect their lives with sports.

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В статье раскрывается значимость спорта в Республике Беларусь. Автор рассказывает о спортивных комплексах страны, о белорусских спортсменах, которые становились призерами и олимпийскими чемпионами Летних Олимпийских игр и Зимних Олимпийских игр, о международных соревнованиях, которые будут проводиться в Республике Беларусь в 2018 и 2019 годах.

#### **В.В. Ключинская**

Республика Беларусь, Минск, БГПУ имени М. Танка  
 Научный руководитель – И.Ю. Костенко

#### **THE ACHIEVEMENTS OF MEDICINE IN THE XXI<sup>st</sup> CENTURY**

Each new era in development of medicine changes the idea of diseases and of medical norm. Not less profound changes will be brought also by the personalized medicine and technologies of genetic treatment.

New technological achievements of medicine can provide images of living human tissues. Ultrasound, tomographic and magnetic resonance have provided a diagnostic resource, having supplied three-dimensional images. These achievements have considerably improved doctor's possibilities to use prevention in health care, improving diagnostics and preparing materials for surgery.

Development of nanomedicine is closely connected with revolutionary achievements of genomics and proteomics which have allowed scientists to approach understanding of molecular bases of diseases.



The nanomedicine as the cross-disciplinary direction of medical science is in a formation stage now. Its methods only leave laboratories, and its major part exists only in the form of projects so far. However, most of experts consider that these methods will become fundamental in the XXIst century. The National Institute of cancer of the USA in the nearest future is going to apply achievements of nanomedicine at cancer therapy. A number of foreign scientific centers have already shown prototypes in areas of diagnostics, treatment, prosthetics and implantation.

Many types of cancer can be treated today. For this purpose radiation therapy and surgery have been complemented with various forms of medicinal therapy. Thanks to progress in the field of molecular biology the molecular medicine has begun to develop. Some diseases have been connected with certain genes and treatment has begun to be developed at the genetic level. Many functions of immune system which were unknown can be explained now, including the role in genesis of some diseases. Development of science has eradicated some diseases, for example, smallpox. Infantile mortality continues to decrease in industrialized countries, and life expectancy continues to grow.

A year ago the group of the Israeli, American and British scientists has developed the device which is capable to identify precisely lung cancer and to define in what stage it is. The breath analyzer with the built-in NaNose nanochip, capable to distinguish a cancer tumor with a 90 % percent accuracy became a basis of the device, even when the cancer small knot is almost imperceptible. Shortly it is worth expecting analyzers which will be able to determine other types of cancer by “smell”.

Also the first completely autonomous artificial heart has been developed. Specialists of the American company Abiomed have developed the first autonomous constant artificial heart for implantations (AbioCor) in the world. Artificial heart is intended for patients at whom treatment of own heart or implantation donor is impossible.

The universal vaccine against flu became one more achievement of medicine. Peptides are short chains of amino acids which exist in cellular structure. They act as the main construction unit for proteins. In 2012 the scientists working at the University of Southampton, the University of Oxford and laboratory of virology Retroskin managed to reveal a new set of the peptides found at a flu virus. In case of flu, peptides on an external surface of a virus very quickly mutate that does them almost inaccessible to vaccines and drugs. Recently found peptides live in internal structure of a cage and mutate quite slowly. Moreover, these internal structures can be found in each strain of flu, beginning from classical and finishing bird's. Development of modern vaccine against flu requires about six months, however, it doesn't provide with immunity for long time.

Possible treatment of a disease of Parkinson became not less important. In 2014 scientists have taken the artificial, but completely functioning human neurons and have successfully imparted them in a brain to mice. Neurons have a potential for treatment and even cure of such diseases as Parkinson's disease. Neurons have been created by group of experts of the Max Planck Institute, university clinic of Muenster and Bielefeld University. Scientists managed to create stable nervous tissue from the neurons reprogrammed from cells of skin. The new technique has a potential which can give to the neurologist the chance to replace patients, the damaged neurons with healthy cells which will be able to cope one day with Parkinson's illness. Because of it the neurons delivering a dopamine die.

Last year scientists from Great Britain found out that for treatment of especially aggressive tumors the combination of two medicines Herceptin and Tyver is effective. On the basis of this observation in 2017 they got a new medicine Nerlynx which is capable to treat cancer and to prevent a recurrence. HER2 positive cancer tumors of a mammary gland are

aggressive tumors and can extend to other parts of a body, doing this additional therapy by an important part of the plan of treatment, – Richard Pazdur, the doctor of medicine, the director of the Center of oncological researches told.

Development of a health care system is a many-sided question consisting of improvement of food, sanitation and education, use of drugs and appropriate technical means, ensuring medical and sanitary service for a considerable part of people.

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В статье речь идет о достижениях медицины XXI в. Благодаря тому что современная медицина опирается в своем развитии на другие отрасли естествознания, в частности на биологию, физиологию, биохимию, генетику, физику, электронику и инженерное дело, она с каждым годом становится все могущественнее и постепенно обретает полную власть над человеческим организмом.

**Д.В. Козлова**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина

Научный руководитель – О.Н. Воробей

#### **THE IMPACT OF THE INTERNET ON THE ATTITUDES OF TODAY'S YOUTH**

The Internet is a worldwide system of integrated computer networks for the storage and transmission of information. It is based on the world wide web and many other data transmission systems.

In the middle of the last century, in 1957, after the Soviet Union launched the first artificial earth satellite, the US Department of defense believed that in case of war, the US needs a reliable system of information transmission. The Agency for advanced defense research and development of the United States offered to work on the development of a computer network.

By 2012, more than 2.5 billion people – more than a third of the world’s population – were using the Internet regularly.

By the middle of 2015, the number of users had reached 3.3 billion people. The main factors were: the spread of cellular networks with Internet access standards 3G and 4G, the development of social networks and reduce the cost of Internet traffic.

Once the Internet became publicly available, it was able to reach more than 50 million users in just 5 years. Other means of communication required much more time to achieve such popularity:

Information environment	Time, years
Radio	38
Television	13
Cable TV	10
Internet	5

From the moment the world wide web became publicly available the active influence of the Internet on the person begins. The changes it brings to modern society are one of the main topics of discussion among sociologists. The reason for this is the ambiguous impact of the Internet on society. It has both positive and negative consequences. Perhaps the main problem of the Internet is Internet addiction.

In particular, some people are so fond of virtual space that they begin to prefer the Internet of reality, spending at the computer up to 18 hours a day. Psychological, at its core, Internet addiction is compared with drug addiction –physiological dependence on drugs, where there is also a mental component. Internet addiction is defined as an obsessive desire to connect to the Internet, and a painful inability to disconnect from it in time. According to various studies, about 10 % of users worldwide are Internet-dependent today. Russian psychiatrists believe that now there are about 4–6 % of such people in the country of

“Internet addiction” is a broad term that refers to a large number of behavioural problems and control over cravings. The main four types, which were identified in the study, are characterized as follows:

Addiction to virtual acquaintances – redundancy of acquaintances and friends in the Network.

The compulsive need online – play online casino games, constant purchases or participation in auctions.

Information overload (Intrusive web-surfing) – endless travels through the Network, search for information on databases and search sites.

Computer addiction – obsessive playing of computer games.

It is important to note another negative factor in the impact of the Internet on people. Due to the abundance of different types of information, young people have problems concentrating on important educational issues that they turn to the information Network. Despite the fact that the Internet is an ideal research tool, students have problems with learning because they visit non-business sites, spend hours talking in chat rooms, talk with friends and play interactive games instead of exercising. As a result problems with homework and exam preparation arise. Very often they can not control themselves the time spent on the Network and therefore do not get enough sleep because of the nights spent on the Internet.

It is necessary to note the enormously growing role of the Internet in human life. It has overshadowed the television, radio and other means of information transfer. Nowadays,

almost everyone has access to the Internet in their pocket. Social networks, news sites, forums – all of them are filled with information that undoubtedly affects the worldview of young people. It is worth noting another negative aspect – the Internet is bad because it has no boundaries. That is, it does not protect teenagers from abnormal information, which they absolutely do not need to know. Basically, the modern generation spends time in social networks, viewing a large amount of information, distributing and discussing it. Through this communication, young people develop their own attitude to certain things. On the one hand, it is good, as a teenager learns to think and analyze information. On the other hand, he learns to think about, often incomplete, unreliable information.

Russia for two years in a row (2013, 2014) was the leader in the number of appeals of young users to unwanted content, which means sites that contain information about weapons, pornographic content resources, online casinos. Of all the children of the world who have turned to sources of negative content, 16 % live in Russia. India ranks second in this indicator, and China ranks third.

In conclusion, there is an issue that the influence of the Internet on the way of thinking of a teenager is extremely great: it is an information basis through which a young man's worldview is formed.

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В статье речь идет об интернет-зависимости, которая выражается в различных формах у пользователей Интернета.

**Д.Н. Козлович, А.А. Зиновик**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина

Научный руководитель – Л.М. Максимук

#### **CASCUM HOTELS COMO DIRECCIÓN DE PERSPECTIVA DEL NEGOCIO HOTELERO**

En los últimos años, los hoteles cápsula han ganado una inmensa popularidad entre los turistas. Algunos de ellos, en términos de comodidad y variedad de servicios, no son inferiores a los hoteles comunes; y además, el costo de alojamiento en hoteles cápsula es siempre mucho menor.

Cada vez más personas eligen cápsulas de hoteles: bloques modulares, en los que la sala de estar consiste en una pequeña cápsula, donde solo hay lo necesario (una cama, iluminación y un lugar para guardar cosas). La mayoría de estos hoteles tienen un baño compartido, algunos tienen un spa y una cafetería.

La moda de los hoteles cápsula nació en Japón. Los primeros hoteles cápsula consistían en habitaciones muy pequeñas, que eran pequeñas cajas de fibra de vidrio. El primero fue el Capsule Inn en Osaka, inaugurado en 1979. No a todo el mundo le gustan la habitación tan pequeñas. Por otro lado, la popularidad de los hoteles cápsula ha surgido debido a su bajo costo y privacidad, que no se puede obtener en un albergue común.

Cada cápsula tiene un sistema que monitoriza sueño: simula el amanecer, lo que facilita el proceso de despertar. Cada cápsula está hecha de fibra de vidrio, por lo que se pueden apilar fácilmente una sobre otra. En todas las cabinas hay una TV LCD, auriculares, una cama espaciosa. Pero el baño, de nuevo, es común para todos.

Los hoteles cápsula europeos no se parecen mucho los hoteles japoneses. Primero, difieren de las habitaciones grandes japonesas y de la disponibilidad de comodidades en cada una de ellas.

Cada habitación tiene duchas compactas con todos los accesorios higiénicos necesarios y ropa de cama de calidad. Para la comodidad de los huéspedes cada habitación está equipada con un lugar de trabajo ergonómico, hay Wi-Fi y televisión. Puede instalarse en dicha habitación durante varias horas, así como durante un día.

En cuanto a España, Velbox Hotels, bajo la marca The Hostel Box, ha abierto dos albergues cápsula en Barcelona y planea abrir dos más en Madrid. El nuevo complejo es un albergue de lujo: su invitado comparte habitación, baño y áreas comunes con otros huéspedes, pero también puede retirarse gracias al diseño especial de las camas que la compañía llama “cajas”.

El primer albergue de este tipo se abrió en agosto del año pasado en el centro de Barcelona. Cuenta con 40 habitaciones/cápsulas y se llama The Hostel Box Port. El segundo complejo se inauguró en abril de este año en el área de Gracia bajo el nombre The Hostel Box Gaudi. Además, en un futuro próximo se cerrará un acuerdo sobre la apertura del tercer albergue en la capital catalana para 62 plazas, así como una más, en Madrid.

El objetivo principal de Velbox Hotels es crecimiento y desarrollo. En su opinión, dicho negocio puede desarrollarse en cualquier ciudad del mundo.

Según los representantes de la compañía, la idea de abrir un albergue cápsula surgió por la escasez de hoteles económicos en Barcelona. Buscaban crear un complejo que fuera diferente de otros hoteles y hostales, proporcionando servicios de calidad y privacidad en una sala diseñada para varias personas.

Por supuesto, en combinación con el costo y la ubicación del hotel, podemos concluir que el hotel cápsula está orientado principalmente hacia los jóvenes, es decir, los turistas de entre 18 y 25 años que son capaces de “sobrevivir” una noche en un espacio confinado. Pero como el hotel cápsula se encuentra en el centro de la ciudad, los turistas o ciudadanos que por una razón u otra se hayan retrasado en el metro u otro transporte público eligen un hotel cápsula en lugar de una noche en un hotel. Además, a menudo en verano, las habitaciones de los hoteles famosos ubicados en el centro de la ciudad o cerca de las estaciones de ferrocarril, aeropuertos y otras instalaciones se reservan con varios meses de antelación. Como el futuro hotel cápsula es un nuevo ámbito de la industria hotelera, se puede suponer que en verano habrá habitaciones vacías.

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В статье речь идет о новом и перспективном направлении в гостиничном бизнесе – капсульных отелях. Авторами отражена не только сущность и история создания данного вида размещения, но и представлена характеристика японской и европейской моделей, выявлена основная целевая аудитория, а также рассмотрены перспективы развития данного направления на примере Испании.

### **Е.В. Копчак**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Т.Ю. Тетенькина

## **LA METHODE DE L'APPROCHE SYSTEMIQUE**

La technique, généralement connue sous le nom de l'approche systémique, permet d'analyser des situations éducatives pratiques en vue d'améliorer l'efficacité du processus d'enseignement ou d'apprentissage. Elle aide tous ceux qui exercent des activités éducatives: enseignants, chefs d'établissements, documentalistes, formateurs d'adultes, animateurs de collectivités, agents de développement, spécialistes des méthodes et techniques, administrateurs, inspecteurs, etc. Elle aide à identifier les points forts et les points faibles des situations pédagogiques auxquelles ils sont confrontés.

