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Иностранные языки
и
современный мир

Foreign Languages
and Contemporary World

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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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ОСОБЕННОСТИ ОБУЧЕНИЯ ИНОСТРАННОМУ ЯЗЫКУ УЧАЩИХСЯ МЛАДШИХ КЛАССОВ С ОПОРОЙ НА ЛИНГВОСТРАНОВЕДЧЕСКИЙ АСПЕКТ

Лингвострановедческий подход актуален для любого этапа обучения, в том числе и для начального.

Многочисленные научные работы показывают, что у младших школьников нет осознанной внутренней потребности в изучении иностранного языка. Но у них есть естественный интерес, любопытство ко всему новому и неизвестному: им нравится слушать иностранную речь, хочется научиться говорить новые слова. Поэтому целью обучения иностранному языку в начальной школе является не только сохранение этого интереса, но и дальнейшее повышение мотивации детей к изучению иностранных языков [4].

Обучение иностранному языку младших школьников является актуальной проблемой для образовательной практики. Выделим основные преимущества раннему обучению иностранному языку:

– положительное влияние на общие речевые способности ребенка;

– более раннее вхождение ребенка в общечеловеческую культуру через общение на новом для него языке;

– положительное влияние на развитие различных психических функций (память, мышление, восприятие, воображение);

– повышение качества владения родным языком, создание базы для продолжения его изучения в основной школе.

Для успешной реализации обучения иностранному языку необходимо создать мотивы каждого речевого и неречевого действия детей при обучении как средствам общения, так и деятельности общения. Дети должны видеть результаты практического применения иностранного языка [1].

Материалы, посвященные стране изучаемого языка, стимулируют образное мышление, влияют на чувства, формируют вкус, оказывают воздействие на эмоции человека, его образно-художественную память. Кроме того, уроки иностранного языка для школьников станут намного интереснее, если они будут получать самую простую страноведческую информацию о географии, истории и культуре страны изучаемого языка; сведения о традициях, праздниках, особенностях быта, укладе повседневной жизни (что едят, какую одежду носят, как проводят вечера и свободное время, в каком возрасте начинают посещать школу и какие предметы изучают, в какие игры играют, какие фильмы и телепередачи смотрят и т. д.). Несомненно, важно привлекать внимание учащихся к страноведческому значению невербальных языков – это коммуникативные жесты, мимика, позы, выражения лиц.

Факты национальной культуры, те реалии, знание которых способствует повышению уровня общекультурной и страноведческой образованности младших школьников, содействуют формированию основ национально-культурной компетенции, под которой понимается целостная система представлений об основных

национальных традициях, реалиях страны изучаемого языка, позволяющая добиться полноценной коммуникации.

Учащиеся проявляют интерес к жизни своих сверстников за рубежом, к их обычаям, традициям, укладу повседневной жизни, формам проведения досуга и т. д. Целью обучения иностранному языку является не только приобретение знаний, формирование у школьников навыков и умений, но и усвоение ими сведений страноведческого, лингвострановедческого и культурно-эстетического характера. Из лингвострановедческого материала отбирается не только то, что имеет педагогическую ценность, что содействует обучению общению на иностранном языке, но и то, что способствует приобщению к культуре страны этого языка.

Использование лингвострановедческой информации в доступной и увлекательной для детей форме способствует усвоению ими элементов иноязычной культуры, повышению познавательной активности обучаемых, созданию у них положительной мотивации. Лингвострановедческий подход позволяет формировать страноведческую компетенцию, т. е. навыки и умения аналитического подхода к изучению зарубежной культуры в сопоставлении с культурой своей страны.

Для реализации перечисленных выше задач учителю необходимо изучить достаточно большое количество учебно-методической литературы и материалов, а также справочников, энциклопедий, словарей. Лингвострановедческий материал должен включать в себя аутентичные тексты и различные фотодокументы. Учащихся обязательно надо приобщать к страноведческой информации. Так, например, нужно активно вовлекать учащихся в парную, групповую работу, а также написание проектов и творческих работ. Найти наиболее эффективные методы работы со страноведческими данными является главной задачей учителя [2, с. 22].

Чтобы сформировать мотивацию у учеников, учителю необходимо использовать материалы разного рода, например кроссворды, опросники, тесты, лото, игры. Географические карты также очень важны, потому что они привлекают внимание учащихся и вызывают интерес. С помощью карты можно предложить ученикам рассказать, какие ассоциации вызывают те или иные географические названия. Выполняя речевые упражнения, нужно использовать печатный материал, который служит смысловой поддержкой или стимулом для высказываний. Задания могут включать: установку на выражение определенного отношения к увиденному; фразы-клише, которые помогут выразить собственную точку зрения [3].

Таким образом, с помощью иностранного языка в начальных классах закладываются основы для последующего изучения иностранных языков в средней школе, для формирования учебных умений, для развития у учащихся интереса к культурному многообразию мира, уважения к языкам и культурам других народов, а также для развития первых представлений о нормах поведения в странах изучаемого языка, для «открытия» возможностей английского языка как средства общения в мире. Тем самым обучение иностранному языку должно способствовать становлению личности ребенка, максимально развивать его потенциал, давать ему инструмент для иноязычного общения и взаимодействия.

Внедрение лингвострановедческого составляющего компонента на уроках английского языка выполняет одну из задач лингвистики – содействие увеличению мотивации учащихся вследствие того, что учащихся интересует все, что связано с образом жизни страны изучаемого языка, например с искусством, культурой, традициями. Процесс изучения иностранного языка становится для учащихся открытием страны изучаемого иностранного языка и людей, которые говорят на этом языке.

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QUEST TECHNOLOGIES IN THE FORMATION OF LEXICAL SKILLS OF THE 5TH GRADE PUPILS OF SECONDARY SCHOOL

The dynamic development of the modern world and globalization have a huge impact on the consciousness and the mental model of society. The young generation is characterized by a fragmentary clip-like thinking, their attention quickly diffused with an abundance of incoming information. The current digital environment requires teachers to have a different way of perceiving the world, and, consequently, more progressive methods and techniques for working with students. Applying an innovative approach to lesson design is essential for successful English language learning.

A goal of the state educational standards for foreign languages is the mastery of communicative competence in speaking, listening, reading and writing. Vocabulary in the system of linguistic means is the most important component of speech activity.

The relevance of the chosen research topic lies in the fact that the study of a foreign language today is recognized as very important in modern society, while teaching a foreign language vocabulary is one of the most important issues, because without mastering vocabulary skills students will not be able to master the basic types of speech activity.

In modern pedagogical reality, a foreign language lesson departs from the traditional forms of conduct, moving to a completely new level. Recent educational and methodical literature contains a large number of different techniques work on the lexicon.

Recently, there has been a tendency to introduce information and communication technologies into the educational environment. The Concept of the Federal Target Program "Development of Informatization in Russia for the Period up to 2010" identified the strategic directions of Russia's transition to an information society. Among them, one of the main ones is the informatization of the entire system of general and special education; increasing the role of qualifications, professionalism and creativity [2, p. 13].

Quest technology corresponds to this concept and can become an additional teaching tool for practical development of lexical skills in the English language.

The purpose of this work is to show the effectiveness of modern educational technologies, particularly quest technologies, aimed at the formation of lexical skills at the middle stage of education.

The problem of the formation of lexical skills is one of the most significant problems of teaching a language in a general education school.

Lexical competence is an integral part of communicative competence in general, therefore the development of lexical skills plays an important role in learning a foreign language.

Lexical skill is closely related to lexical knowledge. For the 5th grade students, the education system puts forward the requirement for the formation of lexical knowledge regarding the following aspects [4, p. 2]:

1) knowledge of phonetics and spelling, word formation and semantic structure of the word, grammatical form of a word and its part of speech, most frequent synonyms and antonyms, homonyms, lexical and grammatical combinations of words;

2) the ability to construct the lexical-semantic field of the word;

3) understanding and interpretation of the metaphorical meanings of the word.

To minimize the problems associated primarily with memorization and the use of words in speech, we consider it necessary to carry out systematic work on the automation of lexical skills involving information technology. It should be borne in mind that the best way to master lexical units is to introduce and train them in action-game situations that meet the interests of students. Educational quest is suitable for effective work of 5-graders – taking into account their psychological and physiological characteristics, such gaming method favorably promotes the assimilation of skills and knowledge.

Educational quest is an integrated technology that combines the idea of the project method, problem and game-based learning, team collaboration and ICT; "combining the determined search for performing the main problem and a series of auxiliary tasks and (or) playing on a certain plot" [1, p. 51].

This form of vocabulary revitalization will be effective if the educational quest meets certain requirements.

When preparing and organizing quests, it is necessary to identify the planned educational outcomes, to determine the goals and objectives, to prepare blocks of exercises based on the materials of the studied program in advance. Learning quest assignments can be created by using special programs or applications from computer-aided design, that allow collecting courses from available information resources [3, p. 55].

In order to evaluate the results of the quest, a teacher must develop a system of criteria that include the assessment of not only language skills, but also the skills and abilities of their use in communication.

The teacher plays a role not only a source of knowledge in the quest, but also an assistant who guides students' independent creative work in solving tasks. Questions and tasks of the quest are the "skeleton" of a lesson.

When choosing vocabulary for a quest, the teacher should always rely on the teaching materials. Furthermore, the vocabulary should be introduced in a functional and meaningful context. It should be practiced through a variety of exercises such as associative selection of images and words, completion of a set of phrases, phrases with the aim to teach 5-graders to use everyday English correctly.

In this regard, it is worth paying attention to the corresponding characteristics of lexical tasks that contribute to an increase in not only vocabulary proficiency, but also in motivation for learning a foreign language:

1) tasks should be selected or composed taking into account the interests of students, thereby generating motivation for learning;

2) tasks should be accompanied by rich graphics, images, audio, video materials that correspond to the topic of the curriculum;

3) the degree of complexity of the tasks should correspond to the actual level of knowledge and skills of students;

4) tasks should be situational and time-consuming.

As an example, we can take an assignment on the topic "An unusual trip to England", which is designed to work with the 5-6-grade-students studying "The UK" section. One of the tasks for mastering vocabulary skills is a crossword puzzle, which contains a number of country-study questions on Great Britain.

Horizontally: 1. It's a woman, the main symbol of the UK. 3. The biggest river in London. 5. The capital of Scotland. 8. The capital of Northern Ireland. 10. It lives in the Tower of London. 12. The capital of England.

Vertically: 2. A part of the UK. 6. The__ of London. 6. Buckingham __7. A part of the UK. 9. Westminster __. 11. A part of the UK. 13. The capital of Wales.

To form lexical skills when working with quests in foreign language lessons for grade 5, you can use the following tasks: spread the words on the topic; write a letter of response using the highlighted words from the frame; substitute the suitable words within the meaning and others.

It is worth mentioning that quests can be both group quests – students practice the ability to work as a team, which contributes to the formation of communicative and regulatory universal educational actions, taking into account the individual characteristics of students, and individual – when a student performs educational and cognitive activities independently in order to develop personal knowledge, skills and abilities.

Quest development requires a lot of time and skills. However, having developed a series of quests once, the teacher can use it in the following years, saving time and effort, and making the educational process more up-to-date.

The use of modern educational technologies in teaching a foreign language in secondary school allows diversifying the educational process and increasing the motivation for learning a foreign language. A quest technology stands out for its relevance, increases interest in the subject, and allows students to unleash their creativity and imagination. Students develop the skills of research activities, the ability to independently and collectively work with information, expand their horizons, erudition, which will be useful to them in their future professional activities.

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Раскрывается проблема эффективного обучения английскому языку школьников. Выдвигается тезис о необходимости внедрения информационных технологий в учебный процесс. Один из способов внедрения новых технологий, повышающих эффективность обучения английскому языку, – использование квест-технологии. Значительным разделом изучения английского языка является лексика, поэтому автор рассматривает использование квест-технологий в формировании лексических навыков при изучении английского языка среди учащихся 5 классов.

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THE FOUNDING FATHERS OF MODERN ROCKET SCIENCE

The relevance of this work lies in the fact that in the modern world, rocket and space technology is an integral part of everyday life. Aerospace technology has always been at the forefront of scientific and technological progress. It has accumulated the best results of scientific research and embodied all the best achievements of modern civilization. Any aircraft that has detached from the Earth’s surface is a “small Earth”, therefore it is important for all of us to be aware of the development stages of this technology.

Modern rocket science started developing in 1898, when a Russian school teacher Konstantin Tsiolkovsky (1857–1935) proposed the idea of researching space by rockets. In his report, which was published in 1903, Tsiolkovsky proposed to use liquid propellants in rockets for longer range [1]. He thought that speed and range of the rocket were limited only by the speed of the exhaust gases. Tsiolkovsky is called the father of modern astronauts for his ideas and careful research. In the early twentieth century, American scientist Robert H. Goddard (1882–1945) conducted practical tests of the rocket. He was interested in finding a way to reach the highest heights with lighter-than-air balloons. In 1919, he published a work that was called “A Method of Reaching Extreme Altitudes”. It was a mathematical analysis of

what is now called a meteorological rocket [1]. Godard's first experiments were with solid-propellant rockets. In 1915, he began experimenting with various types of solid fuels and measuring the speed of flue gases. Working on solid-propellant rockets, Goddard became convinced that the rocket could be better supplied with liquid fuel. No one had built successful liquid-fueled rockets before. It was much more difficult than building a solid rocket as it required fuel and oxygen tanks, turbines and combustion chambers. Despite the difficulties, Goddard made his first successful flight on March 16, 1926, with a propulsion rocket. Liquid oxygen and gasoline lifted the rocket in just two and a half seconds, climbed 12.5 meters and landed at a distance of 56 meters [2]. Godard's experiments with liquid-fueled rockets continued for years. His rockets got bigger and flew higher after every launch. He developed a gyroscope system for aircraft control and a payload for scientific instruments. Parachute ascent systems were used to safely return missiles and tools. Goddard was hailed as the father of modern rockets for his accomplishments. Next great rocket engineer is Hermann Obert (1894–1989). In 1923, he published a book about travelling in space using a rocket. His contribution was important. Thanks to it, many small rocket communities were springing up around the world. In Germany, the establishment of such a society, the Verein fur Raumschiffahrt (Space Travel Society), led to the production of the V-2 rocket, which was used in World War II against London [1]. In 1937, German engineers and scientists, including Obert, gathered on the Baltic Sea coast. There, under the leadership of Wernher von Braun, the most advanced rocket of the time was built and took off. The V-2 rocket (called the A-4 in Germany) was smaller than modern rockets. He achieved this high pressure by burning a mixture of liquid oxygen and alcohol at a rate of about one ton every seven seconds. Once launched, the V-2 was a formidable weapon capable of destroying all quarters of the city [2].

Luckily for London and the Allies, the V-2 arrived at the end of the war to change the outcome. By the end of the war, German rocket scientists and engineers had already developed plans for promising missiles capable of crossing the Atlantic Ocean and landing in the United States. Following the fall of Germany, many unused V-2 missiles and their components were captured by the Allies. Many German rocket scientists have travelled to the United States. The rest left for the Soviet Union. German researchers, including Wernher von Braun, were surprised by Godard's success. The Soviet Union and United States recognized the potential of missile technology as a military weapon and launched a series of test programs. Later, various intercontinental ballistic missiles were produced. They became the starting point of the space program. On October 4, 1957, the world was shocked by the news of the Soviet Union launching an artificial Earth satellite. The satellite was built under the guidance of S.P. Korolev and became the first successful participant in the space race between the two superpowers. Less than 5 weeks later, the Soviet Union launched a satellite with a dog named Laika. Before the oxygen supply ran out, Laika lived in the spacecraft for seven days and on April 12, 1961, the first man went into space. It took Gagarin 1 hour 48 minutes to fly around the planet. The capsule of his descent module landed safely in Saratov region and soon news about "108 minutes in space" instantly flew around the world [2].

Soon, many people and spacecraft were launched into space by the USSR and the USA. Cosmonauts revolve around the Earth and land on the Moon. Robot spaceships revolve around the planets. The site was unexpectedly opened for commercial exploration and exploitation. Satellites allow scientists to discover our world, predict the weather, and instantly communicate around the world. As demand for ever larger supplies grew, it became necessary to create a wide range of powerful and versatile missiles. Since the early days of discovery and testing, rockets have evolved from simple gunpowder devices to giant vehicles that can travel through space. Rockets opened the world to the direct discovery of humanity.

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Рассказывается о великих ученых и инженерах, внесших неоценимый вклад в развитие ракетостроения. В современном мире ракетно-космическая техника является неотъемлемой частью повседневной жизни. Аэрокосмические технологии всегда были в авангарде научно-технического прогресса. Проведен обзор лучших результатов научных исследований и самых передовых достижений в рассматриваемой области. Любой самолет, оторвавшийся от поверхности Земли, является моделью «маленькой Земли», поэтому для всех нас важно знать этапы развития аэрокосмических технологий.

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DEUTSCHE GESELLSCHAFT IN DER ZEIT DES CORONAVIRUS

Nach monatelangem Lockdown spricht sich eine Mehrheit der Deutschen für weitreichende Lockerungen der Corona-Maßnahmen aus. Laut einer Umfrage des Instituts Insa für die „Bild am Sonntag“ sind 75 Prozent für eine Öffnung des Einzelhandels im März, 17 Prozent sind dagegen. Restaurants und Kneipen wollen 54 Prozent der Befragten wieder offen sehen, 64 Prozent sind für eine vollständige Wiederöffnung von Schulen und Kitas. Nichts wird mehr so sein wie vor Corona, meinen viele – und manche fürchten es. Das Ziel der vorliegenden Arbeit ist es, die Maßnahmen der deutschen Gesellschaft und Regierung bei der Corona-Situation zu untersuchen [1].

Die wirtschaftlichen und gesellschaftlichen Folgen sind derzeit noch nicht absehbar. Eine besondere Herausforderung muss das Risiko-Management der Regierungen bestehen, meint Prof. Andreas Reckwitz, der von Politiker/innen wie Bundeskanzlerin Angela Merkel oder SPD-Generalsekretär Lars Klingbeil gelesen wird. Beim Abwägen zwischen allgemeinem Gesundheits-schutz und dem Grundrecht des Einzelnen auf freie Entfaltung stehe man immer vor einem schwer lösbaren Dilemma. Und wie groß werde der Einfluss der Wissenschaft auf die Politik in Zukunft sein, fragt Reckwitz.

Der Fortschrittsglaube, der das System bisher immer höher und immer weiter tragen sollte, stoße durch die Corona-Krise endgültig an seine Grenzen. Das Vertrauen und die Zuversicht in stetiges Wachstum, Globalisierung und eine deregulierte Wirtschaft schwinden. Ein Kontrollverlust der Systeme werde spürbar und verunsichere vor allem die hochentwickelten Gesellschaften. Zudem werfe die Corona-Krise den Menschen auch auf seine biologische Existenz zurück. Wir sind zerbrechlich und merken jetzt wieder, dass wir doch mehr mit den Tieren verwandt sind als mit unseren Smartphones, kommentiert Richard David Precht.

Bund und Länder haben sich darauf verständigt, den Lockdown zur Eindämmung der Corona-Pandemie bis 7. März zu verlängern. Die Zahl der Neuinfektionen ist nach ihrer Bewertung noch zu hoch für Öffnungen – vor allem angesichts der auch in Deutschland kursierenden höchst ansteckenden Virusmutationen. Ein paar Lockerungen kann es aber schon früher geben.

Bei den Kontaktbeschränkungen und der Maskenpflicht bleibt es bei den derzeitigen Regeln: Private Zusammenkünfte sind weiterhin nur im Kreis der Angehörigen des eigenen Hausstandes und mit einer weiteren nicht im Haushalt lebenden Person gestattet. Die Personen sollen dabei möglichst konstant bleiben. In Geschäften und öffentlichen Verkehrsmitteln muss eine medizinische Maske getragen werden. Arbeitgeber müssen weiter Homeoffice ermöglichen. Die entsprechende Rechtsverordnung gilt ohnehin noch bis zum 15. März. Einzelhandel, Sport-, Kultur- und Freizeiteinrichtungen bleiben geschlossen. Gottesdienste dürfen nur unter strengen Auflagen und mit Anmeldung stattfinden. Nicht notwendige private Reisen und Besuche – auch von Verwandten – sind weiterhin zu unterlassen. Das gilt auch im Inland und für überregionale tagestouristische Ausflüge [3].

Schulen und Einrichtungen zur Kinderbetreuung sollen als erstes wieder öffnen, wobei die einzelnen Bundesländer über den genauen Zeitpunkt entscheiden. Einige wollen schon am 22. Februar wieder mit dem Präsenzunterricht starten, beispielsweise Berlin, Hessen und NRW. Wo immer möglich, sollten medizinische Masken verwendet werden, heißt es im Beschluss. Zudem sollen vermehrt Schnelltests in Schulen zum Einsatz kommen. Geprüft werden soll, ob Grundschullehrer und Erzieher früher als bisher geplant geimpft werden können – und in die Impf-Kategorie 2 (hohe Priorität) genommen werden. Sie wären damit in einer Gruppe mit den über 70-Jährigen. Der Vorsitzende der Ständigen Impfkommission, Mertens, sieht allerdings keinen Grund, Lehrkräfte bevorzugt zu impfen.

Schon am 1. März können Friseure wieder öffnen, auch weil für diesen Zeitpunkt erwartet wird, dass die Zahl der Neuinfektionen pro 100.000 Einwohner binnen sieben Tagen unter 50 liegt. Für Friseure gelten dann aber strengere Auflagen: Termine müssen reserviert und medizinische Masken getragen werden.

Erst wenn die Zahl der Ansteckungen pro 100.000 Einwohner in einer Woche unter 35 liegt, soll es weitere Öffnungen geben, und zwar für Einzelhandel, Museen und Galerien sowie für andere körpernahe Dienstleistungen neben den Friseuren. Im Einzelhandel soll sich nicht mehr als ein Kunde pro 20 Quadratmeter aufhalten. Über die Öffnung der Bereiche entscheiden auch hier die Länder [2].

Für weitere seit langem geschlossene Bereiche im Freizeitbereich sowie von Sport- und Kultureinrichtungen haben Bund und Länder noch keine konkrete Perspektive gegeben. Bund und Länder arbeiteten weiter an der Entwicklung nächster Schritte, heißt es im Beschluss. Dazu sei eine Arbeitsgruppe eingerichtet worden. Schleswig-Holstein kündigte als erstes Bundesland Lockerungen im Freizeitbereich an: Ab dem 1. März dürfen Zoos und Wildparks unter Einhaltung der Hygieneregeln wieder öffnen. Auch Sport in der Halle soll wieder möglich sein, allerdings nur mit den bestehenden Kontakt-beschränkungen.

Bund und Länder halten an dem Ziel fest, dass allen Bürgerinnen und Bürgern spätestens bis zum Ende des Sommers ein Impfangebot gemacht werden kann. Dies sei nach Stand der aktuell von den Herstellern zugesagten Zulassungsdaten und Liefervolumen erreichbar, heißt es in dem Beschluss-Papier. Bund und Länder werden alle entsprechenden organisatorischen Vorkehrungen treffen. Vor dem Herbst soll so ein ausreichendes Schutzniveau sichergestellt sein.

Ab sofort können Anträge für die Überbrückungshilfe III gestellt werden. Damit beginnt in den nächsten Tagen die Auszahlung mit Abschlagszahlungen. Weil Kulturschaffende besonders von der Pandemie betroffen sind, hat der Bund das Rettungs- und Zukunfts-

Programm „Neustart Kultur“ mit einer weiteren Milliarde Euro ausgestattet, die auch zügig zur Auszahlung gebracht werden soll.

Die Gesundheitsministerkonferenz wird gebeten, Empfehlungen für eine Erweiterung der Besuchsregeln zu erarbeiten. Es geht vor allem darum, in welchem zeitlichen Abstand zur Zweitimpfung die Regeln gelockert werden können.

Die Länder sollen sicherstellen, dass künftig alle Gesundheitsämter Software nutzen, um Kontaktketten von Infizierten besser nachverfolgen zu können.

Alle diese Maßnahmen haben gezeigt, dass die ganze deutsche Gesellschaft alle ihre Kräfte einsetzt, um Corona zu stoppen. Das alles kostet viel Geld und Bemühungen, aber alle hoffen auf Besseres.

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Описана консолидация немецкого общества в борьбе с пандемией COVID-19. Федеральные власти и руководители всех немецких земель выступают единым фронтом в борьбе со смертоносным вирусом. С целью скорейшего возвращения Германии к нормальной жизни правительством тратятся миллиарды евро.

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LA JUSTICE JUVÉNILE EN FRANCE ET LES OPPORTUNITÉS POUR SON DÉVELOPPEMENT EN RÉPUBLIQUE DU BÉLARUS

Dans cet article nous considérons le problème de la modernisation du système judiciaire et du développement de la justice pour mineurs en France qui sont devenus nécessaires à la fin du XIXe siècle, lorsque le niveau de la criminalité des enfants a fortement augmenté en Europe. La justice pour mineurs en tant qu’institution indépendante a commencé à se former au début du XXe siècle avec la création du premier tribunal pour mineurs de France en 1912.

Le concept de justice pour mineurs stipule que la justice pour mineurs est informelle, ce qui n’est pas inscrit dans l’idée traditionnelle d’une procédure judiciaire strictement réglementée. Il faut noter que la législation et jurisprudence des pays où tribunaux pour mineurs fonctionnent sont jugées comme les plus efficacement applicables aux adolescents [2].

Le système moderne de justice pour mineurs en France est régi par la loi № 45-174 du 2 février 1945 relative à la délinquance juvénile. La loi établit que resocialisation d’un mineur qui a commis une infraction est plus importante que les sanctions pénales et reconnaît le droit des mineurs délinquants à l'éducation. Le but de cette loi est d’inclure les jeunes dans la vie de la société. Par conséquent, l’éducation sous la supervision des services administratifs

pénitentiaires est depuis lors un domaine d'activité particulier du Ministère de la justice. Il voit sa tâche dans la consolidation de la priorité de l'éducation des mineurs sur leur peine.

Conformément à la procédure pénale et au droit pénal de France, l'âge général de la responsabilité pénale commence à 16 ans. De 13 à 16 ans, des mesures de protection judiciaire sont appliquées. Dans des cas exceptionnels, le juge peut réduire le niveau de responsabilité pénale.

Les mesures d'influence appliquées aux mineurs sont très diverses en termes de gravité, ce qui est l'un des principes générales de la justice pour mineurs. D'une manière générale, les mesures d'influence peuvent être divisées en deux types: les mesures éducatives et les sanctions éducatives. Les mesures éducatives impliquent le retour aux parents, la réprimande, l'indemnisation du préjudice, la surveillance, la garde scolaire, la nomination d'une protection judiciaire, le placement en institution, etc. À son tour, une sanction éducative est l'indemnisation des pertes ou l'assistance aux victimes, l'interdiction de visiter certains lieux ou de communiquer avec certaines personnes, etc.

En ce qui concerne les mineurs qui ont commis un crime, il existe également des mesures spéciales:

- Contrôle légal des mineurs. L'objectif principal de cette mesure est de contraindre le mineur à respecter la loi, et par conséquent, les différentes interdictions qui ont été établies en raison de sa faute.

- Emprisonnement temporaire. L'application de cette mesure n'est possible que pour les crimes graves et les crimes de gravité moyenne si elle est la seule possible. Cette mesure est exceptionnelle et ne peut pas du tout s'appliquer aux mineurs de moins de 13 ans [1].

- Travaux publics qui ne sont pas rémunérés. La prescription de cette mesure nécessite le consentement de l'adolescent. La durée de cette mesure est de 40 jusqu'à 140 heures.

En ce qui concerne les mineurs de plus de 13 ans, le tribunal peut imposer les types de sanctions suivants: une peine d'emprisonnement, une amende, des travaux d'intérêt général (pour les mineurs de plus de 16 ans). La durée moyenne d'emprisonnement pour les mineurs est de 1 mois. Un adolescent peut être traduit devant un juge pour mineurs à tout âge, cependant, l'imposition d'une sanction par le tribunal ne s'applique qu'aux mineurs de plus de 13 ans. Dans le même temps, il est autorisé à réduire l'âge de la responsabilité pénale et à appliquer des sanctions aux mineurs de moins de 13 ans, dans les cas où le tribunal établit leur culpabilité dans la commission de crimes particulièrement graves.

Après avoir analysé la justice des mineurs en France et étudié les particularités de son application, nous pouvons conclure que certaines caractéristiques de cette institution existent dans la législation nationale de la République de Belarus. Cela s'exprime principalement dans le fait que la législation administrative et pénale poursuit une politique d'atténuation des peines non seulement pour les adultes, mais aussi pour les mineurs.

À partir du 1er mars 2021, une nouvelle version du Code des infractions administratives est entrée en vigueur en République du Bélarus. De nombreux changements y ont été apportés, notamment une division sur la responsabilité des mineurs pour infractions administratives. Cette division prévoit des mesures administratives contre les mineurs, qui sont nouvelles dans la législation nationale. Par exemple, les mesures d'influence éducative, qui comprennent la clarification de la législation, les excuses à la victime, la restriction des loisirs.

La République du Bélarus n'a pas d'institution de justice pour mineurs, mais tous ces changements législatifs contribuent à son développement à l'avenir. Dans la République du Bélarus, il est nécessaire de créer des tribunaux spécialisés, dont la compétence exclusive comprendrait l'examen des affaires pénales, civiles et administratives, avec la participation de

mineurs. Autrement dit, la législation prévoit la possibilité d'examiner les affaires impliquant des mineurs dans un procédure avec des conditions spéciales favorables différentes de l'examen des cas d'autres citoyens devant les tribunaux de la République du Bélarus. Dans ces tribunaux, les affaires devraient être examinées avec la participation d'un juge professionnel ayant une expérience pertinente dans le domaine et avec la participation des psychologues. Il est également important que ces tribunaux se spécialisent exclusivement dans l'examen des affaires civiles, pénales et administratives impliquant des mineurs, cela permettra au juge d'examiner l'affaire dans son intégralité, qualitativement, en tenant compte de toutes les circonstances pertinentes à l'affaire [3, p. 71]. Ainsi, il contribuera à accélérer l'examen des dossiers avec la participation des mineurs, et la mise en œuvre de la transition vers la réadaptation et le rétablissement d'un mineur, tandis que le système judiciaire actuel vise à punir les mineurs.

Grâce à une expérience internationale, il est possible de créer un système de tribunaux pour mineurs en République du Bélarus, dont les activités viseraient la réadaptation et l'éducation des mineurs dans l'esprit du respect des lois. Il ne fait aucun doute que l'introduction de ces tribunaux dans le système judiciaire entraînera l'adoption et l'élaboration d'un nombre approprié d'actes juridiques normatifs qui réglementerait les activités de ces tribunaux, mais la protection des droits et intérêts des mineurs est toujours l'objectif principal de la loi.

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Рассматривается проблема модернизации юридической системы во Франции, и в частности создание системы правосудия для несовершеннолетних. Такая мера стала необходимой в связи с ростом детской преступности. Раскрывая основные положения нового законодательства для несовершеннолетних, автор утверждает, что подобная система может быть создана и успешно функционировать и в Республике Беларусь.

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ADOLESCENTES Y USO DE LAS REDES SOCIALES

Muchos padres se preocupan por la forma en que la exposición a la tecnología podría afectar a los niños pequeños desde el punto de vista del desarrollo. Sabemos que nuestros niños en edad preescolar están adquiriendo nuevas habilidades sociales y cognitivas a un ritmo impresionante, y no queremos que horas pegados a un iPad se lo impidan.

Pero la adolescencia es un período igualmente importante y de rápido desarrollo, sin embargo, muy pocos de nosotros estamos prestando atención a cómo el uso de la tecnología de nuestros adolescentes los está afectando. De hecho, a los expertos les preocupa que las redes sociales y los mensajes de texto, que se han vuelto tan esenciales para la vida adolescente, estén promoviendo la ansiedad y disminuyendo la autoestima.

La gente joven reporta que puede haber una buena razón para preocuparse. En una encuesta llevada a cabo por la Royal Society of Public Health, se preguntó a jóvenes entre 14 y 24 años de edad en Gran Bretaña, de qué manera las plataformas de las redes sociales tenían un impacto en su salud y bienestar. Los resultados de la encuesta encontraron que Facebook, Twitter e Instagram aumentaban los sentimientos de depresión, ansiedad, mala imagen corporal y soledad [1].