“L'approche systémique est en effet une technique qui vise à améliorer l'efficacité interne en étudiant notamment les processus de transformation qui se déroulent à l'intérieur de systèmes pédagogiques. Elle se distingue en cela de la planification, qui cherche à établir une coordination entre le secteur de l'éducation et tous les autres secteurs de la vie économique et sociale” [1, p. 6].

L'analyse de situations bien plus quotidiennes peut également être facilitée ou rendue possible par l'utilisation de la pensée systémique et sans qu'il faille pour autant des connaissances spécialisées en informatique ou en logique formelle. En effet, on peut traiter en termes de système tous les faits sociaux. Ce système est un ensemble d'éléments distincts qui réagissent les uns sur les autres en fonction d'un but déterminé.

Chaque système constitue donc une totalité, c'est-à-dire un ensemble cohérent et indivisible, susceptible d'être distingué dans son environnement. Cette totalité est une totalité organisée, qui résulte de l'interaction dynamique et réciproque de ses différents éléments constitutifs. C'est pourquoi toute transformation d'un élément pourra déterminer la modification des autres éléments et, par suite, celle du système entier.

L'approche systémique est une méthode, elle n'est pas une science, elle n'est pas une conception particulière des faits éducatifs et sociaux. “Son objet est de permettre à tous ceux qui travaillent dans une situation complexe, et quels que soient les rôles qu'ils y jouent, d'analyser cette complexité, de la décrire, de percevoir, le cas échéant, les dysfonctionnements, de prendre en considération les différents niveaux de la réalité sociale ou institutionnelle” [1, p. 10].

D'autre part, elle s'efforce de permettre à celui qui intervient de maîtriser autant que possible les transformations en chaîne qu'il détermine et d'en mesurer les conséquences.

Voici les principaux règlements de cette méthode:

- Tout système est défini par ses composants: par ses éléments constitutifs et par leurs interrelations. Dans une situation d'apprentissage on retrouvera un certain nombre de composants permanents. On commence par considérer le produit. Le produit ou sortie de cette méthode est ce qu'il faut apprendre, par exemple la lecture. En tous cas c'est l'assimilation de la situation pédagogique à un processus de production qui permet de la caractériser comme un système. Le produit résulte de l'activité de la classe, c'est-à-dire des interactions qui se passent entre l'enseignant, les élèves, les ressources et les contraintes, grâce à la méthode employée.

- L'entrée du système étudié – par exemple une activité d'apprentissage – est constituée par les élèves qui vont faire l'objet d'une certaine transformation au cours du processus, mais qui peuvent aussi être caractérisés comme les produits de la situation précédente.

- Entrée et sortie (produit) correspondent à deux rapports privilégiés de la situation éducative avec son environnement, elles en manifestent à la fois la dépendance et l'influence. Mais l'interaction entre un système et son environnement est permanente et met en évidence la difficulté que comporte la "délimitation" d'un système, la difficulté sur laquelle on revient.

- Le temps et l'énergie que l'enseignant consacre à préparer le travail pour lui-même et pour ses élèves, le temps et l'énergie que les élèves dépensent pour apprendre, c'est-à-dire leur travail mais aussi leur motivation, le matériel didactique, l'équipement, les locaux constituent des ressources.

- Les règlements, le nombre d'élèves par classe, le niveau de formation des maîtres, les examens nationaux et le manque ou l'insuffisance de ressources, c'est-à-dire les conditions de l'environnement institutionnel, social, culturel, économique, etc., constituent des contraintes.

- La manière dont l'enseignant ou les élèves vont agencer les ressources, utiliser les contraintes ou y résister, donc en définitive la manière d'organiser les différents composants, définit la stratégie pédagogique.

- Les réponses que le maître reçoit des élèves, leurs réactions, celles des parents ou des autorités hiérarchiques apportent au maître des informations qui lui permettent de savoir ce qu'il fait et de modifier, le cas échéant, sa stratégie. On appelle "la rétroaction" ce mécanisme de retour de l'information.

- L'ensemble de ces informations-retours permet à l'enseignant de contrôler les différents moments de sa démarche et de vérifier s'il a atteint les résultats qu'il escomptait atteindre. C'est à cela que serviront les épreuves et les interrogations.

- L'évaluation elle-même portera soit sur les élèves, soit sur la démarche elle-même et sur son adéquation aux objectifs poursuivis [1].

Chaque acteur du processus d'éducation pourra tirer d'une approche systémique une conscience plus grande de la complexité d'une situation éducative et la meilleure perception des actions et obtenir son niveau de responsabilité.

L'approche systémique peut s'appliquer à des situations très diverses et par leur complexité et par leurs dimensions. Elle peut s'appliquer à des situations qui ne constituent pas des systèmes, dont on ignore certains éléments, dont les objectifs ne sont pas ou sont mal définis, dont les résultats sont tellement diffus qu'il est difficile de les identifier, etc.

L'approche systémique peut jouer plusieurs rôles: on peut la considérer comme un instrument de fabrication de modèles nouveaux, de préparation d'une décision à un niveau élevé, de recherche opérationnelle, ou bien comme un instrument d'analyse et de diagnostic puis d'intervention dans un système existant. Il est certain qu'il n'est jamais question d'appliquer la pensée systémique de rien. Pour le responsable d'un établissement scolaire ou d'une opération limitée, ou pour l'enseignant dans sa classe, il ne s'agit pas de créer à partir

de rien (en négligeant l' "entrée"), d'imaginer une école idéale ou une action de formation indépendante des contraintes concrètes [2].

Le problème du responsable est:

a) de comprendre mieux ce qu'il fait, c'est-à-dire d'avoir un instrument qui lui permette d'analyser des situations complexes;

b) de modifier ce qu'il peut modifier, c'est-à-dire d'introduire des changements positifs qui ne soient pas rejetés par le système, mais qui en même temps déterminent des transformations sensibles et permettent de mieux réaliser les objectifs.

"L'adoption de contenus et de méthodes en fonction de la psychologie et de la sociologie de différents groupes est une condition fondamentale du succès. La motivation peut être fournie tantôt par des activités productrices rentables pour la communauté, tantôt par des activités culturelles traditionnelles" [1, p. 215].

Dans d'autres cas, des jeux et des compétitions sportives servent de point de départ à une formation plus large, à une éducation civique et nutritionnelle élémentaire.

La pratique de l'approche systémique de situations pédagogiques peut donner une idée de créer les meilleures conditions d'apprentissage et de développement personnel et collectif. Elle pourra aider chaque participant au processus éducatif dans sa pratique quotidienne.

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Статья посвящена широко известной технике системного подхода, которая позволяет анализировать практические образовательные ситуации для повышения эффективности процесса преподавания и обучения и обеспечения лучшей интеграции в образовательную и социальную среду. Автор раскрывает механизм системного подхода, дающего возможность тем, кто участвует в образовательном процессе, контролировать как можно больше возникающих в ходе работы преобразований и измерять их возможные последствия.

**В.М. Копылова, А.В. Бакунович**

Республика Беларусь, Минск, БГПУ имени М. Танка  
Научный руководитель – И.Ю. Костенко

#### **DEVELOPMENT OF PUPILS' RESEARCH SKILLS ON THE EXAMPLE OF PROJECT-BASED LEARNING**

In purpose of fulfilling demands of modern education standard, now school teachers apply active teaching methods such as project and research ones. It is explained by the fact that in recent years, there is increasing necessity in pupils to participate in learning and research activity.



Scientific works on research activity of pupils have rich history, though since moment when research method came into pedagogics, attention was mainly paid to learning researches in natural science and mathematics.

One of the most important purposes of school in recent years is developing creative thinking in schoolchildren and engaging them in productive activities. The problem of training children as researchers is topical; children know modern techniques of searching and processing information; they are capable of solving various problems creatively and they demonstrate readiness for self-education. The solution to the problem of training children as researchers involves using in education technologies, methods and techniques that develop skills at independent acquiring of new knowledge, working with information, putting forward hypotheses, making conclusions [1].

The results of children participation in active project-based learning and research activity develop their competence and ability to work independently and in groups.

The use of project-based learning results in increased schoolchildren engagement.

First, children thrive when they have the opportunity to become experts with what some researchers call “exportable knowledge”. Children learn more about the subject and share with others.

Second, projects usually present opportunities for investigations and presentations. Children do their own research; they find connections to their own real interests.

Third, learning is social. Children are highly motivated when they have frequent opportunities to talk over ideas with their classmates.

Lastly, projects enable students to be active learners. They ask questions, make decisions, analyze, think critically, create present – they become independent thinkers.

The development of research skills is also possible within the subjects of the secondary school. Let’s consider one of the topics of mathematics and on its example we will analyze a possible variant of research work.

Everyone encountered in the secondary school with the theme of equality of figures, namely triangles, three signs of equality from which are densely driven into the heads of students by teachers. But why only three? After all, there are a lot of different elements, three of which guarantee the equality of the figures. Can we say that the triangles are equal, knowing only that three medians or two medians and the side are equal (just insert the elements from those proofs that we will describe later).

Example:

To begin with, let us stipulate that if a figure is specified uniquely by these elements, then if the elements of the two figures are respectively equal, then the figures are also equal.

Let’s consider the triangle equality criterion in the three medians.

This is:  $CC^{\wedge}=m_1$ ,  $AA^{\wedge}=m_2$ ,  $BB^{\wedge}=m_3$  – medians of a triangle;

$AB=c$ ,  $BC=a$ ,  $AC=b$  – side of the triangle.

Let’s write down the formulas for calculating the median length through three sides and make a system:

$$\begin{cases} m_1 = \frac{1}{2}\sqrt{2a^2 + 2b^2 - c^2}, \\ m_2 = \frac{1}{2}\sqrt{2b^2 + 2c^2 - a^2}, \\ m_3 = \frac{1}{2}\sqrt{2a^2 + 2c^2 - b^2}; \end{cases}$$

Let's solve the system with respect to a, b and c:

$$\begin{cases} 4m_1^2 = 2a^2 + 2b^2 - c^2 \\ 4m_2^2 = 2b^2 + 2c^2 - a^2 \\ 4m_3^2 = 2a^2 + 2c^2 - b^2 \end{cases}$$

$$c = \frac{2}{3}\sqrt{2m_2^2 + 2m_3^2 - m_1^2} \quad a = \frac{2}{3}\sqrt{2m_1^2 + 2m_3^2 - m_2^2}$$

$$b = \frac{2}{3}\sqrt{2m_1^2 + 2m_2^2 - m_3^2}$$

That is, the lengths of the sides are uniquely (since the length is a positive number) determined by the median lengths (get a sign of equality of triangles).

You can also give a graphic proof of this feature.

Knowing that the medians divide the point of intersection in a ratio of 2:1, counting from the vertices, we construct a parallelogram OBDC with sides  $OC = BD = \frac{2}{3}m_3$  and  $OB = CD = \frac{2}{3}m_2$ .

Note the fact that the larger diagonal is the side of the triangle and the smaller diagonal is the segment belonging to the line containing the median of the triangle ABC. Having cut OD can find it half  $OA_1 = \frac{1}{3}m_1$ , and knowing it to build medians  $AA_1$ , and having vertices build a triangle ABC.

There are many other signs of triangle equality. For example, in three heights. But not any three elements of a triangle guarantee equality. For example, we can consider the case of two sides and the angle opposite to one of the sides. Which specifies one triangle, only in the special case where the triangle is rectangular, and two in all other cases. Thus, we have demonstrated that research activities can develop within the limits of mathematics.

One of the most common complaints in the math classroom is, "Where would I ever use this?" Students often cannot see a connection between what they are learning and anything that matters to them – and it is exactly that connection that is the core of effective teaching.

A big advantage of project-based learning in general, and project-based math, in particular, is that the students own the project. They feel that it is theirs, a reflection of who they are and a demonstration of their own success and achievement. When the students proudly display the vehicle that they built, showing how their own math calculations made it possible, then it becomes obvious to all educational stakeholders, faculty, staff, parents, and other students, that these students are now invested in the learning process.

When an effective multi-faceted connection is made in the student's mind, a connection that ties many emotions, memories, points of excitement, points of understanding, and knowledge areas together, the abilities regarding remembering, understanding, applying, analyzing, evaluating, and creating are all enhanced.

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В статье речь идет о развитии исследовательских навыков у школьников на примере проектной деятельности и опровергается факт ограниченности исследовательской деятельности рамками гуманитарных наук. Авторы предлагают возможный вариант исследовательской работы по учебному предмету «Математика» на базе знаний,

полученных в 8 классе среднеобразовательной школы, по теме «Равенство треугольников».

**В.Г. Королькова**

Республика Беларусь, Минск, БГУ

Научный руководитель – А.З. Зенченко

**EL IMPACTO DE LOS PROBLEMAS GLOBALES EN EL DESARROLLO DEL TURISMO INTERNACIONAL**

El turismo es uno de los sectores de crecimiento más rápido de la economía mundial, que ocupa un lugar importante en la mayoría de las economías de los países. La proporción del turismo es alrededor del 9 % en el PIB mundial y del 30 % en las exportaciones mundiales de servicios. Uno de cada once empleados trabaja en el campo de turismo [7].

La actividad turística depende de una serie de factores no relacionados directamente con el turismo, pero que afectan el volumen y la forma de la demanda de un producto turístico. La OMT asigna factores externos (exógenos) que orientan el desarrollo del turismo y forman la dirección de los flujos turísticos, a saber:

- los cambios demográficos y sociales;
- los factores ecológicos;
- el desarrollo del comercio;
- los cambios en la esfera política, legislativa y regulatoria;
- los factores económicos y financieros;
- el estado de la infraestructura de transporte y del apoyo informativo;
- la seguridad del viaje [7].