Los adolescentes son expertos en mantenerse ocupados durante horas después de la escuela y hasta mucho tiempo después de la hora de acostarse. Cuando no están haciendo su tarea (y cuando la hacen) están en línea y en sus teléfonos, enviando mensajes de texto, compartiendo, provocando, desplazando el cursor de arriba hacia abajo, lo que sea [1].

Por supuesto, antes de que todos tuvieran una cuenta de Instagram, los adolescentes también se mantenían ocupados, pero era más probable que hablaran por teléfono o en persona cuando salían al centro comercial. Aunque pudo haber parecido una gran cantidad de reuniones sin sentido, lo que estaban haciendo era experimentando, probando habilidades, teniendo éxito y fracasando en cientos de pequeñas interacciones en tiempo real, que los niños de hoy se están perdiendo.

Por su parte, los adolescentes modernos están aprendiendo a comunicarse mayormente mientras miran una pantalla, no a otra persona [1].

La aceptación entre sus iguales es importante para los adolescentes, y muchos de ellos se preocupan por su imagen tanto como un político que se postula para un cargo y para ellos puede sentirse tan serio. Los niños de hoy están obteniendo datos reales de encuestas sobre cuánto les gustan a las personas o sobre su apariencia, a través de cosas como “me gusta”. Es suficiente para que alguien no mire. ¿Quién no querría verse “mejor” si puede? Entonces los niños pueden pasar horas podando sus identidades en línea, tratando de proyectar una imagen idealizada. Las adolescentes clasifican centenares de fotos, agonizando sobre cuáles publicar en línea. Los chicos compiten por la atención tratando de superar a los demás, empujando todo lo que pueden en la ya desinhibida atmósfera en línea. Los niños hacen pandillas unos contra otros.

Otro gran cambio que ha llegado con la nueva tecnología, y especialmente con los teléfonos inteligentes, es que nunca estamos realmente solos [2]. Los niños actualizan sus estados, comparten lo que están viendo, escuchando y leyendo, y tienen aplicaciones que les permiten a sus amigos conocer su ubicación específica en un mapa en todo momento. Incluso si una persona no está tratando de mantener a sus amigos actualizados, nunca estará fuera del alcance de un mensaje de texto.

El resultado es que los niños se sienten hiperconectados entre sí. La conversación nunca debe detenerse y parece que siempre sucede algo nuevo. Al mismo tiempo todos necesitan un respiro de las demandas de intimidad y conexión; tiempo a solas para reorganizarse, reponerse o simplemente relajarse. Cuando no tienes eso, es fácil convertirte en alguien emocionalmente agotado y terreno fértil para que la ansiedad se reproduzca [2].

De igual modo, es sorprendentemente fácil sentirse solo en medio de toda esa hiperconexión. Por un lado, ahora los niños saben con certeza deprimente cuándo se les ignora. Todos tenemos teléfonos y todos respondemos a las cosas con bastante rapidez, de modo que cuando esperas una respuesta que no llega, el silencio puede ser ensordecedor [2].

El tratamiento silencioso puede ser un insulto estratégico o simplemente el desafortunado efecto secundario de una relación adolescente en línea que comienza intensamente, pero luego se desvanece.

Si los niños no practican lo suficiente relacionándose con otras personas y satisfaciendo sus necesidades en persona y en tiempo real, muchos de ellos se convertirán en adultos ansiosos acerca del medio principal de comunicación de nuestra especie: hablar. Y, por supuesto, las negociaciones sociales solo se vuelven más riesgosas a medida que la gente envejece y comienza a navegar en relaciones románticas y empleo.

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Рассматривается влияние социальных сетей на формирование сознания и ценностных ориентаций современных подростков.

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THE FOURTH INDUSTRIAL REVOLUTION

Primarily, there is a point in defining the meaning of the term mentioned in the title of the article. The Fourth Industrial Revolution is the current automation of traditional fabricating and industrial practices with the help of contemporary smart technologies. With an eye to increase automation, improve communication and self-monitoring, manufacturers started producing smart machines capable of analyzing and diagnosing various issues on their own without external leg-up like the intervention of humans in their operation, involving large-scale machine-to-machine communication and the internet of things. The first three industrial revolutions are well known. The first one, from 1760 to 1840, brought the steam engine, railroads, and machine manufacturing. The second one, from about 1870 to 1914, gave us electricity and mass production. The third one, often called the digital revolution, encompassed the last decades of the 20th century and produced semiconductors, computers, and the Internet. The Fourth Industrial Revolution began in about 2000 and is based on the third one to leverage the increasingly pervasive influence of the digital world in every aspect of modern life.

The person who first introduced the phrase Fourth Industrial Revolution to a wider audience in 2015 was Klaus Martin Schwab, the founder and executive chairman of the World Economic Forum. This term was published in an article by Foreign Affairs, an American magazine of international relations and the U.S. foreign policy published by the Council of Foreign Relations. On October 10, 2016, the World Economic Forum announced the opening of its Centre for the Fourth Industrial Revolution in the United States of America,

the city of San Francisco. In addition, the new term was also the subject and title of Schwab's 2016 book. Klaus Schwab included technologies that combine hardware, software, biology (cyber-physical systems) and emphasize advances in communication and connectivity in the Fourth Industrial Revolution. He expected this period to be labelled by spurts in emerging technologies in spheres such as artificial intelligence, robotics, nanotechnology, biotechnology, quantum computing, the internet of things, the industrial internet of things, decentralized consensus, fifth-generation wireless technologies, 3D printing, and fully autonomous vehicles [1].

There are four elaboration principles recognized as integral to Industry 4.0:

- Interconnection – the ability of machines, devices, sensors, and people to connect and communicate with each other via the Internet of things, or the internet of people (IoP).
- Information transparency – the transparency furnished by Industry 4.0 technology provides operators with comprehensive information to make decisions. Inter-connectivity allows operators to collect tremendous amounts of data and information from all points in the manufacturing process, identify key areas that can benefit from improvement to increase functionality.
- Technical assistance – the technological facility of systems designed to assist humans in decision-making and problem-solving, and the ability to help humans with complicated or perilous tasks.
- Decentralized decisions – the ability of cyber physical systems to make decisions not depending on humans' will and perform their tasks as autonomously as possible. Only in the case of exceptions, interference, or conflicting goals, are tasks delegated to a higher level.

The Fourth Industrial Revolution is made up of many components when looking closely into our society and ongoing digital tendencies: mobile devices, Internet of things (IoT) platforms, location detection technologies (electronic identification), advanced human-machine interfaces, authentication and fraud detection, smart sensors, big analytics and advanced processes, multilevel customer interaction and customer profiling, augmented reality/ wearables, on-demand availability of computer system resources, data visualization and triggered "live" training.

The first three industrial revolutions provided the world with water and steam power, electricity and digitization. Every industrial revolution entails refining shifts to social, economic, environmental and political systems that truly alter the course of humanity. Some of these shifts are foreseen, and others are completely unpredictable. One of the most immediate and impactful outcomes of technological evolution is the vast advancement in automation.

For most global industries (e. g. logistics, financial, manufacturing, aerospace, etc.), advancements in AI, robotics, 3D printing and the internet of things will put a great deal of pressure on companies to automate in order to remain competitive in a global landscape. This will require companies to have a solid understanding of the way these technologies affect their industries and how they can ensure organizational agility to adapt to these changes. Increased global competitiveness will accelerate cost pressure, which will lead to substantial downsizing or reassignment of a large contingent of workers. McKinsey estimates that by 2030 up to 800 million individuals may be displaced by automation. Every day, more and more manual processes are becoming automated, and as technology continues to accelerate, so will automation. As a result, the world of work and labour market demand are rapidly changing. According to McKinsey, up to 375 million workers may need to change their occupational category by 2030, and digital work could contribute $ 2.7 trillion to global GDP by 2025. Technology will continue to change societal values. Forasmuch as the United States

of America is one of the countries that most vividly manifest almost all new and springing up technologies on Earth and due to its amplified economy that affects national GDP paving to the world's second economy nowadays after China, it makes a good example that demonstrates the substantial influence of the Fourth Industrial Revolution era. Today, more than 36 % of the U.S. workforce are freelancers for reasons including autonomy, flexibility and extra income. Co-working spaces are exploding in popularity and are often fully subscribed before opening their doors. Technology has enabled people to work anytime, anywhere. By 2027, more than half of American workers will be freelancing. There are four factors of production that fuel economic growth: land, labour, capital and enterprise. Today, the world is attaining only 52 % of its entrepreneurial capacity, and this number is declining year over year. Large, established enterprises have a significant advantage in the future of work than smaller companies due to their ability to adapt to technological changes. However, this is not a recipe for long-term, sustainable economic success. The world must focus on supporting independent entrepreneurs, as small and midsize businesses are the fuel of most economies of the world today. Part-and-parcel with economic development is one's ability to access training for employment. Naturally, tectonic shifts are happening in the education space. Students are less interested in stale curriculums and keener to take shorter, skills-based training that is more relevant to today's workplace. Employers are focusing on the skills required to achieve their business objectives and remain competitive and agile, which requires them to ensure their employees the necessary training to fill these skills gaps. Workers, naturally, need to acquire skills "on demand" to adapt to their changing roles and responsibilities. The Fourth Industrial Revolution will provide the world with an opportunity to learn and teach new skills, build new jobs requiring unique unprecedented skills' combinations that don't exist on current, explore talent that no one knew about and, in doing so, grow people's businesses and create a new generation of workers that are highly skilled in more diverse areas [2].

Collaborations among the private sector, academia and policymakers will be essential to navigate the future of work as we go through these profound moments. Schools need to work with businesses and the public sector to develop on-demand, relevant, adaptable curriculums and focus on teaching skills; governments need to utilize advanced technologies to generate real-time and predictive insights on the labour market in order to develop sound policies, programming and budgets; companies need to hire for competencies over credentials and, more importantly, take the lead in supporting existing workforces' upskilling and lifelong learning.

Apart of experts' opinions, personally, I think that the prospects of the Fourth Industrial Revolution are not so bright, shining and iridescent as it is declared by Mr. Schwab, for the truth is that millions and millions of employees will lose their jobs and therefore regular stable payments, all other work spheres once occupied by people will be taken by intelligence superior robots and machines thus causing instantly increased crime rates, because people will have to learn how to outwit a new robotized world and commit crimes to earn a living. No one really wants to be thrown away to a landfill as garbage, but, unfortunately, these times are coming and inevitable as well. Furthermore, the technologies presented as peaceful sometimes can be used with aggressive purposes in a military field; new knowledge allows generating new variations of lethal weapons. The United States and some of its potential adversaries are incorporating the technologies of the Fourth Industrial Revolution into a range of innovative new weapons systems, including rail guns, directed energy weapons, hyper-velocity projectiles, and hypersonic missiles. These new weapons will dramatically increase the speed, range, and destructive power of conventional weapons beyond anything previously imaginable.

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Рассматриваются основные аспекты четвертой промышленной революции, в основе которой лежит современная автоматизация традиционных производственных практик, осуществляемых с помощью современных интеллектуальных технологий.

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LA DIVISIÓN DEL TRABAJO COMO FACTOR EN LA FORMACIÓN DE LA ESPECIALIZACIÓN DEL COMERCIO EXTERIOR DE LOS ESTADOS

La división internacional del trabajo es un concepto que consiste en el hecho de que un determinado producto, componente de un producto o servicio debe producirse precisamente en el país más rentable desde el punto de vista económico [1]. Si en un momento dado una producción se localiza donde su hallazgo no es el más ventajoso económicamente, es aconsejable, dado el costo de la reubicación, trasladar la producción a un lugar donde su hallazgo será más rentable. El concepto de división internacional del trabajo utiliza una serie de factores, teniendo en cuenta los cuales se puede aplicarlos de manera más eficaz.

Los factores principales incluyen: la capacidad de producción actual del país, la fuerza laboral, las habilidades y el potencial de crecimiento; la capacidad del mercado interno del país; minerales y condiciones climáticas del suelo del país; los lazos económicos del país y su potencial de desarrollo; la ubicación geográfica del país, la disponibilidad de infraestructura logística y el potencial para su desarrollo, así como las predisposiciones históricas de un estado en particular a la producción de un determinado producto o servicio. El concepto de especialización de un Estado es que cada Estado en particular debe producir únicamente aquellos bienes y servicios que sean más rentable de producir en el mercado mundial. El concepto se basa en varias presunciones básicas. El primero es la presencia del mercado mundial libre y sin restricciones de bienes y servicios. La idea misma de especialización se basa en el libre intercambio. En teoría, según este concepto, se puede limitar la producción a un producto o un servicio. Sin embargo, el país debe producir un producto o servicio en particular de manera tan eficiente que todos los demás países estarían dispuestos a cambiar el producto del país por el suyo propio en cantidades suficientes para satisfacer las necesidades del primer país. La segunda es que cada país tiene su propia especialización. Se espera que no haya ningún país que no pueda participar en igualdad de condiciones en las relaciones de mercado libre al traer sus propios bienes y servicios a ellos. Es decir, cada país está obligado, según este concepto, a tener su propia especialización, independientemente del nivel de desarrollo y ubicación geográfica. La razón de esto es que es sólo en el proceso de intercambio que los países reciben los bienes y servicios que necesitan. La situación en la que un país no puede introducir nada en el proceso de intercambio no está prevista en el concepto de especialización de los Estados [4].

Se puede argumentar que la división internacional del trabajo es la base y el componente esencial de la propia existencia de la especialización del comercio exterior [5]. Después de todo, para producir un producto o servicio de manera rentable y llevar a cabo el intercambio de materias primas sobre una base competitiva a nivel mundial, es necesario analizar cuidadosamente todas las fortalezas y debilidades de un Estado en particular. Cada uno de los puntos anteriores relativos a la división internacional del trabajo debe identificarse y tenerse en cuenta.

Hay varias razones por las que la división internacional del trabajo es la base de la especialización del comercio exterior de cualquier Estado. La primera es la división internacional del trabajo, una base metodológica que permite al Estado identificar y desarrollar su especialización en una etapa temprana de desarrollo.

Algunos países tienen una especialización natural. Ha evolucionado en estos países históricamente, con el paso del tiempo, y no requiere ningún conocimiento o habilidad específica para identificarlo [3]. Los Países Bajos son un ejemplo de ello. Este país ha producido históricamente productos lácteos. Es por eso que, cuando se convirtió en una parte del mercado global, no había preguntas sobre una de las especializaciones para ella.

Hay otra situación. Algunos países inicialmente no tenían especializaciones o no eran suficientes para participar eficazmente en el mercado internacional. Puede haber varias razones para esto. Esto es tanto un cambio en la composición territorial, que ocurrió en el caso de la República de Belarús y otros países que anteriormente formaban parte de la URSS, como la novedad fundamental y la innovación del producto, en la que ningún país tiene un componente histórico de la formación de la especialización, y muchas otras razones. El resultado en este caso es el mismo: los países necesitan encontrar su propia especialización, que requiere un análisis profundo y sistemático de la economía nacional, la identificación de los patrones de su formación, desarrollo y previsión de sus perspectivas.

Este aspecto revela la base metodológica de la división internacional del trabajo. Los criterios por los que se produce esta división también son determinantes a la hora de formar la especialización de un país. En otras palabras, se puede argumentar que los métodos de división del trabajo y especialización de los países tienen los mismos criterios. Este hecho demuestra una vez más el papel fundamental de la división internacional del trabajo como factor en la formación de la especialización del Comercio Exterior del Estado [2].

La segunda razón es el hecho de que fue la existencia de la división del trabajo lo que permitió realizar el concepto de especialización del Estado en comercio exterior. De hecho, es posible postular la especialización secundaria del Estado a la división internacional del trabajo. La razón de esta postulación es que la división del trabajo es una tendencia que comenzó mucho antes de la formación del mercado mundial, que permitió un intercambio estable, constante, que permitió implementar una relativa desviación de la política del autarcticismo como una medida absolutamente forzada de supervivencia del Estado ante una situación inestable del mercado, la política y la logística.

La división del trabajo se formó inicialmente dentro de los propios estados, expandiéndose posteriormente a los estados vecinos. Al mismo tiempo, el autarcticismo antes mencionado dejó de ser la política económica dominante sólo cuando apareció el mercado mundial. Es decir, antes de su aparición, la división del trabajo era bastante exitosamente adyacente al autarkismo, considerado una herramienta para proteger la soberanía del país, una forma de prevenir la dependencia de otros países, que en el mercado global se considera un estado normal de funcionamiento del mercado.

Por lo tanto, se puede argumentar que la división internacional del trabajo se ha convertido no sólo en la base para la formación de la especialización del comercio exterior del Estado, sino también en un requisito previo para su aparición y desarrollo. Fue la división del trabajo, primero local y luego internacional, la que sirvió como uno de los factores más significativos en la formación del mercado mundial, respectivamente, dando la oportunidad de la formación de la especialización del comercio exterior de los países y cualquier otra acción que se lleve a cabo en el mercado mundial.

Resumiendo, podemos decir que la división internacional del trabajo es el factor principal en la formación de la especialización del comercio exterior del Estado. En primer lugar, forma, desde sus propios criterios, un marco metodológico que ayuda a identificar y mantener la especialización de cualquier país. En segundo lugar la división internacional del trabajo, debido a su primacía en relación a la formación de la especialización del comercio exterior y el mercado mundial en su conjunto permite que la especialización del comercio exterior y el mercado mundial mantengan y multipliquen la dinámica de desarrollo que se observa actualmente. Es una base histórica y un componente indispensable de la especialización moderna del comercio exterior de cualquier Estado. Sin la división internacional del trabajo, cualquiera especialización del comercio exterior es imposible, lo que subraya su importancia de la división internacional del trabajo como factor de la formación del comercio.

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Рассмотрена концепция международного разделения труда, а также выявлены ее основные факторы. Подробно описаны лежащие в основе разделения труда презумпции. На примере некоторых стран выделены специализации концепции. В результате исследования выявлены основы формирования внешнеторговой специализации государства.

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WAS SIND GRÜNE TECHNOLOGIEN?

Man hört viel von erneuerbaren Energien, gemeint sind meist Solarenergie oder Windenergie. Grüne Technologien sind aber mehr als das. Zwar spielen die erneuerbaren Energien eine wichtige Rolle. Daneben fallen aber auch andere technologische Bereiche wie Brennstoffzellen, Nanotechnologien und alternative Antriebstechnik unter diesen Begriff. Grüne Technologien sind also keine eigene Branche, sondern in vielen Sektoren anzutreffen. Am ehesten kann man Grüne Technologien als Querschnittbranche der Umwelttechnologien und -dienst-leistungen beschreiben. Doch wie man es auch dreht und wendet: Es handelt sich um einen wichtigen Zukunftsmarkt, hinter dem sich beachtliche Wachstumschancen und Beschäftigungspotenziale verbergen. Ziel ist stets die Schonung von Klima, Umwelt und Ressourcen.

Umweltschutz wird als Wirtschaftsfaktor immer wichtiger. Das zeigt die Entwicklung der Umweltwirtschaft und der grünen Zukunftsmärkte, wie umweltfreundliche Energieerzeugung, Energie-, Rohstoff- und Materialeffizienz, nachhaltige Mobilität, nachhaltige Wasserwirtschaft Abfall- und Kreislaufwirtschaft. Umweltschutz hat sich in Deutschland längst als wichtiger Wirtschaftsfaktor etabliert.

Dass Unternehmen ihre Maschinen und Anlagen möglichst energieeffizient betreiben wollen, ist ein Aspekt unter vielen – und qualifiziert ein Unternehmen noch nicht zu einem aktiven Förderer grüner Technologie. Im Vordergrund stehen vielmehr neue Verfahrenstechniken, die sich gegenüber herkömmlichen Verfahren als besonders vorteilhaft für die Natur und die Gesundheit des Menschen erweisen. Im Fokus stehen sogenannte Leitmärkte, in denen sich der technologische Wandel hin zu neuen ressourcenschonenderen Produkten und Verfahrensweisen am ehesten in einen Gesamtnutzen für das Allgemeinwohl überführen lässt. 2013 lag das globale Marktvolumen für Greentech bei 2,5 Billionen Euro. Schätzungen zufolge wird der Weltmarkt für grüne Produkte und Dienstleistungen bis zum Jahr 2025 auf circa 5,4 Billionen Euro ansteigen [2].

Die Energiewende zeigt: die Menschen können ihr Leben verbessern, ohne weiter Ressourcen ausbeuten zu müssen. Deutschland ist auf dem Weg, seine hochentwickelte Industriegesellschaft ganz ohne Klimagase und Atommüll mit Strom zu versorgen. Davon profitieren viele: hunderttausende Beschäftigte, die ihr Geld mit erneuerbaren Energien verdienen, vom Stahlarbeiter bis zur Installateurin. Die Luft wird sauberer, das Klima wird geschont und heute schon sind die erneuerbaren Energiequellen günstiger als fossilen Energieträger.

Laut der Umfrage, die in TU Brest unter den Studenten des ersten Studienjahres durchgeführt wurde, sind nicht nur die grünen Technologien, sondern auch selbst die Idee davon bei uns in Belarus nicht so stark verbreitet. Nur für etwa 60 Prozent der Befragten ist dieser Begriff bekannt. Weiter wurde gefragt, welche Technologien die Respondierten nennen können und in welchen Bereichen diese verwendet werden können. So wurden hier vor allem Solarbatterien, E-Autos und auch moderne Digitalgeräte für die Gesundheit genannt. Da ist aber deutlich mehr drin.

In der Umweltwirtschaft wird außergewöhnlich häufig, intensiv und kontinuierlich geforscht. Fast 80 Prozent der Produktionsbereiche in der Umweltbranche sind besonders

forschungs- und wissensintensiv. Umwelt-innovationen werden auch staatlich gefördert. Forschungsförderung sowie der Transfer und die Verbreitung der Anwendung neuer Technologien sind dabei die Kernelemente. Ziel ist es, die Innovations- und Umweltpolitik sinnvoll zu verzahnen und gleichzeitig neue Märkte für Umwelttechnologien zu erschließen.

Klimawandel, Ressourcenverknappung, Überbevölkerung, Umweltver-schmutzung, Müllentsorgung, Wassermangel – das sind nur einige der Umweltprobleme, mit denen wir kämpfen. Aber es gibt Hoffnung.

Im Folgenden werden einige Innovationen und deren Entwickler vorgestellt, die den Weg für eine nachhaltigere Zukunft bereiten könnten.

Für die Automobilbranche ergibt sich aus dem Zusammenspiel von neuen Antriebstechnologien oder durch neue Verbrennungsmotoren, die Bio-Kraftstoffe aus nachwachsenden Rohstoffen verwerten können, bereits der wichtigste Aspekt. Des Weiteren gilt auch hier, was eigentlich für alle Industrien zu den Kernaufgaben zählt: den Wirkungsgrad von Maschinen und Antrieben zu erhöhen, um die noch vorhandenen fossilen Energieressourcen zu schonen.

Der Mensch braucht Proteine. Fleisch ist eine natürliche Quelle, doch an ihr hängt im Fall von Schweine- und Rindfleisch ein deftiges CO_2-Preisschild. Bis zu 100 Kilogramm CO_2 sind das Nebenprodukt von 100 Gramm Rindfleisch. Fleischersatzprodukte aus pflanzlichem Protein können hier Abhilfe schaffen. Der CO_2-Fussabdruck von Tofu ist 30 Mal kleiner [2]. Und wie bei der Tofuher-stellung kommt auch bei vielen anderen Fleischersatzprodukten Soja ins Spiel. Den Spitzenplatz von Soja könnten schon bald Algenproteine einnehmen. Sie sind relativ einfach herzustellen, wachsen schnell, benötigen keine Landfläche und nur wenig Meeresfläche. Und sie sind in der Herstellung günstig.

Extrem unterschätzt wird die Energie, welche in unserem Planeten ruht. „Das Kräftegleichgewicht wird durch den radioaktiven Zerfall von Kalium-, Thorium und Uranisotopen in Erdkruste und Erdmantel erzeugt. Die dabei entstehende Wärmeenergie ist etwa 100 Milliarden Mal stärker als der gegenwärtige Weltenergieverbrauch“ [1].

Die meisten der heute aktiven Geothermiekraftwerke stehen entlang der Ränder der tektonischen Platten – nur ca. 10 Prozent der Erdoberfläche eignen sich für die Geothermie. Doch auch hier hat der technologische Fortschritt seine Spuren hinterlassen. Vor allem bei der Lokalisierung von hydrothermischen Wasservorkommen. Deshalb verspricht man sich in den nächsten 30 Jahren viel davon.

Nach ein paar Umwegen, zum Beispiel über Fluoreszenzlampen, ist die Menschheit bei einem würdigen Nachfolger der klassischen Glühbirne angekommen: der LED-Lampe. Der Stromverbrauch einer LED-Lampe liegt bei 10–20 Prozent einer vergleichbaren Glühbirne [2]. Auch die bekanntesten Leuchtstoffröhren sind weit ineffizienter als ihre LED-Nachkommen. Zudem verfügen LED-Lampen über eine weit höhere Lebensdauer, was wiederum Kosten reduziert und die Unterhaltsarbeiten vereinfacht. Berücksichtigt man die Beleuchtung in privaten Haushalten und die industriellen und öffentlichen Betriebe, ergibt sich daraus ein Einsparpotential von 12,85 Gigatonnen CO_2 in den nächsten 30 Jahren.

„Saubere“ Verbrennung kann es nicht geben. Aber Greentech-Konzepte sorgen durch die ressourcenschonende Erhöhung von Wirkungsgraden dafür, dass die Belastung der Umwelt nicht proportional zum Wirtschaftswachstum steigt. Die noch vorhandenen fossilen Ressourcen werden dringend benötigt, in großen Dimensionen neue regenerative Energiequellen zu erschließen. Windkraftwerke werden als Mahnmale unseres Energiebedarfs weiterhin den ästhetischen Aspekt unserer Naturwahrnehmung beeinflussen. Aber sie beeinträchtigen die Umwelt bei Weitem nicht so gravierend wie Energiegewinnungsanlagen auf fossiler Basis.

Die Umwelt bleibt nur dann grün, wenn sie auch außerhalb der urbanen Zonen die eine oder andere Künstlichkeit in der Natur zulässt. Die Wüste Sahara von einer natürlichen Kulturlandschaft in eine Fotovoltaikanlage zu verwandeln, gilt bei Experten als ernst zu nehmende Option – wenn es gelingt, die gewonnene Energie ähnlich lukrativ zu befördern wie Erdöl und Erdgas. Bis es soweit ist, sind alle weltweiten Erdöl- und Erdgasvorkommen nicht als Vorrat, sondern weiterhin als wertvolle Reserven zu behandeln.

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Анализируется проблема внедрения «зеленых» технологий в процессы производственной деятельности и жизнедеятельности человека. Обобщается практический опыт применения различных видов возобновляемых ресурсов, выделяются и описываются их характерные особенности.

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PERSÖNLICHKEITSENTWICKLUNG DURCH SPORT

Der pädagogische Wert des Sports tritt häufig hinter den positiven Effekten für die Gesundheit zurück. Dennoch hat er nicht nur Auswirkungen auf unser körperliches Wohlbefinden, auch unser Geist kann von Bewegung und der Ausübung verschiedener Disziplinen profitieren. Vielmehr noch kann damit ganz gezielt an der Entwicklung der eigenen Persönlichkeit gearbeitet werden. Die Annahme, dass Sport die Persönlichkeit fördere, hat eine lange Tradition und ist seit Mitte des 20. Jahrhunderts ein zentrales Forschungsthema innerhalb der Sportpsychologie. Trotz einer Vielzahl von Studien konnte allerdings lange Zeit keine eindeutige Wirkung sportlicher Aktivitäten auf die Persönlichkeit nachgewiesen werden. Die Gründe liegen zum einen in der Breite der Begriffe „Sport“ und „Persönlichkeit“, zum anderen an forschungsmethodischen Unzulänglichkeiten früherer Studien. Im vorliegenden Beitrag werden die Begriffe „Persönlichkeit“ und „Persönlichkeitsentwicklung“ beleuchtet und die Auswirkung des Sports auf die Persönlichkeitsentwicklung beschrieben. Dabei wird aufgezeigt, dass insbesondere jüngere Heranwachsende von der Teilnahme an sportlichen Aktivitäten profitieren.

Der Begriff „Persönlichkeit“ gehört zu den vieldeutigsten Objekt-beschreibungen. Es gibt keine allgemein anerkannte Definition dieses Begriffs. In Abhängigkeit von der Wissenschaftsdisziplin sowie der zugrundeliegenden Persönlichkeitstheorie erfolgt eine hinsichtlich ihrer Definitionsweite und -richtung sehr unterschiedliche Begriffsbestimmung. Wir verstehen unter „Persönlichkeit“ komplexe Menge von einzigartigen psychischen

Eigenschaften, welche die für ein Individuum charakteristische Verhaltensweisen in vielen Situationen und über einen längeren Zeitraum hinweg beeinflussen. Persönlichkeit ist somit die für ein Individuum charakteristischen Denk-, Erlebens- und Verhaltensweisen. Diese sind zum einen relativ stabil, da sie auf Einstellungen, Werten und früheren Erfahrungen beruhen. Zum anderen sind sie aber auch einer ständigen Veränderung unterworfen, da das Individuum fortwährend neue Erfahrungen macht, anderen Einflüssen unterliegt und an sich selbst arbeitet. Grundlage der Persönlichkeit ist die Individualität, die sich auf der Basis ihrer biologischen Ausstattung und den konkreten Lebensbedingungen entwickelt. Die Persönlichkeit des Sportlers ist durch den sozialen Charakter sportlicher Tätigkeiten und die speziellen Anforderungen im Trainings- und Wettkampfprozess geprägt [1].

Die Persönlichkeitsentwicklung meint die Entwicklung der Identifikation, sowie der Individualität der Persönlichkeit. Die Persönlichkeitsentwicklung besteht aus drei Bausteinen, wobei alle drei in einem Abhängigkeitsverhältnis stehen: Selbsterkenntnis, Selbstakzeptanz und Selbstveränderung. Diese Bausteine verfolgen ein gemeinsames Ziel, nämlich die Persönlichkeit eines Individuums weiterzuentwickeln, sodass jenes handlungsfähiger und in weiterer Folge auch unabhängiger wird [2].

Persönlichkeitsentwicklung ist ein Prozess der aktiven Aneignung der gesellschaftlichen Verhältnisse durch das Individuum, der sich in der Tätigkeit und durch diese vollzieht. Die sportliche Tätigkeit ist ein wesentlicher Bereich der Persönlichkeitsentwicklung. Das betrifft nicht nur den Leistungssport, sondern ebenso andere Bereiche (Schulsport, Rehabilitations- und Behinderten-sport, Freizeit- und Erholungssport), wo die spezifischen Anforderungen sportlicher Tätigkeiten zur Entwicklung gesellschaftlich wünschenswerter Persönlichkeitseigenschaften beitragen.

Bei den Persönlichkeitseigenschaften werden grob fünf verschiedene Kategorien oder Muster unterschieden: Offenheit (Umgang mit Erfahrungen und Herausforderungen), Selbstwahrnehmung (Neurotizismus oder emotionale Stabilität), soziale Interaktion und Umgänglichkeit, Selbstdisziplin und Wesenhaftigkeit (Extraversion – Introversion). Mit Hilfe sportlicher Betätigung ist es möglich, positive Eigenschaften gezielt anzusprechen und zu fördern. Vor allem das Selbstbewusstsein kann vorteilhaft verbessert werden.

Die Möglichkeiten, sich beim Sporttreiben persönlich weiterzuentwickeln sind vielfältig. Je nachdem welche Sportart ausgeführt wird, kann man unterschiedliche Kompetenzen verbessern. Manche Disziplinen erfordern viel Engagement und Willenskraft, bei anderen steht das gemeinsame Agieren mit anderen im Vordergrund. Wieder andere Sportarten wie etwa asiatische Kampfkünste fördern neben der Körperbeherrschung ganz gezielt auch die mentale Entwicklung. Die folgenden Punkte tauchen dabei immer wieder auf:

– Erhöhung der sozialen Kompetenz, Erlernen konfliktlösender Handlungs-formen und Entwicklung von Lösungsstrategien, Selbstvertrauen, Durchhalte-vermögen, Leistungsbereitschaft, Umgang mit Misserfolg und Ängsten;

– Steigerung der physischen Kompetenz (Körpergefühl, Koordination, Ausdauer, Kraft);

– Unterstützung der moralischen Entwicklung, Förderung von Toleranz und Fairness, Verbesserung der Selbstdisziplin;

– Konstruktiver Umgang mit Aggression, Erkennen des persönlichen Potentials, Abbau von Stress, Erlangen körperlicher und geistiger Ausge-glichenheit.