En nuestra investigación, voy a referirme a los factores ecológicos, políticos y algunos otros aspectos que afectan a la seguridad del turismo.

El objetivo de la investigación es determinar la influencia de los problemas globales en el desarrollo del turismo. Los problemas globales se entienden como problemas que: primero, conciernen a toda la humanidad, afectando los intereses y los destinos de todos los países, pueblos, estratos sociales; en segundo lugar, conducen a las pérdidas económicas y sociales significativas; si se deterioran, pueden amenazar la existencia de la civilización humana; en tercer lugar, pueden resolverse solo con cooperación a escala global.

Este tema es actual, ya que los problemas globales pueden obstaculizar el desarrollo de tal esfera como turismo, que a su vez afecta el deterioro de la situación económica del país y la pérdida de la imagen del país como un destino turístico.

Comenzaría con el impacto en el turismo de los problemas del cambio climático, las consecuencias de los desastres naturales.

Los fenómenos naturales pueden llevar al aumento o a la reducción de la actividad turística. Por ejemplo, el último eclipse solar total del siglo XX (verano de 1999) en Europa se observó particularmente bien en el territorio de Rumania. La campaña publicitaria hábilmente conducida de este evento llevó al hecho de que en 1999 el número de llegadas turísticas en este país aumentó en aproximadamente 200 mil en comparación con 1998. En honor del eclipse en Rumania, se emitió una nueva denominación de 2 mil leis, que tenía una ventanilla especial a través de la cual se podía observar el eclipse.

Ejemplos de las declinaciones en la actividad turística debido a fenómenos naturales son:

La ubicación	La catástrofe	El número de los turistas antes del desastre [6]	El número de los turistas un año después del desastre [6]
China	El terremoto en mayo de 2008	54 720 000	53 049 000
Japón	El terremoto en marzo de 2011	8 611 000	6 219 000
República Checa	Las inundaciones en Europa en verano de 2002	5 405 000	4 743 000
Islandia	La erupción del volcán Eyjafjallajökull en abril de 2010	494 000	489 000
Haití	El terremoto en enero de 2010	387 000	255 000

Gracias a los ejemplos de la tabla, se puede concluir que los desastres naturales afectan significativamente al aumento de los turistas, reduciéndolo.

Uno de los principales problemas ambientales es el calentamiento global. En conexión con esto, algunos de los destinos turísticos más hermosos pueden desaparecer de la faz de la tierra. Los turistas tienen cada día menos tiempo para visitar los milagros naturales de las Islas Galápagos, Venecia, algunas ciudades de Dalmacia antes de que literalmente se ahoguen. Los especialistas destacaron Maldivas como un lugar más vulnerable. Ahora son visitados por 600 mil turistas, pero al 2050 serán inundados por el Océano Índico.

Una tragedia similar amenaza a los estados insulares del Pacífico: Kiribati, Tuvalu, Palau y otros. La Gran Barrera de Coral está en peligro de extinción. Un vivo organismo gigante en la costa de Australia ya está muriendo. El aumento de la temperatura afecta a la extinción acelerada de los corales.

Ahora las grandes cordilleras están cubiertas de glaciares. Pero se están derritiendo rápidamente. La desaparición de los glaciares afectará al ecosistema del Kilimanjaro, los centros de esquí de los Alpes y de América del Norte sufrirán.

El calentamiento global también se refleja en los veranos más cálidos y secos de los países del sur, como España y Bulgaria, que pueden provocar sequías, incendios forestales y la muerte de algunos animales salvajes. Además, las temperaturas demasiado altas hacen los viajes a los países mediterráneos menos cómodos en medio del verano. Estos factores pueden potencialmente hacer estos países menos atractivos para los turistas, mientras que en los países ubicados al norte, con un verano más templado, se traducirán en mayores ingresos turísticos.

El siguiente grupo de problemas globales que afecta en gran medida a los flujos turísticos son el terrorismo, la inestabilidad política.

El turismo es a menudo un imán para los terroristas. Los valores del turismo se oponen directamente a los valores de los terroristas. Además, la industria del turismo es enorme y diversa, lo que atrae a aquellos que desean organizar el caos económico. Los delincuentes saben que el turismo es una de las principales fuentes de ingresos y los centros turísticos es

una oportunidad ideal para causar el máximo daño. El factor miedo combinado con la imprevisibilidad del terrorismo puede afectar el turismo mundial y la economía mundial. Los terroristas no siempre necesitan un atentado exitoso, es suficiente provocar una sensación de miedo y también demostrar sus demandas y oportunidades.

Numerosos ataques terroristas recientes en varios lugares (como Londres, París, Estambul, Hurgada, Yakarta) deberían servir como una seria advertencia a la industria del turismo que está entrando en una nueva y peligrosa era. Por ejemplo, de acuerdo con el Instituto Nacional de Estadística e Investigación Económica (INSEE, Francia), en el cuarto trimestre de 2015, la afluencia de los turistas a Francia después de los ataques del 13 de noviembre cayó significativamente. La ocupación de los hoteles disminuyó en un 5.4 %, de otros tipos de establecimientos (residencias, villas) – en un 20.4 %. De acuerdo con el Comité Regional de Turismo (CRT-IDF, Francia), los ataques terroristas en Francia asustaron particularmente a los rusos (–37 %) y japoneses (–30 %). Luego en la lista van los italianos (–27 %) y los holandeses (–24 %). Pero el INSEE señala que los hoteles de la costa de Francia, así como del terreno montañoso, apenas notaron una disminución de los turistas en comparación con París (–9.8 %). Los expertos afirman que necesitarán varios meses más para restablecer la confianza de los turistas en su seguridad [4].

Junto con el terrorismo, tienen un impacto negativo en los flujos turísticos la situación política inestable en el país, las protestas y las guerras civiles. Los ejemplos más representativos son Egipto y Túnez. Antes de la Primavera Árabe, Egipto en 2010 tuvo más de 14 millones de llegadas, que cayeron a 9,6 millones en 2014 (–32 %), Túnez tuvo 9 millones en 2010 y 6 millones en 2014 (–12 %).

Otro factor que afecta negativamente al desarrollo del turismo son los brotes de epidemias en los países turísticos.

Un estudio reciente de Skyscanner demostró que casi un tercio de los turistas (31 %) aplazarían para el tiempo más prolongado el viaje al país donde se registro epidemia que al país donde tuvo lugar el ataque terrorista (21 %), o disturbios sociales (20 %), o desastres naturales (17 %).

En abril de 2009 (23 290 000 de visitas), luego del brote de la gripe porcina en México, el interés al país se desvaneció inmediatamente (22 346 000 de visitas). Sin embargo, un año después (23 403 000 de llegadas) se olvidó de la epidemia (el número de solicitudes de pasajes aéreos a México en abril de 2010 aumentó en un 164 %).

En 2017 la estridente “varicela turca”, el virus Cocksackie, asustó a los turistas. Algunos de los turistas decidieron cambiar el boleto a Turquía por otro país, pero muchos no entraron en pánico y no rechazaron el viaje planeado. En Bielorrusia las ventas de tours a Turquía debido al virus Cocksackie disminuyeron en un 5–10 % [1].

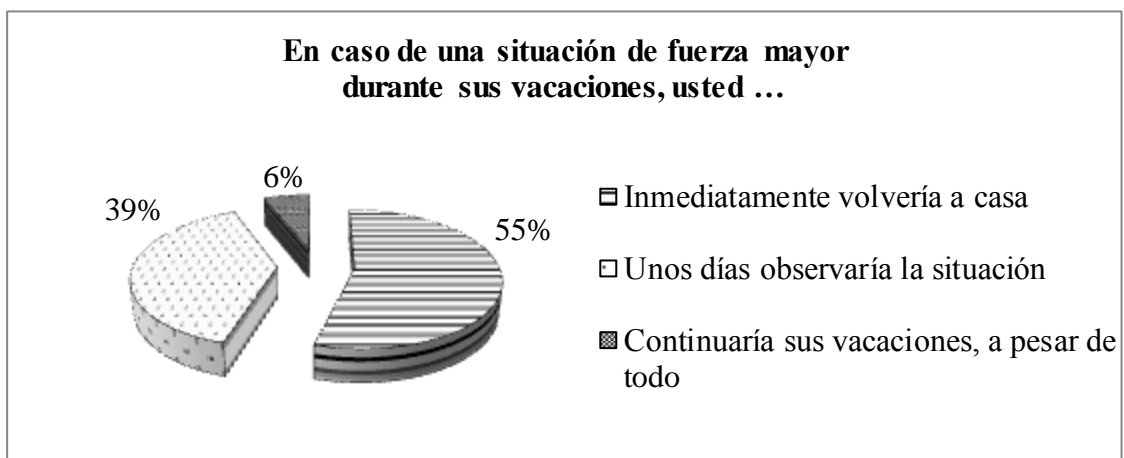
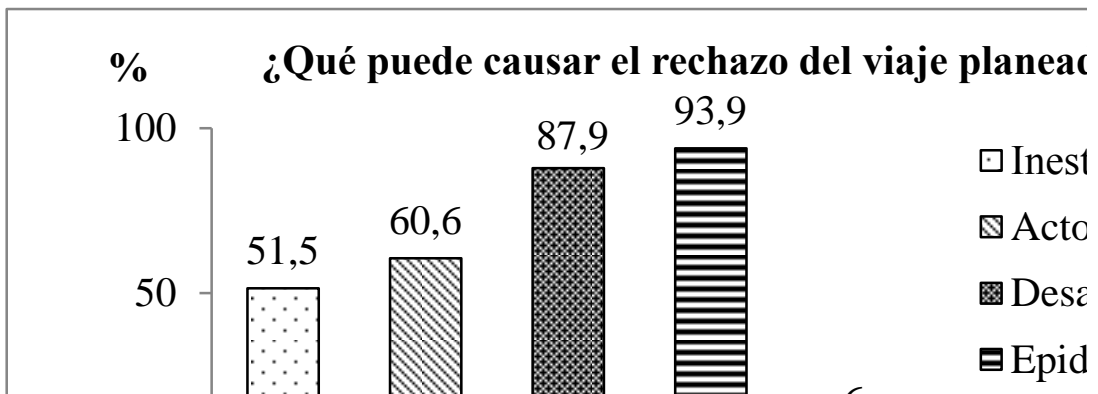
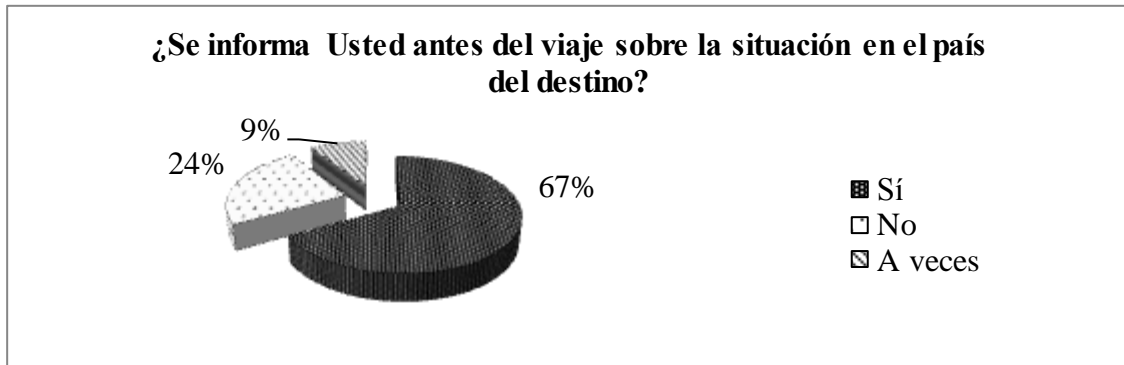
Para analizar la psicología del comportamiento de los turistas durante las situaciones de fuerza mayor o en caso de amenaza de su aparición en el país del destino, se realizó una encuesta en la que participaron 50 personas. El cuestionario consistió en 13 preguntas.

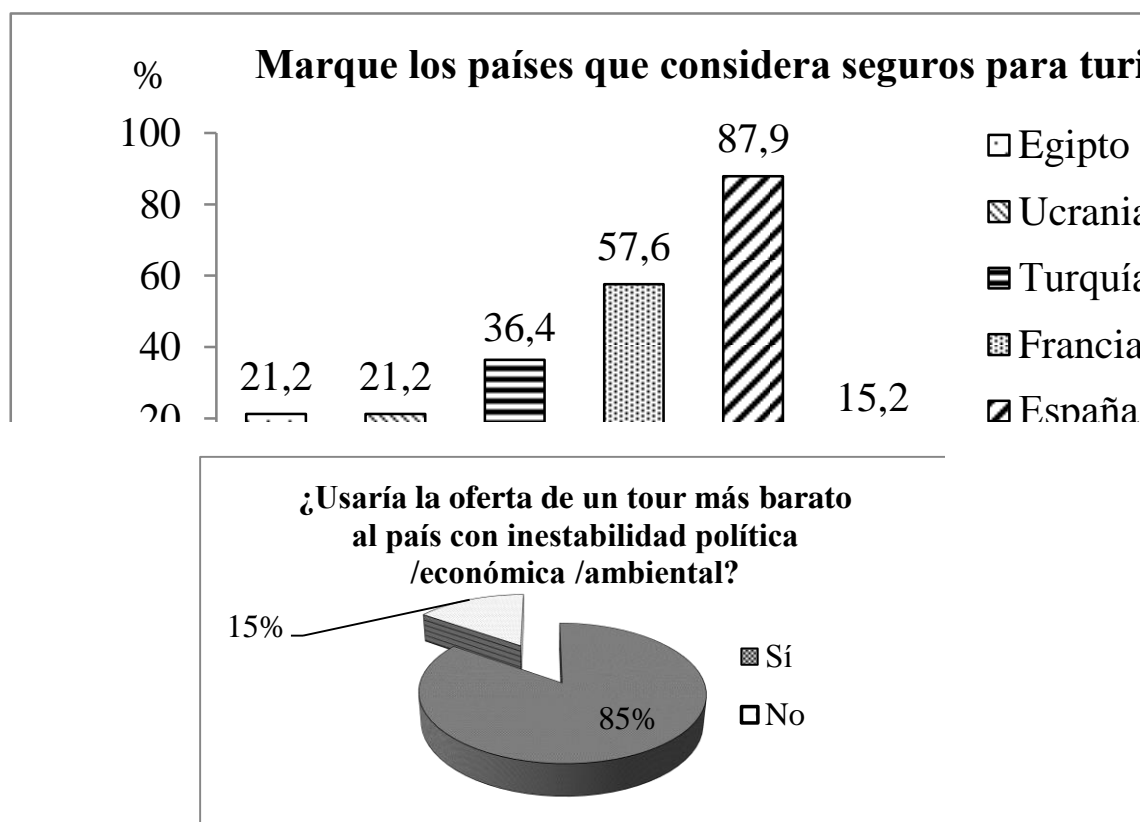
Según los resultados de la encuesta, la mayoría de los participantes del cuestionario están interesados antes del viaje en informarse sobre la situación en el país de destino con el fin de confiar en la seguridad de su viaje. Las razones para anular el viaje ya planeado pueden ser epidemias, desastre natural, en menor medida, recientes ataques terroristas y la inestabilidad política. Si de repente los encuestados se vieran afectados por una de las situaciones de fuerza mayor durante el descanso, la mitad de ellos volvería inmediatamente a casa.

Entre los países con un turismo desarrollado, golpeados recientemente por varias crisis, España, Francia y Turquía son considerados los más seguros. La mayoría de los encuestados se abstendrían del viaje a Egipto y Ucrania. A menudo, las agencias de viajes y los operadores

turísticos ofrecen tours baratos a estos países con inestabilidad política / económica / ambiental. Sin embargo, el 85 % de los encuestados rechazaría tal oferta.

Por lo tanto, al resumir la encuesta y todo el trabajo, se puede concluir que los problemas globales tienen un impacto negativo sobre el turismo, dañando la imagen del país, reduciendo los ingresos en la economía. Los problemas globales crean una situación de inseguridad colectiva debido a diversas amenazas, de las cuales una persona no siempre puede ser salvada por su estado. Esto lleva al hecho de que la gente intenta de forma independiente resistir a los riesgos y las amenazas, y ocuparse de su propia seguridad.





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Статья посвящена влиянию глобальных проблем на развитие туризма. В качестве основных проблем автор рассматривает изменение климата, терроризм и вспышки эпидемий. На конкретных примерах выявлено негативное влияние экологических, политических и других изменений на туристические потоки. На основе проведённого социологического опроса определена психология поведения туристов во время форсмажорных ситуаций или при угрозе их появления.

**А.О. Котович**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
 Научный руководитель – И.А. Полева

## **FLÜCHTLINGSRECHT: DER INTERNATIONALE RAHMEN**

Weltweit steigt die Zahl der Flüchtlinge. Auch in Deutschland werden immer mehr Asylanträge gestellt. Asylsystem und Asylpolitik stehen vor großen Herausforderungen, die es zu lösen gilt. Wie auch andere Nationalstaaten ist Deutschland dabei an grundlegende Prinzipien und Vorgaben des internationalen Flüchtlingsrechts gebunden.

Flüchtlinge unterscheiden sich von sonstigen internationalen Migranten dadurch, dass ihre Migration aufgrund von Konflikten oder Verfolgung erzwungen ist. In der Realität sind diese Kategorien nicht immer trennscharf, häufig sind die Migrationsmotive vielfältig. Dennoch ist es aus Sicht von Staaten notwendig, zwischen Schutzbedürftigen und “normalen” Migranten zu unterscheiden. Dabei wird nicht jede unfreiwillige Wanderung – etwa wenn diese durch Armut oder Klimaveränderungen ausgelöst wird – von der internationalen Staatengemeinschaft als schutzrelevant anerkannt. Wer in welche Kategorie von Migranten fällt, ist dabei immer auch ein Ergebnis politischer Aushandlungsprozesse.

Generell obliegt Staaten das Recht, zu entscheiden, wer Zugang zum nationalen Territorium erhält und wem unter welchen Bedingungen Schutz gewährt wird. Eingeschränkt ist die Souveränität der Staaten jedoch durch das internationale Flüchtlingsrecht [1]. Dieses entstand als Reaktion auf die Erfahrungen der beiden Weltkriege des XX. Jahrhunderts, die Millionen internationaler Flüchtlinge hervorgebracht haben. Am 10. Dezember 1948 verabschiedete die Generalversammlung der Vereinten Nationen die Allgemeine Erklärung der Menschenrechte. In Artikel 14 heißt es: “Jeder hat das Recht, in anderen Ländern vor Verfolgung Asyl zu suchen und zu genießen.” Aus dem Recht, Asyl zu suchen, folgt aber kein automatisches Recht, Asyl zu erhalten. Zwei Jahre später, am 14. Dezember 1950, schuf die Generalversammlung das Amt des Hohen Flüchtlingskommissars der Vereinten Nationen (UNHCR), der von da an für internationale Flüchtlinge zuständig sein sollte. Laut seinem Mandat soll der UNHCR internationale Aktionen zum Schutz von Flüchtlingen koordinieren und sicherstellen, dass die Menschenrechte von Flüchtlingen respektiert werden und dass Flüchtlinge das Recht haben, Asyl zu suchen.

Das nach dem Zweiten Weltkrieg stetig weiterentwickelte internationale Flüchtlingsrecht basiert im Wesentlichen auf der am 28. Juli 1951 unterzeichnete (und 1954 in Kraft getretene) Genfer Flüchtlingskonvention (GFK) [2]. Wichtigste Inhalte der Konvention sind die Definition des Flüchtlingsbegriffs und das *Non-Refoulement*-Prinzip, d.h. das Verbot der Zurückweisung in ein Gebiet, in dem einem Flüchtling Verfolgung droht (GFK Art. 33). In Europa leitet sich dieses auch aus Art. 3 der Europäischen Menschenrechtskonvention (EMRK, in Kraft seit dem 3.9.1953) ab: “Niemand darf der Folter oder unmenschlicher oder erniedrigender Strafe oder Behandlung unterworfen werden.” In Artikel 1a(2) der GFK wird der Flüchtlingsbegriff definiert: “Ein Flüchtling ist eine Person mit der begründeten Furcht vor Verfolgung wegen ihrer Rasse, Religion, Nationalität, Zugehörigkeit zu einer bestimmten sozialen Gruppe oder wegen ihrer politischen Überzeugung”. Diese Definition bezog sich zunächst nur auf Flüchtlinge in Europa und auf Ereignisse vor dem 1. Januar 1951. Mit dem Protokoll von New York wurde 1967 die zeitliche und geographische Begrenzung der GFK aufgehoben. Sie erhielt damit universelle Gültigkeit. Bis heute haben über 140 Staaten die Konvention bzw. das Protokoll unterzeichnet, darunter auch die Bundesrepublik Deutschland (1953) sowie sämtliche Mitgliedstaaten der EU.



Die damaligen Festlegungen der GFK wirken bis in die Gegenwart. So ist das Flüchtlingsrecht bis heute davon geprägt, dass Schutzsuchende ihre *individuelle* Verfolgung glaubhaft machen müssen. Im Laufe der Jahre hat sich die Interpretation der GFK jedoch schrittweise verändert, insbesondere wurde der Geltungsbereich der Konvention durch die Aufnahme von Verfolgung durch nicht-staatliche Akteure sowie von geschlechtsspezifischer Verfolgung erweitert. Neben diesen internationalen Vereinbarungen existieren in immer stärkerem Ausmaß europarechtliche Regelungen im Bereich der Asylpolitik. Zusätzlich verfügen vielen Staaten über nationale Regelungen und Schutzformen, in Deutschland beispielsweise Art. 16a des Grundgesetzes, der politisch Verfolgten Asylrecht einräumt.

Bei der Aufnahme von Schutzbedürftigen aus dem Ausland im Fall größerer Flüchtlingskrisen werden Flüchtlinge aus den Herkunftsregionen evakuiert oder es wird ihnen die eigenständige legale Einreise mit einem Visum ermöglicht. Hier werden in der Regel festgelegte Kontingente von Flüchtlingen aufgenommen. Es gibt keine individuelle Prüfung des Schutzbedarfs, es wird aber geprüft, ob die Person tatsächlich zu der aufzunehmenden Gruppe gehört und ob Ausschlusskriterien vorliegen. Die Aufnahme ist häufig temporär angelegt.

Eine *dritte* Form der Schutzgewährung von Industriestaaten ist das Resettlement (Neuansiedlung). Hier werden besonders schutzbedürftige Personen, die bereits in einen anderen Staat geflohen sind, dort aber keine Aufenthaltsperspektive haben und auch in absehbarer Zeit nicht in ihr Herkunftsland zurückkehren können, in einen dritten Staat umgesiedelt. Das Programm wird vom UNHCR koordiniert und umfasste für das Jahr 2015 planmäßig rund 127.000 Plätze weltweit. Demgegenüber steht laut UNHCR ein Bedarf an Plätzen für rund 958.000 Personen. Die Aufnahme ist in der Regel dauerhaft. Sowohl temporäre Aufnahmeprogramme als auch Resettlement haben den Vorteil, dass Flüchtlinge sicher einreisen können. Zudem werden auch besonders schutzbedürftige Flüchtlinge aus Krisenregionen aufgenommen, die nicht über die nötigen Ressourcen verfügen, um selbst in ein europäisches Land zu reisen, um dort Asyl zu beantragen. Ferner werden Erstzufluchtstaaten in Konfliktregionen entlastet, die durch große Flüchtlingszahlen überfordert sind.

Eine *vierte* Form der Schutzgewährung sind die zum großen Teil von westlichen Industrieländern finanzierten regionalen Schutzprogramme in den Nachbarstaaten der Herkunftsländer, wo der größte Teil aller Flüchtlinge weltweit Zuflucht sucht. Eine Unterbringung in geografischer Nähe hat den Vorteil, dass sie in der Regel kostengünstiger erfolgen und damit einer größeren Zahl von Flüchtlingen geholfen werden kann. Außerdem können die Betroffenen nach dem Ende des fluchtauslösenden Konflikts schnell in ihre Heimat zurückkehren. Davon zu unterscheiden sind sogenannte Binnenflüchtlinge (auch Binnenvertriebene), die häufig in anderen Teilen ihres Herkunftslandes auf der Flucht sind. Sie erhalten in unterschiedlichem Ausmaß – je nach Sicherheitslage – Unterstützung durch die internationale Gemeinschaft, z.B. in Form von Lebensmitteln oder medizinischer Versorgung.

Die beschriebenen Formen der Schutzgewährung können sich in der Praxis durchaus auf die gleichen Herkunftsgruppen beziehen, wie das Beispiel der syrischen Flüchtlinge zeigt: Von einer Bevölkerung von 21 Millionen vor Ausbruch des Bürgerkriegs Anfang 2011 waren bis Ende Mai 2015 etwa die Hälfte auf der Flucht: Ca. 7,6 Millionen waren Binnenvertriebene, rund vier Millionen haben Zuflucht in den Nachbarstaaten gesucht. Etwas mehr als 250.000 Syrer haben seit Ausbruch des Konflikts individuell Asylanträge in der EU gestellt, zum großen Teil in Deutschland und Schweden. Etwa 50.000 Personen wurde durch humanitäre Aufnahmeprogramme – temporär oder dauerhaft – Schutz gewährt [3].

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В статье раскрывается проблема беженцев и юридические основания для получения права на убежище. Автор описывает современную ситуацию с беженцами и пути правового решения этой сложной проблемы.

**К.С. Кристя**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
 Научный руководитель – В.В. Авраменко

**PROBLEME DER INTEGRATION**

Die Einführung einer aktiven Integrationspolitik wurde in Deutschland erst sehr spät vollzogen. Versäumnisse in frühen Lebensphasen schlagen sich in niedrigerem Bildungsniveau nieder, was wiederum die Chancen auf dem Arbeitsmarkt verringert. Die Versäumnisse in der Integration sind somit nur schwer und auch nur mit hohem Aufwand zu korrigieren.

Die Phase der aktiven Integrationspolitik wurde sehr spät eingeleitet, sodass die Versäumnisse früherer Perioden nur bedingt ausgeglichen werden können. Die Weichen für eine erfolgreiche Integration werden im Lebenslauf einer Person meist früh gestellt. Versäumnisse z.B. bei der frühkindlichen Sprachförderung schlagen sich in niedrigerem Bildungserfolg nieder, dieser vermindert die Chance auf einen Ausbildungsplatz, wodurch sich die Arbeitsmarktchancen verringern. Das hat in letzter Konsequenz Auswirkungen auf die über Erwerbsbeteiligung vermittelten Chancen der gesellschaftlichen Teilhabe. Versäumnisse in frühen Lebensphasen sind somit in späteren nur schwer und nur mit hohem Aufwand zu korrigieren.