Insbesondere Kinder und Jugendliche können beim Sport wichtige soziale Erfahrungen machen und verschiedene Werte kennenlernen. Sie brauchen Freiräume, in denen sie sich erproben und ihre Kräfte entwickeln, Wagnisse eingehen können. In diesem Sinne bietet Sport neben der Möglichkeit der aktiven Freizeitgestaltung ein geeignetes Erlebnis- und Lernfeld, um die körperliche Leistungsfähigkeit wahrzunehmen und zu steigern, eigene Grenzen und die anderer zu erfahren, mit Erfolgen und Misserfolgen umzugehen, partnerschaftliches Handeln und Teamgeist zu entwickeln, Regeln zu akzeptieren,

Verantwortung zu übernehmen. Diese Erfahrungsmöglichkeiten aus einer sportlichen Betätigung heraus unterstützen und fördern die Entwicklung von Selbstwertgefühl und Selbstsicherheit. Die positiven Erlebnisse zeigen uns, dass wir fähig sind, mit den verschiedensten Herausforderungen umzugehen. Diese Erfahrungen lassen sich auch für andere Bereiche nutzen.

Gleichzeitig kann der Sport – vor allem in den spielerischen Aktivitäten außerhalb des sportlichen Leistungswettbewerbs – Kindern und Jugendlichen einen notwendigen Ausgleich verschaffen, den sie zur Bewältigung der Alltagsanforderungen brauchen. Das gilt um so mehr, wenn der Sport im Rahmen eines Sportvereins ausgeübt wird. So haben Erfahrungen und Untersuchungen gezeigt, dass Kinder und Jugendliche, die im Verein Sport treiben, unter anderem Schulstress besser aushalten und sich gut in die Gemeinschaft mit Gleichaltrigen einfügen können.

Ganz offensichtlich ist die Richtung, die die Persönlichkeitsentwicklung im Sport nimmt, nicht vom Sporttreiben allein abhängig, sondern von den Personen im Umfeld des jungen Sporttreibenden. Dabei spielt vor allem der Trainer eine entscheidende Rolle.

Sport kann also einen wichtigen Beitrag zur positiven Persönlichkeits-entwicklung der Kinder und Jugendlichen leisten und den Weg zu einem selbstbestimmten und unabhängigen, zu einem verantwortungsbewussten und genussvollen Leben unterstützen. Denn er bietet den Heranwachsenden auf vielfältige Weise Erlebnisse und Erfahrungen, die ihrer Entwicklung förderlich sind. Denn im Sport können mit den entsprechenden Methoden sowohl soziale Kompetenzen, empathisches Verhalten, emotionale Werte als auch Leistungsbereitschaft gleichzeitig geschult und ein ganzheitliches positives Selbstbild vermittelt werden. Dies seien Lerneffekte, die für das ganze Leben prägend sein können.

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Раскрывается влияние спорта на развитие личности. Показано, что спорт не только является эффективным средством физического развития и укрепления здоровья человека, но и способствует формированию целого ряда необходимых качеств личности: самостоятельности в принятии решений, стремления к творчеству, чувства долга и ответственности, осознание своей чести и достоинства и др.

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CONSTITUTION OF THE BSSR 1937

In connection with significant changes in the social and economic life of society, the Soviet state needed to consolidate these changes at the legislative level. The previous Constitution of the USSR and the Constitutions of the Union republics required corresponding changes in legislation.

On January 5, 1936, the Constitution of the Union of Soviet Socialist Republics was adopted. The new Basic Law proclaimed the final building of socialism in the Soviet Union and the union republics.

The Constitution of the Belarusian Soviet Socialist Republic was created in accordance with the USSR Constitution of 1936 and was identical in content to it. It was approved on February 19, 1937 by the XII Extraordinary Congress of Soviets of the BSSR and consisted of 11 sections and 122 articles.

For the first time in its history, the BSSR was defined as a socialist state of workers and peasants. The political and economic foundations of the Soviet state were also clearly defined. The Soviets of Working People's Deputies represented the political basis of society, and they were endowed with full power in the country. The economy was based on the socialist economic system and socialist ownership of the means of labour and objects of labour. There were only two forms of property in the state – state and collective-farm-cooperative.

However, Article 9 of the Constitution of the BSSR testified to the possibility of owning a small private farm if it was handled personally and did not require hired labor [1].

In accordance with the Constitution of 1937, the representation of the BSSR in the international arena, the resolution of issues of war and peace, the coordination of defense, the organization of trade relations with foreign states, the leadership of the credit and financial system was carried out by the highest authorities of the USSR.

The Basic Law enshrined the most important principles of socialism: complete political and social equality of all citizens of the BSSR, regardless of nationality, race, gender, religion, their rights and freedoms [2, p. 126].

It should be noted that the provisions of the Constitution of the BSSR for the first time contained attempts to put into effect the theory of separation of powers into legislative, executive and judicial.

The Supreme Soviet, elected by the Presidium of the Supreme Soviet of the BSSR, was proclaimed the supreme body of state power in the Byelorussian SSR. Legislative power was exclusively vested in the Supreme Soviet of the BSSR, which could pass laws by a simple majority of votes (Article 24).

The Supreme Council elected the Presidium and formed a government – the Council of People's Commissars of the BSSR, which was the executive and administrative body, which directed the activities of these bodies and monitored their legality. The Council of People's Commissars issued orders and resolutions based on the laws in force in the BSSR. The competence of the Council of People's Commissars also included the formation of the state budget, drawing up a state economic plan, protecting the legitimate interests of the state and citizens of the republic.

The judicial system in the Byelorussian SSR was subordinated to the Supreme Court, elected by the Supreme Soviet for a term of 5 years. The judges were independent and obeyed only the law. The trial was conducted in the Belarusian language, and an interpreter and the right to speak using their native language were provided for a person who did not speak Belarusian.

The electoral system has also undergone significant changes. Thus, elections became general, direct, and equal and were held by secret ballot. The right to vote belonged to citizens from the age of 18, and to be elected from the age of 21.

Of particular importance to this Constitution are the socio-economic rights of citizens, which, one might say, were legislatively formalized for the first time. Purely declarative, but nevertheless, the provisions on freedom of speech, press, assembly, rallies, the right to free association, the inviolability of the person and home, the right to keep the secrecy of personal

correspondence, etc. were reflected. The Constitution also enshrined the right to work, to rest, to retirement benefits in old age, the right to education, as well as the equality of women in all spheres of public life – the state helped large families and single mothers.

In addition to rights, like any modern constitution, the Constitution of the BSSR contained the duties of citizens. The main duties of citizens included observance of the Constitution, laws, honest attitude to public duty, compulsory military service and protection of their state.

In addition, the Basic Law of the BSSR fixed the symbols of the Belarusian statehood (coat of arms and flag of the republic), and also proclaimed the city of Minsk as the capital of the BSSR.

Thus, the Constitution consolidated the three-tier structure of state bodies, made the rights and freedoms of citizens more democratic, and tried to consolidate the principle of separation of powers. Despite the fact that the Constitution of 1937 repeated the provisions of the Constitution of the USSR of 1936, it progressed significantly and made it possible to further develop the constitutional norms of Belarusian legislation.

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Раскрываются основные вехи становления Конституции Беларуси 1937 г., которая заложила основные позиции сегодняшней конституции. Наличие конституции – признак демократического общества, где закон является одинаковым для всех и ограничивает власть отдельных людей.

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SMS LANGUAGE IN MODERN SOCIETY

Modern means of communication have become one of the most important instrument of today's interaction. New communicative background affects current means of communication tremendously. We can even speak about the development of a new language, a SMS language, designed for the computer mediated society.

Some British linguists describe SMS language as "absurd", "grotesque", and a "barrier" to communication and even described texters as "vandals who are trying to ruin the language" [3, p. 48].

Russian researchers prove that SMS language used in young people's computer mediated communication is definitely a new functional language and cannot be related to any language style. It cannot be related to any type of discourse (religious, scientific and so forth) either. This functional language has not only specific functions but is also used in everyday communication. The new functional language, SMS language, has both written and oral forms [1, p. 57].

The research work is focused on a comparative study of typological characteristics of the written form of Russian and English SMS languages.

The object of the research is the written form of Russian and English SMS languages.

The subject of the research is a comparative study of linguistic features of Russian and English text messages.

The research included the analysis of 759 English and 356 Russian text messages.

The goal of the work is to determine the main characteristics, similarities and differences of short text messages in English and Russian.

As the laws of communication are the same in different language systems, different languages have common characteristics of text-coding.

SMS language is characterized by a unique set of lexical, grammatical and semiotic properties. The mail principle is the principle of economy. It has a great influence on the formation of SMS language. Compression is achieved through the use of both specific means and traditional reduction techniques.

One of the most vivid features of SMS communication is the usage of logographic symbols in the text – numbers, letters, alphanumeric combinations and typographical signs. They often replace letters, syllables and even whole words.

As the study showed, the most productive syllabic and word-forming numbers in the English SMS language are 1, 2, 4, and 8. The most frequent numbers of the Russian SMS language are 1, 2, 3, 5 and 7 [2, p. 16].

Like numbers, the letters of the English alphabet can also replace individual words and parts of the words or phrases, often in combination with numbers. Typographical symbols are often used in SMS communication, such as @ (“commercial at”), & (“ampersand”).

One of the more traditional ways to avoid extra information is a tendency to initial abbreviation and reduction of parts of words.

Of all the types of compressions used in messaging, the largest one is initial abbreviations. Initially only the most frequent words were reduced, but now communicators reduce phrases and even sentences.

Reduced words are one of the most popular means of SMS-language. Some words lose their beginnings. That phenomenon is called aphaeresis. Some words lose their endings (apocope). Some words lose both their beginnings and endings (aphaeresis + apocope). Some words lack a sound or a group of sounds in the middle of a word (syncope) [2, p. 16].

To make SMS language more expressive communicants use

1) quotation marks (“”) to show intonation pattern of the saying;

2) CAPITAL LETTERS to imitate loud voice;

3) a slash (–) to imitate changes of the voice;

4) lots of dots or ellipses (…) to show a pause;

5) phonetic writing to mark the peculiarities of the pronunciation.

To compensate lack of emotions emoticons are widely used in the SMS-language.

They offer a wide range of “tones” and feelings, portraying specific emotions through facial gestures, pictures.

The most popular kind of emoticons:

1) facial expressions;

2) pictograms;

3) kaomojis – popular emoticons in Japan, used to communicate emotions and descriptions using Japanese grammatical punctuation and symbols.

4) animated emoticons;

5) math emoticons.

We have analysed the most common features of text-coding in English and in Russian. In English the most common feature is a syncope (46 %), the less common is elimination (3 %), substitute numbers, letters and abbreviated sentences are equally important. While in Russian the most popular feature is a syncope (46 %), followed by alphanumeric combinations (21 %), letter substitution and abbreviated sentences (15 %). The least common feature is elimination (3 %).

Thus, technological progress encouraged people's desire to communicate and gave them new possibilities. Mobile phones, computers, laptops, and other electronic devices gave birth to online communications.

New means of communication made it possible to create a new kind of language to satisfy the needs of the electronic means of communication.

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Раскрывается проблема языковых особенностей смс-сообщений. Проводится сравнительный анализ русскоязычных и англоязычных смс-сообщений разных типов. Особое внимание уделяется компрессивным и экспрессивным языковым средствам.

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PROBLEMAS Y FORMAS DE SUPERAR LA DESIGUALDAD DE LOS INGRESOS EN BELARÚS

La desigualdad de los ingresos en el mundo global es un problema fundamental, que representa la diferencia en el nivel de ingresos de diferentes grupos de la población, que hoy es muy urgente debido a su complicación tanto dentro de los países individuales como a nivel global.

Los temas del mejoramiento del nivel y la calidad de vida parecen ser especialmente significativos no solo en términos sociales, sino también en términos del aumento de la competitividad económica del país. Además, los problemas de la pobreza son inherentes a todos los países y comunes para toda la humanidad. Los problemas son especialmente importantes para las economías en desarrollo y en transición, incluida Belarús, lo que determina una importancia y relevancia tan importantes del tema en estudio.

Entre los principales problemas y consecuencias de la desigualdad de ingresos se encuentran los siguientes:

1) una desaceleración del ritmo de crecimiento económico debido a una disminución en la productividad laboral del segmento de la población de bajos ingresos;

2) acceso limitado de los pobres a la educación y la atención médica de calidad;

3) hay una disminución de la movilidad social;

4) los delitos, los conflictos, la inestabilidad política aumentan por el descontento de la población con su situación económica;

5) hay una fuga de cerebros al extranjero y, en consecuencia, hay una pérdida de la población en edad de trabajar, lo que afecta negativamente a muchos sectores de la economía nacional [2];

6) surgen problemas demográficos, como la disminución de las tasas de natalidad, porque las personas con escasos recursos no pueden alimentar a familias numerosas.

El mayor problema de la desigualdad es la dificultad de medirla. Uno de los métodos más populares para evaluar la desigualdad de los ingresos es el cálculo del coeficiente de Gini y la construcción de la curva de Lorenz.

En 2018, América Latina, Centroamérica y África fueron los líderes en términos del coeficiente de Gini en el ranking del Banco Mundial. El valor del coeficiente creció rápidamente en Indonesia, Turquía y España, mientras que en Alemania, Suecia y Noruega el coeficiente de Gini es bastante bajo [4, p. 7].

En la República de Belarús la disminución del coeficiente de Gini desde 1998 fue del 6,8 %, y en 2018 Belarús ocupó el puesto 29 en la clasificación del Banco Mundial [7].

En Belarús se están tomando medidas para combatir la desigualdad: se pagan prestaciones, se establece un salario mínimo, un presupuesto de salario digno y un presupuesto mínimo para el consumidor [5, p. 20]. La desigualdad en la República de Belarús tiende a disminuir y es baja en comparación con otros países [3, p. 2].

Los factores que empeoran la desigualdad en Belarús incluyen:

1) un aumento de la deuda pública, que afecta el gasto público para combatir la desigualdad, la inversión en educación, trabajo de investigación y desarrollo y salud [8];

2) el envejecimiento de la población y la disminución de las tasas de natalidad [5];

3) la fuga de cerebros al extranjero, que conduce a una disminución del número de los trabajadores en edad de trabajar y es también una de las razones para aumentar la edad de jubilación;

4) bajo nivel del entorno institucional (por ejemplo, corrupción, economía sumergida) [1];

5) factores financieros como inestabilidad el tipo de cambio y expectativas de inflación.

Una de las posibles soluciones para superar la desigualdad en la República de Belarús son las reformas en la política fiscal. En el futuro, es posible una transición a un sistema de tributación progresiva, como, por ejemplo, en Alemania y Suecia, pero el cambio de sistemas es un proceso bastante largo, que en el futuro puede tener una serie de consecuencias negativas, como complicación del sistema tributario, disminución de la motivación empresaria, lo que puede incrementar la economía sumergida.

En Belarús pueden introducirse elevados impuestos especiales sobre los artículos de lujo (yates, aviones), sucesiones y donaciones. Otra solución podría ser mejorar la protección social mediante el aumento del gasto público.

En la República de Belarús es necesario crear el sistema de seguro más confiable para los desempleados, para llevar a cabo reformas en el mercado laboral que contribuyan a mejorar las calificaciones de los trabajadores y reducir los períodos del desempleo. Estos pueden ser programas de desarrollo profesional gratuitos o cursos especiales. Asimismo, se necesita una reforma de pensiones: una transición de un principio de reparto de pensiones igualador a uno acumulativo, que motive a la población en edad de trabajar a trabajar mejor, elevar su nivel profesional y garantizar que la pensión corresponda a los méritos laborales.

En el mundo moderno la importancia del capital humano en términos de crecimiento económico está aumentando [4, p. 25]. Por lo tanto, en la República de Belarús también es necesario invertir en el desarrollo del capital humano [6, p. 10]: es decir, mejorar la calidad y accesibilidad de la educación y de la atención médica aumentando las inversiones del presupuesto estatal en estas áreas.

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Раскрываются особенности и проблемы неравенства доходов в Республике Беларусь. Автор показывает пути, способствующие уменьшению дифференциации доходов населения и преодолению проблем, связанных с неравенством.

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ONOMASTICS AS THE SCIENCE OF PROPER NAMES

The term onomastics is used in two meanings: “a section of linguistics (a section of lexicology) that studies proper names”, and “a set of proper names”. However, there are some reasons to think that onomastics should be considered as an independent linguistic science,

and not as a branch of lexicology. “Hence, onomastics is a branch of linguistics that studies the essence of proper names, their specifics, origin and development. Onomastics is associated with almost all areas of linguistics, as well as with such sciences as history, geography, ethnography, cultural studies, literary studies, sociology, psychology, logic, philosophy, etc” [3]. The aim of the article is to tell about founders of national and foreign onomastics, present major branches of onomastics, its social functions and the role of onomastics for the research in other sciences.

“The founder of onomastics is a German scientist Wilhelm Humboldt, and the founder of Slavic onomastics is a famous Czech Slavist Franz Miklosic. Franz Miklosic in 1860–1874 published important studies on Slavic geographical names. Many foreign and domestic linguists also contributed to the development of onomastics. Among foreign linguists, first of all, we can name A. Gardiner, A. Dose, P. Rene, V. Tashitsky, A. Bach, V. Fleischer, V. Zeike. The national linguists are N. M. Tupikov, A. M. Selishchev, V. K. Chichagov, A. I. Sobolevsky, A. V. Superanskaya, V. A. Niknov, V. D. Bondaletov, N. V. Podolskaya, A. N. Antyshev” [1].

“Aspects of onomastic research are diverse. The scientists distinguish descriptive onomastics which forms the objective foundation of onomastic research and provides a general philological analysis and linguistic interpretation of the collected material. Theoretical onomastics studies the general patterns of development and functioning of onomastic systems. Applied onomastics is related to the practice of naming, the functioning of names in speech, and the problems of naming and renaming, giving practical recommendations to cartographers, biographers, bibliographers and lawyers. Onomastics in fiction (literary onomastics) is a section of poetics. Historical onomastics studies the history of the appearance of names and their reflection in the names of the objects of different eras. Ethnic onomastics studies the origin of names of ethnic groups and their parts in connection with the history of ethnic groups, the relationship of ethnonyms with names of other types, the evolution of ethnonyms” [1].

Onomastic studies help to identify migration routes and places of earlier settlement of different peoples, language and cultural contacts, the older state of languages and the ratio of their dialects. Toponymy (especially hydronymy) is often the only source of information about extinct languages and peoples.

According to the Book of Genesis, the first to receive proper names were the people themselves, the places they knew on the earth, the animals (domestic and wild), and the visible heavenly bodies. These objects and their names filled the onomastic space of ancient people. Over time, this space has expanded, and new types of objects have appeared.

“As proper names we usually use separate words, sometimes phrases and sentences are used. As for parts of speech, nouns predominate among them (for example, Petersburg, Maria, Sharik) and substantives (words of other parts of speech that have become nouns, for example: the village of Alexandrovo, the Green River). Common names denote classes of objects (dog, city, girl), while proper names are given to individual objects (Sharik for a dog, Kemerovo for a city, Ira for a girl) and serve to distinguish these objects from the general class” [2].

Almost all proper names come from common nouns. Proper names are very numerous and are used to name a wide variety of objects and phenomena that can be real or created by the imagination of a man. There are several areas of onomastics. The first direction is anthroponyms. The word comes from Greek “anthropos” which means “person” and “onyma” that means “name”. Anthroponyms are any proper names that a person can have. These are first names, patronymics, surnames, nicknames, pseudonyms: Boris, Svetlana, Ivanov,

Chehonte. The section of onomastics that deals with studying the anthroponyms is called anthroponymy. The second direction is toponyms. The word comes from Greek “topos” that means “place”. The second group is made up of the names of geographical objects. The corresponding section of onomastics that studies toponyms is called toponymy. Toponyms, in turn, are divided into groups depending on what types of geographical features are called. The third direction is hydronyms which are the names of water bodies: rivers, streams, lakes, seas, ponds, for example, Volga, Yenisei, Dnieper, Mukhovets, Pina. Oikonyms are names of localities, both urban and rural (Moscow, Minsk, Brest, Logoysk). Toponyms include oronyms which are the names of any terrain elements: mountains, hills, plains, caves, and ravines. For example, the Caucasus Mountains, Elbrus, Cordillera, Russian Plain, Fox Ravine; urbanonyms that are the names of inner-city objects such as streets, squares, buildings (Chernyshevsky Square, Pushkin Street, Masherov Avenue, Writer Smirnov Street); horonyms that are the names of any territory, region, district, country. Territories can be administrative, natural and intra-urban: Russia, France, Italy, Belarus, Brest Region, Vitebsk Region. Toponyms are also divided into macrotoponyms (names of large geographical objects known, as a rule, to a large number of people) and microtoponyms (names of small, insignificant objects known in a limited area; these can be streams, wells, clearings in the forest). The third direction is cosmonyms and astronyms which are the names of space objects: stars, planets, galaxies, constellations (Ursa Major, Mars, Vega, Milky Way). The section of onomastics that studies all these words is called cosmonymy. The fourth direction is zoonyms which are nicknames of animals: Murzik, Burenka, Kesha. Zoonymics is the section of onomastics that studies them.

“Consequently, onomastic studies help to identify migration routes and places of earlier settlement of various peoples, linguistic and cultural contacts, the ancient state of languages and the relationship of their dialects. The study of proper names is of great importance because of the specific patterns of their transmission and preservation. Due to its social function to serve as a simple individualizing reference point for a particular subject a proper name can keep its main meaning when it completely loses its etymological meaning, that is, when it is completely impossible to connect it with any other words of the same language (for example, in Russia such river names Don, Moscow and Volga” [3].

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Приводятся основные положения ономастики как науки об именах собственных. Рассказывается об основателях славянской и зарубежной ономастики, а также ученых, которые внесли значительный вклад в развитие данной отрасли языкознания. Выделяются аспекты ономастических исследований, которые помогают выявлять пути миграций и места более раннего расселения различных народов, языковые и культурные контакты, более древнее состояние языков и соотношение их диалектов.

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THE MIRACLE INGREDIENT OF HORSESHOE CRAB BLOOD

Horseshoe crabs are older than the dinosaurs. They have been around for 450 million years, which means they watched the rise and fall of millions of other species, and survived ice ages. Each spring, guided by the full moon, hundreds of thousands of horseshoe crabs clamber onto beaches to lay their eggs. For hungry birds, it is a cornucopia. For drug companies, it is a crucial resource for making human medicines safe.

In this article we aim to describe the role of horseshoe crab blood in protecting human lives from deadly diseases, its use in the production of vaccines and medicines, as well as the threat this has to horseshoe crabs.

Nearly unchanged for hundreds of millions of years, horseshoe crabs have some unusual traits. Despite their name, these creatures are more closely related to spiders and scorpions than crabs. They also have nine eyes – two compound eyes and seven simple ones.

Horseshoe crab blood is bright blue. The blue blood comes from the metal copper in their oxygen-transporting proteins, called hemocyanin. Still, the blood has another important peculiarity. In 1956, medical researcher Fred Bang noticed its strange characteristic: When horseshoe crab blood interacts with endotoxin, cells called amebocytes clot and form a solid mass. These amebocytes – part of the crab's ancient immune system – could detect deadly bacterial contaminants in the rapidly expanding array of pharmaceuticals designed to enter the human bloodstream [1].

Horseshoe blood contains important immune cells that are exceptionally sensitive to toxic bacteria. When those cells meet invading bacteria, they clot around it and protect the rest of the horseshoe crab's body from toxins.

Scientists used these clever blood cells to develop a test called Limulus Amebocyte Lysate, or LAL, which checks drugs for contamination with endotoxin, a type of bacterial toxin [1].

In 1977, the U. S. Food and Drug Administration approved horseshoe crab lysate for testing drugs and vaccines. Since then, each May the helmet-shaped creatures are brought to specialized labs along the U. S. East Coast, where technicians extract the blood from a vein near the heart before returning them to the sea.

Catching crabs and harvesting their blood is time-consuming, and the resulting lysate costs $60,000 per gallon. In 2016, a synthetic alternative to crab lysate, recombinant factor C (rFC), was approved as an alternative in Europe, and U.S. drug companies also began using it [2]. But on June 1, 2020, the American Pharmacopeia, which sets the scientific standards for drugs and other products in the U.S., claimed the safety of rFC is still unproven.

Human health and safety is paramount. But without rFC or other alternatives available, the ongoing burden on horseshoe crab blood for COVID-19 vaccines and related therapeutics may imperil the crabs and the marine ecosystems that depend on them.

In the 1980s and through the early 1990s, the process seemed sustainable. The pharmaceutical industry claimed that only three percent of the crabs they bled died. Population surveys showed that the crabs were plentiful, and conservationists did not place much value on the species. But by the early 2000s, the picture began to shift. Annual horseshoe crab counts during spawning season revealed smaller numbers, and a 2010 study

found that as many as 30 percent of the bled crabs ultimately died – 10 times as many as first estimated.

Nowadays the American horseshoe crab is classified as vulnerable on the IUCN Red List of Threatened Species, and the number of crabs caught is monitored. American regulators and manufacturers created guidance on how to reduce the number of crabs killed during the bleeding process. Some crab populations are now increasing. Some medicine companies have started sustainability programmes that rescue eggs from crabs that have been caught for bait. The eggs are fertilised, raised in a hatchery and released back into the ocean to try to keep population numbers stable.

In conclusion we should mention that thanks to the blue blood of horseshoe crabs, millions of patients can safely take medication every day. Still, it is obvious that the stronger rules to protect horseshoe crabs, more scientific research, and better protection for their coastal habitat are necessary.

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Описано применение голубой крови подковообразных крабов в производстве лекарств и вакцин. Подчеркивается необходимость проведения научных исследований для поиска альтернативы крови подковообразных крабов с целью защитить их от вымирания.

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FAIRY TALES IN TEACHING ENGLISH AS A FOREIGN LANGUAGE

Literature plays an important role in our life. Fairy tales as a part of the children's literature could be a valuable source for teaching English as a foreign language. Fairy tales might be considered one of the possible supplementary teaching materials for English language learners. It is not only the atmosphere of mystery, thrill and wonder which makes fairy tales so unique and valuable but they can bring the whole magic world to a young reader and learner. They can open the old wisdom and knowledge of humankind which we often forget about. Literature provides wonderful source material for eliciting strong emotional responses from students and using it in classroom is a productive way of involving the learner [1].

The fairy tale is a story which involves folkloric features such as fairies, goblins, princes and princesses. The fairy tale is a sub-class of the folk tale. The oldest fairy tales were told and retold from generations before they were written down. When these stories were studied

thoroughly it turned to be that there were more than one, even more than 10 versions of Cinderella story. Each story appeared to have unique telling and cultural elements which depended on the place and time when the story was told [4].

Originally the term **fairy tale** came from France. In 1697 Madame d'Aulony began publishing volumes of fantasy stories under the collective title *Les contes des fees*. French fairy tales were the first to be collected and written down. Despite of the diversity of the definitions mentioned they all have common features which involve fairy creatures and magic [4].

The nineteenth century was a golden age for folklore. Collectors all over the world began to gather ancient tales from oral sources and write them down. One of these collectors was well known Joseph Jacobs with his *English Fairy Tales* (1890) and *More English Fairy Tales* (1894). The late nineteenth and twentieth century fairy tales became an integral part of the children literature. But, fairy tales cannot be classified as children stories; they have special quality of being able to entertain reader of all ages. Originally fairy tales main audience were adults as likely as children [3].

Later on fairy tales were about princes and princesses, combat and adventures. Fairies became to have the second role in the fairy tales. Moral lesson and happy endings became common features. In the modern era violence is usually removed from the fairy tales that they could be read for the children. The stories tend towards an optimistic moral structure, with justice fairy done, wickedness punished and goodness rewarded [4].

The principle characteristics of fairy tales are:

• Fairy tales usually begin and end with "special" words like **"Once upon a time...", "In a far-far away land...", "Like days long ago...", "There once was...", "Long, long time ago...", "They lived happily ever after", "They lived for many, many joyous years..."**

• Place and time are unknown in fairy tales. Setting is often enchanted.

• Princes and princesses, heroes and heroines are often included in fairy tales as well as poor farmers, youngest sons, wise old women, beggars and soldier.

• The main character often wants to make life better.

• Fairy tales usually include clearly defined good characters and bad characters. Red Riding Hood and Big Grey Wolf are very good examples of sharp division between good and bad characters.

• Fairy tales involve magic elements. Magic may be both positive and negative.

• The plot of the fairy tales focuses on a problem or a conflict which need to be solved.

• Fairy tales usually include a moral or a lesson to be learnt.

Fairy tales have a great potential to be used as a valuable source in English lessons. Children's stories contain uses of language that are considered typical of poetic and literary texts. Many of these devices offer opportunities for foreign language learning. In appropriate adaptation these stories are suitable for all ages and levels. Fairy tales have universal values and plots which add familiarity to students. The child, limited in experience, loves to come in touch with the things he knows about [1].

Fairy tales are enjoyable but meaningful. They stress human experience, history and values. Fairy tales provide entertainment and further topics for discussion. They are fun and short, rich in terms of language yet less grammatically complex and syntactically speaking than many other forms of literature. There is a great opportunity to make fairy tales as complex and simplistic as possible depending on the class in which it is introduced. Fairy tales are also a great source of vocabulary, grammar structures and syntax. And in addition to that fairy tales are short enough, to keep students interested long enough to get to the happy end [4].

In English lessons teachers tend to develop four skills: reading, writing, speaking and listening. These skills are often divided into two types. Receptive skills include reading and listening. Productive skills include speaking and writing [1].

It is very important to develop reading skills. Much language production work grows out of texts that students hear or see. The procedure for teaching receptive skills generally starts with a lead in. It is very essential to start with pre-reading activity in order to set up a topic, to focus their attention in what they are going to read, activate students' background knowledge of the topic. Pre-reading activities involve students in reading a particular text short or long. The goals of this stage are to create a purpose for reading; and provide any language preparation that may be needed. Teacher could ask questions to the related topic or show a picture which illustrates story and ask students what they think according to this picture is going to happen in the text [2].

The purpose of such guiding questions is not to check reading comprehension, but to lead the students towards most important points in the text.

Getting students to speak in the class can sometimes be extremely easy. In a good class atmosphere, students will participate freely and enthusiastically if we give them a suitable topic or a task. Fairy tales are good provider of topics for discussion and thus help to develop students' speaking skills. Any topics which involve the discussion of varying points of view may be re-enacted in a role play. According to the topic which is touched in the fairy tale the teacher can prepare a questionnaire. Students in pairs or in small groups discuss answers to the questions and then students share their ideas to the class. This kind of activity is very useful because students have time to discuss and prepare answers. The teacher can set up a task. For example: *Imagine that you are a hero. Talk about yourself as a hero or work in pairs and make a dialog between the heroes* [2].

Writing skills can also be thought through fairy tales. Inspired by the text, the teacher could set up some kind of creative writing tasks. For example, students may write their own fairy tale or an alternative ending, answer the question *what if...* Students can write a modernized version of a well-known fairy tale [1].

Summing up everything mentioned above we can come to the conclusion that fairy tales may contribute to the enrichment of a young reader's knowledge in a number of ways. They teach moral and values highlighting the most universal norms and standards of language existence. In addition to that, fairy tales are a particular type of text which can be adapted to suit the child's age, whereas their composition of sentences and plot is simple and understandable.

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Рассматривается английская сказка не только как особый литературный жанр, но и как эффективный ресурс для изучения английского языка. Сказка является ключом к более глубокому пониманию культуры. С помощью сказок учащиеся усваивают лексику, грамматику и моральные ценности. Сказки повышают мотивацию к изучению иностранного языка и делают занятия более интересными.

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ENVIRONMENTAL ASPECT OF THE ROCKET AND SPACE INDUSTRY DEVELOPMENT (ON THE EXAMPLE OF A JOINT UKRAINIAN AND CANADIAN PROJECT)

Nowadays, the state of the rocket and space industry plays an increasing role in the development of society. Among the most developed countries, there is no one that does not pay attention to space exploration. After the adoption of the law on the regulation of space activities in Ukraine, there is an opportunity not only to participate in projects in other countries, but also to create their own, aimed at the development of domestic science. In recent years, the role of the rocket and space industry in the structure of the economy, both in Ukraine and in the world, is gradually increasing. Therefore, a deeper study of this area and its impact on the environment becomes relevant.

The purpose of the publication is to identify potential problems in the development of the rocket and space industry and the negative consequences for the environment (on the example of a joint project launched by Ukraine and Canada).

The development of space production has led to the emergence of a global market for space goods and services. The scale and development trends of this market are assessed both by quantitative indicators – the volume and types of goods and services, their share in total output of countries, and by qualitative criteria – the degree of their complexity and complexity. In the second half of the 1990s, the global market sector, combining space goods and services, proved to be very lucrative and particularly fast-growing. In the structure of this market, the first place is occupied by satellite communications, the second one – by remote sensing and the third one – by geographic information systems (GIS) [1].

One of the most important areas of recent years is international cooperation in space exploration between the leading industrial countries. Commercial launches of relay satellites are mainly carried out by three countries: Russia, USA, France, which currently have the most powerful space capabilities, including rocket production and the presence of a spaceport (Russia – Baikonur, USA – Cape Canaveral, France – French Guiana). These countries launch commercial satellites into orbit at the request of other countries or private telecommunications companies. And such services are widely used by Western European countries, Japan, Brazil and others [4]. Cooperation with other countries is a promising area in the development of the rocket and space industry. Thus, in 2017, an agreement on a joint Ukrainian and Canadian

project was signed at the state level. Its essence is the cooperation of the Canadian company "Maritime Launch Services" (MLS) and the Ukrainian SE "Pivdenne". The Ukrainian side must develop and supply the required number of Cyclone-4M missile carriers. Canada, in turn, undertakes to build a spaceport in Nova Scotia (one of Canada's provinces) to launch these rockets. The first launch is planned for 2021, followed by an increase in the pace to 8 launches per year. To date, the plan to build a spaceport has been approved. In March, MLS submitted a report detailing the expected impact of the launches on the environment. The 475-page document discusses all possible accident scenarios and their consequences for the environment. The main concern was the fact that the second stage of Cyclone-4M uses toxic hydrazine and amyl as fuel. However, the company assured that even with the worst result, the consequences will be temporary and eliminated in a short time, and the locals and nature in general will not be threatened. The Ministry of the Environment of Nova Scotia has approved the construction of a spaceport, but with a number of conditions. MLS will be required to provide plans to monitor and protect the environment from the effects of the spaceport. The company must also submit a detailed plan for the "rehabilitation" of the area, which will need to be carried out when the spaceport is nearing completion. In addition, the MLS must obtain a permit from the Ministry of Land Resources and Forestry to lease the land. The company also plans to close the first round of external financing in the near future [3].

The Ukrainian part of the agreement is also being gradually implemented. SE "Pivdenne" (Dnipro) successfully conducted bench fire tests of the third stage of the medium-range missile carrier "Cyclone-4". These tests of the entire missile module are the first in the recent history of Ukraine. The tests took place on August 23, 2019, and were considered successful. During the tests, the engine was turned on five times, and all systems worked normally, as planned by the designers of SE "Pivdenne". These are the final and most important tests before the first flight tests of the third stage of the Cyclone-4 launch vehicle – this module will work directly in space and bring satellites into target orbit [5].

Thus, we can see the importance of assessing the impact of the rocket and space industry on the environment. Even at the planning stage, all possible negative consequences and ways to prevent or overcome them are considered. Although such control takes a long time, it is necessary for the development of the industry and reduction of its negative impact on the environment.

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Раскрываются проблемы, возникающие в процессе развития ракетной и космической промышленности в Украине. Выявляются потенциальные проблемы в развитии ракетной и космической промышленности и рассматриваются возможные негативные последствия для окружающей среды (на примере совместного проекта Украины и Канады).

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LA TEORÍA DE LAS MASAS DE J. ORTEGA Y GASSET EN EL DISCURSO CIENTÍFICO Y POLÍTICO DE EUROPA DE ENTREGUERRAS

Estructuralmente, el contenido de este artículo se divide en dos partes: comprensión de la teoría de masas planteada por el filósofo y sociólogo español J. Ortega y Gasset, así como determinar el lugar del fenómeno de masas según J. Ortega y Gasset en el discurso científico y político de Europa de entreguerras.

Estas características estructurales del artículo determinan el objetivo – determinar el significado de la teoría de masas de J. Ortega y Gasset en el discurso científico y político de Europa de entreguerras.

El período de entreguerras fue elegido como marco cronológico de este trabajo por las siguientes razones:

a) el libro “La Rebelión de las Masas”, el tema principal de investigación, fue publicado en 1930, siendo la reacción del autor a las relaciones sociales emergentes en la Europa de entreguerras [4; 7];

b) el concepto de “deshumanización” se convirtió en un problema clave en el discurso cultural de entreguerras (además de J. Ortega y Gasset, los sociólogos N. Berdyaev, T. Parsons, el escritor E. Zamyatin, etc.), entrando indirectamente en polémicas con representantes de las ideologías comunistas, según cuyas ideas la lucha entre clases (considerada impersonal) debería haber llevado a la victoria de la clase obrera y a la extinción del Estado [1; 2; 5; 3, p. 253–390];

c) en el período de entreguerras, se formó un precedente de confrontación entre las visiones del mundo capitalista y socialista a nivel interestatal. K. Radek, la persona más grande en el movimiento socialdemócrata de ese período, señaló lo siguiente en su trabajo colectivo “The foreign policy of the powers” (1935): “Men and women who accept the capitalist point of view find it just as hard to understand the socialist state’s foreign policy as its domestic policy” [6, p. 119].

Por tanto, en esta situación sociopolítica, la teoría de masas, planteada por J. Ortega y Gasset, tuvo un significado conceptual en la definición del papel del individuo en el discurso científico y político.

Vamos a destacar las tesis fundamentales de J. Ortega y Gasset, realizado en la obra “La Rebelión de las Masas”:

- “Como las masas, por definición, no deben ni pueden dirigir su propia existencia, y menos regentar la sociedad, quiere decirse que Europa sufre ahora la más grave crisis que a pueblos, naciones, culturas, cabe padecer” [7, p. 23];
- “Las minorías son individuos o grupos de individuos especialmente cualificados” [7, p. 25];
- “…el contenido de la vida en el hombre de tipo medio es hoy todo el planeta; que cada individuo vive habitualmente todo el mundo” [7, p. 39];
- “En nuestro tiempo, el Estado ha llegado a ser una máquina formidable que funciona prodigiosamente, de una maravillosa eficiencia por la cantidad y precisión de sus medios” [7, p. 84];
- “ …la ciencia: la fecundidad de sus principios la empuja hacia un fabuloso progreso; pero éste impone inexorablemente la especialización, y la especialización amenaza con ahogar a la ciencia” [7, p. 83].

Las anteriores son solo algunas de las tesis que, a nuestro juicio, son las más interesantes. Debido a la naturaleza de este trabajo, no es posible prestar atención a otros postulados de la teoría de la masa de J. Ortega y Gasset. La singularidad de la teoría de masas de J. Ortega y Gasset radica en el hecho de que sus personajes clave actuaron en contra de las ideologías liberales, conservadoras y comunistas. En una sociedad idealista, el científico rechazaba al Estado, pero no era la comunidad (representada por una clase, inmuebles, etc.) lo que pasaba a primer plano, sino un individuo con las cualidades personales más destacadas.

La pregunta sigue siendo discutible: ¿Se puede llamar conservadoras a las ideas de J. Ortega y Gasset? En nuestra opinión, esta es una afirmación incorrecta. Porque la sociedad, cuyos rasgos describe J. Ortega y Gasset en su obra, es un autor moderno. Señalando los principales problemas a juicio del autor, J. Ortega y Gasset aboga por la transformación del orden social (cuyo principal problema es la masa social, principal tema de investigación científica del científico). En cuanto al desarrollo de la ciencia, cuyo principal problema, según H. Ortega y Gasset, era “la pérdida de conexión entre el presente y el pasado”, el deseo del científico de definir la ciencia como un fenómeno cultural en el marco que se puede rastrear el desarrollo social.

¿Es la teoría de J. Ortega y Gasset un paliativo en la solución del problema de la “deshumanización” de las relaciones sociales? Desde el punto de vista del desarrollo dialéctico, la respuesta a esta pregunta será negativa. Considerando el período de entreguerras desde un punto de vista retrospectivo, cabe señalar que los sistemas sociopolíticos y culturales basados exclusivamente en la “masa impersonal” (ya sea en una sociedad capitalista, socialista o de otro tipo) no pueden funcionar actualmente en su totalidad. Sin embargo, cabe destacar que el problema de la “despersonalización” es relevante en determinados ámbitos de la sociedad moderna (problemas de digitalización, globalización, cultura de masas, etc.). Por tanto, el trabajo de J. Ortega y Gasset no pierde su relevancia en el discurso científico y político moderno.

Conclusión:

1. La teoría de las masas de J. Ortega y Gasset, formada en el período de entreguerras y respondiendo a los desafíos de la formación sociopolítica y cultural de entreguerras, también es relevante en el discurso moderno. Desde el punto de vista del desarrollo dialéctico, una serie de problemas característicos de la sociedad moderna están directamente relacionados con el período de entreguerras.

2. En la obra “La Rebelión de las Masas” – fundamento de la teoría de J. Ortega y Gasset antes mencionada – se presenta una valoración multidimensional de la emergente “cultura de

masas”, donde a partir de los problemas resaltados por el autor, se cristaliza una sociedad idealista (basada en la relación de una minoría, “individuos destacados”);

3. La formulación del “problema de la despersonalización” determinó el vector del conocimiento socio-humanitario europeo en el contexto de la lucha “individuo – masa”.

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Теория масс, изложенная Х. Ортега-и-Гассетом, является реакцией ученого на общественно-политические и культурно-нравственные устои межвоенной Европы. В статье определено место идей ученого в научно-политическом дискурсе межвоенной Европы. С точки зрения диалектического развития данные идеи актуальны и по сей день.

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METHODS OF IMPROVING WATER QUALITY

At present, the supply of proper quality water to the consumer is a serious problem. Water is the source of life on the Earth. Clean water is a key to health. Purified water, leaving the treatment facilities of the Joint Stock Company “Mosvodokanal”, passes through many kilometers of pipes of water supply systems. These pipes are often worn out, and water becomes heavily polluted [1]. As a result, water becomes of a reduced quality, forcing consumers to use additional water purification systems before drinking it.

One of the options for water quality improving, before directly supplying it to the consumer, is to install additional treatment plants at central heat points [4].

The object of the research was hostels No. 4 and No. 5 of the Russian Timiryazev State Agrarian University, designed to accommodate 2,200 people.

It was found that during the day, the water consumption at these facilities was: $Q = 2200 \times \times 120 = 264\,000$ l/day. According to Building Norms and Rules 2.04.01-85 the maximum daily consumption per person is 120 liters of water [2].

Today, there are a fairly large number of installations for improving water quality, the operating principles of which are based on the following methods:

- Chlorine dioxide (ClO_2). It is the safest compound, similar to conventional chlorine and substances based on it [3].
- Ultraviolet (UV) treatment of water. Disinfection of water with ultraviolet radiation is lethal for most microorganisms, including viruses and protozoa resistant to oxidative methods [3].
- Ultrasonic (US) treatment of water. When ultrasound propagates in water, microscopic areas of very high pressure (tens of thousands of atmospheres) appear around objects having a different density than water. High pressure is followed by high underpressure. No microorganism is able to withstand such influences. As a result mechanical destruction of bacteria takes place [4].
- Distillation. The process of purification of liquids consists in the evaporation of a liquid with the subsequent condensation of steam. In this case, the separation of liquid multicomponent mixtures into fractions differing in composition occurs by partial evaporation of the mixture and condensation of the resulting vapors [4].

Table 1 – Comparison of water purification methods for housing and communal services

№	Method	Main advantages of the method	Disadvantages of the method	Installation used	P (W/h)	Q (l/day)	Installation cost (thousand rubles)
1	chlorine dioxide (ClO_2)	- higher bactericidal and deodorizing effect; - improving the organoleptic qualities of water	- high price; - complexity of service; - low productivity	Dinotec Chlorox	1200	100 (g/h)	1 403, 4
2	ultraviolet (UV) treatment of water	- the effectiveness of the defeat of various microorganisms; - the physical and chemical composition of water is preserved; - the equipment works without special service personnel	- a drop in efficiency when treating poorly treated water; - periodic washing of lamps from rainfall	DUV-1-21-N-BSC	24	33600	33,5
3	ultrasonic (US) treatment of water	- ensuring high quality water without changing its composition; - destruction of pathogens and harmful microorganisms; - increasing the service life and efficiency of filters	- destruction of the pipeline under the influence of ultrasound; - complexity of service	UZO – vodoprovod BS – W – M	60	–	150
4	distillation	- high degree of purification; - the possibility of obtaining hot water, steam treatment	- high price - high energy consumption	DE – 210	132 000	43200	52494

From the considered methods, the authors have chosen the method of ultraviolet radiation – a physical method of water disinfection.

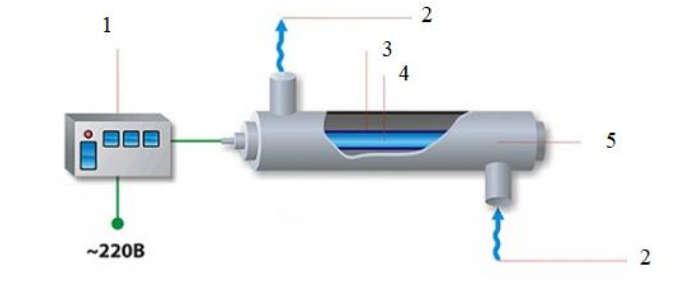

Figure 1 – Ultraviolet water disinfection

1 – control panel; 2 – water flow; 3 – quartz cover; 4 – ultraviolet lamp; 5 – steel body

The analysis showed that additional water purification, before supplying it to the direct consumer, entails additional financial costs which are paid by the consumer. However, the quality of the water consumed has a significant impact on human health.

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Приведен сравнительный анализ различных способов очистки воды перед подачей потребителю.

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ELECTRIC VEHICLES AND THEIR IMPACT ON THE ENVIRONMENT

One of the most effective tools for preventing climate warming on earth is an introduction of an electric vehicle especially in a megalopolis. An electric car is an alternative to a car with an internal combustion engine which is a source of environmental pollution and which accounts for a third of total atmospheric emissions [1].

The large-scale transition to the use of electric vehicles will drive an increase in electricity consumption. In addition, adequate charging infrastructure is needed to supply

energy to electric vehicles. All this, in turn will require the commissioning of additional power capacities and a change in the nature of the electric load schedule [1].

Today the environmental issues are mandatory on the agenda of international organizations of transnational corporations and governments of the leading countries of the world. Environmental issues have reached the global level of discussion. It becomes relevant taking into account unfavourable climate changes, global warming and the development of alternative “clean” energy. Against the background of these processes the demand for the purchase of electric vehicles has increased in developed countries [1].

Are electric vehicles really capable of reducing harmful emissions and reducing the environmental burden on the environment? The main argument in discussions where people who prefer classic cars powered by an internal combustion engine (ICE) and their progressive opponents participate. As today there is no unequivocal certainty and final opinion on this issue even in the community of environmental scientists it remains open [1].

At the same time the researchers have come to virtually the same or similar conclusions: electric vehicles are less harmful to the environment than conventional fuel engines [2].

The energy efficiency aspect of the two types of motors is significant in the context of environmental use. The point is that electric motors set up “clean exhaust” but their direct “power supply” depending on the region of use can occur due to the generated energy at completely non-environmentally friendly power plants [2].

By themselves, electric motors generate “clean exhaust” without burning anything or generating greenhouse gases. In this regard even the most environmentally friendly and newest cars on hybrid engines “lose” to them. However, the problem is that exhaust fumes are not the only by-product of vehicle operation. Thus, researchers at the University of Edinburgh have pointed out that the very fact of the operation of electric vehicles leads to the release of a significant amount of harmful microparticles into the environment. This occurs during the movement of a car and more such harmful particles are formed than when using an internal combustion engine. Another study also confirmed that microparticles of this kind are formed during braking and acceleration. Their sources are: brake system; tires that break down during use; vehicle mass – the more it weighs the more effort is required to accelerate and decelerate; the road surface is influenced by the mass of the vehicle [3].

In 2013 representatives of the University of Hertfordshire (UK) led by Ranjit Sohey conducted a demonstration experiment. In the tunnel through which more than 50 thousand vehicles pass every day the detectors of solid microparticles were installed. The sensors made it possible to reveal that one car left up to 50 micrograms of solid microparticles of various natures per day and one third of them were formed by means of engines. Their significant share was accounted for by road surface particles, rubber and dust from the brake system. These microparticles are the most dangerous type of emissions. Exhaust gases have a negative impact on health in the long term as they accumulate but the named particulate matter does it much faster directly causing various diseases including pathologies of the heart and respiratory tract [1].

It turns out that the benefits of a car with an electric motor are questionable: it remains only to figure out to the end what is more harmful to the atmosphere – electric cars or cars with traditional gasoline and diesel engines but in-depth research on this topic has not been carried out. In the meantime leading car manufacturers are actively investing human and financial resources in the development of electric vehicles contributing to their popularity among the population in various ways [2].

It should be added that the owners of electric cars are forced to contact auto repair shops relatively more often in order to replace rubber tires due to their wear. The relatively

increased mass of electric cars is associated with heavy batteries which are deliberately installed by manufacturers to increase the autonomous driving range of the car without the need for recharging [2].

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Рассматривается влияние электромобилей на окружающую среду, приводится сравнение автомобилей с электрическим двигателем и двигателем внутреннего сгорания, описаны их преимущества и недостатки.

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PSYCHOLOGICAL AND PEDAGOGICAL SCIENCES: INNOVATIONS AND RESEARCH DIRECTIONS

Every year, digitalization makes its own changes in our lives, including the education system. In the modern education system, the relevance of creating educational digital content is increasing. In the information space, new electronic resources are emerging: platforms, programmes, design sites, with the help of which teachers and employees of educational institutions can create educational courses and didactic materials. On the one hand it is happening due to the trend of globalization of education, on the other hand, to the availability and receptivity of online educational products by modern students, whose attention is attracted by multimedia gadgets.

Innovations are characteristic of any professional activity of a person, so they become the subject of study, analysis and implementation. Innovations are the result of scientific research, advanced pedagogical experience of individual teachers and entire teams. This process cannot be spontaneous, it needs to be managed. In order to understand what innovation is and what areas it has, we will look a little into the history [2].

The concept of “innovation” comes from the English word “novation”, which means the replacement of something new. Innovation is a change within the system; the creation and implementation of various types of innovations that generate significant progressive changes in social practice.

There are socio-economic, organizational and managerial, technical and technological innovations. One of the types of social innovations is pedagogical innovations.

Pedagogical innovation is a purposeful progressive change that introduces stable elements (innovations) into the educational environment that improve the characteristics of individual parts, components, and the educational system as a whole.

Pedagogical innovations can be implemented both at the expense of the educational system's own resources (intensive development path), and by attracting additional capacities (investments) – new funds, equipment, technologies, capital investments, etc. (extensive development path).

Pedagogical innovations can be pedagogical ideas, processes, means; methods, forms, technologies, content programmes, etc.

The main directions and objects of innovative transformations in pedagogics are:

- development of concepts and strategies for the development of education and educational institutions;
- updating the contents of education;
- change and development of new technologies of education and upbringing;
- improving the management of educational institutions and the education system as a whole;
- improving the training of teachers and improving their skills;
- designing new models of the educational process;
- provision of psychological and environmental safety of students, development of health-saving training technologies;
- ensuring the success of training and education, monitoring the educational process and the development of students;
- development textbooks of the new generation and others [1].

Innovations can be implemented at different levels. The highest level includes those innovations that affect the entire pedagogical system.

Progressive innovations arise on a scientific basis and contribute to the advancement of practice. In pedagogical science, a fundamentally new and important direction has emerged – the theory of innovations and innovative processes.

Education reforms are a system of innovations aimed at the fundamental transformation and improvement of the functioning, development and self-development of educational institutions and their management system [3].

Thus, an educational institution is innovative if the educational process is based on the principle of nature conservation, the pedagogical system evolves in a humanistic direction, the organization of the educational process does not lead to overloads of students and teachers, increased results of the educational process are achieved through the use of undisclosed and unused capabilities of the system, the productivity of the educational process is not only a direct consequence of the introduction of expensive tools and media systems.

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Рассмотрены различные способы внедрения инноваций в систему образования, отмечена актуальность использования новых методов и приемов в системе обучения, раскрыты понятия «инновация» и «педагогическая инновация», а также определены направления инновационных преобразований в педагогике.

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DRAINAGE OF SWAMPS – BENEFIT OR HARM

Swamps, known as wetlands, are an incredibly important global ecosystem.

Wetlands are defined as areas that are covered with water for at least one season. They are often full of plants called hydrophytes: the ferns, sedges and rushes that people usually associate with wet, swampy, boggy areas. These plants love soils that are saturated with water.

There exist a lot of different types of wetlands: bogs that are full of peat mosses, marshes at the mouths of rivers and lakes, coastal wetlands.

Wetlands act as natural water filters. When runoff from natural and man-made processes pass through, wetlands can have a neutralizing effect. If wetlands are in between an agricultural zone and a freshwater ecosystem fertilizer runoff is absorbed by the wetland and used to fuel, slow processes take place there. By the time the water reaches a lake or stream, there is not enough fertilizer left to fuel, the destructive algal blooms that can poison freshwater ecosystems.

Wetlands are the world’s nurseries. Young fish escape predation by hiding amongst the roots and shoots of wetland plants. Birds from all over the world use the dense greenery to hide their nests.

Wetlands help fight climate change as they are able to break down organic material very slowly and without oxygen, storing carbon rather than releasing it into the atmosphere.

Peat bogs are especially good at storing carbon. Bogs are an incredible natural phenomenon that can take hundreds or thousands of years to develop. Bogs have a very low pH which means that dead, decaying plant matter takes a very long time to decompose. So, any of the carbon trapped in plants goes down into the ground and is not metabolized into carbon dioxide. Peat bogs or muskeg contain an estimated one-third of the organic carbon in global soils [1].

Amelioration and land reclamation promoting dewatering of potentially fertile lands appeared the most important problems of agricultural science and had been evaluated since the middle of XIX century.

Centralized land reclamation started in 1970. Up to the beginning of XX century more than 4000 drainage canals had been constructed, as a result about 600 thousand hectares of natural grasslands had been reclaimed and turned into the pastures. During the Soviet period the problem of amelioration, land reclamation and drainage was studied in the Belorussian State Academy of Agriculture at melioration faculty. Further development of ameliorative science took place in the Belorussian Scientific and Research Bog Institute (1936–1941) and in 1966 the Belorussian Scientific and Research Institute of Melioration and Water Science was created [2].

In the 1960s–1970s a large-scale land reclamation was carried out in Belarus: almost 3 million hectares of wetlands were drained in Polesie and Vitebsk region. The measures taken made it possible to conduct intensive agriculture on the former swamps and bogs and provide the population with food, and the local residents stopped suffering from diseases caused by rotten water and swamp fumes. However, putting human interests first the ameliorators caused serious damage to the environment.

Drainage of a bog or peat bog provides fertile land and good fuel but after a few years bog vegetation and fauna are dying in this place and biodiversity is decreasing. Land reclamation also disrupts the supply of small rivers flowing out of the swamp – as a result, many of them simply disappear. The surrounding forests are gradually drying up and the territories turn into wastelands.

However, the worst consequence of the draining of swamps is fires. Because of reclamation dry peat comes out to the surface of the earth which can easily ignite even from an accidentally thrown cigarette butt. Many of the out-of-use forest reclamation systems burn at least once every ten years. Restoring ineffectively drained marshes and peatlands is more beneficial in the long term than costly and complex fire fighting.

As a result of industrial peat extraction and intensive agriculture large territories appeared in Belarus, the use of which is not economically profitable today. This is more than 130 thousand hectares of peat soils and almost 90 thousand hectares of natural bogs where the hydrological regime was seriously disturbed. In addition, large areas of drained forest peatlands have lost their productive potential and are no longer used in forestry. Lowering the groundwater table by 50–70 cm has led to the depletion of the diversity of plants and animals in these places.

Such lands do not absorb carbon but become its source, as a result of which soil fertility decreases. Belarusian disturbed peat bogs overgrown with forests emit 5 to 15 tons per hectare in CO_2 equivalent into the atmosphere – this is more than 3.7 million tons per year. While natural swamps, on the contrary, absorb 1.4 million tons per year. According to ecologists' calculations re-waterlogging of even 200,000 hectares of drained peatlands which are not currently used for fuel extraction and agriculture will reduce greenhouse gas emissions by 1.5 million tons of CO_2-equivalent annually.

Nowadays the project “Wetlands, Peat Bogs-2” has started in Belarus which is funded by the Global Environment Facility and implemented by the United Nations Development Programme in partnership with the Ministry of Natural Resources and Environmental Protection of Belarus. It is a big step in the restoration of drained peatlands and bogs. With the help of field research and satellite imagery specialists collect data on 2.56 million hectares of peatlands, rewetting is carried out on an area of 3,384 hectares due to the closure of reclamation canals [3].

We hope it will allow to restore thousand hectares of Belarusian degraded and ineffectively drained forest peatlands.

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Дана характеристика белорусских болот, приведены примеры мелиорирования полесских земель, раскрыты проблемы и необратимые последствия, связанные с их осушением.

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DEVELOPMENT OF E-SPORT IN CIS

Recently, e-sports have become very popular among the younger generation. The emergence of e-sports was facilitated by the development of computer technologies. This made it possible to use computers not only as a means of work but also as a place to relax. Since the younger generation has a competitive spirit some of them are eager to figure out who plays better. The audience is often gathered around the games when young people want to know who will be the winner and to emphasize definite actions of a player for themselves.

E-sports (also known as “computer sports”) is a team or individual competition based on video games. All e-sports disciplines are divided into several classes: first-person shooters, real-time strategies, sports simulators, car simulators, flight simulators, team role-playing games with elements of tactical-strategic games, etc.

The areas of e-sports depend on different criteria. First of all mobile and computer e-sports are divided according to the type of a device. In the mobile direction such games as PUBG mobile, Star Wars Galaxy of Heroes, League of Legends are popular. Also computer e-sports can be divided into two fundamental areas – team and individual. Popular team sports are such disciplines as: Dota 2, CS:GO, Rainbow 6 siege and others. The individual direction is represented by the following disciplines: Formula 1, FIFA, Hearthstone and others.

According to the Newzoo company the world volume of the e-sports industry reached more than $ 905 million in 2018, and in 2021 it will be able to exceed the $ 1.5 billion mark. For several years the global e-sports arena has shown an annual growth rate of 15–20 % and e-sport has been recognized as an official sport in Russia and Ukraine [1].

As for the territorial principle the following regions are distinguished as developed in cybersport: European, Asian, American (some disciplines divide South and North America) and the CIS region which also includes Ukraine as a former member of the union. Each region has its own characteristics of the development of e-sports.

E-sports in the CIS originated in a huge number of computer clubs throughout Russia in the 1990s. In those years the Internet had not yet come to every home and the fans of computer games had to play in local network. Each club spontaneously had its own players, teams and fans. Club owners with active guys began organizing local competitions for all the players. Over the time these competitions received financial support which gave an impetus to the individual development of each player. Nowadays the prize pool is big enough, the pros create a workout plan for each day which allows to call the players as athletes.

Private companies found the most successful organizations. The most prominent at the moment among them in CIS are: Navi, Ukraine; Virtus Pro, Russia; Team Spirit, Russia; Gambit e-sport, Russia; Nemiga, Belarus [2].

On December 17, 2009 the Natus Vincere organization (from Latin ‘born to win’) was founded on the basis of the Counter-Strike team. Initially the abbreviation NAVI was borrowed from the movie “Avatar” and got its final form after the competition for the best

transcript among the fans. ZeroGravity became the manager of the team, the first NAVI roster included Edward, markeloff, starix, ceh9 and Zeus. All the players were skillful and had great experience in tournament performances [3].

Virtus.pro club was created in November, 2003 by producer Irina “Runcha” Semionova. The name “Virtus.pro” means “professional valour” (from the Latin “Beatitudo non est virtutis praemium, sed ipsa virtus”). The club was created on the basis of the Counter-Strike 1.6 (CS) team [4].

Nemiga Gaming is a Belarusian multi-gaming organization founded in June, 2017 after signing a contract with the k29 Counter-Strike team. At the moment the organization includes rosters in popular e-sports disciplines: Dota 2, CS:GO, FIFA, Hearthstone. Their main goal is to popularize team sports in Belarus. The CS:GO roster is a strong contender for the top 25–30 in the world ranking and top 5 according to the hltv.org website. The composition is mainly represented by the Belarusians and it is the purpose of the organization [5].

The COVID-19 pandemic has had a significant impact on the development of the e-sports industry. With the introduction of widespread bans on organizing mass events LAN tournaments migrated to the Internet. The suspension of the football championships, the postponement of the start of the season in Formula 1 have led to the fact that e-sports disciplines based on real sports have gained high popularity among those who had no previous experience of watching this sport. Due to this situation e-sport attracts new regular viewers who greatly influence its development.

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Определяется понятие киберспорта, описываются его разновидности и развитие на территории СНГ. Раскрывается история создания основных организаций в СНГ, а также показывается влияние мировой пандемии COVID-19 на текущее развитие спорта.

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UMWELTAUSWIRKUNGEN DER TEXTILINDUSTRIE

Die Textilindustrie zählt zu den am längsten bestehenden und komplexesten Branchen des verarbeitenden Gewerbes. Sie bildet einen breit gefächerten und heterogenen Sektor, in dem vor allem kleine und mittlere Unternehmen tätig sind, wobei der Bedarf hauptsächlich

von drei Formen des Endverbrauchs geprägt wird: Bekleidung, Heimtextilien und industrielle Verwendung. Mehr als 90 % unserer Kleidung stammen aus Asien, besonders aus China, Bangladesch und Indien: Billiglohnländer. Italien ist der mit Abstand größte Textilproduzent Europas, gefolgt von Deutschland, dem Vereinigten Königreich, Frankreich und Spanien (in dieser Reihenfolge), die zusammen genommen mehr als 80 % der EU-Produktion erbringen.

Zwar ist heute die Umweltverträglichkeit in der Textilindustrie ein vieldiskutiertes Thema, weil die Branche gewaltige Umweltschäden verursacht. Von der Herstellung in asiatischen Fabriken über Rückstände in der Kleidung bis zur Freisetzung von Chemikalien in europäische Flüsse, verteilt die Textilindustrie weltweit ihre Schadstoffe. Die Prozessstufen der Textil-herstellung, die besonders starke Belastungen für die Umwelt hervorrufen, sind Anbau und Produktion der Rohfasern sowie die Textilveredelung. In der vorliegenden Arbeit wird beschrieben, wie sich die Textilindustrie auf die Umwelt auswirkt.

Das größte Umweltproblem betrifft die Menge der Abwässer und deren chemische Belastung. Die globale Textilindustrie ist eine der größten VerschmutzerInnen von Gewässern weltweit. Die gefährlichen Chemikalien gelangen über die ungefilterten Abwässer der Textilfirmen in Flüsse und Grundwasser. Es handelt sich dabei neben vielen anderen um Schwermetalle, hormonell wirksame Stoffe, besonders langlebige Schadstoffe wie z.B. per- und polyfluorierte Chemikalien (PFCs) und Nonylphenol-Etoxilate. Diese Stoffe sind zum Teil schwer abbaubar und können in den biologischen Kläranlagen nur bedingt abgebaut werden. Die Folge: 17 bis 20 % des industriellen Abwassers weltweit entsteht laut Angaben der Weltbank alleine bei der Textilveredelung. Purpurne, blaue, grüne, gelbe Flüsse – so kann es rund um Produktionsländer wie Bangladesch, Indien, China aussehen.