Das Bildungssystem war auf den Zugang ausländischer Kinder ohne Sprachkenntnisse in den 1960er- und 1970er-Jahren nicht vorbereitet. Es fehlte eine klare Ausrichtung zur Integration dieser Kinder. Zu Beginn der 1970er-Jahre war eher das Gegenteil der Fall: Unterricht in der Muttersprache wurde zur Erhaltung der Rückkehroption für ausländische Kinder eingeführt. Folglich ist es wenig überraschend, dass der schulische Erfolg der Kinder, die erst im schulpflichtigen Alter nach Deutschland kamen, gering war. Noch immer gilt, dass ausländische Schülerinnen und Schüler deutlich seltener mittlere und höhere Bildungsabschlüsse erlangen, als dies bei deutschen der Fall ist. Entsprechend blieb die zweite Generation und zum Teil auch die dritte unzureichend qualifiziert. In der Folge wurde der soziale Status der Elterngeneration der Einwanderer auf deren Kinder übertragen und somit die Integration in die nachfolgenden Generationen verschoben. Zwar zeigt sich ein Anstieg des Anteils der ausländischen Schülerinnen und Schüler mit mittleren und höheren

Abschlüssen im Zeitverlauf, allerdings bedeutet dies keine Verbesserung der Situation, denn bei den Personen ohne Migrationshintergrund ist der Anteil derer mit entsprechenden Abschlüssen ebenfalls gestiegen, so dass die Abstände gleich geblieben sind [1, S. 4].

Bei der Frage nach den Ursachen für den geringen Schulerfolg lassen sich zwei zentrale Erklärungsstränge isolieren. Der eine befasst sich mit den Defiziten der Kinder mit Migrationshintergrund. Diese werden bei jungen Menschen mit Migrationshintergrund, vor allem wenn sie erst im schulpflichtigen Alter nach Deutschland kommen, im Bereich ihres sozialen und kulturellen Kapitals gesehen. In erster Linie sind hier mangelnde Sprachkenntnisse zu nennen, doch auch soziale Netzwerke, Umgangsformen etc. sind von Bedeutung. Schlussendlich führen diese Defizite dazu, dass Jugendliche mit Migrationshintergrund in geringerem Maße mittlere und höhere Abschlüsse erreichen, eine niedrigere Erwerbsbeteiligung aufweisen und überproportional oft als Arbeiterinnen und Arbeiter tätig sind.

Ein anderer Strang richtet das Augenmerk auf das Bildungssystem selbst. Vor allem die in den meisten Bundesländern bereits nach vier Jahren erfolgende Einteilung nach der Eignung für den Übergang in weiterführende Bildungsgänge wird als Barriere angesehen. Dadurch bleibt Kindern mit Migrationshintergrund zu wenig Zeit, um beispielsweise sprachliche Defizite auszugleichen. Auch eine hohe ethnische Konzentration innerhalb einer Schule bzw. Schulklasse kann sich nachteilig auf die Übergangschancen von der Grundschule in die Realschule oder das Gymnasium auswirken. In Klassen mit hoher ethnischer Konzentration wird in der Regel ein höheres Gewicht auf Spracherwerb gelegt, entsprechend sind die Standards, die in diesen Klassen im Fach Deutsch gesetzt werden, eher niedriger. Hinzu kommt, dass im deutschen Bildungssystem – gemessen an Standards in anderen Ländern – den Eltern eine wichtige Rolle bei der Vor- und Nachbereitung des Schulstoffes zugeschrieben wird. Eltern, die selbst keine höhere Bildung absolviert haben, wie es bei Personen mit Migrationshintergrund überwiegend der Fall ist, haben es besonders schwer, ihre Kinder kompetent bei den Hausaufgaben zu unterstützen (SVR 2010) [2, S. 53].

Aber auch die Organisationsform des Schulsystems hat erheblichen Einfluss auf den Schulerfolg von Immigrantenkindern. Da bei der Leistungsbeurteilung die Nachteile durch die Erstsozialisation in einer anderen Sprache nicht berücksichtigt werden, werden Kinder mit Migrationshintergrund überdurchschnittlich oft nicht versetzt. Die Übergänge von der Primarstufe in die Sekundarstufe I sind ebenfalls in hohem Maße selektiv, so dass Kindern mit Migrationshintergrund der Zugang zu höher Bildung häufig verschlossen bleibt. Zwar haben zahlreiche Modellprojekte gezeigt, dass Sprachbarrieren durchaus überwunden werden können, aber bislang hat kein Bundesland Maßnahmen ergriffen, um flächendeckend die Sprachkompetenz so weit zu erhöhen, dass keine Benachteiligung von Kindern mit Migrationshintergrund beim Übergang in die Sekundarstufe I mehr bestehen. Allgemein sind die Bildungswege zu einzelnen Abschlüssen vielfältiger und durchlässiger geworden. Beispielsweise kann ein Haupt- oder Realschulabschluss auch an einer beruflichen Schule erworben werden. Die verschiedenen Wege, die zu dem gleichen Abschluss führen, sind jedoch nicht gleichwertig im Hinblick auf den Zeitaufwand, und insbesondere auf die Ausbildungsplatz- und Arbeitsmarktchancen, die sie vermitteln. Insbesondere Hauptschulabschlüsse aus Berufsvorbereitungsmaßnahmen werden nicht als gleichwertig mit denen des allgemeinbildenden Schulsystems angesehen. Dies betrifft ausländische Jugendliche in besonderem Maße. Die Chancen, nach dem Abschluss einer allgemeinbildenden Schule einen Ausbildungsplatz zu finden, sind für ausländische Jugendliche besonders ungünstig. Während im Jahr 2009 laut Mikrozensus 11,3 % der Personen ohne Migrationshintergrund im Alter von 25 bis unter 35 Jahren keine

abgeschlossene Berufsausbildung hatten, traf dies auf 36,1 % derer mit Migrationshintergrund zu. Frauen mit Migrationshintergrund blieben häufiger ohne beruflichen Ausbildungsabschluss als dies bei der entsprechenden Gruppe von Männern der Fall war. Frauen ohne Migrationshintergrund bleiben hingegen etwas seltener ohne beruflichen Abschluss als Männer [3, S. 17].

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В статье представлена обобщенная информация о проблемах миграции и интеграции в Германии, а также освещены конкретные проблемы, с которыми столкнулась Германия в ходе своего развития.

**Л.И. Крупкевич, И.Т. Равкович**

Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Т.С. Троцюк

#### THE XXI<sup>ST</sup> CENTURY PROBLEM

Cancer is the second leading cause of death in the world after cardiovascular diseases. Half of men and one third of women will develop cancer during their lifetimes. Today, millions of cancer people extend their life due to early identification and treatment.

However, cancer is not a new disease and has afflicted people throughout the world. The word *cancer* came from a Greek words *karkinos* to describe carcinoma tumors by a physician Hippocrates (460–370 BC), but he was not the first to discover this disease. Some of the earliest evidence of human bone cancer was found in mummies in ancient Egypt and in ancient manuscripts dating back to about 1600 BC. The world's oldest recorded case of breast cancer hails from ancient Egypt in 1500 BC and it was recorded that there was no treatment for the cancer, only palliative treatment. According to inscriptions, surface tumors were surgically removed in a similar manner as they are removed today.

Cancer develops when normal cells in a particular part of the body begin to grow out of control, then they divide and re-divide instead of dying and form new abnormal cells. Some types of cancer cells often travel to other parts of the body through blood circulation or lymph vessels (metastasis), where they begin to grow. For example when a breast cancer cell is spreading to liver through blood circulation, the cancer is still called as breast cancer, not a liver cancer. Generally cancer cells develop from normal cells due to damage of DNA. Most of the time when ever DNA was damaged, the body is able to repair it, but unfortunately in cancer cells damaged DNA is not repaired. People can also

inherit damaged DNA from parents, which accounts for inherited cancers. Many times, though, a person's DNA becomes damaged by exposure to something in the environment like smoking.

Cancer generally is formed as a solid tumor. Some cancers like leukemia (blood cancer) do not form tumors. Instead, leukemia cells involve the blood and blood forming organs and circulate through other tissues where they grow. Not all tumors are cancerous, some tumors are benign (non-cancerous). Benign tumors do not grow and are not life threatening. Different types of cancer cells can behave differently. The risk of developing many types of cancers can be reduced by changes in lifestyle by quitting smoking and eating low fat diet. If cancer is identified in early stage it is easy treated and may have better chances for living many years.

In 1911 Peyton Rou discovered a type of cancer in chickens that was caused by Rous sarcoma virus. In 1915, cancer was induced for the first time in rabbits by coal tar applied to skin. 150 years had passed since the most destructive source of chemical carcinogens known to man, tobacco (nicotin) was rediscovered as a carcinogen. To date more than 100 carcinogens (chemical, physical, and biological) have been identified. From many of these carcinogens associations recognized long before, scientists understood the mechanism by which the cancer was produced. The continuing research is discovering new carcinogens, explaining how they cause cancer and providing insight into ways to prevent it.

The first cancer screening test to be widely used was the Pap test. The test was first developed by George Papa Nicolaou as a method in understanding the menstrual cycle. He also identified Pap tests potential for early detection of cervical cancer. In 1960s mammography was developed for identification of breast cancer. Later early detection of cervix, breast, colon, rectum, endometrium, prostate, thyroid, oral cavity, skin, lymph nodes, testes, and ovaries cancers were identified and practiced in the clinic.

The growth of knowledge in cancer biology has led to remarkable progress in cancer early detection, treatment and prevention in recent years.

Finally winning the war against human cancer has been the focal point of present medical research. Single "cure-all" drug for cancer has not yet been developed, even though many new cancer treatment methods and drug targets have been discovered. More research studies and different clinical trials are key to finding a cure for cancer. The complexity of cancer disease requires scientific battle to fight against cancer in all frontiers.

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2. History of cancer, ancient and modern treatment methods [Electronic resource]. – Mode of access: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2927383/.htm>. – Date of access: 20.11.2017.

В статье раскрывается одна из самых важных проблем XXI в. – онкология. Авторы описывают историю возникновения и изучения данной проблемы.

**А.С. Кузьмич**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Л.М. Калилец

## **LEGISLATURE AS A RESULT OF LEGAL PROCEDURE**

Legislature is the process of implementing actions to prepare projects of appropriate sources of law, which are legalized and have an official nature.

Legislature, as we know, covers the direct activities of authorized state bodies for creating, adoption, modification, addition or cancellation of normative legal acts.

The importance of law-making at the present stage of its development predetermines the necessity to understand the nature of this process. To do this, it is reasonable to compare law-making with legal procedure. Legal procedure is a wide concept; it is characterized by the influence of trivial sense of justice. Law-making is based on scientific-theoretical and professional-juridical sense of justice. Consequently, it can be assumed that law-making is the result, the final stage of a legal procedure.

Legislature is an important element in the legal state formation process, and the result of this process is updating and improvement of lawmaking. Therefore, researches which are devoted to this problem are not only of theoretical importance, but also practical.

The term “legislature” is widely used in legal literature and accurately reflects the purpose of this stage in the legislative process.

Lawmaking is closely related to science. Only with the help of scientific activity it is possible to comprehensively study all aspects forming the law-making activity.

As a result of practical activity, it can be noted that in addition to science there are also the concepts of quasi-science and pseudoscience. Quasi-science is an activity that imitates science. Pseudoscience is the falsification of scientific facts for various purposes. N.G. Chernyshevsky argued that the theoretical lie inevitably leads to practical harm [1].

As for any other process, scientific knowledge from various fields, not only from the juridical, is important for law-making. Along with branch disciplines, specialists in the common theory of law should also be important participants in the development of all projects of legal innovations, because after its assimilation it is possible to consider more concrete, empirical knowledge in the field of law.

In the textbook “General Theory of Law” edited by A.S. Pigolkin seven principles on the basis of which the law-making activity of modern civilized states is being carried out are outlined: democracy, legality, humanism, scientific character, professionalism, careful preparation of projects, technical perfection of adopted acts [2].

The most important principle of law-making is scientific character. Indeed, without scientific study of laws, accounting of scientific knowledge, as well as sociological knowledge is indispensable. The principle of scientific character includes the obligation to take into account the forecast of the consequences of the adoption of a normative legal act. The scientific nature of law-making consists in the fact that it is intended to fully correspond to the urgent needs of social development, its objective regularity, the level of public sense of justice. It must be scientifically reasonable, that is corresponds to the achievements of science and technology. Scientific institutions, individual representatives of the relevant branches of science should be involved in the preparation of projects.

The second most important feature is democracy. This principle requires disclosure and expression of people's freedom in the norms of law. It means that the rules of law should be created as a result of taking into account public opinion, preliminary discussion of the projects

of legal acts. For a wider inclusion of public opinion, it is desirable to have alternative projects of the most important legal acts. If alternative proposals are available, an equal opportunity should be provided for an in-depth and complete study and comparison of these materials. An important aspect of the principle of democracy in law-making is also the inadmissibility of making the law retroactive if it toughens the responsibility. The legislator agrees to treat this procedure in a satisfactory manner also in those cases when the assignment of a normative legal status may worsen the legal status of the subjects. Procedures of discussion and decision-making should be public, and the texts are accepted in full for understanding among population. First of all, it refers to acts related to the rights, freedoms and responsibilities of citizens.

Subjects of law-making can be divided into: official, semi-official, juridical, scientific, political, public associations, personal. This classification indicates on the level of involvement of subjects in various aspects of law-making. Subjects with the right to legislative initiative are singled out from the overall number, because they create conditions for preparing a qualitative basis for legislation.

If we turn to the process in more detail, we can note the fact that in some cases the competent authorities of the state directly issue legal norms themselves, in others they can impose a generally binding importance on the standards coming from non-governmental organizations or customs. In the same cases, when the legal decision, which contains overall rules of behavior, is adopted through a referendum, the state attaches such official significance. The dignity of the referendum, if it is conducted with the aim of adopting a normative act, is manifested in the fact that the people's freedom is expressed directly. However, experience shows that it is very difficult to adopt an act by means of a referendum that truly expresses this freedom, for the results of voting depend to a large extent not on the content of the act, but on the questions proposed for voting, which are often formulated vaguely. Putting any major acts on the referendum is inexpedient, because it is impossible to give a single-valued answer to them.