Viele Textilchemikalien haben unterwünschte Eigenschaften: Sie können die menschliche Gesundheit und die Umwelt langfristig schädigen. Einmal freigesetzt, reichern sich viele von ihnen in der Umwelt an – in Flüssen, Meeren, im Boden und in Pflanzen. Einige können bereits in geringen Konzentrationen das Hormonsystem von Mensch und Tier beeinflussen, andere sind krebserregend oder schädigen die Fortpflanzung. Zum Teil werden die Substanzen um die halbe Welt transportiert und kontaminieren Ökosysteme weit entfernt von ihrer Einleitungsquelle.

Rund 65 % aller Textilfasern auf dem Weltmarkt sind aus synthetischen erdölbasierten Chemiefasern, also aus Kunststoffen wie Polyester, Polyamid oder Polyacryl. Zum einen benutzt die Produktion von Chemiefasern nicht-erneuerbare Ressourcen: Als Rohstoff werden jährlich circa 0,8 % des derzeit geförderten Erdöls verbraucht. Zum anderen sind Fasern aus synthetischer Kleidung die Hauptquelle des Mikroplastiks im Meer. Das Waschen solcher Kleidung verursacht 35 % aller in die Umwelt freigesetzten primären Mikro-kunststoffe. Bei jedem Waschgang verlieren die synthetischen Kleidungsstücke Fasern in Form von Mikroplastik: 77 Gramm gelangen pro Kopf und Jahr auf diese Weise in die Umwelt. Besonders viele Fasern verlieren Fleece-Produkte mit ihrer aufgerauten, kuscheligen Oberfläche [1].

Einer der beliebtesten Rohstoffe für Kleidung ist weiterhin Baumwolle. Der konventionelle Baumwollanbau ist aber sehr belastend für die Umwelt. Ein großer Minuspunkt ist der extreme Wasserverbrauch. Schätzungen zufolge wurden 2015 in der weltweiten Textil- und Bekleidungsindustrie 79 Milliarden Kubikmeter Wasser verbraucht, während sich der Wasserverbrauch in der gesamten Wirtschaft der EU im Jahr 2017 auf 266 Milliarden Kubikmeter belief. Für die Herstellung eines einzigen Baumwoll-T-Shirts werden schätzungsweise 2 700 Liter Süßwasser benötigt, was der Menge entspricht, die eine Person in 2,5 Jahren trinkt [3]. Die hohe Wassernutzung ist besonders problematisch, da

Baumwolle vor allem in Regionen in Indien und China angebaut wird, die sowieso schon an Wasserknappheit leiden. Der hohe Wasserverbrauch beim Baumwollanbau führte unter anderem zum Austrocknen des Aralsees.

Hinzu kommt auch der enorme Einsatz von Pflanzenschutz- und Dünge-mitteln auf Baumwollfeldern. Durch Regen und Bewässerung sickern die Substanzen in den Boden. Bisher entfallen beispielsweise ca. 25 % des weltweiten Insektizidmarktes und ca. 10 % des Pestizidmarktes auf den Baumwollanbau. Dabei machen die Baumwollfelder nur 2,5 % der weltweiten landwirtschaftlichen Fläche aus [2].

CO_2-Ausstoß: Derzeit verursacht die Textilindustrie jährlich 1,2 Milliarden Tonnen CO_2 – und damit mehr als internationale Flüge und Kreuzfahrten zusammen. Die Modeindustrie als Teil der Textilbranche ist allein für 5 % der globalen Emissionen zuständig. Sie entstehen bei der Gewinnung von Plastikfasern, der Weiterverarbeitung und langen Transportwegen.

Fast Fashion – das ständige Angebot an neuer Mode zu sehr niedrigen Preisen – hat dazu geführt, dass die Menge an Kleidung, die hergestellt und weggeworfen wird, stark zugenommen hat. Von den Europäern werden jedes Jahr fast 26 kg an Textilen gekauft und 11 kg entsorgt. Gebrauchte Kleidung kann aus der EU ausgeführt werden, doch der Großteil davon (87 %) wird verbrannt oder landet auf Deponien [3]. Das System für Second-Hand-Kleidung ist am Rande des Kollapses. Die Frage, wohin mit all den Altkleidern, wenn niemand sie mehr haben will, bleibt unbeantwortet.

Die Art und Weise, wie Kleidung hergestellt, genutzt und entsorgt wird, bedarf einer Generalüberholung. In der Bekleidungs- und Textilindustrie ist eine radikale Transformation notwendig, damit die Umwelt geschützt werden kann. Der WWF sieht drei Bereiche für umweltorientiertes Handeln:

Ökologische Effizienz: Die Bekleidungs- und Textilindustrie muss ihre gravierendsten Umwelteinflüsse entlang der Wertschöpfungskette reduzieren (z.B. in den Bereichen Wasserverbrauch und -verschmutzung, Klimaschutz und Chemikalien).

Innovation und Transformation: Die Branche soll neue Geschäftsmodelle implementieren und innovative Technologien nutzen, um trotz erwartetem Wachstum der Branche den Ressourcenverbrauch und die negativen Auswirkungen auf die Umwelt zu minimieren.

Nachhaltiger Konsum: Die Konsumenten müssen den Verbrauch von Kleidern reduzieren und Wege finden, Kleidung zu teilen, zu tauschen oder zu rezyklieren. Sie sollen beim Kauf achtsam auswählen, ohne dass dies ihren Wunsch nach Stil und Selbstausdruck beeinträchtigt.

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В статье описывается негативное влияние текстильной промышленности на окружающую среду. Подчеркивается, что данная отрасль является источником загрязнения по всему миру. Также в работе приводятся варианты решения проблем, вызванных текстильным производством.

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PECULIARITIES OF A. CHRISTIE'S CREATIVE METHOD AS A MASTER OF DETECTIVES

There are many kinds of literary methods. One of them is the literary method of the classical detective story. General features of the detective genre and its concept have always remained unchanged for decades. The typical detective story contains the crime, its investigation and the solution. Particular details and certain conventions develop from the detective story pattern. The author is expected to "play fair" with the reader. The reader should be given exactly the same information that the detective uses to find the criminal. This way the reader can treat the story as a battle of wits between themselves and the detective [2].

Many classical writers use this formula in making their mystery about detective fiction. David Geherin gave a brief definition of the detective story as the following: "A detective story is a work of fiction about a puzzling crime, a number of clues, and a detective who solves the mystery". In most detective stories, the crime is the murder and clues lead to or away from the solution. It gives the diversity of the detective, which is often mistakenly considered as an innovation in the genre. This method was very popular among the readers and writers of the "Golden Age" of the classical detective fiction which fell on the period between the two World Wars [1].

But there is no doubt that the detective is a humane genre, almost caring not less than the other genres about the inner world of people. This diversity is widely presented by the famous author, Agatha Christie (1890–1976) – one of the greatest masters of the detective of the twentieth century. Each work of the writer is not only a classical detective story but an intensive concentration of human defects and virtues that are allocated so carefully that it becomes difficult to perceive it as the comment for the real life [5].

Agatha Christie began writing at the start of the "Golden Age" of the detective story, when mysteries attained worldwide popularity. Her extraordinary success, to some extent, can be attributed to this period. As she continued to turn out books, her name became in the public mind almost a shorthand expression for the genre [5].

Christie established many of the elements which she continued to employ for fifty years: a country setting, a formulaic structure in which all is not what it seems, and a detective who keeps clues to himself, making a startling revelation of guilt and innocence in a final meeting of all the characters. Although basically thought as a conventional detective writer, she is credited with developing several new components of the mystery genre [3].

Being famous for the complicated plot, meticulous logic reasoning process, Agatha Christie's works can offer us a good starting-point in the stylistic study of popular literature. The analysis of Christie's skills in creating attraction through conversations will be applicable and, hopefully, enlighten for the future studies in popular literature. In Christie's stories, the

evil is not as suffocating as in many modern detective stories but it is used as the focus of the novel to stimulate readers' senses. It is the psychology of the criminal or the murderer that is the most important. It is important not only because it makes a fuss of, but also because it often provides a lead or even a clue to the murderer. The way to get into everyone's mental world is to talk to them, as Miss Marple claimed in the book *The Body in the Library* that people like to talk and some people just talk too much. It is the traces in the conversation that help Christie's detectives to solve the puzzling cases one after another. It is in this sense that the analysis of conversation can be more significant in the stylistic research on Christie's works [4].

The most important detective appeared in Christie's stories was Hercule Poirot, who first appeared in *The Mysterious Affair at Styles* (1920) and died in *Curtain* (1975). This eccentric and amusingly pompous Belgian detective was described in *The Mysterious Affair at Styles* as "an extraordinary-looking little man. He was hardly more than five feet and four inches but carried himself with great dignity. His head was exactly the shape of an egg. His moustache was very still and military. The neatness of his attire was almost incredible. I believe a speck of dust would have caused him more pain than a bullet wound" [5, p. 580].

Agatha Christie's own favorite among her detectives was Ms. Jane Marple, an elderly spinster who first appeared in *Murder at the Vicarage* in 1930. In "Agatha Christie: First Lady of Crime", Julian Symons, a British crime writer, gave Christie's own views of her two famous detectives: "Miss Marple, was more fun (than Poirot), and like many aunts and grandmothers was a splendid natural detective when it comes to observing human nature". In contrast to Poirot, a professional detective, who attributes his successes to the use of his "little gray cells," Miss Marple is an amateur crime solver who often counts on intuition and common sense. Believing in that human nature is universal, she discloses the criminal by its resemblance to something or someone she has known in her immediate surrounding [3].

The actual writing method of Agatha Christie's complicated stories was always marvelously simple. She usually sketched her characters with the lightest old touches so that they could be imaginatively fleshed out by readers from any country. Above all, she told the sample story in a straightforward manner, rarely injecting any thoughts and feelings of her own. «The people I imagined, – Agatha Christy wrote, – were more real to me than those around me». And almost all her literary legacy is the brightest manifestation of implementing this method. This is the essence of Agatha Christie's art as a writer of the detective genre.

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Дается краткий анализ творческого метода известной английской писательницы А. Кристи. Ее по праву называют «королевой детектива». А. Кристи подарила миру два непревзойденных литературных образа сыщиков – Эркюля Пуаро и Джейн Марпл. Сюжеты детективов А. Кристи отличаются оригинальностью, реалистичностью и непревзойденной логикой. Ее вклад в мировую литературу бесконечно велик, она по праву считается одной из величайших культурных феноменов детективного жанра.

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SPORT UND GEWALTPRÄVENTION BEI JUGENDLICHEN

Stets ist Gewalt ein gesamtkulturelles und gesamtgesellschaftliches dynamisches Phänomen, das historisch und strukturell gewachsen ist. Daher ist Gewalt auf allen Ebenen und in allen Phänomenen einer Kultur und ihrer Öffentlichkeit nachverfolgbar. Geht es um aggressives Verhalten bei Kindern und Jugendlichen, ist der Begriff „Gewaltprävention“ aus der öffentlichen Diskussion nicht mehr wegzudenken. In der sozialen Arbeit und in der Jugendarbeit gewinnen sport-, körper- und bewegungsbezogene Konzepte zunehmend an Bedeutung. Die Palette reicht von traditionellen sportartspezifischen Angeboten über den Abenteuer- und Kampfsport bis hin zu differenzierten körper- und bewegungsbezogenen Konzepten. Das Ziel des vorhandenen Artikels besteht darin, den Begriff „Gewaltprävention“ zu beleuchten und die Möglichkeiten des Sports zur Gewaltprävention einzuschätzen.

Allgemein werden mit Prävention Aktivitäten bezeichnet, die darauf abzielen, antizipierte unerwünschte Ereignisse, Entwicklungen und Zustände zu verhindern. Dementsprechend ist Gewaltprävention ein Oberbegriff für Initiativen und Maßnahmen zur Vorbeugung gewalttätiger Auseinandersetzungen, die Menschen im Umgang mit Konflikten schulen und selbst bei Konflikten zur kooperativen und mündigen Kommunikation und Leben befähigen sollen. Positiv ausgedrückt erfordert Gewaltprävention die Entwicklung des Gefühls einer unbedingten Achtung vor dem Leben, das stets einzigartig und unersetzlich ist, und der Einsicht in die Unantastbarkeit jedes individuellen Lebens und seiner zu gewährleistenden Grundrechte. Erfolgreiche Strategien zur Vorbeugung von Jugendgewalt kombinieren präventive Maßnahmen mit angemessenen Interventions- und Ordnungsmaßnahmen. Es besteht bereits eine Vielzahl von erfolgreichen Maßnahmen wie z.B. organisierte und leicht zugängliche Freizeitaktivitäten, Gewaltprävention in Vereinen oder bei Sportveranstaltungen oder Konfliktprävention und -intervention im öffentlichen Raum durch mobile Jugendarbeit oder die Jugendpolizei.

Der Ansatz der Gewaltprävention durch Sport geht davon aus, dass Sportangebote eine gewaltpräventive Wirkung entfalten können, da sie (gewalt-) auffälligen Jugendlichen ein attraktives, pädagogisch begleitetes Freizeitangebot bieten, somit Gelegenheitsstrukturen für Jugendgewalt vermindern und im Rahmen sportorientierter Präventionsarbeit auf die Anerkennung bestimmter Werte hinarbeiten – wie die Einhaltung von Regeln, den fairen Umgang miteinander und die Akzeptanz von Vielfalt. Durch sportliche Aktivitäten werden Aggressionen und motorischer Betätigungsdrang „gesteuert“, als Äquivalent zur Problematisierung abgearbeitet; vorhandene körperliche Fähigkeiten positiv eingesetzt; die Beziehungen von Jugendlichen (vor allem aus Randgruppen untereinander, zu ihrer Umwelt

und zu den Mitarbeiterinnen und Mitarbeitern) geübt und verbessert; die Identifikation mit den sozialen Einrichtungen (z.B. Jugendzentrum) oft erst hergestellt und verstärkt; das Akzeptieren vorhandener Regeln erlernt und Erfolgserlebnisse erzielt [1]. Sportliche Angebote sind dabei Inhalt und Methode der offenen Jugendarbeit zugleich. Sie sind häufig das einzige Mittel, um an „problematische“ Jugendliche heranzukommen und sie in die offene Jugendarbeit zu integrieren.

Nicht jede Sportart ist für jede Zielgruppe in der gewaltpräventiven Arbeit geeignet. Vor allem werden vier verschiedene Typen von Sportarten verwendet:

- Klassische Mannschaftssportarten (vor allem Fußball);
- Individualsport und Ausdauersportarten;
- Kampfsport und Kampfkunst;
- Jugendkulturelle Trendsportarten.

Mannschaftssportarten entsprechen den Freizeitbedürfnissen der zumeist männlichen Jugendlichen. Teamsportarten sind somit auch ein Mittel, um Jugendliche an die jeweilige Einrichtung oder das Projekt zu binden. Diese Sportarten haben einige Vorteile: Sie fördern Teamgeist sowie Respekt und Toleranz. Sie können aber auch emotional Situationen durch die Wettkampf-situation provozieren. Da klassische Mannschaftssportarten keine große Ausrüstung, Vorbereitung oder spezielle Ausbildung benötigen, werden sie in der offenen Jugendarbeit sehr häufig angewendet.

Individualsport unterstützt die körperliche Entwicklung und eigene Körperkontrolle. Vor allem im Ausdauersport gibt es Aspekte, die in der Gewaltprävention eine Rolle spielen können – wie z. B. das Erfahren der eigenen körperlichen Grenzen, der positive Einsatz von körperlichen Fähigkeiten und das regulierte Ausagieren eines jugendlichen Bewegungsdrangs. Individual-sportarten wie Leichtathletik, Schwimmen, Radfahren, Jogging oder Turnen werden in der Gewaltprävention eher weniger häufig angewendet, da der Aspekt der Teamarbeit und der Auseinandersetzung mit anderen fehlt.

Kampfsport kann Selbstkontrolle und Selbstdisziplin fördern, es wird innerhalb fester Regeln gekämpft, die Konsequenzen des eigenen Handelns können sehr direkt deutlich werden. So besteht beispielsweise beim Ringen direkter Körperkontakt und es wird ein Gefühl dafür entwickelt, was es bedeutet, dem anderen weh zu tun. Die Jugendlichen lernen, ihre Kraft realistisch einzuschätzen und damit umzugehen. Sie sind dann in der Lage, in Situationen, in denen sie mit Gewalt konfrontiert werden, ihre Fertigkeiten notfalls kontrolliert und angemessen einzusetzen (Verteidigung, Abwehr eines gewalttätigen Angriffs). Ein wichtiger Aspekt des Kampfsports ist die Zusammenarbeit zwischen Körper und Geist. Kampfsport ermöglicht es zudem, in verschiedene Rollen zu schlüpfen, die Perspektive zu wechseln und Angriff und Verteidigung in einem abgesteckten Rahmen zu trainieren.

Es gibt eine ganze Reihe von Kampfsportarten europäischer und vor allem asiatischer Herkunft, die in der Gewaltprävention eingesetzt werden und die einen sehr unterschiedlichen Charakter haben – gerade in Bezug auf die Ausübung von Gewalt. Zu diesen Kampfsportarten gehören beispielsweise Boxen, Ringen, Thai-Boxen, Ju-Jutsu aber auch Capoeira und Aikido.

Jugendkulturelle Trendsportarten – wie Skating, Skateboard, Breakdance – werden Einschätzung nach in der Gewaltprävention eher weniger häufig eingesetzt. Sie dienen vor allem dazu, Jugendliche längerfristig an Einrichtungen im Stadtteil zu binden. Neben Geschicklichkeit, die bei all diesen Sportarten eine Rolle spielt, kann beim Skating auch Verantwortung im Straßenverkehr eingeübt werden [2].

Sport kann also verbinden, erziehen, integrieren und präventiv wirken. Die Bedeutung des Sports bei Gewaltprävention ist unbestritten. Verschiedene präventive Sportprojekte konfrontieren die Kinder und Jugendliche mit dem „Fair-Play-Gedanken“ des Sports und

bringen ihnen mithilfe gemeinsam erarbeiteter Gruppenregeln kooperative Formen der Konfliktbewältigung bei. Auf diese Weise werden Teamgeist und die soziale Kompetenz der Einzelnen gefördert und die Gewaltbereitschaft reduziert. Gleichzeitig wird durch Bewegung das Körpergefühl verbessert und ein gesundes Aktivitäts- und Leistungsverhalten gefördert. Sport alleine bringt's aber nicht – gewaltpräventiv wirkt er nur in Verbindung mit pädagogischen Intentionen und Interventionen.

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Анализируется роль физической культуры и спорта в профилактике насилия среди подростков. Раскрывается понятие «профилактика насилия» и приводятся варианты решения проблемы через различные виды спорта.

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LE CONCEPT DES FUSIONS ET ACQUISITIONS EN RÉPUBLIQUE DU BÉLARUS

Aujourd'hui, les fusions et acquisitions, également appelées M&A deals, représentent un instrument particulièrement populaire de la pratique internationale dans le domaine de la restructuration d'entreprise, tant du côté immobilier que du côté organisationnel (logistique). Les principales raisons de cette tendance sont la volonté de rendre les marchés nationaux plus ouverts, tout en maintenant la sécurité, en favorisant la libéralisation, en augmentant les investissements étrangers et en augmentant la compétitivité en général [1, p. 2].

En ce qui concerne la République du Bélarus, la base législative pour la construction de la structure de ces transactions est encore en cours d'élaboration. Les normes les plus importantes régissant la construction d'opérations de fusion et d'acquisition sont reflétées dans le Code civil de la République du Bélarus, ainsi que dans des lois telles que la loi sur les sociétés commerciales, la lutte contre les monopoles (activités monopolistiques), etc. Il convient cependant de noter que la définition des concepts de « fusion » et « absorption » dans le droit national n'est pas univoque.

La législation nationale de l'article 16 de la loi « sur les sociétés commerciales » sous « fusion » comprend la création d'une nouvelle société commerciale ou d'une personne morale d'une structure juridique par transfert à une nouvelle personne morale créée à la suite de la fusion de tous les droits et obligations des organisations participant à la fusion [2].

Il semble opportun de développer une opération de fusion dans le cadre du droit civil, prévoyant ses deux formes principales : la fusion des structures juridiques et des actifs.

En cas de fusion des structures juridiques – les parties à l'opération de fusion cessent d'exister en tant que personne morale indépendante. Dans ce cas, tous les actifs et les passifs des deux sociétés participant à la transaction sont transférés à la juridiction de la nouvelle société, après quoi les sociétés initiantes sont supprimées. Dans une fusion d'actifs dans laquelle les entreprises impliquées dans la transaction transfèrent le contrôle de leurs actifs à une nouvelle entreprise, elles conservent leur autonomie.

L'équivalent du terme « absorption » à ce stade dans le cadre de la législation nationale est synonyme de « fusion ».

Ainsi, d'après l'article 17 de la « Loi sur les sociétés commerciales », une société commerciale par fusion apparaît par cessation d'activité d'une ou de plusieurs sociétés commerciales qui fusionnent et/ou d'une ou de plusieurs personnes morales avec différentes structures juridiques qui lui transfèrent l'ensemble de leur patrimoine.

Cependant, il y a une différence significative : lors la fusion, l'organisation cesse d'exister en tant qu'entité économique indépendante, et l'englobement se traduit essentiellement comme une prise de contrôle direct sur les activités de cette organisation. En d'autres termes, l'organisation reste une entité nominalement indépendante sur le marché, mais les décisions clés ou stratégiques sont prises par l'entreprise qui détient le contrôle. Dans la doctrine scientifique, cette manière d'englober une société commerciale est considérée comme agressive. Il lui manque le caractère volontaire des parties [2].

En ce qui concerne les critères permettant de dire avec certitude qu'une société en a englobé une autre, il existe un vide juridique.

Cependant, selon les règles générales de la pratique des affaires internationales, la prise de contrôle par absorption se traduit par l'acquisition d'une participation majoritaire dans une organisation, par exemple quand les actions de celle-ci sont librement cotées en bourse.

En ce qui concerne la République du Bélarus, cette méthode de reprise d'une entreprise peut être quelque peu difficile, car lors de l'acquisition d'une participation de contrôle, il est important de respecter les exigences de la législation antimonopole et fiscale, en particulier en ce qui concerne les dispositions relatives à la définition du statut des affiliés.

Ainsi, à l'heure actuelle, la législation nationale manque d'un ensemble systématique de règles permettant de réguler le mécanisme et la structuration des fusions et acquisitions. En même temps, la tendance à utiliser cet outil dans la restructuration des entreprises gagne de plus en plus en popularité en République du Bélarus, ce qui rend l'élaboration de ce cadre juridique indispensable.

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Раскрывается проблематика в определении понятия сделок по слиянию и поглощению, связанная с отсутствием законодательного единообразия в подходах к установлению терминологии. Обращается внимание на возможность использования различных правовых конструкций национального законодательства для отражения сути данных понятий, даются соответствующие рекомендации.

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FACTORS INFLUENCING THE OPERATION OF INTERNAL COMBUSTION ENGINES

The operation of any internal combustion engine is adversely affected by carbon deposits, decreasing reliability indicators, power, environmental indicators deteriorate, efficiency falls and, in general, the engine service life is reduced.

When the engine is in operation, the contaminated oil enters the annular grooves of the piston. This mixture (being in the grooves of the piston in the form of a thin film) forms viscous asphalt-resinous deposits at high temperatures as a result of subsequent oxidative processes. These deposits reduce the clearances in the grooves, and acting like slot filters trap contaminants. At the same time, asphaltic and asphaltogenic acids have a binding effect in relation to other pollution products. It contributes to their adhesion to the surface of the rings and piston grooves. When the engine is running at a reduced thermal mode, the dissolving ability of the oil in relation to organic contaminants deteriorates. Under such operating conditions the rings can jam (stick) in the grooves. As a result, the drain holes of the oil scraper rings and the piston are clogged with carbon deposits [1; 2].

During subsequent work, the deposits in the grooves harden, which leads to jamming of the rings in them. The possibility of ring seizure increases as the temperature of the piston grooves and piston rings increases. The seizure of the rings leads to the breakthrough of gases, overheating, blowing out or evaporation of the oil film, intensive entry of the products of incomplete fuel combustion into the oil. When carbon deposits appear on the valve, a gap remains between its face and the seat even in the closed position. It means that the mixture is compressed in a leaky space. As a result, the required compression ratio is not achieved; the warm-air mixture does not burn efficiently enough. As a result, the engine power decreases, its operation becomes interrupted, and fuel consumption increases [3; 4]

A part of the oil that enters the engine combustion chamber and is exposed to high temperatures forms ash deposits. This worsens the heat dissipation from the parts and leads to their even more intense heating. It results in fusion and cracking of the pistons, burnout of the exhaust valves. Ash deposits are most dangerous for piston grooves. The wear of the piston grooves is in a certain relationship with the amount of ash deposits in them.

The formation of carbon deposits leads to disruption of the gas exchange process, coking of the nozzle openings of the injector nozzles, deterioration of fuel supply. All these facts decrease the power and fuel efficiency of diesel engines [5].

When there are carbon deposits on the piston bottom, the power and economic indicators of diesel engines deteriorate on the fire surface of the cylinder head. So, with carbon deposits on the piston bottom and cylinder head up to 0.8 mm of thickness, the effective power of the tractor diesel engine decreases by 5–6 % and the specific fuel consumption increases by 3–4 % in comparison with their nominal values. Due to the changes in the gaps in the “piston-sleeve” interface as a result of the redistribution of heat fluxes in the parts of the cylinder-piston group (CPG), the oil consumption for waste increases by about 1.6 times.

It was found that when the maximum thickness of the carbon layer is reached, the effective power of the diesel engine decreases by 7 %, and the specific fuel consumption

increases by 6 %. This is explained by the deterioration of the workflow and the increase in mechanical losses: the maximum cycle pressure increases by 16 %, and the average rate of pressure rise in the cylinder – by 22 % [6; 7].

As a result of the formation of carbon deposits on the parts of the CPG, a significant change occurs in the maximum cycle pressure (P_z) and the average rate of pressure rise (dP/df). The studies have established that with carbon deposits on the piston bottom with a thickness of 0.75 ... 1.00 mm, the average cycle pressure increases by 24.9 %, and the average rate of pressure rise by 20.1 %.

This is because the compression ratio increases as carbon deposits form. With an increase in the maximum pressure of the cycle, the dynamic tension increases, and an increase in the average rate of pressure rise leads to an increase in the “rigidity” of the diesel engine. The influence of carbon deposits on the parameters of the working process is explained as follows. When a diesel engine is operating with carbon deposits, an increase in pressure at the end of the compression stroke by 8 ... 10 % is observed. Fuel is injected into an environment with increased pressure and temperature, which leads to an increase in the “severity” of the combustion process of the fuel-air mixture [8; 9].

The carbon deposits formed on the upper edge of the piston and its firing belt during the engine operation have increased hardness with interspersing solid particles of the worked-out additive, dust from the air, wear products of parts. It leads to significantly greater wear of the cylinders. Carbon deposits are able to crumble. While falling into the piston grooves they prevent the free movement of the rings, accumulate and compress on the upper non-working belt of the cylinders, increasing the danger of jamming (sticking) of the pistons when stopping. Carbon deposits on the lateral surface of the piston above the first compression ring are the cause of “chafing” on the liner and the piston.

Carbon deposits on the surface of the CPG parts affect the environmental performance of a diesel engine. As established by studies, an increase in the compression ratio (£) as a result of carbon deposits on the parts of the CPG leads to an increase in the smoke of the exhaust gases by 9 % and an increase in the NOx content by 8 % [10]. The increase in the NOx content is explained by the fact that an increase in the compression ratio (£) leads to an increase in the temperature of the inlet charge after compression. It accelerates the preparation of the fuel-air mixture and intensifies the processes of mixture formation and combustion. The compression ratio affects the rate of mixture formation by affecting the vortex formation during fuel injection when the piston is at TDC. With an increase in the compression ratio (£), the fuel is intensively mixed and burns at an increased maximum temperature. An increase in the temperature of the diesel engine operating process (all other things being equal) is the main reason for the increased content of NOx.

Thus, the amount and composition of carbon deposits on engine parts lead to malfunctions of its operation, and in some cases cause emergency engine failure.

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Рассматривается влияние отложений нагара на работу двигателя внутреннего сгорания. Описываются причины образования нагара на деталях цилиндропоршневой группы, в результате чего падает КПД и в целом сокращается срок службы двигателя, ухудшаются экологические показатели.

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DEUTSCHE UMGANGSSPRACHE

Das Ziel der Arbeit ist die deutsche Hochsprache oder die Standartsprache mit der Umgangssprache zu vergleichen. Die Aufgabe der Arbeit ist zu bestimmen, was die Umgangssprache bedeutet, auf welche Weise die Umgangssprache erschien, wie oft gebrauchen die Deutschen die Slang- oder Umgangswörter, zu analysieren, welche Wörter modern und beliebt sind und ob man solche Umgangswörter in seiner Rede gebrauchen kann.

Die deutsche Sprache ist sehr reich. Es gibt viele Wörter, Phrasen. Die Sprache hat viele Stile. In der offiziellen Sprache, in der Schule gebrauchen wir die Standartsprache. Im Alltag gebrauchen wir Umgangssprache. Also gebrauchen wir die Umgangssprache jeden Tag. Von Interesse war es, wie die Umgangssprache in Deutschland ist. Unsere Bürger reisen immer mehr ins Ausland. Deutsch hilft diesen Menschen in Deutschland und Österreich, in der Schweiz und Liechtenstein.

Ohne Fremdsprachenkenntnisse kann man sich die Technik, Medizin, Wirtschaft, Literatur nicht vorstellen. So kann man ausländische Fachzeitschriften lesen und mit den ausländischen Kollegen sprechen. Deutsch ist nicht nur die allgemeine akzeptierte europäische Sprache, auch die Ergebnisse wissenschaftlicher Forschung werden auf Deutsch

veröffentlicht. Deutsch hat sich also zur globalen Verkehrssprache entwickelt. Deutsch bereichert geistig, erweitert den Gesichtskreis und hilft Kultur, Geschichte, Sitten und Bräuche anderer Länder kennen lernen.

Ohne Sprachkenntnisse geht heute nichts mehr. Egal, ob man an der Hochschule eine Seminararbeit vorbereitet und dazu fremdsprachige Literatur braucht oder ob man später im Beruf an einem internationalen Treffen teilnimmt, eine oder zwei Fremdsprachen soll man beherrschen. Heute ist Deutsch die Muttersprache von mehr als 100 Millionen Menschen. Ausserhalb Deutschlands wird Deutsch als Muttersprache in Österreich, in Liechtenstein, im größten Teil der Schweiz, in Südtirol (Norditalien) und in kleineren Gebieten in Belgien, Frankreich (Elsass) und Luxemburg entlang die deutsche Grenze gesprochen. Deutsche Sprachinseln gibt es in Osteuropa, auf Balkan, in Polen und Russland, in den USA und in Kanada, sowie in Mittel- und Südamerika und in Südafrika. In Deutschland, Österreich, Liechtenstein, Luxemburg und in der Schweiz gilt Deutsch als Staatsprache.

Wenn Sie die deutsche Sprache erlernt haben, ohne ein deutschsprachiges Land zu besuchen, dann werden Sie bei Ihrer ersten Reise dorthin feststellen, dass Muttersprachler viele Dialektwörter und umgangssprachliche Ausdrücke verwenden, die Sie vorher noch nie gehört haben. Das kann wirklich überraschend wirken. Was ist denn die Umgangssprache? Wo ist der Unterschied zwischen Umgangssprache und Standartsprache?

Unter Standardsprache versteht man eine allgemein verbindliche Sprachform, die in der Öffentlichkeit gesprochen und geschrieben wird. Standardsprache wird auch Hochsprache oder Hochdeutsch genannt. Sie sollte in der Schule, bei der Arbeit und bei der schriftlichen Kommunikation verwendet werden.

Die Umgangssprache ist durchaus eine kreative und innovative Abwandlung der uns bekannten Hochsprache. Es wird sogar vermutet, dass auch schon in früheren Zeiten durch das Vereinfachen und Abwandeln einer Ur-Sprache weitere Sprachen einer Sprachfamilie entstanden.

Bedeutend für die Umgangssprache ist außerdem, dass sie von Generation zu Generation ihre Charakteristika ändert. Zum Beispiel würde heute niemand mehr die Wörter „astrein“ oder „Fete“ verwenden, die in den 80er Jahren häufig gebraucht wurden.