Thus, having conducted a study of legislature by the theoretical method, that is, by systematizing the factual material, it is possible to draw some conclusion: law-making is a system of actions of the preparation, adoption, modification and publication of normative legal acts that are legally mediated. Law-making must be carried out on a scientific basis, because with the help of science we can make a forecast about the appropriateness of a normative legal act. Planning of the law-making process is important because it is necessary to concentrate efforts on priority legislative projects. Planning makes it possible to avoid unreasoned legislature, to exclude duplication.

Law-making activity does not stand still, this process is constantly being improved to reduce the number of cases in which these or other errors are allowed.

In order to improve the legal system of the Republic of Belarus, a course for more active implementation of its codification and updating should be chosen. It is necessary to continue to renovate and consolidate legislation. Actual normative legal acts would be appropriate so as to include them later in larger codification divisions, not dividing them.

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В статье речь идет о проблемах правотворчества – процессе осуществления действий по подготовке проектов соответствующих источников права (на основе достижений науки), которые юридически опосредованы и носят официальный характер.

#### **А.В. Кулай**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – Л.Е. Левонюк

### **THE HISTORY AND SIGNIFICANCE OF THE WESTERN GATE OF BELARUS**

Brest Railway Station is the Western Gate of Belarus and a unique place where modernity meets great history. When at Brest Railway Station, one can easily travel back in time – it is enough to open the door to the past, which may suddenly turn out to be very close – for example, at the entrance to the central building or even on the station square. This is in fact a special place. Its history is so rich that it would be suitable for the railway station of any capital and not of a provincial city, a category in which Brest (Brest-Litovsk or Brest-on-the-Bug) has long been classified. Since its founding, the station has become one of the visit cards of the city. But this fact is only part of a larger mosaic: the platforms and tracks have also imprinted great events that shook the continent for the last hundred years.

The whole history of Brest is associated with movement. From time immemorial, it has stood on ways: waterways, then overland roads. In the Middle Ages, Berestye (Brest's ancient name) was an important city of the Grand Duchy of Lithuania, hosting the most gainful customs. Trade and crafts were thriving here. Its role of a transport crossroads was also preserved later, when the Polish-Lithuanian Commonwealth, a mighty regional power covering the largest territory in Europe in the early modern age, was formed.

The convenient situation of Brest-Litovsk was the main reason for building a railway from Warsaw, which the Russian government intended to extend later as far as Moscow.

In 1874, Brest-Litovsk became a railway junction. Rails were laid from the city to the border with East Prussia (via Bialystok); and almost at the same time, a section was built to Berdichev, the Ukraine, which allowed opening direct movement to Kiev.

The passenger station in Brest-Litovsk had existed since 1869, but it was no more able to manage the volume of traffic because of the rapid development of the railway junction. The new railway station was planned in 1884 as first-class, that was the highest level possible at the time. The construction was completed in 1886 [2].

At the end of the XX century, Brest-Litovsk was considered the biggest railway junction in the west of the Russian Empire. Three cargo and two passenger stations operating in six directions were located here.



By 1910 the population of Brest-Litovsk reached 50 thousand people. The city was rebuilt. The railway sector was constantly developing. The railway station building was connected with the city by new bridges – a cargo bridge and a footbridge.

Polish Brest-on-the-Bug (the official name of the city until 1939) kept its key transport functions; therefore the central station building of the railway station was restored from the ruins of World War I in 1929–1930 [2].

In December 1939, Brest-Litovsk railway with administration in Baranovichi was established. Brest station was subordinated to it.

During the three-year occupation, the Nazis turned Brest into the most important communication hub of the Eastern Front.

The Soviet era in the history of Brest station began in 1930 and continued when the leaders of the USSR, the US and the UK outlined the future of the European continent during the Yalta Peace Conference.

The city of Brest and the railway junction were liberated on July 28, 1944. The Central Station of Brest was charred by fires; however, in contrast to the remaining railway industry, it survived, which was like a miracle.

Radical reconstruction of Brest Station began in 1953. Within two decades, from 1960 till 1980, Brest station gained international fame and became one of the main symbols of the border city. In the 1980s of the XX century, Brest established itself as one of the tourism centers, which was aided by the majestic War memorial in the Hero Fortress.

By the end of the Soviet period the station Brest-Central transported more than 7 million passengers a year. The station fully justified its title of “the gate” to the country, because of the development of transport corridors between East and West. Every day 30 trains started in different directions from Brest. The station copes successfully with this by holding the glory of one of the best enterprises of Belarusian Railways.

The Republic of Belarus’ gaining independence and sovereignty coincided with the economic crisis affecting the post-Soviet space. Difficulties encountered in connection with the break of former economic relations affected investment to the railway industry too. However, transport corridors of Brest were as usual active. The famous Brest station complex continued its historic mission – now as a “Western Gate of Belarus”.

Nowadays, Brest Station is an integral part of a large transport cluster at the border between Belarus and the European Union. The railway junction provides cargo and passenger transportation in five directions. As before, the line Berlin – Warsaw – Brest – Minsk – Moscow remains the main one, possessing the European index E20 and being part of the transcontinental corridor № 2 (East – West).

For historical reasons, the railway connection between the former Soviet Union countries and Europe still has different sides of departure of trains. The insular situation of Brest Station provides a successful solution to all technical problems: the trains going to the East depart from the Moscow side and the ones going to the West – from the Warsaw side. The Moscow side services the lines to the capital of Belarus, as well as to Moscow, St. Petersburg and other large cities in Russia and others CIS’s countries. The Warsaw side of the station serves passengers traveling abroad and suburban ones [1, p. 26].

The Moscow side and the Warsaw side of Brest station are connected by a cascade of three halls, where passengers can buy tickets for international trains and go through passport control and customs. Thanks to this advanced technologies, the time needed to complete all formalities can be significantly reduced. Admission to the customs hall usually stops 30 minutes before the train departure. Customs officers and border guards may also work directly in carriages.

Brest railway Station ranks second in the country in terms of volume of passenger traffic after the station of the capital city of Minsk. It combines great historical basis and technologies of the XXI century, offering its passengers a high enough level of service. Here everyone can find everything they need in terms of food and rest.

Today, Brest railway station is the main portal in the railway passenger traffic between the EU and Belarus. It is without any doubt “the Western gate” of the country. The station connects railway lines as well as millions of people living in different countries – and even on different continents. Along with the road terminals on the E30 road, it is part of the most powerful border transit hub through which the major transport corridors between the EU and the EAEC (Customs Union) (Belarus, Russia, Kazakhstan, Armenia, and Kyrgyzstan) run [1, p. 102]. While preserving its unique story, Brest railway station, in the XXI century, stands as a successful enterprise of the Belarusian Railways, using modern communications and service technologies. The beautiful architectural showcase hides the comfort, speed, and consistently high quality of customer service.

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Статья посвящена истории создания и развития Брестской железнодорожной сети, которая по праву носит название «Западных ворот Беларуси». Важное стратегическое положение Бреста на перекрестке торговых путей между Востоком и Западом, Украиной и Балтийскими странами создали предпосылки строительства крупного железнодорожного узла, имевшего огромное значение на протяжении всей истории существования.

**А.Е. Кулеш**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – И.А. Полева

#### **DAS DEUTSCHE PORTRÄT IM BEREICH DER RELIGIONEN**

Die staatliche Religion in Deutschland fehlt heutzutage, dabei halten sich etwa 70 % der Bürger dieses Landes für die Christen, die zur protestantischen und katholischen Konfession ungefähr im gleichen Verhältnis gehören. Übrige 30 % der Bewohner bekennen andere Religionen oder bleiben die Atheisten.

Die Religion in Deutschland in Zahlen stellt folgendes Bild dar:

- die Atheisten etwa 27 Millionen Menschen;
- die Anhänger der Römisch-katholischen Kirche etwa 24 Millionen Menschen;
- die Evangelisten etwa 23,6 Millionen Menschen;
- die Moslems etwa 4 Millionen Menschen.

Über 57 Millionen Menschen gehören in der Bundesrepublik der christlichen Konfession an [1].

In Deutschland sind 28,5 % der Gesamtbevölkerung oder 23,58 Millionen Menschen Angehörige der römisch-katholischen Kirche. Die katholische Kirche in Deutschland ist in sieben Kirchenprovinzen mit 27 Diözesen eingeteilt. Diese bilden den Verband der Diözesen Deutschlands. Traditionell ist der Katholizismus mehr im Süden und im Westen des Landes verbreitet. Sein traditionelles Hauptverbreitungsgebiet zieht sich in einem Streifen (mit Unterbrechungen) im äußersten Westen und Süden des Landes fast von der Nordsee den Mittel-, Ober- und Hochrhein und Bodensee entlang bis in den Süden von Bayern. Das erste Bistum ist schon für das III. Jahrhundert in Trier und Köln belegt. Eine umfassende christliche Missionierung der germanischen Stämme außerhalb des Römischen Reichs begann erst im VI. Jahrhundert und dauerte bis ins X. Jahrhundert.

Die römisch-katholische Kirche ordnet Deutschland den Schutzpatron Michael sowie in Rom die Kirche Santa Maria dell'Anima, das dortige Priesterkolleg und Hospiz Collegio Teutonico di Santa Maria dell'Anima und den Friedhof Campo Santo Teutonico zu.

In Deutschland sind fünf Prozent der Bevölkerung Muslime.

Der Islam wird von der Mehrheit als fremd abgelehnt. Sie spricht sich dafür aus, ihm nicht die gleichen Rechte zuzugestehen wie dem Christentum. So stößt der Bau von Moscheen immer wieder auf heftigen Widerstand der Bürger. Zwei Drittel wollen keinen Moscheebau in Deutschland akzeptieren.

Im Hinblick auf die räumliche Herkunft handelt es sich bei den Muslimen in Deutschland um eine sehr heterogene Bevölkerung: Etwa zwei Drittel (2,5 bis 2,7 Millionen) haben türkische Wurzeln, zwischen 496.000 und 606.000 Personen stammen aus den südosteuropäischen Ländern Bosnien-Herzegowina, Bulgarien und Albanien. Im Mittel kommen, der MLD-Studie zufolge, 331.000 aus dem Nahen Osten und 280.000 aus Nordafrika. Die verbleibenden ausländischen Muslime stammen aus Ländern Süd- und Zentralasiens, des restlichen Afrikas oder aus den Nachfolgestaaten der Sowjetunion [2].

Die Türkisch-Islamische Union der Anstalt für Religion (DİTİB) erzielt den höchsten Vertretungsgrad unter den islamischen Organisationen Deutschlands. Während sie selbst angibt, über 70 % der in Deutschland lebenden Muslime zu vertreten, fühlten sich nach der MLD-Hochrechnung lediglich 16 % von ihr repräsentiert. Unter Muslimen mit türkischem Migrationshintergrund lag der Wert bei 23 %. Berücksichtigt man die eigentliche Zielgruppe, erreicht die Alevitische Gemeinde (AABF) einen vergleichsweise hohen Vertretungsgrad.

Die älteste noch heute bestehende deutsche Moschee, die Wilmersdorfer Moschee, wurde im Auftrag der Ahmadiyya-Glaubensgemeinschaft 1924 in Berlin errichtet. Die Fazle-Omar-Moschee in Hamburg-Stellingen ist die erste nach dem Zweiten Weltkrieg gebaute Moschee Deutschlands.

In zentralen Gebieten Deutschlands befinden sich die größten jüdischen Kultusgemeinden. Die dem Zentralrat der Juden angeschlossenen Gemeinden und Landesverbände zählten im Jahre 2014 laut REMID 100.437 Mitglieder.

Nach 1945 wurden in vielen Großstädten wieder erste jüdischen Gemeinden gegründet. Viele Juden, die eigentlich über eine Auswanderung nachdachten, aber auch Rückkehrer aus dem Exil (ein Beispiel: Paul Spiegel), blieben dauerhaft in Deutschland. In vielen deutschen Städten wurden neue Synagogen erbaut. Seit der Wende 1989 kamen viele osteuropäische Juden (hauptsächlich aus der Ukraine, Russland, Moldawien und Usbekistan) als Kontingentflüchtlinge nach Deutschland und stärkten die jüdischen Gemeinden. Die größte Gemeinde befindet sich z.Z. in Berlin und hat mehr als 10.000 Mitglieder.

Die Buddhisten zählen nach verschiedenen konfessionellen Christen und Muslimen zu der drittgrößten Glaubensgemeinschaft in Deutschland. Insgesamt geht man von ca.

270.000 Buddhisten in Deutschland aus. Die meisten der in Deutschland lebenden Buddhisten gehören zur Schule des Theravada, vor allem aus Sri Lanka; zum Vajrayana.

Es leben schätzungsweise 100.000 Hindus in Deutschland. Davon sind die meisten tamilische Hindus aus Sri Lanka, ca. 42.000 bis 45.000; aus Indien stammen ca. 35.000 bis 40.000; deutscher oder europäischer Herkunft sind ungefähr 7.500 und ca. 5.000 Hindus stammen ursprünglich aus Afghanistan [3].