Die Jugendsprache wandelt sich von Jahr zu Jahr. Die Jugendlichen wollen sich von den Erwachsenen abgrenzen, wollen cool sein und gehen dabei kreativ mit der Sprache um. Bereits im 16. Jahrhundert wurden Jugendliche und ihre Sprache erforscht. Als Vorläufer der Jugendsprache könnte man die so genannten Studenten-, Pennäler-, Gauner- und Soldatensprachen bezeichnen. Ihre Wurzeln findet die Studentensprache während der Reformation, deren Entwicklung eine freiere Ordnung, verbunden mit größerer Selbständigkeit unter den Studenten schuf. Aus diesen Ansätzen entwickelte sich bald die so genannte „Burschensprache“, die eine Gemeinschaft zwischen den Studenten deutlich machte. Spezielle Ausdrücke beinhalten Studium und Alltag. Wörter wie „einschreiben“, „schwänzen“, „pumpen“, sind Ausdrücke, die aus dieser Zeit stammen.

Motive für das Sprechen von Jugendsprache:

1. Das Motiv der Abgrenzung.
2. Das Motiv des Protestes.
3. Das Motiv der besseren Verständigung.
4. Das Motiv der Unsicherheit [3].

Im Sprachgebrauch mancher Jugendlichen treten bestimmte Merkmale besonders hervor. Von diesen ausgehend, kann man folgende Einteilung in bestimmte sprachliche Mittel vornehmen, die von Jugendlichen bevorzugt angewandt werden:

1. *Lexikalische Merkmale*. Jugendliche kreieren ihre eigenen Wort-schöpfungen aus bereits bestehenden Wörtern. So erhält ihr Wortschatz eigene Wörter, so genannte Neologismen, die durch Wortbildungsprozesse entstehen. Es entstehen dabei Wort-Umdeutungen, d. h. einem Wort wird eine neue Bedeutung beigemessen.

2. *Anglizismen*. Durch den Einfluss der Musikkultur sowie der Medien sind Anglizismen sehr beliebt: abloosen (versagen), fooden (essen).

3. *Archaismen*. Darunter versteht man Wörter, die veraltet sind und von Jugendlichen wiederentdeckt werden, wobei ihnen eine neue Bedeutung beigemessen wird, z.B. Klampfe = Gitarre.

4. *Morphologische Merkmale*. Neue Wortbildungen oder Wortverkürzungen (Kurzwortbildung), z.B. kaputtnik = verrückt sein.

5. *Wortbildungsmodelle und grammatikalische Umdeutungen*, wie z.B. rumhängen und auf etwas abfahren.

6. *Syntaktische Merkmale*. In der Syntax sind oft Satzabbrüche und Dehnungsphrasen (irgendwas, oder so) [2].

7. *Verbmodifikation*. Präfixe in Verbindung mit Verben werden von den Jugendlichen benutzt. Benutzte Morpheme geht von an-, ab-, über ein-, hin-, zu- bis raus-. Einige häufig benutzten Beispiele sind ab-gehen, an-machen, ein-pennen, zu-dröhnen.

Nicht nur die Präfixe sind häufig benutzte Silben, auch bestimmte Basisverben werden in Verbindung mit ihnen benutzt (z.B. gehen: ab-, aus-, be-).

Wir haben 25 Ausdrücke, die am häufigsten verwendet sind, ausgewählt. Dann wurde eine moderne Serie gesehen, um zu verstehen, wie man die in der Umgangssprache benutzt.

„Na?", „Mahlzeit", „Mach‘s gut!", „Moin", „Jein", „Nö / Nee", „Hau ab", „Bock haben", „Halt", „Dingsbums", „Nix", „Heraus damit!", „Das ist mir Wurst!" (bedeutet „Es ist mir egal!"), „Na klar!", „Was geht ab", „Läuft bei dir", „Geil", „Alter". „Googeln" ist ein modernes Wort. Es benutzt man, wenn man etwas mit Google im Internet suchen, recherchieren. Zum Beispiel, „Ich google mal schnell." Oder „Er hatte ihren Namen, nach Informationen gegoogelt." Dieses Wort stand 2004 erstmals im Rechtschreibduden [1].

Jedes Jahr macht man die Untersuchungen und man bestimmt, welche Slengwörter unter den Jugendlichen zu dieser Zeit modern und beliebt sind. Man nennt solche Redewendungen dann – das Wort des Jahres.

Seit 2008 werden im Auftrag des Langenscheidverlags die Jugendbegriffe des jeweiligen Jahres gesucht. Im Herbst werden die Sieger dann durch eine Jury gewählt und vorgestellt. Es erschien auch ein Buch der Jugendsprache (Verlag Langenscheidt).

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SOME PROBLEMS OF MODERN RUSSIAN STUDIES IN THE SCIENTIFIC AND PUBLIC SPACE OF HUNGARY

Cross-cultural interaction is an important object of research in the interdisciplinary space. Work in this direction is the key to understanding the specifics of the ethnocultural field of peoples, provides information for the competent building of communication between the participants of the dialogue of cultures.

In our opinion, two aspects should be taken into account when considering issues of interethnic communication. First, scientific objectivity is required: impartiality and neutrality in the coverage of the history and events of intercultural interaction. Secondly, you should not rely on ethnic stereotypes in any way. In addition, a balanced approach to the analysis of the history of interethnic relations is important.

In comparative cultural studies, we often face the problem of ignoring these aspects at different levels. This problem today remains quite common in modern journalism, in the mass media, as well as in popular science literature. For example, the German historian Wolfang Wippermann in his book “European Fascism in Comparison. 1922–1982” very monotonously uses the well-established cliches about the role of Miklos Horthy (Hungarian statesman of 1920–1944) in the Second World War. In particular, he points to the fascist nature of his power, reproaches him with “imitating German laws”, which led to “rapprochement with the “Third Reich” ” [3, p. 83]. All this cannot be presented as an indisputable fact.

Following ethnic stereotypes narrows the view of cross-cultural communication and sets the mood necessary for the author in advance in considering certain facts of the history of relations between peoples. Professional Rusists in Hungary are strongly opposed to this, as the consequences affect the general background of communication between the two countries. The purpose of this study is to try to articulate a number of current problems faced by modern Rusists.

Since 1995, the Research and Methodological Center of Russian Studies at the University of Lorand Etves has been operating in Budapest. Hungarian expert in the field of Russian history and culture, Dr. Gyula Szwak, in her welcoming speech to the participants of the anniversary conference of the Center for Russian Studies in 2015, said : “We vividly remember the unfavorable atmosphere in which our Center was founded, and the strong opposition that we had to overcome, although we have not forgotten the feeling of Sisyphean labor that possessed us in the struggle for the creation of the first scientific laboratory of historical Russian studies in Hungary, the work is far from finished, and cannot be finished” [5, p. 10]. Thanks to such detailed words, it becomes clear that the Russian mission in Hungary meets a whole range of problems of a political, legal and social nature. The public needs to justify the need for the existence of the Center, the importance of studying Russia and the Russian people for a classical European university.

First of all, it is necessary to pay attention to the social space as the main object of the activity of Russian specialists. The interaction between the Hungarians and the people of Russia has a long and complex history. They have always been characterized by some inconsistency. There are a number of reasons for this: the irregularity and inconsistency of interethnic contacts in historical retrospect, as well as the ambiguity in the assessments of the populations of both

countries of certain facts within the framework of cultural interaction. Based on this, it is premature to talk about the presence in the public space of Hungary of a positive attitude to interethnic contact with the Russian Federation. This is the main problem today.

More information about them can be found in the article of the famous Hungarian writer Stephen Bakony "Russian language, culture and mentality through the eyes of the Hungarians", where the author indicates the presence of positive dynamics: increase interest of the Hungarian society in Russia; notes that "the number of students of the Russian language in the schools and universities of Hungary increased significantly and is about 6 million people" [1, p. 122]. In one of our works "Cross-cultural communication between Russia and Hungary: problems and prospects", we considered the potential reasons that influence the gradual strengthening of this interest.

It is important to repeat that the problem of the lack of a positive attitude of the Hungarian society towards Russia largely goes back to the cultural and political experience of interaction between the two nations in historical retrospect. Specialists of the Center for Russian Studies are trying to convince society of the need for a new look at Russia and its people, to limit the negative stratification of times. The Russian World Foundation, which opened its representative office in Budapest in 2011, also conducts popularization activities.

Another problem of modern Rusists is consonant with the first, but it has a different source. Today we can definitely say that there is no motivation to study the Russian language and culture in Hungarian society, because people do not see the need for it. Stimulating interest in all Russian is a complex and important problem of Hungarian Russian scholars.

The third problem, successfully solved by Russian specialists in the modern language stage, – availability of high-quality Hungarian-language literature about Russia. Among the Budapest publications in Russian, I would like to highlight some of the most interesting, from our point of view. For example, the monograph of D. Szwak "The place of Russia in Europe" is interesting, in which the author sets fundamental cultural problems about the comparison of Russian civilization with European: "justifying the typological unity of Kievan Rus of the X–XII centuries and the early states of the neighboring region... we can conclude that Russian civilization correlates with European" [6, p. 48]. Russian philosopher, sociologist and political scientist D. V. Efremenko, analyzing the scientific works of D. Szwak, focusing on historical analysis, notes: "The question of the localization of Russia in the cultural and historical space, D. Swak confidently decides in favor of the 'Europeanness' of my country" [4, p. 448].

We consider it necessary to mention the book with a large team of authors "ECHO: Russia-Hungary: dialogue of Cultures", which studies the social history of relations between the peoples of the two countries. It also touches on the reverse side of the problem related to literature: the lack of publications about Hungary in Russian. The book states: "Rusists are overcome with a sense of satisfaction when they see that the works of Western authors that were previously rejected by the censors are finally published in Russian" [2, p. 209].

It should also be noted that the library at the Center for Russian Studies in Budapest has a very extensive collection of books on relevant topics, published mainly in Russian. The library's services are free and available to the general public. However, a certain lack of literature about Russia in Hungarian remains one of the key obstacles to inter-ethnic interaction.

Thus, the cross-cultural communication between Russia and Hungary is marked by inconsistency, complexity and uncertainty. Some of the main problems we have identified are: the problem of the objectivity of the perception of Russia by Hungarians due to the historical experience of interaction and a large share of stereotyping; the problem of the

skeptical attitude of the Hungarian population to the need to expand their knowledge of Russia; the problem of the lack of publications about Russia in general, and works of Russian classics, in particular, in Hungarian.

The grouping of questions that reflect the difficulties in the work of professional Russian specialists, the study of the causes of these difficulties and the analysis of the possibilities of overcoming obstacles are important elements of theoretical and applied research activities in the framework of intercultural communication. It is hoped that in the future, Russian studies in Hungary will reach a qualitatively new level and the dialogue of cultures between the two countries will become more intense.

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Проводится обзор ключевых научно-методических проблем, с которыми сталкиваются современные русисты в Венгрии, характеризуется деятельность Центра русистики в Будапеште, выделяются факторы специализированного изучения и рассмотрения вопросов межэтнической коммуникации на опыте исследования взаимодействия России и Венгрии.

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GESUNDE LEBENSWEISE ALS MODE ODER NOTWENDIGKEIT

Besorgte Freunde, zahllose Blogs und bunte Präventionsplakate ermahnen unablässig zum „gesunden Lebensstil“. Gesundheit liegt im Trend, aber offen gesagt: Warum ist ein gesunder Lebensstil wichtig? Die einfache Antwort lautet: Gesundheit steigert die Lebensqualität und erhöht sogar die Lebenserwartung, sagt die Gesellschaft.

Ein gesunder Lebensstil ist also keine Leistung, die man erbringen muss, sondern dient dem Wohlbefinden. Ziel des Artikels ist das Betrachten dieser Zusammenhang für genauer: Welche Faktoren machen einen gesunden Lebensstil aus? Welche Mechanismen stehen dahinter? Und wie kann man das Wohlbefinden im Alltag steigern?

Regelmäßige Bewegung ist einer der wichtigsten Faktoren eines gesunden Lebensstils. Sport spielt eine sehr wichtige Rolle im menschlichen Leben. Sport bringt einen großen Nutzen jedem Menschen, der für ihn Zeit findet. Sport macht unser Leben gesund, weil er unseren Körper und unsere Nerven stählt. Sport entwickelt wichtige und nützliche Charakterzüge, die das menschliche Leben erleichtern. Zu solchen Charakterzügen gehören die Ausdauer, die Geduld, der Mut, die Ausgeglichenheit, die Hartnäckigkeit, die Zielstrebigkeit, das Verantwortungsbewusstsein etc. Sport macht uns nicht nur gesund und kräftig, Sport macht auch viel Spaß. Es gibt viele verschiedene Sportarten: Tennis, Tischtennis, Hockey, Fußball, Volleyball, Basketball, Schwimmen, Leichtathletik, Gewichtheben, Sprunglauf, Eiskunstlauf etc. Jeder kann eine Sportart wählen, die ihm gut gefällt. Außerdem ist es sehr gesund, Morgengymnastik täglich zu machen, sich kalt zu waschen, sich abzugießen, viel zu Fuß zu laufen und viel spazieren zu gehen. Wenn der Mensch gesund und munter ist, so kann sein Leben vielseitig, vollwertig und erlebnisreich sein. Sport stärkt die Muskulatur und schützt so das Skelett vor Über- und Fehlbelastungen. Der Stoffwechsel wird nachhaltig angekurbelt, während der Blutdruck sinkt. Körperliche Betätigung beugt dadurch Herz-Kreislauf-Erkrankungen vor. Wöchentlich reichen drei bis fünf Stunden gemäßigter Ausdauersport – Schwimmen, Laufen, Tanzen, Fahrradfahren – aus, um diese positiven Effekte zu erzielen. Auch regelmäßige Alltagsbewegung, wie Treppensteigen und Spazierengehen, tut schon gut [1].

Schlaf sorgt für Erholung und verlangsamt sogar Alterungsprozesse. Körper und Gehirn arbeiten nachts auf Hochtouren: Eine hohe Konzentration an Wachstumshormonen sorgt dafür, dass eingelagerte Stoffwechselprodukte abgebaut und Verletzungen im Körpergewebe geheilt werden. Das Gedächtnis muss kaum Außenreize aufnehmen und kann so die Informationen des Tages verarbeiten. Daher leistet eine regelmäßige Schlafroutine nach individuellen Bedürfnissen einen großen Beitrag zum Wohlbefinden. Die Erholungs- und Wachstumsprozesse ermöglichen Entwicklung und Regeneration. Sowohl Kinder, als auch Erwachsene sollten also unbedingt genug schlafen. Genug bemisst sich allerdings nicht in Stunden, sondern daran, dass man sich tagsüber ausgeruht und kraftvoll fühlt.

Eine ausgewogene Ernährung trägt wesentlich zu einem gesunden Lebensstil bei und bildet die Basis des Wohlbefindens. Die Nahrung sollte dem Körper alle Vitalstoffe liefern, die er für ein starkes Nerven- und Immunsystem braucht. Ideal ist eine vollwertige Ernährung mit frischem Gemüse und Obst, sowie ausreichend Vollkorngetreide und Hülsenfrüchten. Diese Lebensmittel sind gut zu Stoffwechseln und belasten den Körper nicht. Man muss darauf achten, ihm nicht zu viel Schädigendes zuzumuten. Dafür muss man den Konsum von Zusatz- und Konservierungsstoffen, Alkohol, Nikotin und raffiniertem Zucker so weit wie möglich reduzieren. Wer sich gesund ernähren will oder abnehmen möchte, muss nicht zu teuren Diätprodukten oder den sogenannten „Super-Foods“ greifen. Wichtig ist, den täglichen Kalorienbedarf im Auge zu behalten. Dieser ist von Mensch zu Mensch unterschiedlich und hängt stark von den körperlichen Aktivitäten im Alltag ab. Hinzu kommt dann im Laufe des Tages noch der zusätzliche Kalorienumsatz durch Bewegung. Man sollte jedoch nicht den Fehler begehen, und mit sogenannten „Crash-Diäten“ Gewicht verlieren wollen. Der Körper erkennt in der stark reduzierten Kalorienzufuhr eine Notsituation. Sobald man wieder normal isst, bereitet man sich auf eine eventuelle nächste Notsituation vor und speichert möglichst viele Nährstoffe in Form von Fett ab.

Wassermangel schadet dem menschlichen Organismus: Da Wasser nicht nur wichtiger Teil der Körperzellen, sondern auch Hauptbestandteil des Blutes ist, kann das Blut nicht mehr richtig fließen, wenn wir zu wenig trinken. Der gesamte Körper wird schlechter versorgt, Gehirnleistung und Konzentra-tionsfähigkeit lassen nach. Geeignete Durstlöscher sind

Wasser, Fruchtschorle oder Kräutertee. Die Deutsche Gesellschaft für Ernährung empfiehlt dem erwachsenen Menschen täglich eine Aufnahme von mindestens zwei Litern Flüssigkeit [2].

Sauerstoff weckt die Lebensgeister und mobilisiert die Abwehrkräfte. Man muss deshalb – auch im Winter – jeden Tag an die frische Luft gehen. Weiterer positiver Effekt, wenn die Menschen sich draußen aufhalten: Alle bekommen mehr Licht ab, was auch die Stimmung bessert. Bei Tageslicht wird nämlich der Nervenbotenstoff Serotonin ausgeschüttet, der die Stimmung aufhellt. Selbst bei ganz schlechtem Wetter ist es draußen wesentlich heller als in geschlossenen Räumen. Zudem ist Licht wichtig für die Produktion von Vitamin D – unentbehrlich für starke Knochen.

Wissenschaftliche Studien belegen den Einfluss von sozialer Einbindung und positiver Geisteshaltung auf die Lebenszufriedenheit und aus obengenannter Information kann man die bestimmten Schlussfolgerungen machen. Man muss für Wohlbefinden also darauf achten, mit welchen Menschen man sich umgibt und wie der Mensch das Leben betrachtet. Es ist sehr wichtig, Freundschaften nicht aus Verpflichtungsgefühl zu pflegen, sondern so, dass man sich in ihnen wohl und geborgen fühlt. Gleiches gilt für die Ansichten: Welche bereiten Freude und welche machen das Leben schwer? Versuche man sich von negativen Gedanken und Verbindungen zu lösen und stattdessen stärkende Perspektiven und Sozialbeziehungen zu entwickeln. Das fördert den Stressabbau und lindert mitunter sogar körperliche Entzündungsprozesse.

Die wesentlichen Faktoren eines gesunden Lebensstils zeigen, dass eine ganzheitliche Definition von Gesundheit sowohl den Körper als auch die Psyche einbeziehen muss. Nerven-, Hormon- und Immunsystem sind beide eng miteinander verbunden. So bewirken körperliche Erkrankungen auch emotionale Schmerzen und mentales Unwohlsein. Zudem beeinflussen psychische Zustände, wie Angst und Stress, die Körperfunktionen und können langfristig organische Krankheiten verursachen. Diese Wechselwirkungen verlangen, dass man seelisches und körperliches Wohlbefinden gleichermaßen wichtig nehmen muss. Ein strenger Fitnessplan, der mental unter Druck setzt, wird die Lebensqualität nicht steigern können. Es geht darum die verschiedenen Aspekte in eine Balance zu bringen, die jedem persönlich entspricht und nicht zu viel Anstrengung erfordert. So kann man im Alltag Schritt für Schritt zu mehr Gesundheit und Wohlbefinden gelangen.

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Объясняется важность здорового образа жизни: занятий спортом, правильного питания, режима сна и распорядка дня. Особое внимание уделяется влиянию эмоциональных и социальных факторов на физическое и психическое состояние человека.

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FEMINITIVES AS GENDER MARKERS OF A LANGUAGE

Now we are experiencing rapid changes in word usage: the line between the ordinary and literary language is blurred, the media are rejecting lexical conservatism, the words *sweatshirt* and *gadget* are firmly established in the Russian language. In this case it is not clear why so much outrage among wide audience is caused by the use in Russian language such words as «авторка», «депутатка» and other feminitives. Can this be regarded as an unexpected lexical conservatism or an attempt to cling to the usual patriarchal attitudes, and how justified is the use of these words from the point of view of academic grammar? [3]. This article attempts to answer the above questions.

It is in the language units and their meaning that a person fixes the results of his mental activity, the basic concepts that reflect his experience of knowing the world around him. The existence of this relationship suggests that this influence may also have the opposite direction – from language to thinking. This belief contributes to the development of the processes of gender neutralization of the language and the implementation of linguistic reforms aimed at changing the androcentric structure of the language. Androcentrism is a practice that places a man's point of view at the center of the view of the world, its culture and history. At the same time, the practice of placing the female point of view in the center is called gynocentrism. There are different approaches to creating a gender-neutral language.

The first approach is to actually neutralize the gender markers and replace them with alternatives that do not contain any indication of gender. Thus the gender neutralization reforms have already taken place in the English language. For example, the *man* component was replaced with *person* (*salesperson* instead of *salesman*). In several cases other alternatives were found: *firefighter* instead of *fireman*, *police officer* instead of *policeman*, *mail carrier* instead of *postman*.

Another way is the feminization of language, which is the creation of new female categories, and sometimes the transformation of existing feminitives. These processes are already taking place in the Russian language. The newly formed women's nominations are actively used by young people on the Internet. Feminitives are words of the feminine gender, alternative or paired with similar concepts of the masculine gender, denoting a profession or occupation. It is believed that the use of feminitives is aimed at restoring "gender-linguistic equality" in spite of modern language norms that promote discrimination against women and overestimate the importance of men [1].

The appearance of such words reflects the processes that occur in society. If these processes continue to develop, then these words will inevitably enter our daily routine. It is not necessary to consider this phenomenon as negative or positive, it is necessary to perceive it as an essential part of our life [1]. Of course, there are a huge number of feminitives that have already penetrated into Russian. Among them are such words as «актриса, писательница, ученица, поэтесса, спортсменка, студентка, стюардесса, журналистка» and many others. However, a number of other feminitives cause intensive debates and discussions in social networks and in the comments in online publications. Among the newly formed feminitives, the most common forms are «авторка, комментаторка, директорка, стилистка, дизайнерка, администраторка, поэтка, блогерка, координаторка» and others.

As it can be seen, all of them are formed by the usual addition of the suffix ‘k’. However, there are also more controversial options: «деятельница, фотографиня, хирургица, хирургиня».

The main argument against the use of feminitives is an indication of the inconsistency with the norms of the Russian language and that these forms sound unnatural. The opposite argument is that the language is constantly evolving and expanding, new words that denote new phenomena and objects appear constantly. But the recognition of newly formed feminitives as the norm cannot guarantee their active dissemination. Even now we can face the reluctance to use the already familiar feminine word forms such as «специалистка» instead of «специалист по работе с клиентами», «преподавательница» instead of «преподаватель», «журналистка» instead of «журналист» [1].

As for the English language, the processes taking place in it are more or less visible: gender-marked names of professions are gradually being replaced by gender-neutral ones. Neutral vocabulary in the language has been adopted quite successfully, with the exception, perhaps, of the word *actor*, which is now increasingly used for both sexes (so does, for example, *The Guardian*). This model is often proposed to be implemented in Russian, but for us this is an ambiguous path: after all, in English, the gender category of nouns is absent, so such words as *friend*, *surgeon*, *teacher*, and *firefighter* are perceived neutrally. In Russian, a *surgeon* is primarily a male surgeon, and this is how we perceive him. But these are not all initiatives. In English it is also recommended to stop using the word *girl* to describe girls over 18 because it is considered humiliating. Instead, it is suggested to use *young woman* or just *woman*, depending on the age of the woman. In addition, to address unfamiliar women in English the *Ms* form was introduced instead of the *Mrs* and *Miss* forms, which were used depending on the marital status.

Another tendency in English is to introduce *she* as a neutral pronoun when we do not know the gender of the person we are talking about, or we are reasoning abstractly. There are three accepted ways of expressing an idea: *he wakes up at 5 am; she wakes up at 5 am; they wake up at 5 am*. Feminists suggest a fourth one: to use *she* as a neutral pronoun. An ardent supporter of all these measures is *The New Yorker* journalist Maria Konnikova, who writes about psychology and scientific achievements related to the study of the brain. A linguist Daria Seres clarifies that this form is already widely used in scientific articles [2].

Today the academic grammar interprets the question of the gender of professions as follows: “Words of masculine gender call male beings, words of feminine gender call female beings. The number of masculine nouns prevails because masculine words contain a general concept of a person and denote his social or professional affiliation regardless of sex. Therefore, masculine words can be applied both to a male and a female. In words of feminine gender the gender category indicates the sex. Feminine nouns, as a rule, have word-forming characteristics. If they are absent then the relation to a female sex is shown by the lexical meaning of the basis of a word: mother, daughter, sister, wife, girl, young lady, woman.” Some scientists consider the use of feminitives as derogatory vocabulary, i. e. words and phrases that express a negative assessment of something or someone, disapproval, censure, irony, or contempt. However, today we face an increasing tendency to use of feminitives in blogs and Internet sources.

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Раскрываются проблемы, которые возникают в связи с изменением и гендерным влиянием на язык. Указывается на взаимосвязь языка с мышлением. Рассматриваются реформы, которые были направлены на изменение патриархальной структуры языка. Рассмотрены языковые варианты слов, которые направлены на преобладание гендерно-нейтрального языка.

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CONTROLLING METHODS FOR BLOCK-MODULE COOLING SYSTEM

The vehicle reliability requires detailed study and special attention to the removal of excess heat into the environment, since the operation of the units in an increased thermal regime impedes the potential realization of the operational capabilities of the machine, as well as leads to the failure of both the main and auxiliary systems. Nowadays the Russian Federation as many other countries witnesses significant energy saturation increasing of cars and tractors along with thermal loads on the main engine units. The operation range of such systems must also correspond to changes in the conditions of car using, especially the climatic and road environmental factors, which further complicates the provision of thermal conditions both during operation and in settlement and theoretical terms [5].

A liquid or air cooling system is installed on modern engines of automobiles and tractors. Liquid cooling systems are most often used on automotive engines, because when using these systems, the most uniform heating of parts and the removal of excess heat are achieved, which contributes to the normal working cycle [1].

The following requirements are imposed on the engine cooling system: to provide sufficient heat dissipation in any operating mode of the vehicle; to maintain optimal thermal conditions; to work effectively at any load and ambient temperature; to have minimal labor intensity of maintenance [2].

Efficiency and environmental friendliness are currently given special attention, which is also determined by the temperature regime of the engine. Moreover, the requirements for the characteristics of the cooling system become more complicated as the temperature tolerances become tighter. Nowadays, the specific power of engines is within the mark of 100 hp/liter, and automatic transmissions have nine gears.

Existing heat exchangers of foreign and domestic manufacturers use the technology “Nokolok” and “CuproBraze” when assembling the elements of the radiator. Radiator fins are made of aluminum and copper alloys. Research is actively underway on the use of composite, polymer and powder (porous) materials in this area, in particular, for the core, for example, a radiator made of porous titanium dioxide TiO_2 (USA) [3].

In recent years, research has been actively carried out and modular technologies for creating cars have already been introduced. In the current platform model, only the area from the front wheel to the pedal assembly is static. This in turn means that cars with the same platform will have the same engine and transmission arrangement, common front suspension and steering attachment points, and windshield tilt. All other parameters can be changed. The essence of modular technology boils down to the fact that unified units and assemblies are used to create cars.

The architectural platform of the vehicle includes modules such as a power plant; transmission; suspension; steering; electrical equipment.

In fact, the automaker makes units with a wide variety of characteristics, but having common attachment points. The same is done with other modules. Further, there is simply a layout for the characteristics the buyer needs.

Currently, the leading position is occupied by the MQB platform from Volkswagen. Its design formed the basis for 23 cars such as: Audi A3 and TT of the third generation, AUDIQ2, SEATIbiza of the fifth generation, SEATLeon of the third generation, SEATArona, SEATAteca, SEATTarraco, SkodaOctavia of the third generation, SkodaSuperb of the third generation, SkodaKaroq, SkodaKodiaq, Volkswagen-Rocavida, VolkswagenT Volkswagen Tiguan and Touran of the second generation, Volkswagen Passat of the eighth generation and Volkswagen Polo of the sixth generation. It is necessary to add that Scania uses the modular architecture for defense technology; engines of this company were installed on such equipment as the Swedish CV90 BMP series, Finnish Patria and Spanish BMR / VEC.

The development of modular engines according to the same scenario was added to the development and research of the production of a car platform. The modular engine is based on a basic cylinder module with a volume of 500 cm^3. It is believed that a cylinder with such geometric parameters is distinguished by the best efficiency indicators, due to the favorable ratio of the area of the combustion chamber walls to its volume. However, it is not always used as a reference. For example, specialists from the State Scientific Center of the Russian Federation, Federal State Unitary Enterprise “Central Scientific Research Automobile and Automotive Institute (“NAMI”), during the work on the “Cortege” project took a 547.4 cm^3 module.

Today more and more components are being combined into modules. This solution reduces the weight and dimensions of the components and helps to reduce the production cost. As an example of one of the newest developments of Vernet, together with Schaeffler, is the cartridge thermostat module combined with a pump. The cooling system pipes made of plastic have also undergone global changes; they stand out for their durability and reliability against the background of their counterparts. Also in 2019, at the Research and Production Association “Talis”, together with Saint-Petersburg State Agrarian University (SPbSAU), Russian Timiryazev State Agrarian University and Trade House “LUZAR” investigated a successful prototype of a radiator with a polyurethane core in a block engine cooling system. Based on the results of the obtained studies of the heat exchanger, it is possible to conclude that this direction has great prospects as an alternative radiator of the future [4].

An analysis of the existing works on increasing the energy saturation of automotive vehicles shows that there is much to be done in the thermal control system of components and assemblies as a whole, as well as the search for alternative options to improve the efficiency of cooling systems.

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Приводятся исследования и разработки в области систем охлаждения. Они являются актуальными, т. к. температурно-динамические нагрузки в узлах и агрегатах увеличиваются из-за требований, которые ужесточаются ежегодно. Эффективность поддержания и распределения теплового баланса в автотракторной технике зависит от системы охлаждения, совершенствование которой необходимо, учитывая данную тенденцию.

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THE CONTRIBUTION OF ATMOSPHERIC POLLUTANTS TO THE GLOBAL WARMING, DESTRUCTION OF THE OZONE LAYER AND ACID RAIN

Global warming is the long-term warming of the planet. Though this warming trend has been going on for a long time its pace has significantly increased in the last hundred years.

What are the main contributors to the global warming?

The problem with carbon dioxide is that it is a major contributor to the greenhouse effect. The greenhouse effect is so called because carbon dioxide and certain other atmospheric gases warm the Earth in much the same way that glass warms a greenhouse. Light rays from the Sun that have been reflected from the Earth’s surface are trapped in the atmosphere by carbon dioxide, water vapour, hydrocarbons, nitrogen dioxide and chlorofluorocarbons. These gases prevent heat energy escaping from the Earth’s atmosphere, the same as glass prevents heat energy escaping from a greenhouse.

Measurements of the carbon dioxide concentration of air bubbles trapped in the ice of Antarctica have been made. These suggest that from about 2500 years ago up to about

200 years ago the concentration of carbon dioxide in the atmosphere was fairly constant, at around 270 ppm. Since then the atmospheric concentration of carbon dioxide has been rising at an ever-increasing rate. It has now reached over 350 ppm [1, p. 44].

There are two reasons for this increase. One is that we are burning large amounts of coal, oil, gas and peat. These fossil fuels have been laid down over hundreds of millions of years and act as sinks in the carbon cycle. The second reason of the increase in the amount of carbon dioxide in the atmosphere is the destruction of the world's forests. Such deforestation removes trees that act as carbon reservoirs. Methane (produced in rubbish dumps, swamps and ruminants) is another, even more effective, greenhouse gas.

The consequences of global warming are still uncertain. During the last hundred years average world temperatures have risen by over 0.5 °C. Climate is very variable so we cannot be certain that the warming is due to the greenhouse effect. It is even more difficult to predict what will happen next as features such as increased cloud cover could counteract the warming. However, it is hard to see the high carbon dioxide concentrations being reversed in the near future.

Attempts to model the greenhouse effect over the next 50 years suggest increases in average world temperatures of between 1 and 5 °C. The greenhouse effect might result in the melting of much of the ice caps. The resulting rise in sea levels could cause hundreds of millions of people in low-lying areas to abandon their homes. If levels of atmospheric carbon dioxide are to be reduced, international cooperation will be essential. A number of approaches have been suggested: less reliance on fossil fuels and more on renewable ones, such as solar power and wind power, or on nuclear energy [1, p. 46].