Es ist demnach davon auszugehen, dass die Verteilung der Religionszugehörigkeiten in Deutschland künftig noch etwas vielfältiger ausfallen wird. Jedoch ist „Religionszugehörigkeit“ kein leicht zu bestimmender Begriff [4]. Zwar scheint die Zuordnung bei den großen Kirchen (und einigen kleineren) einfach zu sein, weil dort die Religionszugehörigkeit zum Zwecke des Kirchensteuereinzugs staatlich erfasst wird. Allerdings ist diese Kirchenmitgliedschaft in den meisten Fällen nicht das Ergebnis einer bewussten Entscheidung, sondern eine Konsequenz der Säuglingstaufe. Nur etwa ein Viertel der Kirchenmitglieder zahlt Kirchensteuer, und wer keine Kirchensteuer zahlt, hat nicht nur keinen Grund, seinen Kirchenaustritt zu erklären, sondern er wird oft auch noch durch eine Austrittsgebühr davon abgehalten. Über eine Million Menschen arbeiten in kirchlichen Einrichtungen wie Kindergärten, Krankenhäusern oder Pflegeheimen und könnten de facto aus beruflichen Gründen selbst dann nicht aus der Kirche austreten, wenn sie es wollten.

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В статье раскрывается тема религии в Германии в связи с проживанием на этой территории различных групп и национальностей людей. Также в статье отражены цифры, характеризующие количество жителей Германии, принадлежащих к наиболее распространённым религиозным конфессиям.

**Т. Кулиева, М. Кулиева**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина

Научный руководитель – Г.В. Нестерчук

#### TEACHING LISTENING TO AUTHENTIC TEXTS

When we teach a language, we should tackle the four skills (reading, writing, listening and speaking). Taking into account all of them, which one do you think is the most difficult to learn? Listening, of course.

Teaching listening skills is possibly the hardest part of teachers' job. It is much harder when you teach listening to pupils in a non-English-speaking environment. Pupils need thorough guidance in approaching listening, particularly, to authentic language. They need to be engaged and have a good reason for listening and understanding what is being said. Listening plays a key part in pupils' language development, simply because it is their main source of sample language and it constitutes the springboard for language acquisition and, hence, their future spoken production [4]. It is not sufficient to play a CD track to get your pupils motivated to answer a list of comprehension questions. Teaching listening effectively takes a lot more than that.

When we had our teaching practice in school No 3 in Brest we were very much in awe of how to stage a listening skills lesson. There seemed to be quite a difference in enabling learners to understand a reading text and a listening text though both are, after all, receptive skills and therefore share some common denominators. But the listening skill is by far the harder skill to implement and also the one which learners can find the most daunting.

Essentially listening is the hardest of the receptive skills because there is only air in front of the listener. There is nothing to grasp on to, no visible landmarks as there would be in a reading text. You cannot flash a CD in front of the pupils and tell them to predict what will be mentioned in the track. At a lesson focused on reading skills you could open the book on the page where the reading occurs and show it to the pupils for a few seconds and then based on the headlines/titles and related pictures get them to predict the content of the reading text! That's why it's important to set up the context carefully which means guiding pupils with visuals so that they know *who* is speaking to *whom*, *why* these people are speaking, *where* and *when* the interaction occurs, *what* the topic of conversation is, and finally, *how* the interaction occurs – is it face-to-face or over the phone? Ideally, all these questions need to be answered before turning on the recording [3].

There are a number of other things to keep in mind when setting up listening. It is first of all the importance of ensuring that the language level is matched to the pupils, which means teachers must understand their pupils' abilities. This implies that we need to select materials and purposes to practise listening skills carefully. Teaching and learning are currently in the era of coursebooks. However, these coursebooks have an air of inauthenticity about recording. As a result, more and more teachers are opting for authentic listening texts, such as YouTube videos, clips from the BBC as well as short films from [www.filmenglish.com](http://www.filmenglish.com). Listening material surely needs to feature motivating tasks, but also it needs to provide interesting content. Selecting listening material can be hard. You need to walk in your pupils' shoes and see the world with their eyes not your own. Talk to your pupils as much as you can to find out about their interests and make a list of topics that are age and culturally appropriate to your class.

Keeping in mind that listening is an active process, asking children to 'listen and remember' can make them anxious, places a great strain on their memory and tends not to develop listening skills. Teachers would support pupils' understanding more effectively, if they direct their pupils' attention to specific points and guide their attention to specific parts of the spoken text.

A useful format for authentic listening texts is the KWL format, namely: Know / Want to know / Learnt. So how does it work?

The teacher asks pupils to draw three columns and label them as above. In the first column the pupils need to come up with what they already know about the topic. This task serves a gist prediction task.

In the second column, the pupils come up with what they would like to know, i. e. what they would like to find out from the recording.

The first time the class listens to the recording, the task is to listen out for the general gist and to correctly identify whether what is written in their “know” column is in fact present in the listening.

For the second listening – the detailed listening – the pupils should listen carefully for answers to what is written in their “Want to know” column. Due to the fact that the text is authentic, it might be a good idea to allow them to listen to the recording twice during this stage.

The third and final column – the learnt column – gives the pupils an opportunity to verbalize what they have got out of the listening.

Each of the stages can be completed as a group activity, with groups of pupils deciding together what they already know, what they want to know and what they have learnt. The most important thing is to keep each stage as interactive and communicative as possible [1].

As the text is authentic, there will probably be some issues with understanding some of what is being said. The teacher could play a short section of the listening several times and the pupils could transcribe what they hear. To make this more fun or interactive, they could compare in groups and ‘submit’ a group transcription – the group which is closest to the correct transcription wins!

This could also lead to some vocabulary work; dealing with unknown vocabulary can often lead to Teacher Talking Time. There are a number of ways that teachers could try to make themselves easier to understand, such as keeping sentences short and grammatically simple, using exaggerated intonation to hold the pupils’ attention, emphasizing key words, frequently repeating and paraphrasing.

Listening can be stressful. So in order to maximize the potential for acquisition of language, we need to ensure that our pupils are not stressed about this process. It is important to make the learning environment in the classroom non-threatening. That’s why during our teaching practice we were guided by the following considerations expressed by English educators J. Brewster, G. Ellis and D. Girard.

- Give the children confidence. We should not expect them to always understand every word and they should know this.
- Explain why the children have to listen. Make sure the learners are clear about why they are listening, what the main point or purpose of the activity is.
- Help children develop specific strategies for listening. An important strategy that the teacher should teach is ‘intelligent guesswork’. Pupils are used to drawing on their background knowledge to work out something they are not sure of.
- Set specific listening tasks. Try to think of listening in three stages: pre-listening, while-listening, post-listening and have activities for each stage [2].

Listening is one of the key language skills for pupils’ language development. In order to teach listening effectively, teachers should re-think what they do in the classroom and make choices: use authentic materials, design motivating tasks not comprehension questions, make use of textual and contextual resources, make listening purposeful and fun.

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В статье рассматриваются вопросы обучения аудированию аутентичных текстов, которые позволяют воссоздать атмосферу языковой среды и эталонное речевое поведение носителей языка. Предлагая рекомендации для обучения эффективному аудированию, авторы уделяют особое внимание представлению аудиотекста для активизации мыслительной деятельности учащихся, целевой установке перед прослушиванием и заданиям проблемного характера, которые побуждают учащихся применять полученные ранее знания, искать решение в прослушанном тексте, т. е. решать коммуникативные задачи.

### **Н.Д. Кульба**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
 Научный руководитель – В.В. Авраменко

## **EISHOCKEY IN DEUTSCHLAND**

Eishockey ist in Deutschland eine der beliebtesten Mannschaftssportarten, die in der Zuschauergunst und Bedeutung heutzutage hinter Fußball rangiert. Der Eishockeysport wird heute in Deutschland durch den Deutschen Eishockey-Bund (DEB) als zuständigen Sportverband in Deutschland und Mitgliedsverband der Internationalen Eishockey-Föderation (IIHF) vertreten. Laut IIHF gibt es in Deutschland derzeit knapp 21 000 registrierte Spieler, womit weltweit der 9. Rang eingenommen wird. Der Spielbetrieb wird einerseits durch die Profiligen Deutsche Eishockey-Liga (DEL) und DEL2, andererseits für untere Ligen, Frauen und Nachwuchs durch den DEB und die Landeseisssportverbände durchgeführt. Der DEB organisiert auch die deutsche Eishockeynationalmannschaft, die momentan auf Platz 7 (Stand nach WM 2017) der Weltrangliste steht [2].

Als wesentliche technische Grundlage kann die Erfindung der Kunsteisbahn gelten, die erste in Deutschland (und dritte weltweit, nach London und New York) war 520 m<sup>2</sup> groß und eröffnete 1881 in Frankfurt am Main im Rahmen einer Patentausstellung. Sie war jedoch nur fast 3 Monate in Betrieb [3]. Erst 10 Jahre später wurde ebenfalls in Frankfurt die erste permanente künstliche Eisbahn eröffnet. Das älteste verzeichnete Eishockeyspiel in Deutschland datiert auf den 4. Februar 1897, als auf dem Halensee in Charlottenburg, der Akademische Sport Club Berlin gegen eine Studentenmannschaft mit 11:4 gewann.

Der Deutschen Eisssport-Verband wurde schließlich in Berlin gegründet, ab 1908 war der Eishockeysport eine Sektion dieses Verbandes. Am 19. September des nächsten Jahres trat der Verband als sechster Landesverband der "Ligue International de Hockey sur Glace" (LIHG) bei. In Berlin wurde dann auch das erste offizielle Eishockeyspiel bestritten und die erste Meisterschaft in einer Stadtliga ausgespielt. Nach dem ersten Spiel am 4. Februar 1887 auf dem Halensee (der Akademische Sportclub Berlin stand dabei einem Studententeam gegenüber) dauerte es nur drei Jahre bis die ersten Berliner Stadtmeisterschaften ausgespielt

wurden. 1910 nahmen schon zehn Teams an der Stadtliga teil. Der Berliner Schlittschuhclub, der spätere deutsche Rekordmeister, gewann diese Meisterschaft vor dem BFC Preußen. Die weiteren Teilnehmer der Stadtliga waren der Sportclub Berlin, der Berliner Eislaufverein 1904, der Berliner EV 1886, der Hockey Club Berlin, der Sportklub Komet, der SC Charlottenburg und der Eislauf Verein Berlin [1].

Eine deutsche Eishockeynationalmannschaft trat erstmals in der Vorbereitung zur Eishockey-Europameisterschaft im Januar 1910 auf und verlor das erste Spiel gegen Frankreich mit 2:4. Bei der ersten Europameisterschaft in Les Avants wurde schließlich am 18. Januar 1910 das erste Pflichtspiel gegen Großbritannien mit 0:1 verloren, ehe zwei Tage später gegen Belgien mit 5:4 der erste Sieg erfolgte. Im Kader standen vor allem Spieler aus Berlin, da es dort die meisten Mannschaften gab. 1910 wurden erstmals "Die Regeln des Eishockeyspiels" vom Deutschen Eislauf-Verband angenommen, die neben Regeln für "Eishockey mit dem Ball" auch erstmals Regeln für "Eishockey mit der Scheibe" beinhalteten. Noch in den 1920er Jahren produzierte das Frankfurter Unternehmen Mitteldeutsche Gummiwarenfabrik Louis Peter AG neben Eishockey-Pucks auch "Eishockey-Bälle" [3].

1912 fand in Berlin die erste Meisterschaft mit Teams aus ganz Deutschland statt, die der Berliner Schlittschuhclub gewinnen konnte. Im Jahr zuvor war die Stadt schon Austragungsort der zweiten Europameisterschaften, und wäre nicht der Erste Weltkrieg dazwischengekommen, hätte 1916 das erste Olympische Eishockeyturnier auch in Berlin stattgefunden. Bis in die 1920er Jahre wurde Eishockey auf Deutsch als "Eistreibball" und seltener als "Eishocken" bezeichnet.

Nach dem Ersten Weltkrieg war Deutschland zwischen 1920 und 1926 sechs Jahre lang aus der LIHG ausgeschlossen. Dies minderte die Beliebtheit des Sports in der Weimarer Republik nicht im Geringsten. So ist in einem zeitgenössischen Bericht zu lesen: "Überfüllter Sportpalast, gänzlich ausverkauftes Haus, im schwarzen Handel phantastische Preise für Sitzplätze. Eishockey ist Trumpf, ist heute der Sport und zwar aller Klassen". Durch das Engagement Schwedens, deren Landesverband mit Austritt drohte, erfolgte am 11. Januar 1926 die Wiederaufnahme in die LIHG. 1927 durfte Deutschland wieder an Eishockey-Europameisterschaften teilnehmen, die erste Eishockey-Weltmeisterschaft mit deutscher Beteiligung fand 1928 in St. Moritz statt. Ein deutsches Team konnte bei den Olympischen Spielen 1932 in Lake Placid die Bronzemedaille erlangen und bei der Europa-Wertung im Rahmen der Eishockey-Weltmeisterschaften 1930 und 1934 Europameister werden. Zu diesem Zeitpunkt war die Bedeutung der Nationalmannschaft um einiges höher als die der Vereine [3].

Nach dem Zweiten Weltkrieg 1946 wurde der Deutsche Eissport-Verband erneut ausgeschlossen. Die Bundesrepublik wurde mit dem Deutschen Eissport-Verband am 10. März 1951 wieder aufgenommen, die DDR folgte erst am 9. Juni 1954.

Im September 1970 wurde Eishockey von der Staatsführung der DDR zusammen mit dem Deutschen Turn- und Sportbund der DDR (DTSB) als "nicht förderungswürdige Sportart" eingestuft. Zuvor kam ein Großteil der Mannschaften aus Berlin und ab 1970 spielte Dynamo Berlin aufgrund der Einstufung nur noch gegen Dynamo Weißwasser um die DDR-Meisterschaft. Immerhin 25-mal gewann Weißwasser die Meisterschaft und 15-mal konnte Dynamo Berlin den Titel gewinnen. In der Bundesrepublik dagegen verloren die Berliner Vereine ihre Dominanz. Lediglich zweimal konnte der Berliner Schlittschuhclub die Meisterschaft nach 1949 gewinnen (in der Eishockey-Bundesliga 1974 und 1976). Danach musste die Stadt 29 Jahre warten, bis mit den Eisbären Berlin 2005 wieder eine Berliner Mannschaft deutscher Meister wurde.



Obwohl 3 114 Frauen in Deutschland in allen Altersklassen des Eishockeys aktiv sind (Stand 2014), ist Fraueneishockey eine Randsportart.

1983 gab es 17 Vereine das Fraueneishockey anboten, aber noch keine Liga. Auch in der 1988 gegründeten Fraueneishockey-Bundesliga sind sämtliche Spielerinnen Amateure, die Kosten selbst tragen müssen. Beispielsweise kommen zu Spielen des ERC Ingolstadt im Schnitt 20 Zuschauer (Stand 2016). Die Medienpräsenz beschränkt sich im Wesentlichen auf die Olympischen Winterspiele und damit nur alle vier Jahre. Selbst die durchaus beachtlichen Erfolge der Fraueneishockeynationalmannschaft ändern daran bislang wenig [5].

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Статья посвящена истории происхождения немецкого хоккея. Автор показывает становление и развитие этого вида спорта в Германии.

#### **А.Н. Купраш**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – И.Н. Бахур

#### **THE ROLE OF HERBS IN PEOPLE’S LIFE**

Every territory has its own herbs and traditional medicine that allow a person to adapt to living on this territory. The poet S. Kirsanov has written: “I am not going along the prairie, I am going to the drugstore, reading its herbal files” [1]. The local natural herbs, undoubtedly, are useful for health.

The founder of Russian pharmacognosy professor A.F. Gammerman considered that advantage of vegetable medicinal substances over chemical ones consists in the fact that they are formed in a living cell. Therefore even the toxic agents of plants which have got into our body don’t roughly break the whole system of biochemical reactions of cells of a human body and animals as it is done by chemical medicine. In this article we will tell about plants, growing not far from our houses, in our gardens, along the river, in the woods, where people most often spend their time.

In the nature there is nothing that is only harmful. For example, weeds help us when we recultivate soil. They restore the badlands, dumps, poisoned and salted soil. The ergot is

poisonous and harmful but it has saved many patients' lives. There are no useless plants. There are plants that have not been studied or have not received objective assessment.

It is worth remembering that 98 % of all needs in food and energy of mankind are provided thanks to photosynthesis of plants. Plants provide the atmosphere with oxygen which deficit is one of the burning issues of the present time. During the combustion of one ton of coal it is consumed as much oxygen as it is necessary for the life of 10 people during a year. And each car spends per 1000 km annual norm of oxygen for one person.

Studying and usage of useful properties of plants go to an antiquity. Archaeological researches have shown that people used herbs about 5000 years ago. Experience of application of herbs has been generalized in "Flower books", "Books of Herbs" and "Doctor's books" that were rewritten by hand and were extremely popular. The herbs were especially appreciated. The representative of the authorities in ancient times issued the decree. According to the decree people had to "collect St. John's wort growing in Siberia, dry it, grind and send to Moscow one pood of St. John's wort a year".

The XVIIth century was the time when the interest to the properties of herbs growing in Siberia increased. At that time data about the properties of herbs were collected. In 1675 Spafary, who was the head of the embassy in China, had the instruction to research the local medicine. He wrote in the diary: "The West Siberian Khanty collect in a stock, dry and eat roots of a white susak" [2]. The Siberian historian and the geographer S.U. Remezov pointed to those places where the rhubarb grows. This plant then was delivered from China.

According to the order of Russian Tsar Peter I in 1719 the Danzig doctor Daniil Messerschmidt was sent to Siberia "to look for herbs, roots, seeds and the other articles for medicinal collections" [3]. He collected data about 380 herbs and specified their medical application and the most appropriate time for their picking.

Within 9 years (1734–1743) the botanist I.G. Gmelin traveled around Siberia. He created the four-volume work "Flora of Siberia" where he described 1178 species of plants and included 294 drawings. Considering the work of I.G. Gmelin the greatest botanist K. Linney noticed that G. Gmelin alone had carried out the same amount of work as all the botanists of Europe. K. Linney himself was greatly interested in plants of Siberia and grew up in Sweden hundreds of Siberian species. Russian Tsar Peter I founded state drugstores and pharmaceutical kitchen gardens. They were operated by the Pharmaceutical organization. At that time drugstores were like small scientific centers. They investigated the effect of herbal raw materials. M.V. Lomonosov was also interested in studying of natural wealth of Siberia. The first pharmaceutical analysis of the herbs brought from Siberia was made in his laboratory.

In 1778 as a result of expeditions across Western and Eastern Siberia 3200 species of herbs that were applied in traditional medicine were described. The first Russian pharmacopeia that was published the same year included 302 species of Russian herbs, more than a half of them were from Siberia. Nowadays our pharmacopeia includes 3 times less species of plants than it used to be.

In the first half of the XIXth century the Russian pharmacopeia was replaced by German one and it was forbidden to cultivate herbs within the country. The import of herbs from abroad increased though overseas drugs were prepared from the Russian raw materials: licorice plant, valerian, great burnet, adonis and others. Foreign physicians treated their patients using arsenic and mercury and were laughing at the Russians who were treated using onions, horse-radish, radish, garlic and dog rose. As it was found out later, not everything was so naïve and nonscientific in centuries-old Russian practice. 80 % of all remedies applied in scientific medicine came from people's practice.

Till 1930 in the Soviet Union the botany was an obligatory subject of doctors' training and every doctor was obliged to have a reference herbarium of the officinal herbs growing in the area. It was accepted to write herbal lists for priests and rural sorcerers in Russia. In monasteries there were drugstores. One of them has been revived recently in Tyumen, in Peter and Pavel's monastery.

At the earliest stages of the development of humanity plants were not only the source of food for people, they helped people get rid of diseases. The most ancient of the medical treatises that we know is the plate found at the excavation of the Sumerian city. It contains 145 lines in the Sumerian language and 15 recipes are given there. It becomes clear that the doctors of ancient Sumer generally used such plants as mustard, a fir, a pine, a thyme, a willow, plum fruits, a pear, a fig, etc. Different literary references confirm the use of herbs also in Assyria, Egypt, India, China approximately in 3000 BC, and at the beginning of AD – in Iran, Greece and Rome. In the Middle Ages the herbs were used in the Arab countries, Central Asia, Azerbaijan, Georgia, Armenia, the European countries. Culture and knowledge of the ancient Sumerians were inherited by the Babylonians who applied the roots of licorice plant, a datura, a henbane, linen seeds, etc. for medical purposes. The Babylonians noticed that sunlight negatively influences the curative properties of some plants therefore they dried plants in a shadow, and some herbs were even collected at night. Plants in China, India, and Tibet were widely applied. In 3216 BC the Chinese emperor Shennong wrote the work on medicine “Ben-tsao” (“Herbal list”). Considerable part of this work was devoted to the description of herbs and plants. The traditional Chinese medicine used more than 1500 plants. Such plants as astragalus dasyanthus, ginseng, ginger, dogwood, cinnamon, Chinese magnolia-vine, onions, peels of tangerine, a primrose, a licorice plant, an asparagus, garlic, skullcup most often were applied. The Old Indian medicine described in “Ayurveda” (Ist century BC) used about 800 plants which are still used. From the III<sup>rd</sup> century AD in India cultivation of herbs has begun. The Tibetan medicine has developed on the basis of Indian, and in the treatise “Gud-She” devoted to the Tibetan medicine there is a big section describing the use of herbs. For a long time the Tibetan medicine has been surrounded by mysticism. But in 1898 the doctor Peter Badmaev translated “Gud-She” into Russian. The Tibetan medicine applies about 400 species of herbs. In the book by Avicenna “A canon of medical science” the descriptions and methods of application of approximately 900 plants are provided. The first Russian book “Management to understanding of officinal herbs” was compiled by Andrew Bolotov in 1781.

Now in the program of training at medical and pharmaceutical institutes the course in pharmacognosy has been introduced.

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Статья посвящена обзору истории возникновения и существования справочников лечебных трав в России на протяжении нескольких веков. Внимание уделено

позитивному влиянию, которое лекарственные травы оказывают на здоровье человека. Автор статьи обращает внимание на не обоснованный отказ современного общества от использования лекарственных трав в процессе лечения.

### **Д.В. Кушнер**

Республика Беларусь, Брест, БрГУ имени А.С. Пушкина  
Научный руководитель – О.Н. Коваленко

## **HOW TO GET A JOB AT APPLE**

Nowadays it is difficult to find anyone who does not know anything about Apple. Millions of people all over the world use their products. A lot of students who major in programming dream to get a job in this company. The history of the creation of the company is amazing and cannot but fascinate everyone. In this article we are going to show how the company appeared and developed, as well as to give the tips how to get a job there.

The Apple company started on 1 April, 1976. It was headed by two friends Steve Jobs and Steve Wozniak. Wozniak had very skillful hands, while Jobs had a “well-hung tongue”. Wozniak and Jobs visited the Home Computer Club, where a microprocessor was demonstrated once at a meeting: it impressed Wozniak very much. Later Steve pondered a lot and it dawned on him. He assembled the terminal with a keyboard and a monitor. Later he said, “I suddenly realized what a personal computer should be like. The same evening I sketched on paper what later became Apple” [1].

The name of the company came to the creators’ head simply by chance. Jobs once went to an apple farm, where he cut off the apple trees. Wozniak met him at the airport. On the way back, the friends came up with names, the split was very common: Matrix, Executek, Personal Computer Inc. However, quite suddenly Jobs proposed “Apple Computer”. He explained this name to the fact that he was just sitting on an apple diet. Besides, in the telephone directory they would be in front of Atari. (Atari is an American company producing computer games.)

A lot of problems awaited them. They collected their first large order in the garage. They assembled everything very carefully, wishing to impress the first customer. When everything was ready, the customer did not want to accept the job, arguing that he wanted to see a whole personal computer, and not just bare boards. Still, the customer paid. And Jobs’ desire to change the world strengthened.

When assembling the first computer they came across a big problem: how to put the power supply in the enclosure that they had prepared. Very soon the problem was solved. In 1977 the world saw the revolutionary Apple II, which became the main source of income for the company. In 1977, sales increased to \$ 2.7 million, in 1978 – to 7.8 million, and in 1980 – to 117 million. Around 1982, Apple’s annual profit was billions of US dollars.

In the 1980s, the problems with the sales of “Apple III” led to the fact that Jobs had to fire 40 employees. In the press, they were already trumpeting about the imminent end of Apple. In early 1983, Jobs, unable to cope with the problems, invited John Scully to the office of president of the company, who at that time held a similar position in “PepsiCo.” In April 1983, Scully took up his duties. Steve Jobs experienced the company’s failures as his personal, as a result, disagreement and friction began to arise between him and Scully.

In 1985, US President Ronald Reagan awarded Jobs and Wozniak with medals for the development of technical progress. In the same year, Steve Jobs, one of the founders, left the company. By the late 1990s, Apple’s business had deteriorated sharply, by 1997 losses for two

years were \$ 1.86 billion. The situation changed with the return of Jobs in 1997. Apple began to gradually discover new, not directly related to computer technology, markets.

In 2001 there was a revolution in the company. They created a unique music player iPod, which was very convenient. It became possible to carry a large music library just in the pocket.

The year of 2007 marked the revolution in the sphere of mobile phones. The world saw the first iPhones. Many foretold that it was some kind of misunderstanding, that this phone was to fail, because it seemed impossible to use the phone without buttons. Despite this, the iPhone began to enjoy great popularity. At the moment it is one of the best-selling phones in the world. By the way, iPhone is one of the main sources of revenue for the company. An interesting thing happened recently: one of the most popular DJs in the history of Moby said that he proposed the idea of creating the original iPod and Apple iPhone. In an interview with The Guardian, the musician said that he advised Apple executives to create an MP3 player and phone when the first iPod and iPhone were not released yet. Moby stressed that he rarely tries to talk about it, so people do not think that he is showing off [2]. There are many other Apple products, for example an Apple watch (the best-selling smart watch in 2017), iMac, mac mini, mac pro, macbook, iPad.

Many students who are just starting their career think about becoming a part of this great company. In 2013, on 30 September, a video from the iOS Development Course Beginner course was downloaded to the Russian-language YouTube [3]. During the course the author explains the basics of programming for iOS devices. The courses are absolutely free, after completing them, by doing all the homework you can find a job as a developer in this field.

The author of these courses Alexei Skutarenko says he just took the documentation from Apple and explained it to the Russian-speaking audience. Although now he abandoned this field of development and became one of the developers of Google, his courses are still relevant. To the question “Why did you decide to prepare these courses?” he said, “I studied myself and at that time on the Internet there was little accurately ordered information, especially in the Russian language. It was not clear what was needed, what was important, and what was not worth mentioning. I prepared these lessons to enable the people in the post-Soviet space to learn how to program, find work and get out of poverty. Well, I did everything free of charge so that everyone could afford it, at least try.”

He also wants to support everyone who takes an interest in this field saying, “Very often I see how people surrender at the initial stage, when you do not get anything, while others are all just super. I think about 90 % students, if not more, may have similar thoughts. I would like to wish everyone to overcome this most difficult stage and never give up. I would also like to remind you that programmers are paid a lot and it is worth working hard, just in the beginning it is necessary to work well and not to pay attention to negative comments” [4].

In conclusion, it seems worth mentioning that to get a well-paid job in software developing it is vital to be highly motivated, to train perseverance, to fight laziness. Since you work mainly on your own it is a good idea to have a supervisor, or a person to whom you are accountable. Good luck!

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В статье автор описывает историю создания корпорации Apple, дает подсказки, как стать ее частью.

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