Destruction of the ozone layer. Ozone is a naturally occurring gas found in the atmosphere where it absorbs most of the sun’s ultraviolet light – invisible rays which are harmful to both plant and animal life. The ozone layer is essential for life – until it was formed, about a billion years ago, the only life on Earth was at the bottom of the ocean [2]. It intercepts much of the ultraviolet radiation that would otherwise reach the Earth’s surface from the Sun.

During the late 1980s measurements above Antarctica showed a significant decrease in the amount of ozone there. More recently, the same phenomenon has been observed above the Arctic. There are seasonal holes in the ozone layer and each year the holes are larger. The main chemicals responsible for this thinning of the ozone layer are CFCs (chlorofluorocarbons).

Pressure by environmentalists and scientists led to the signing (in 1987) of the Montreal Protocol by over 30 countries. This laid down targets to ensure that fewer CFCs were released into the atmosphere.

If the measures to protect the ozone layer fail, the most immediate probable consequence will be a significant increase in the number of cases of skin cancer. The ultraviolet rays can also damage eyes (some sheep in Australia have already gone blind) [1, p. 47].

Acid rain is the collective name given to a number of processes all of which involve the deposition of acidic gases from the atmosphere. Most deposition is indeed in acidic rain, though some direct, so-called dry deposition, occurs without rainwater acting as a vehicle.

Natural, unpolluted rain has a pH of about 5.6, due to the presence of dissolved carbon dioxide. However, in many countries rainwater often has a pH of between 4 and 4.5 and sometimes much lower than this. The increased acidity is due to the presence of various oxides of nitrogen and sulphur.

Acid rain results directly from the combustion of fossil fuels in power stations (coal, oil or gas) or in vehicles (petrol). Not all these sources are equally to blame. Coals with a high sulphur content are particularly harmful.

The ecological importance of acid rain is still uncertain. Many environmentalists and a large number of independent ecologists blame acid rain for much of the damage done to trees in European and North American forests.

Acid rain also has a significant effect on freshwater ecosystems: a lot of lakes and seas lost large numbers of their fish. This correlated with increasing acidification of lakes.

How can the problems of acid rain be reversed? Some success has been achieved at raising the pH of a few lakes by adding large amounts of calcium carbonate (limestone). However, the only long-term solution is to reduce emissions of sulphur and nitrogen oxides. Sulphur dioxide emissions from power stations can be reduced by the introduction of sulphur dioxide scrubbers.

Unfortunately, these require very large amounts of limestone. This is both expensive and requires extensive quarrying, which itself damages the environment. What is needed is political willpower, rich nations should stop the growth of carbon dioxides emissions.

It is still quite difficult to assess the danger of global warming for humanity. Developed countries are already introducing new technologies in heavy production, such as special filters for air emissions. And more populous and less developed countries suffer from the man-made consequences of human activity. This imbalance will only grow without affecting the problem.

Solving the problems of global warming today, a person should look far into the future. Many documentary agreements such as the protocol adopted as a supplement to the UN Framework Convention in Kyoto in 1997 have not yielded the desired result and the introduction of environmental technologies is extremely slow. The conversion of old oil and gas production plants is almost impossible and the cost of building new ones is quite high. In this regard the reconstruction of heavy industry is primarily an economic issue [3].

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В статье показана связь между атмосферным загрязнением и глобальным потеплением, разрушением озонового слоя и формированием кислотных дождей, приведены примеры их влияния на живые организмы и биосферу, рассмотрены методы борьбы с этими проблемами.

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PERSONALITY TRAITS AND LEISURE PREFERENCES

Our planet is home to 7.9 billion people. Everyone has a unique personality. There have been few studies in tourism, which have attempted to determine if personality factors predict tourist behavior [1–3]. In this article we aim to show leisure preferences of different types of people.

In general, the preferences of women and men are almost the same. Men are slightly more likely to take quiet rest. But the numbers of supporters of active holidays among women and men are equal – 35 %. Families with teenage children are a little more active than others. The biggest differences in preferences were found in age groups. Thus, teenagers prefer active vacations – 43 %. With age, the number of outdoor enthusiasts decreases, reaching the lowest numbers in the 50+ and 60+ groups, where 33 % of respondents liked this option. The share of those who prefer a relaxing holiday in the 40+ group is 64 % of voters, while in the 60+ group – only 57 % [1].

The three leading countries in terms of the number of people who prefer a quiet holiday are Brazil, South Korea and Japan. Italy, France and Spain lead in the proportion of the people who choose outdoor activities [1].

The personality structure also influences the choice of a leisure type.

Introverts are considered to be quiet, reserved, careful, slow, unhurried. They tend to seek own knowledge, have no desire to meet others, have a few special friends. They prefer tour packages, enjoy common activities (sun etc.), prefer to drive and not fly, seek familiar destinations, like people from same culture [2].

Extraverts “long for” excitement, carefree, spontaneous, like going out a lot, desire to meet people, strangers. As a result, they tend to be adventurous, explore alone, prefer new experiences, seek unexplored destinations [2].

For a weekend or a long-awaited vacation to be perfect, it is reasonable to consider a person’s temperament. Choleric people are mobile, prone to adventures, hyperactive along with aggression, a sharp change of mood and increased emotionality. The general recommendation for these super-energetic companions is active recreation with alternating types of physical activity.

Sanguine people are optimistic, friendly, non-aggressive and mobile. Positive emotions are the key to a great holiday for sanguine people [3].

Phlegmatic people are calm and emotionless. Because of their love of peace and quiet an ideal holiday destination can be all kinds of sanatoriums, boarding houses, recreation centers in sparsely populated places, as well as holidays in the countryside, in general, wherever there is an opportunity to read a book in silence, enjoy nature, be alone.

The most vulnerable, creative and sensitive to what is happening, the melancholic people expect new emotions, feelings and thoughts. They do not tolerate loneliness, so a couple of like-minded friends will be an ideal option for the company.

As a result, according to their preferences potential tourists can be divided into the following groups:

1. Lovers of a relaxing holiday go on a trip to enjoy the tranquility, to take a break from the hustle and bustle of work. Their rest, as a rule, is quite predictable and lacks variety.

2. Pleasure lovers are more mobile, but focus not on the brightness of impressions, but on getting pleasure. Instead of a two-day excursion to the Egyptian Pyramids in the heat, they will prefer to relax in a restaurant, enjoying the local cuisine. This category of people can spend a lot of money.

3. Outdoor enthusiasts are fond of long-distance travel, and the impressions they receive are the best reward for them.

4. Sports fans focus their attention on competition. Physical activity is their favorite activity, and they devote all their free time to it. Moreover, any sporting event is celebrated with a good buffet. Both athletes and fans are fond of eating.

5. The knowers. Tourists of this category are eager to visit the maximum of sites. Even the most exotic trips will attract such people if they are told in full detail about the peculiarities of the destinations. The presence of a competent and pleasant guide is the key to success.

These are the main types, but often they are mixed, and a tourist is interested not only in sports, for example, but also in going on excursions.

Tourists can also be divided into groups according to their preferences in the types of tourism they choose. These are cultural and educational tourism (introducing tourists to cultural values), religious tourism (pilgrimage), rural tourism or the “rest at home” movement (activities that take place in contact with nature, life in a camp or small villages), which is associated with agricultural work, acquaintance with the life of small villages, walking tours of natural objects, studying flora and fauna, river sports, trips to mountains and lakes, etc.), event tourism (carnivals and festivals in various cities), sports tourism, adventure tourism (adventure sports and adventure travel), balneological tourism (tourism associated with thermal and therapeutic waters) and others.

Thus, people choose various leisure-time activities to satisfy various needs depending on their personality and other factors. It should be the purpose of further study to determine exactly what relationship exists between a person’s temperament type and other personality traits and the type of leisure activity he or she performs. Understanding this relationship will allow the industry to more cost-effectively plan, develop, market and service, in a sustainable manner, the rapidly expanding numbers of tourists.

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Описана связь между чертами личности и предпочтениями досуга, понимание которой необходимо для успешного развития туристической отрасли.

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LA LUTTE DE LA FRANCE CONTRE LE CHANGEMENT CLIMATIQUE

L’écologie est une science qui a acquis aujourd’hui une importance considérable. Les activités humaines changent de plus en plus le monde qui les entoure, détruisant les systèmes écologiques établis. Souvent, la personne elle-même en souffre, car des actions irréfléchies entraînent de graves conséquences.

Depuis le début de l’année, le gouvernement français a instauré de nouvelles mesures visant à lutter contre le bouleversement climatique qui imprègne de plus en plus notre quotidien. Ces mesures doivent permettre d’accompagner chaque citoyen vers la transition

écologique. Elles concernent les modes de consommation, les méthodes de transport ou encore la sécurité sanitaire [1].

Le but de cet article est de décrire les mesures environnementales prises en France.

Afin de lutter contre la pollution de l'environnement par les matières plastiques, l'interdiction de ces dernières s'étend désormais à de nouveaux types de produits plastiques, ceux considérés à usage uniques comme la vaisselle jetable, les gobelets, pailles ou encore cotons-tiges.

À propos du gaspillage alimentaire, c'est une pratique qui, dans le courant de l'année, devra désormais être considérée comme illégale pour les magasins et les supermarchés, suite à un amendement de la loi au sujet de l'économie circulaire et de la politique d'anti-gaspillage. Concernant le gaspillage non-alimentaire, les entreprises seront d'ici peu tenues de donner ou recycler tous leurs invendus [3].

La mobilité des citoyens est un autre enjeu majeur, directement liée à l'amélioration de la qualité de l'air de tous les jours. Le gouvernement, qui prévoit d'augmenter cette année de 50% ses moyens consacrés aux bonus écologiques, applique dorénavant de nouvelles normes afin de soutenir notamment l'acquisition de véhicules neufs électriques ou fonctionnant à l'hydrogène. En parallèle, les malus à destination des véhicules émettant davantage de CO2 sont renforcés; ainsi les différents niveaux de malus ont pour la plupart doublés ou triplés (le malus maximum est désormais fixé à 20 000 € contre 10 500 € auparavant).

La taxe de solidarité sur les billets d'avion, connue sous le nom de « taxe Chirac », augmente cette année, conformément à la promesse faite par le gouvernement lors du deuxième Conseil de défense écologique. Instaurée en 2006 pour financer l'aide au développement, elle va désormais également servir à financer des infrastructures de transport plus écologiques comme le ferroviaire. Pour les vols intérieurs et vers l'Union européenne, son montant passe à 2,63 euros en classe économique et 20,27 euros en classe affaires. Pour les vols hors Union européenne, elle monte respectivement à 7,51 euros et 63,07 euros. Cela représente une hausse allant de 1,50 euro à 18 euros. Les vols à destination de la Corse et de l'Outre-Mer ne subiront pas cette augmentation.

Une nouvelle législation de l'Organisation maritime internationale, entrée en vigueur le 1er janvier 2020, prévoit un plafonnement des émissions d'oxyde de soufre pour les navires fixé à 0,5 %, contre 3,5 % auparavant. Celui-ci participe à l'acidification de l'atmosphère et altère la santé des riverains. Une étude publiée en 2016 estimait qu'en l'absence d'une telle mesure, la pollution atmosphérique liée au trafic maritime pourrait être à l'origine de plus de 570 000 décès prématurés dans le monde entre 2020 et 2025. La loi de Finances 2020 prévoit par ailleurs des incitations pour que les armateurs convertissent leur flotte aux énergies moins polluantes et qu'ils arrêtent de brûler du fioul lorsqu'ils sont stationnés dans les ports en se branchant à l'électricité fournie à quai.

Les garanties de l'État à l'export pour les énergies fossiles seront limitées. Elles ne pourront plus soutenir des projets de recherche, d'extraction, de production de charbon ni de construction de centrales à charbon, sauf si celles-ci disposent d'installations de capture et stockage de CO2. L'interdiction s'étend également aux opérations utilisant la fracturation hydraulique, utilisée par exemple pour la production de gaz de schiste, ou toute autre méthode non conventionnelle ainsi qu'aux projets de production d'hydrocarbures prévoyant un torchage de routine du gaz. La loi de Finances 2020 introduit également plus de transparence sur l'octroi des garanties à l'export avec une série de rapports que le gouvernement devra remettre au cours de l'année [3].

Le gouvernement français a également mis en place une mesure ayant comme objectif d'accroître la protection des riverains vivant à proximité de champs cultivés. Elle vise

l'interdiction pure et simple de tout épandage à moins de 5 à 20 mètres des habitations, la distance étant calculée en fonction du type de culture ou de la nature des produits utilisés.

Si les mesures gouvernementales écologiques prises vont dans le bon sens, chaque individu a la possibilité d'agir par lui-même, dans un premier temps à une échelle locale. Il existe de nombreux gestes simples à accomplir, si possible régulièrement, comme réguler sa consommation énergétique ou d'eau, privilégier les achats, en circuits courts, de produits de saison et qui occasionnent le moins possible de dommages à l'environnement.

Si ces mesures sont suffisantes pour améliorer la situation environnementale en France, le temps nous le dira. Cependant, même maintenant, nous pouvons conclure que le gouvernement français est intéressé à accroître l'éducation environnementale des citoyens et à améliorer la situation environnementale dans le pays.

En conclusion il faut ajouter que la France fait toujours face à l'héritage de son passé industriel, aux pressions exercées par l'énorme secteur agricole et à la forte demande de ressources, il semble que le pays cherche un avenir plus propre dans les secteurs public et privé [2]. Au cours des prochaines années, la France prendra les mesures suivantes pour poursuivre ses activités d'amélioration de l'environnement : taxer davantage les véhicules à émissions élevées pour diminuer la pollution atmosphérique ; assurer une forme durable de financement des programmes d'infrastructure de l'eau et des services de traitement des eaux usées ; continuer à soutenir la diffusion de technologies propres ; promouvoir l'agroécologie en élargissant les programmes de formation, de recherche et de financement.

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Рассматриваются основы экологической политики Франции в современных условиях и в перспективе. Франция является одним из лидеров в борьбе с загрязнением нашей планеты. Она постоянно ищет новые и все более эффективные решения этой проблемы.

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LA REFORMA DE LA SECRETARÍA DE LA ONU EN ELDISCURSO DIPLOMÁTICO BIELORRUSO

La reforma de las Naciones Unidas es uno de los problemas más importantes de la política mundial actual. Durante más de 20 años, en varias plataformas de diálogo, los estados tratan de llegar a un acuerdo sobre la reestructuración de la ONU, pero el consenso todavía no

está alcanzado. A este respecto, el examen de las posiciones de los países abre el camino para encontrar puntos de convergencia en los enfoques de los estados para la modernización de la Organización. Al mismo tiempo, la reforma institucional de las Naciones Unidas, en particular la reorganización de las instituciones centrales, debe ser de mucha importancia. En el marco de esta investigación se describen los enfoques de la República de Belarús para la reforma de la Secretaría de las Naciones Unidas.

El estudio reveló que, en el contexto de la reforma de la Secretaría de las Naciones Unidas, la República de Belarús insiste en la más rápida democratización de esta estructura a fin de generar un crédito de confianza entre los estados miembros de las Naciones Unidas. Una posición fundamental es la necesidad de respetar el principio de la representación geográfica equitativa en la composición de la dirección de cada departamento de la Secretaría: los cinco puestos más altos deben distribuirse entre cinco regiones geográficos [2]. El objetivo no es "consolidar a sus representantes en cargos clave, sino garantizar una amplia gama de puntos de vista, diversidad de opiniones y mentalidad" [5], y el proceso en sí debe ser "transparente e inclusivo", sin "redistribuir las fuentes de financiación, ejercer una presión excesiva sobre los estados miembros y mezclar los mandatos de órganos clave del sistema de las Naciones Unidas" [9].

La República de Belarús se opone activamente a la excesiva reestructuración de la Secretaría en materia de cooperación con los estados. Según el Representante Permanente de la República de Belarús ante la ONU, V. Rybakov, "un esquema claro y abierto de tal interacción es la clave para el cumplimiento exitoso de las tareas que enfrentan los estados" [3]. A este respecto, en 2015, el Movimiento de Países No Alineados, cuyo miembro es la República de Belarús, inició un diálogo informal entre los estados miembros de las Naciones Unidas y la Secretaría bajo los auspicios del Presidente de la Asamblea General [5]. La parte bielorrusa valora positivamente los avances importantes logrados en los años siguientes en esta dirección: en 2016, la Asamblea General decidió celebrar ese diálogo, un año después declaró la necesidad de celebrar dicho diálogo de forma periódica [4]; la Secretaría comenzó a consultar a las misiones de los estados en las decisiones que les afectaban, y el Departamento de la Asamblea General y de Gestión de Conferencias respondió rápidamente a las solicitudes de los estados [6]. También se destaca el efecto positivo del diálogo oficioso de la Secretaría con los estados de las actividades temáticas con el fin de reducir la carga técnica sobre las misiones de los estados y mantenerlos informados de las actividades en curso para optimizar su labor por parte de la Secretaría. Como señaló I. Velichko, vicerepresentante permanente adjunto de la República de Belarús ante la oficina de las Naciones Unidas en Nueva York, "esto ayudará a construir un sistema de relaciones predecibles y confiables que sean convenientes no sólo para la Secretaría, sino también para los estados miembros" [6].

Sin embargo, hay varios problemas por resolver. La delegación de Belarús señala que no siempre el diálogo entre la Secretaría y los estados se lleva a cabo regularmente [4]. Además, en el contexto de un diálogo más eficaz, confía en que la Secretaría de las Naciones Unidas ayude a elaborar y adoptar una estrategia de las Naciones Unidas para promover el desarrollo sostenible de los países de ingresos medianos. Desde una posición crítica, la parte bielorrusa evalúa la introducción unilateral de reglas relacionadas con los aspectos técnicos de la estructura, así como la naturaleza pagada de los procedimientos para organizar eventos en la ONU en nombre de los estados [3]. Al mismo tiempo, se observa que el carácter de tales actividades a menudo está dirigido contra algunas delegaciones, y que su autorización y apoyo por parte de la Secretaría tiene un efecto perjudicial en el microclima dentro de la

Organización, socavando el “espíritu de unidad y cooperación” y provocando “hostilidad y confrontación” [4].

En el marco del aumento de la transparencia y la aplicación de las prácticas innovadoras de la Secretaría de las Naciones Unidas, la parte bielorrusa muestra solidaridad con la diplomacia de la Federación de Rusia en cuanto a la necesidad de crear un sitio web interactivo sobre la solución pacífica de controversias que contenga documentos pertinentes de las Naciones Unidas y sirva de depósito de información sobre los precedentes y los principios básicos del trabajo. Belarús también acoge con beneplácito la actualización oportuna por la Secretaría de “El manual sobre el arreglo pacífico de controversias entre estados” y de “El repertorio de la práctica seguida por el Consejo de Seguridad” [7]. Con este fin, la parte bielorrusa considera necesaria una mayor cooperación de la Secretaría con las principales universidades nacionales y mundiales y otras instituciones especializadas, incluidas las bielorrusas [8].

El Ministerio de Relaciones Exteriores de Belarús hace hincapié en la necesidad de fortalecer aún más la independencia y la rendición de cuentas del Secretario general a fin de evitar que ningún país o grupo de países lo presione. La república también considera necesario mantener la rotación geográfica y, lo que es más importante, de género para el puesto. Al mismo tiempo, se enfatiza que no es importante el hecho de una prescripción formal, sino el cumplimiento efectivo de los principios de justicia [1].

Por consiguiente, Belarús está a favor de una rotación geográfica y de género equitativa en los puestos clave de la Secretaría de las Naciones Unidas, incluido el de Secretario General. Esto es necesario para el establecimiento de un diálogo creíble y eficaz entre los estados miembros y la Secretaría, como ha subrayado repetidamente la parte bielorrusa. Ya se realiza el trabajo en esta dirección, lo cual está valorado positivamente por el Ministerio de Relaciones Exteriores de la república, pero aún queda un conjunto de problemas por resolver. Se hace hincapié en la necesidad de seguir trabajando para aumentar la transparencia de la Secretaría, así como en la elaboración y actualización oportuna de la base de información de las Naciones Unidas, con la participación de la comunidad mundial y de los principales centros científicos y analíticos, incluidas las estructuras educativas. La solución de esta gama de problemas, según la diplomacia bielorrusa, es la base de una reforma exitosa de la Secretaría de las Naciones Unidas.

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Дается характеристика подходов Республики Беларусь к реформированию Секретариата ООН как составной части комплексной институциональной реформы ООН. Данный процесс рассматривается в качестве неотъемлемого элемента совершенствования социально-правовой и политико-правовой системы общества на глобальном уровне.

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COMPUTER-PIONIER KONRAD ZUSE: SEINER ZEIT VORAUS?

Wer hat den Computer erfunden? In Deutschland sagt man gern: Es war Konrad Zuse. Dabei gibt es den einen „Übervater“ gar nicht. Interessant ist es, dass weltweit zur gleichen Zeit, also in den späten 1930er und frühen 1940er Jahren, verschiedene Wissenschaftler unabhängig voneinander an ähnlichen Systemen gearbeitet haben. Innerhalb nur weniger Jahre entstanden der Atanasoff-Berry-Computer, Mark I von IBM und Harvard, Colossus in Großbritannien oder die Maschine ENIAC für die US-Armee – und alles während des Zweiten Weltkriegs. Konrad Zuses Z3 hob sich aber von den damaligen Konkurrenzmaschinen ab.

Konrad Zuse (1910–1995) war bis in die 1960er Jahre einer der einflussreichsten deutschen Erfinder und Unternehmer. Ihm gelang zum einen die Konstruktion der ersten funktionsfähigen Rechenmaschine, die mit dem Binärsystem arbeitete, und zum anderen der Aufbau eines der größten deutschen Unternehmen seiner Zeit, in dem Computer in Serie hergestellt wurden. Die vorliegende Arbeit beschreibt, wie Konrad Zuse den weltweit ersten funktionierenden programmierbaren Binärcomputer schuf.

Geboren am 22. Juni 1910 im Berliner Stadtteil Wilmersdorf, studierte Zuse zunächst Maschinenbau, dann Architektur und schließlich Bauingenieurswesen, worin er auch seinen Abschluss machte. Er fand dann eine Stelle als Statiker bei der Henschel Flugzeug-Werke AG in Schönefeld bei Berlin. Da die statischen Berechnungen im Bauingenieurwesen sehr monoton und mühselig waren, kam Zuse die Idee, diese zu automatisieren. „Ich war zu faul zum Rechnen“, sagte einmal Konrad Zuse ein wenig selbstironisch. Er kündigte 1935 seine Statiker-Tätigkeit und widmete sich ausschließlich der Umsetzung seiner Pläne, die er in einem Tagebucheintrag vom Juni 1937 beschreibt: „Seit etwa einem Jahr beschäftige ich mich mit dem Gedanken des mechanischen Gehirns.“ Das Resultat war der 1938 fertiggestellte, elektrisch angetriebene mechanische Rechner Z1. Er funktionierte rein mechanisch, führte seine Berechnungen aber bereits im Dualsystem durch. Das war eine entscheidende Idee, auch wenn die komplexe, in Handarbeit entstandene Mechanik nicht fehlerfrei funktionierte. Ansonsten nahm die Z1 viele Merkmale späterer Computer bereits vorweg: Es gab ein Steuer- und ein Rechenwerk, Arbeitsspeicher, einen Lochstreifenleser als Massenspeicher und Ein-/Ausgabeeinheiten (Zahlenanzeige und Zahlen-eingabe per Tastatur). Aufgrund von Problemen mit der mechanischen Präzision war das Gerät nicht praxistauglich. Im zweiten Weltkrieg wurde die Z1 zerstört.

Die Unzuverlässigkeit der Z1 brachte Zuse dazu, sich mit alternativen Schaltelementen zu befassen. Er übertrug die mechanische Schaltung in die elektromechanische Relaistechnik. Zuse erprobte sie zunächst nur mit Fest-kommazahlen an einem Prototyp Z2, den er 1939 fertigstellte. 1940 führte er das Gerät dem technischen Direktor der Deutschen Versuchsanstalt für Luft-fahrt Günther Bock vor, der sich daraufhin bereit erklärte, die Entwicklung der Z3 mitzufinanzieren.

Die Zuverlässigkeit der Relaistechnik, getestet mit der Z2, überzeugte Konrad Zuse, und er baute die Z3 vollständig aus Relais. Die Maschine Z3 wurde am 12. Mai 1941 fertiggestellt und gilt heute als der erste funktions-fähige, frei programmierbare, auf dem binären Zahlensystem (Gleitkomma-zahlen) und der binären Schaltungstechnik basierende Rechner der Welt. Bei der Z3 wurde Zuse von seinem Kollegen Helmut Schreyer unterstützt. Damals fand die Präsentation in seiner Werkstatt in Berlin kaum Beachtung: zu sehen bekamen die Maschine nur ein paar Wissenschaftler. Von der Z3 existiert nur eine Zeichnung, da die Maschine selbst mit den Originalfotos bei dem Bombenangriff am 21. Dezember 1943 zerstört wurden. Heutzutage befindet sich ein funktionsfähiger Nachbau im Deutschen Museum in München. Dieser Nachbau wurde 1962 von der Zuse KG zu Ausstellungszwecken angefertigt.

Mit modernen PCs ist die Z3 allerdings nicht zu vergleichen. Die Z3 wog mehr als eine Tonne, war groß wie ein Wohnzimmerschrank und beherrschte nur die Grundrechenarten sowie das Wurzelziehen. Zudem speicherte die Maschine allenfalls 64 Worte. Für eine einfache Operation wie Multiplizieren brauchte die Z3 drei Sekunden. Um etwas auszurechnen, musste in mühsamer Handarbeit ein Filmlochstreifen eingegeben werden. Berechnungen konnten programmiert werden, jedoch waren keine bedingten Sprünge und Programm-schleifen möglich [2]. Ein Monstrum mit minimaler Leistung im Vergleich zu heutigen Laptops oder Smartphones. Jedoch nicht zur damaligen Zeit.

Horst Zuse, Konrad Zuses Sohn, zählte etwa 2500–2800 Relais. Etwa drei Viertel dienten als Speicher, der Rest für die Recheneinheit. Damit waren die zwei Bereiche getrennt. Die Recheneinheit besaß Register für die Daten und Relais für die arithmetischen Operationen. Als Grund für die Leistungsfähigkeit der Z3 wird auch die Verwendung des Binärformats genannt. Konrad Zuse nahm damit Elemente des modernen Computers vorweg.

Das Gerät wurde praktisch zur Berechnung einer komplexen Matrix eingesetzt, die zur Untersuchung des Flügelflatterns, das zum Absturz zahlreicher Flugzeuge geführt hatte, benötigt wurde. Allerdings wurde die Z3 nie als „dringlich“ eingestuft und auch nie in den Routinebetrieb übernommen.

Konrad Zuse konnte die Weiterentwicklung seiner Z3 trotz der Kriegswirren fortsetzen und baute mit der Z4 eine zweite universelle Rechenanlage. In den letzten Kriegstagen setzte sich Zuse nach Bayern ab, wo er die Z4 im Mehllager einer Bäckerei in Hopferau bei Füssen wieder aufbaute. Doch so endete Zuses Geschichte nicht. Die Gerüchte über die Existenz der Z4 führten dazu, dass Mathematikprofessor Eduard Stiefel von der ETH Zürich im Jahr 1949 Zuse im Allgäu aufspürte. Er mietete die Z4 zu Konditionen (Miete: 10 000 SFR pro Jahr), die Zuse in die Lage versetzten, in Neukirchen die Zuse KG zu gründen. Zu dieser Zeit war die Z4 der einzige funktionierende Computer in Mittteleuropa und auch der erste kommerziell ausgelieferte Computer auf der Welt. Von 1950 bis 1955 bearbeitete die Z4 etwa 100 verschiedene Problem-stellungen. Es wurden 100 000 Befehle ausgeführt [1].

Mit der Zuse KG wurde Zuse trotzdem nicht reich, im Gegenteil: Die Konkurrenz in den USA und Deutschland holte in Sachen Computern schnell auf – mit einer Patentanmeldung war Zuse gescheitert. In den 1960er Jahren schluckte Siemens die verschuldete Zuse KG. Und wenn es den Pionier Zuse auch nicht zum Leiter eines Computerkonzerns brachte, so wurde er doch seit den 1970er Jahren mit zahlreichen Ehrungen bedacht.

Der hervorragende deutsche Computerpionier half mit, die Welt zu verändern. Dieser kreative Geist schenkte uns neben der ersten Rechenmaschine auch viele andere Erfindungen. Mit dem Spezialmodell S1 entwickelte er den ersten Prozessrechner der Welt. Ebenso erfand Zuse mit dem „Plankalkül“ 1945–1946 die erste algorithmische Programmiersprache. Er gründete 1941 mit dem „Zuse-Ingenieurbüro und Apparatebau“ wahrscheinlich die weltweit erste Computerfirma. Die Zuse KG produzierte 1957 mit der Z22 den ersten Röhrenrechner, der in Deutschland in Serie gebaut wurde. Mit der Entwicklung des Z64 „Graphomat“ 1962 schuf Konrad Zuse einen der ersten Plotter der Welt. Konrad Zuse ist in einer Person Computerpionier, Künstler und Querdenker. Am 18. Dezember 1995 starb der Mann, der über seine Erfindung einen nachdenkenswerten Satz sagte: „Wenn die Computer zu mächtig werden, dann zieht den Stecker aus der Steckdose.“

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Статья посвящена немецкому инженеру Конраду Цузе – создателю первого действительно работающего программируемого компьютера и первого языка программирования высокого уровня. Раскрывается неоценимый вклад Цузе в развитие компьютерных технологий.

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EL PAPEL DE LOS MEDIOS DE COMUNICACIÓN MASIVA EN LA FORMACIÓN DE LA IMAGEN DEL ESTADO EN EL ESPACIO MUNDIAL

En el mundo moderno, los medios de comunicación masiva no son sólo una forma de difundir información sobre los eventos que están sucediendo en el espacio mundial, sino también un poderoso medio de propaganda. A través de los medios de comunicación masiva, es posible crear no sólo la imagen necesaria de un evento particular o de una persona, sino también la imagen de un país entero.

Hoy en día goza de particular importancia para cada país la eficacia de su política informativa como medio de crear una imagen positiva. Sin embargo, es necesario comprender que el proceso de formación de esta imagen no es unilateral y depende en gran medida no sólo de las actividades de los medios de comunicación nacionales, sino también de los extranjeros. El objetivo de este trabajo es evaluar la influencia de los medios de comunicación masiva estadounidenses en la formación de la imagen de la Federación Rusa en el escenario mundial.

"The New York Times" y "Time" se encuentran entre los periódicos más influyentes y fidedignos de los Estados Unidos. Básicamente, ofreciendo la imagen de la Federación Rusa, estas ediciones ponen énfasis en su líder, V. V. Putin. Así, por ejemplo, para informar sobre las elecciones en Rusia, el periódico NYT eligió una imagen provocativa, donde un votante besa una imagen de Putin en el stand con los candidatos presidenciales. Esto fue hecho no para enfatizar los méritos del presidente, ni para informar racionalmente sobre el proceso electoral como tal, sino para mostrar el culto a la personalidad de Putin lo que generó las opiniones sobre Rusia como un país con un régimen autoritario, donde sólo una persona controla todo y donde ni siquiera han oído sobre la democracia tan apreciada por el público estadounidense.

Además, para subrayar una vez más la antidemocracia de Rusia, los periódicos publican artículos sobre Alexei Navalny, líder de la oposición rusa. En las publicaciones lo elogian en todos los sentidos, llamándole un luchador por la justicia, una persona extremadamente carismática. Pero si nos fijamos en los títulos de estos artículos, inmediatamente queda claro con qué propósito fueron lanzados. Por ejemplo, "un candidato suspendido que representaba una AMENAZA para el presidente actual" [4]. Aquí nos indican que incluso la mera presencia de la oposición en Rusia se considera un peligro para el poder actual, lo que nos insinúa un régimen autoritario. En Rusia, según los periodistas de Time, todavía reina el caos, la anarquía y la corrupción. Se hace hincapié en el hecho de que un país con un potencial económico tan excelente no puede realizarlo plenamente debido a los problemas internos. Con esto, se crea la imagen de Rusia como un país que aborda de manera irresponsable e incluso negligente aspectos importantes de sus actividades.

Como se señaló anteriormente, en general, en los medios de comunicación masiva estadounidenses se mantiene la imagen de Rusia como agresor. Así, "The New York Times" culpó a Rusia de los ataques contra los hospitales en Siria. En la publicación se afirmó que las Fuerzas aeroespaciales rusas bombardearon cuatro hospitales [2]. Se puso un gran énfasis en esta noticia, estaba en la primera página. Y todo por una simple razón: aquí se refleja no sólo la agresividad de Rusia en general, sino también la agresividad de Rusia hacia el pueblo civil, que de hecho, por supuesto, no es así. Pero la información fue presentada de esa manera.

Incluso en la esfera aparentemente “inofensiva”, en el deporte, hay propaganda sobre la imagen negativa de Rusia. Entonces, en lugar de informar sobre los logros de los atletas rusos en varias competiciones internacionales, se centraron en el escándalo de dopaje de Rusia. “Time” lo hizo con un titular: “Miren cuánto tiempo nos ha engañado a todos Rusia”.

Por supuesto, la imagen del país en su conjunto depende en gran medida de la forma en que su población aparece ante los ojos del público. En las publicaciones de “Time”, el propio pueblo ruso está representado de una manera no halagadora. Los rusos son retratados como personas incultas, poco educadas. A menudo, en las noticias sobre los eventos en Rusia, se puede encontrar citas como por ejemplo “Este es uno de los países en los que reina una atmósfera de grosería y brutalidad” [3].

El periódico “The Washington Post” está considerado una fuente de noticias seria en los Estados Unidos, tiene una autoridad alta en el espacio de los medios estadounidenses. La imagen de Rusia en este periódico se representa en tonos aún más oscuros en comparación con dos agencias mencionadas anteriormente.

Muy a menudo en este periódico se iguala Rusia y la Unión Soviética. Esto se hace para 1) alimentar aún más la opinión estereotipada de los estadounidenses sobre la URSS y, como consecuencia, sobre Rusia (los rusos son personas sin educación, malvadas, que no tienen miedo del bandidaje e incluso lo apoyan) y 2) ayudar al lector a establecer paralelismos entre la brutalidad de la Unión Soviética y la Rusia moderna, señalando una vez más su totalitarismo.

Este periódico es el único en los Estados Unidos que discute y somete a la crítica el tema de los derechos humanos en Rusia de manera tan aguda, ya que para el público estadounidense este es uno de los temas más importantes y la triste situación de Rusia en este tema lo desacredita mucho en los Estados Unidos. Además, muchas publicaciones enfatizan muy claramente la idea de cuánto los Estados Unidos están tratando de ayudar al país en la lucha contra este problema, qué soluciones ofrecen. Pero Rusia se presenta como un país que rechaza cualquier ayuda. Por lo tanto, el periódico publicó un artículo donde el subtítulo decía: “Putin todavía insinuó su descontento con los intentos de Occidente de interferir en los asuntos de aquellas partes del mundo que pueden no compartir los valores occidentales” [5]. Pero se acumuló el ataque a Rusia cuando se redujeron las penas por violencia doméstica en Rusia. El periódico publicó inmediatamente una serie de artículos sobre este acontecimiento con los comentarios más enojados. Aquí nadie habla de la propaganda oculta de la imagen negativa de Rusia en los Estados Unidos.

La política de información para crear una imagen del enemigo casi instantáneamente trajo resultados bastante esperados y naturales. Por lo tanto, según las encuestas de opinión pública, la opinión desfavorable sobre Rusia en los Estados Unidos aumentó en 2014: 70–78 % de los estadounidenses encuestados tienen la actitud negativa hacia Rusia, y 49 % de los estadounidenses consideraron a Rusia como una especie de amenaza para los intereses vitales de los Estados Unidos [1].

A través de la creación de la imagen negativa de Rusia por los medios de comunicación masiva estadounidenses, Rusia en un momento dado llegó a percibirse como el mayor enemigo de los EE.UU., dejando atrás a Corea del Norte, Irán y China. La Prensa estadounidense, que influyó en la opinión pública no sólo directamente en los Estados Unidos, sino también en otros países, ayudó a crear la imagen de Rusia como un enemigo también en el espacio mundial en general.

Por lo tanto, a base de este ejemplo, podemos concluir que en el mundo moderno, los medios de comunicación masiva tienen mucha más importancia que simplemente un medio de información sobre los acontecimientos. Gracias al espacio mediático estadounidense, la imagen de Rusia no puede llamarse positiva, lo que depende directamente de las relaciones

políticas entre dos países. Y en esta confrontación, el objetivo perseguido de desacreditar la imagen de Rusia se estableció para fortalecer la rusofobia no sólo en los Estados Unidos, sino también en todo el mundo y encontrar aliados en esta guerra de información.

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Раскрываются возможности влияния СМИ на формирование образа государства на мировой арене в глазах общественности на примере образа России в американских СМИ. Выявлены основные тенденции, цели и средства для формирования имиджа страны, а также проведена оценка эффективности данной сферы деятельности СМИ.

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GADGET ADDICTION AS A PROBLEM OF OUR TIME

Initially, gadgets and Internet technologies were created with the aim of making our lives easier, and even better, to save time, but scientists are sounding the alarm. More and more people are getting infected with a new, previously unseen disease, generated by technological progress. Western researchers called a dangerous disease that is a special form of mental and psychological dependence gadget addiction.

When popular computer games appeared and children and teenagers became interested in them, then there was also an interest of researchers in the influence that these games can have on the psyche of the younger generation.

Children develop such a way of thinking that if they have a difficult task in front of them and they do not want to solve it, they can simply switch to something else. Or, for example, need to do homework to write an essay, but they missed the last session and don’t know what to do, and find the finished work, change it in some words, commas and all. In this way, teenagers avoid situations where it is difficult for them and they need to overcome difficulties.

This is partly the basis for the sale of modern gadgets: they are becoming more convenient, more comfortable. No need to remember phone numbers: they are all written down. No need to remember the password: the phone is unlocked by fingerprint [1].

But is it really bad? Of course, there are also advantages. For example: recently there was a study on the use of Internet technologies by teenagers for learning and self-education. It followed that those teenagers who have a stable academic motivation are quite ready to use social networks and the Internet for education. But for those who do not have an academic motivation, the Internet is more like a toy and entertainment. On the one hand, for those people who have an interest in studying, many more opportunities have become available: online university-level lectures, applications, educational films, and so on. Due to modern technologies, there is a kind of combination of educational and non-educational, entertainment content. And for example, it is not necessary to search for some books, carry a lot of textbooks with them – information on any subject or foreign language can be easily taken from the phone or tablet.

On the other hand, the skill of independent search for information is lost. Especially often, such difficulties for some reason arise in students: a person tried to find the necessary information or some book on the Internet, did not find it – and threw it. There is no desire to overcome. Failure is perceived as a sign that one needs to change the type of activity, and not as something that one needs to try and make some effort, try again, act in a different way. And many perceive the problem in such a way that if they can't find something on Google, then everything is meaningless and they need to stop doing this task. These problems are related to the complexity of experiencing some feelings associated with failure [2].

In the future, some people will be more and more engaged in developing technologies, software, and systems that other people will consume. It will turn out to be a kind of closed system. Clearly, the number of people in agriculture will be reduced. From the psychological point of view, there will be more loneliness, and anxiety-depressive disorders will prevail over other types of disorders. If the society of the 1980s and early 2000s was called narcissistic, a society of achievements, then the next stage is a diffuse-depressive society. And one of the tasks that gadgets perform is to reduce our level of excitement, the level of anxiety, tension. Now there are much fewer conflicts in the subway: everyone just looks at their phones, and all the anxiety and tension are utilized in fine motor skills, in hand movements. Usually, when children have an excess of excitement, which is normal for them, especially for three-year-olds, they run, shout. To help them sleep, they used to be taken for walks in the evening. And now parents give him a tablet so that he can sit there and, as it were, release his tension, his energy there [3].

Today, teenagers are better than adults with fancy smartphones and tablet computers. Unfortunately, gadgets for many of them become the only hobby. The main advantage of modern electronic assistants-gadgets is providing fast and affordable communication, comfort and access to information.

Addiction to gadgets often begins with parents. Parents, often without realizing it, themselves captivate the child with the virtual world, buying him various fashionable things. They sincerely believe that it is necessary. And they forget about increasing the range of other interests of children, do not look for a resource in intellectual, creative activities, do not teach them to get different impressions from life. Simply put, gadget addiction in children begins with the fact that parents replace themselves with a gadget. Many people prefer to see their child comfortable, not distracting from adult affairs. And as a result, a teenager grows up who has the wrong priorities: first the virtual world, and then real life. Manufacturers of gadgets constantly support the interest of teenagers, using the features of their psychology. This is a vicious circle that only parents can break.

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Раскрывается одна из глобальных проблем современности – зависимость от гаджетов. Анализируются причины возникновения данной проблемы, а также предлагаются возможные способы ее решения.

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THE PHENOMENON OF ADVERTISEMENT IN SOCIAL NETWORKS

Currently, the popularity of social networks is constantly growing, which allows us to consider social networks as a new multifaceted platform for business and advertising.

The purpose of the study is to determine the algorithm of the impact of targeted advertising in social networks and the basic mechanisms of advertising influence on the person.

There is a special term for online advertising, especially for advertising in social networks such as Instagram and Facebook, which is targeted advertising. According to a 2019 study by IAB Russia, targeted advertising remains the most popular promotional tool among advertisers, as 85 % of brands on social networks use it [1].

Its advantage is that it is shown only to the target audience, based on information from social networks and search queries [2].

Its purpose is to attract potential customers, increase the number of inquiries for the product and sell the product. Another term used is audience, i. e., a specific group of people united by common interests, goals, geographical location, age and needs. A certain budget is set aside for this audience, i. e., a fixed amount of money that will be needed to close financial transactions and determine the reach of the audience viewing a given advertisement.

In social networks, advertising is unscrewed with person’s pain, sometimes it is named “needs”. It works the following way: when you want to give a gift to your friend or girlfriend, a week before their birthday, you are shown an advertisement for a gift or flowers. Algorithms have been written for a long time that make a cell-phone listen to “pain” and collect this information in a database of social networks. But even the government does not have such large databases as large corporations that know everything about people. From the date of birth to how much they spend in stores and on what products.

People can be pressured and manipulated. An example of manipulation will be, a philistine example, if a person ever went to the supermarket and saw a huge number of crossed out price tags with the product. Unfortunately, this moment people are being manipulated by the store, and there are millions of such people every day, everyone goes to

the store to benefit and assert themselves at the expense of what they saved. But because personal observation and the experience of other people shows that the product on a normal day is sold 50 rubles and on a discount day 150 is crossed out and the price is 75 or 100 is crossed out and the price is 50.

Later on, it's shown how people get into the advertising funnel, otherwise it is called the sales funnel. The sales funnel is the path a consumer takes from the moment they are attracted to the offer to the moment he or she makes a purchase. Typically, the sales funnel includes four (sometimes five) major stages. Each stage pushes the consumer to the next, and the purchase is the key link in the funnel [3].

An example given below shows when a person told a friend on the phone his intent to buy a new cell-phone, the algorithm recognized it and when he goes to any social network, video hosting or search engine, he sees ads for phones. There is the first stage of viewing the product. Then as the advertising gets boring or the person likes the picture of the phone or the unique product offer, he decided to go through the advertising and see. This is the next stage – acquaintance with the product, and the person is already in the database of cold people. The cold audience is people who have just seen the product and are unlikely to immediately buy it. There are warm people who have already seen this product and are thinking about buying it, and hot people are those who are waiting for money or favorable conditions in one step from the purchase.

Cold, warm, or hot audiences are people who are at different stages of interaction with your business. Taking a different approach for each audience greatly increases the effectiveness of a particular advertising [5].

When the person gets into the database of cold ones, he is warmed up and shown ads for exactly the model that he liked and its advantages are shown to him. Then the person becomes a warm audience, but he still doubts, and so that he becomes a hot person a limited offer, a 20 % discount is offered to him, but this is a fraud and a benefit for the seller.

Let's analyze the popularity of advertising in social networks looking at willpower, about the psychology of the client and how the human brain is manipulated which applies to advertising in social networks. A person is dependent on social networks, he spends most of his life in virtual communication, on average 5 hours a day. And given the poor socialization of a person, he will sit and wait for notifications, likes, messages. Any advertising newsletter for him as a friend, he is remembered, known and paid attention to, in other words, a person buys friendship with companies, he buys goods from them, they sell him messages about how important he is to them and words of gratitude for the purchase of a kind of dependence. The art of manipulation is to let the process of imagination run its course, but in such a way that the person does not notice the hidden influence [4, p. 24].

People cannot now live 30 minutes focused, they constantly need to feed social networks, especially children, whose brain is just beginning to form, they cram the phone and then his fate is decided, they will not be able to do anything himself for more than 5 minutes, they will sit and update the feed in search of a minute's pleasure, some funny video, people now live in anticipation of some pleasure, and social networks can help them with this, they give a minute's pleasure. Unfortunately, all this is connected: willpower, a momentary sense of pleasure, stress and advertising in social networks, all this is one very well-built system that can manage people.

Currently, the situation is such that the impact of online advertising on the human consciousness is increasing, as a targeted psychic influence. At the same time, top-quality targeted advertising creates new needs for products through various manipulation tools and algorithms, affecting the subconscious.

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Рассмотрены особенности рекламы в социальных сетях на примере Instagram и Facebook. Исследованы такие явления, как алгоритмы манипуляции посредством рекламы, рассмотрены различные инструменты манипуляции, проанализирован поэтапно алгоритм воздействия рекламы на целевую аудиторию. Детально представлен один из способов воздействия рекламы на человека, называемый «воронка продаж».

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POLLUTION OF THE WORLD OCEAN: CAUSES, CONSEQUENCES AND WAYS TO SOLVE THE PROBLEM

The world ocean is a huge, but very fragile system. This has become especially noticeable in recent decades, when pollution of ocean waters has reached unprecedented proportions. Meanwhile, not only the well-being of ecosystems depends on the state of water, but also the human civilization itself largely depends on the ocean: the weather and climate of the entire planet depend on it.

In this article we aim to show how the pollution of the world ocean has become one of the most serious environmental problems, its causes and consequences, as well as ways to decrease it.

More than 70 % of the surface of our planet is covered with water. The volume of water in the World's oceans is huge – 1370 million cubic kilometers. The world ocean is divided by the continents into the Arctic, Indian, Pacific and Atlantic oceans. The ocean forms the climate on the planet: currents bring cold or heat, and water, evaporating from the surface of the ocean, forms clouds. More than 100 million people live on the coast. However, even those who have never seen the sea are affected by it. The ocean is a giant "weather factory" where the rain is born. Here about 90 % of all fish are caught. Oil is pumped out from the ocean

depths. Cargo moves through the seas. But due to such intensive and often irresponsible use, the world ocean is now in danger [1–3].

The development of civilization has led to an increase in pollution of the world's oceans. The situation began to deteriorate around the middle of the twentieth century, which was associated with the development of the chemical and oil refining industries. Today, there are several types of the pollution of the ocean.

First, the ocean in polluted physically. Garbage is a huge problem for the ocean's ecology. Millions of tons of plastic waste, which practically does not decompose, float on the surface of the world's oceans. The garbage thrown into the ocean forms floating islands, the most famous of which is the Pacific garbage spot. This is a giant accumulation of garbage in the North Pacific Ocean. The area of the spot, according to the most optimistic estimates, is at least 700 thousand square kilometers. The debris causes damage to more than 250 species of marine animals and birds, which become entangled in it and soon die. Waste is also the cause of the release of toxic substances into the water.

Second, the ocean is polluted biologically. Pollution of the waters by foreign bacteria and various microorganisms, as well as organic waste, steadily leads to a violation of the fragile ecological balance. Due to climatic conditions, some bacteria are transferred from their usual habitat to a completely unacceptable place for them, resulting in the death of numerous ecosystems.

Third, the ocean is polluted chemically. Chemicals and heavy metals are used in a wide variety of industries. Together with wastewater, they enter the ocean in huge quantities. Mercury as well as pesticides are especially dangerous. However, it is not just large factories that are to blame for the chemical pollution of the ocean: many chemicals, synthetic detergents in particular, enter the water through sewers.

Oil and petroleum products are the main source of pollution of the world's oceans. As a result of man-made disasters, tanker wrecks and well drilling, oil gets into the ocean. Oil spills lead to the death of a huge number of marine animals, fish and birds, and in addition, they interfere with the normal heat exchange between the layers of water.

The ocean is polluted thermally. Wastewater discharged into the oceans by power plants locally raises the water temperature, leading to the mass death of creatures unable to survive at such high temperatures. This disrupts the food chain and leads to the extinction of many animal species. At the same time, some types of algae begin to grow actively, causing the water to bloom.

The ocean has long been a graveyard of radioactive waste. According to researchers, today there are so many radioactive substances in the world ocean that they would be enough for 30 Chernobyl accidents [2].

Oil and petroleum products, wastewater, chemicals, heavy metals, radioactive waste, mercury and plastic are the main sources of the world ocean pollution. It is difficult to say which of the types of pollution is most dangerous – all of them, in one way or another, affect the ecosystem of the planet, including humans. For example, toxins can accumulate in the tissues of commercial fish, making them unfit for food. The blooming of coastal waters caused by the discharge of organic waste and fertilizers makes them unsuitable for fishing, as fish die in the blooming water. Paradise beaches turn into smelly landfills [1].

Other causes of the deterioration of the world ocean include the location of large agglomerations in coastal areas; large-scale uncontrolled fishing; deterioration of the coast due to systematic pollution [2].

Many countries have long been making attempts to correct the situation or at least minimize the harm to the world ocean. For example, in France, a law was passed regulating the location of water intake and discharge points for factories, the seacoast is regularly

patrolled by helicopters, whose task is to monitor the discharge from tankers. A high-tech and effective solution to the problem of dumping was found in Sweden. Tankers are marked with special isotopes, so scientists, analyzing oil spills, can always determine from which vessel the discharge was made. At the initiative of the UN, many important international agreements were signed regulating the use of the resources of the world ocean, oil production, etc. However, there are also non-standard solutions to this problem. Companies such as Unilever, Procter and Gamble, Nike, in collaboration with the World Wildlife Fund, are developing new types of plastics that will be made from organic materials. Their goal is to reduce plastic pollution by creating biodegradable plastics from plant materials, including sugar cane, corn, cane, and cereals. The projects are also aimed at combating waste that pollutes the ocean. Plastic collected in the ocean and on the coast is recycled or converted into electricity.

If no action is taken, the level of pollution in the world ocean could triple over the next 25 years. Unfortunately, just cleaning up the trash is not enough. Prevention is better than cure. The most effective way to decrease water pollution is to prevent waste from entering the water. This requires changes in the economic policies of states and the practical activities of companies, but many steps can be taken by ordinary people.

In conclusion we can propose some tips on how to contribute to the purity of the world ocean. First, we should sort trash and reuse plastic bags, plastic bottles, and packaging in general. Reduce waste at its source, refuse plastic whenever possible. Say no to straws, lids, plastic bags, and plastic takeaway containers. Carry your own utensils or a wooden spork and avoid using plastic utensils. Whenever you see plastic in nature, collect it and recycle it if possible or put it in the trash can. One can become a beach cleaning volunteer. Tourist companies when organizing visits should instruct tourists on the rules of behavior on the beach and the way to take care of the environment. People are responsible for their decisions and actions.

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Рассматривается проблема загрязнения Мирового океана. Раскрыты основные причины и последствия загрязнения, показаны некоторые пути решения проблемы.

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USAGE OF DISCRIMINATORY LANGUAGE TOWARDS PEOPLE WITH DISABILITIES

In our time, when digital technologies are developing faster and faster every day, our society does not seem to have time to change its thinking and often uses certain stereotypes. For example, very often there are cases when a person with a disability is called quite rudely,

thereby emphasizing his inferiority. So what can we do in such situations in order not to offend him? First of all we should name the person, and only then his/her specific feature. This language is called the “people’s first language”. It is recommended by the “Office for the Rights of People with Disabilities”. The aim of this article is to consider the problem of stereotypes that people have towards disabled people and to show ways out of this difficult social problem.

The Office for the Rights of People with Disabilities is a non-profit organization which provides legal assistance and advice on the rights of people with disabilities. It creates and promotes innovative resources and services for people with disabilities: accessibility databases, guidebooks, maps. It publishes thematic literature and conducts educational activities such as seminars and trainings, round tables. The organization prepares and publishes various monitoring and research on the rights of people with disabilities, provides expert opinions on issues related to the rights of people with disabilities, offers initiatives to improve national law in relation to people with disabilities, and acts as a partner for state and non-state, international structures and individuals in the full promotion of the rights of people with disabilities [3].

In everyday life when we address disable people it would be better to say, for example, a person in a wheelchair (not “a user of a wheelchair”) or a person with Down syndrome (not “Down”), a person with visual impairment (not “blind”). Communicating with these people, you should always remember that the diagnosis or disease is by no means the only characteristics of a person.

Sometimes wrong addressing disable people serves as the beginning for the manifestation of so called “discriminatory vocabulary” that means the use of expressions that insult, humiliate and emphasize the inequality of individuals in society. In such cases obscene, slang expressions and words are used. This aggressive behavior, applied to the disabled, creates in them a feeling of eternal anxiety and tension. The fight against this phenomenon has begun recently, thanks to the Internet media and various support forums [5].

Due to this phenomenon a term “ableism” has appeared. Ableism is discrimination against people with special health and developmental needs, as well as the creation and dissemination of stereotypes about them. Ableism has many manifestations. Most often the targets of discrimination are people with disabilities but in a broad sense anyone for whom for health reasons it is difficult to perform certain actions which are elementary for an ordinary person, can suffer from ableism. For example, it may be difficult for a depressed person even to get out of bed and clean up.

The causes of ableism are related to the negative perception of society of deviations from the norm. A young and healthy person is considered normal. Disability is perceived as something that needs to be eliminated. The justification for discrimination is the stereotypes that some people adhere to [2].

The discrimination manifests itself in several ways. Sometimes employers find loopholes in order not to give a person with disabilities a job: he cannot always work full-time, special conditions may be required for him. Some people with disabilities do not try to get a job themselves, because it is difficult for them to move around or they are afraid of being ridiculed. For someone, the only way out is remote [4, p. 52].

Even in large cities, it is very difficult to move around in a wheelchair or with a cane. Ramps, if there are any, cannot be used without the risk of getting hurt. There are no lifts or they sometimes don’t work, there are stairs everywhere, thresholds, curbs, broken asphalt. For visually impaired people, there are no tactile tiles or Braille lettering. Voice ads in public places are not duplicated by a running line which could make life easier for people with

hearing problems. There are a lot of experiments on YouTube that show how inaccessible the "accessible" environment really is for people with limited mobility. Because of this, many disable people are locked in their own apartments, cannot move without an assistant, work and live a full life.

One more problem is taunts and bullying. It may seem that this happens in a children's surrounding. But adults, unfortunately, can behave more abominably than any school bully. Unfortunately, there are many examples of this, and on the Internet a person with poor health can run into direct insults and completely fascist arguments about who has the right to live and who does not.

There are cases when a person cannot answer the question correctly then he gets the following comment: "Are you down?" Sometimes he can lose his temper and hit someone. In response he can hear these words: "Well, you're crazy!" Such words are spoken without thinking. They equate bad actions with diagnoses, stigmatizing those who are ill or have special features, and create the following dangerous stereotypes: all mentally ill people are aggressive; all people with Down syndrome are stupid.

"People with disabilities constantly need help", "All people with autism spectrum disorders are inadequate" – these stereotypes are ingrained in society and continue to be actively broadcast. And they are by no means harmless: it is because of them that people with special needs are perceived with caution or even hostility. It is difficult for them to lead social life, find work and friends. People with disabilities are often perceived as young children. Others may feel sorry for them or ask a lot of tactless questions about their condition, emphasizing in every possible way that the person is not like everyone else. When the diagnosis comes first, but not personal qualities, it is very unpleasant.

Another manifestation of ableism is the desperate attempt to pretend that disability does not exist. When we pretend not noticing the problem, the experience of people with physical ailments or mental disorders is completely devalued in society. For example, when we say that we got depressed because the day didn't work out, we devalue the experience of people who actually suffer from this disease. But it can lead to sad consequences and the development of other mental disorders [1].

Our speech is full of ableist metaphors and insults. The use of medical diagnoses with derogatory overtones reinforces the belief that the disease is bad and shameful, the patient himself is defective, and it is offensive to be like him. A significant manifestation of ableism is the almost complete absence of an accessible environment for the disabled. But we can make the world a better place by not using ableist statements, helping others and participating in charitable organizations. We must understand that people do not choose what they are born with, and no one knows what may happen to them in the future. Therefore, it is necessary to show respect and support to people with disabilities.

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Раскрываются проблемы, возникающие при общении с людьми с ограниченными возможностями. Авторы показывают пути решения и методы, способствующие предотвращению данных проблем.

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ANWENDUNG DES BIOTECHNOLOGISCHEN ANSATZES BEI DER HERSTELLUNG DER BIOLOGISCH AKTIVEN SUBSTANZEN

Die rasche Entwicklung der menschlichen Gesellschaft bestimmt auch die Verbesserung der Produktionsbereiche, um die auf dem Markt nach der einen oder anderen Art von Waren und Dienstleistungen entstehende Nachfrage vollständig zu befriedigen. Die gleiche Situation wird bei biologisch aktiven Substanzen beobachtet, die in verschiedenen Branchen weit verbreitet sind: Pharmazeutika, Chemie, Lebensmittel usw.

Die oben genannten Produktionsbereiche stehen vor der Aufgabe, die erforderliche Produktmenge mit einer hohen Rentabilität dieser Produktion zu erhalten.

Fortschritte in der Chemie in neunzehnten und zwanzigsten Jahrhunderten ermöglichten die Entwicklung von Methoden zur chemischen Synthese vieler industriell wertvoller Substanzen (O-Acetylsalicylsäure, Essigsäure, Methanol, Ethanol und viele andere). Auf die eine oder andere Weise ist die Vorherrschaft des chemisch-technologischen Ansatzes bei der Herstellung dieser Substanzen erhalten geblieben. Als sich ein bestimmtes Gebiet der Wissenschaft verbesserte, entstand eine Nachfrage nach bioorganischen Molekülen: Aminosäuren, Peptiden, Proteinen, Kohlenhydraten, Lipiden, Hormonen usw.

Ziel des Artikels ist die Analyse der Unterschiede bei der Herstellung bestimmter biologisch aktiver Substanzen mit chemisch-technologischen und biotechnologischen Methoden.

Die lebenden Organismen haben eine Vielzahl von Stoffwechselwegen. In diesem Zusammenhang spielen Mikroorganismen eine besondere Rolle, auf deren Grundlage Eigenschaften untersucht werden, mit denen Technologien zur Gewinnung eines bestimmten Zielprodukts entwickelt werden [1]. Als Beispiel können wir die Synthese von Insulin betrachten, einem Hormon, das für die normale Glukoseernährung von Säugetierzellen verantwortlich ist (Glukose-verwertung und Kohlenhydratstoffwechsel). Vor dem Hintergrund seines Mangels entwickelt sich eine Krankheit wie Diabetes mellitus. Dieser Zustand veranlasste die Forscher nach Wegen zu suchen, um dieses wichtige Hormon zu erhalten. Zunächst wurden tierische Rohstoffe verwendet – die Bauchspeicheldrüse von Schweinen – aus denen Insulin mit Butanol extrahiert wurde. Ein solches Insulin kann jedoch bei langfristiger Anwendung eine Immunantwort und infolgedessen eine Abstoßung verursachen.

Trotzdem wurde bald die Möglichkeit einer chemischen Insulinsynthese aufgezeigt. Dieser Prozess umfasste mehr als 200 Stufen und seine Kosten waren sehr hoch. Darüber

hinaus konnten die Bedingungen, unter denen die Synthese in der Industrie durchgeführt wurde, nicht reproduziert werden. Eine äußerst wichtige Lösung für dieses Problem war der Einsatz gentechnischer Methoden – die Technologie der rekombinanten DNA. Die chemische Synthese des Humaninsulin-Gens sowie die Verwendung geeigneter Restriktionsenzyme, Ligasen und Plasmide ermöglichten die Einführung des Gens in die Zelle von *Escherichia coli*. So synthetisierten die Bakterien zusätzlich zu den benötigten Proteinen auch Insulin, das dann aus dem Nährmedium isoliert wurde, auf dem die Bakterien wuchsen, modifizierte das Proinsulin unter In-vitro-Bedingungen und erhielt das Zielprodukt. Derzeit wird Insulin auf diese Weise gewonnen.

Bei einer anderen biologisch aktiven Substanz, der Aminosäure Methionin, ist die entgegengesetzte Situation zu beobachten. Diese Aminosäure wird hauptsächlich als Futtermittelzusatz verwendet, was sie für die Landwirtschaft von Bedeutung macht. Es wird angemerkt, dass es zweckmäßiger ist, es mittels chemischer Synthese mit bestehenden Methoden der biotechnologischen Produktion genau zu erhalten [2, S. 7]. Darüber hinaus werden Verfahren zur Gewinnung aus mercoptanhaltigen Rohstoffen vorgeschlagen, deren Quelle der Ölraffination ist.

Wenn man das Thema Aminosäuren fortsetzt, ist es erwähnenswert, sich an die Besonderheiten der Gewinnung von Lysin zu erinnern. In diesem Fall wurde ein Verfahren entwickelt, um ein Futterlysinkonzentrat auf der Grundlage der Deaktivierung der Regulierungsmechanismen des Metabolismus von *Corynebacterium glutamicum*-Bakterien zu erhalten. Das resultierende Lysin sollte durch den Retroinhibitionsmechanismus das Enzym ausschalten, das diese Aminosäure produziert. Mit Hilfe gentechnischer Methoden wurde dieser Mechanismus jedoch ausgeschaltet. Basierend auf dem oben Gesagten folgt, dass das Hauptverfahren zur Gewinnung der Aminosäure Lysin biotechnologisch ist.

Pflanzen sollten auch nicht umgangen werden. Seit der Antike ist bekannt, dass bestimmte Pflanzenarten in ihrem Gewebe verschiedene biologisch aktive Substanzen unterschiedlicher Art und unterschiedlichen Einflusses auf den menschlichen und tierischen Organismus ansammeln. Also konzentrierte sich im 20. Jahrhundert das Interesse der Forscher auf die Gewinnung der Biomasse einer seltenen Pflanze – Ginseng (Gattung *Panax*). In der Medizin wird die Biomasse dieser Pflanze als allgemeines Tonikum, Antiemetikum und adaptogenes Medikament verwendet. Die Biomasse dieser Pflanze wird durch Züchten einzelner Pflanzenorgane auf einem künstlichen Nährmedium *in vitro* gewonnen. Es wurde festgestellt, dass die Verwendung von Ginsengbiomasse viel effektiver als die Pflanze selbst ist.

Die Verwendung sowohl biotechnologischer als auch chemisch-technologischer Ansätze bei der Herstellung biologisch aktiver Substanzen wird daher vom Produktionsschema und folglich von seiner Rentabilität bestimmt. Im ersten Fall besteht der Vorteil in der Möglichkeit, eine Vielzahl von Stoffwechselfähigkeiten lebender Organismen zu nutzen, und im zweiten Fall in der Möglichkeit einer industriellen Massenproduktion mit minimalen Kosten zu bekommen.

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Приведены данные по производству различных биологически активных веществ, ценных для той или иной сферы жизнедеятельности человеческого общества. На

примере схем и принципов типовых производств проведена оценка целесообразности применения как химико-технологического, так и биотехнологического подхода при получении этих соединений.

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INTERNATIONAL COOPERATION

International cooperation includes many aspects such as economic and environmental, political and cultural relations between countries. The purpose of this article is to show what role the Republic of Belarus plays in international cooperation.

The modern world faces numerous dangers, like international conflicts, poverty, terrorist attacks and so on. These problems are global and can be solved only through cooperation of different countries. International organisations enable representatives from different parts of the world to discuss and find solutions to global problems. The Republic of Belarus is a member of many international organisations. Our country was one of the founders of the United Nations Organisation in 1945. Today it is a member of the United Nations Children's Fund (UNICEF), the United Nations Educational, Scientific and Cultural Organisation (UNESCO), The United Nations Development Programme (UNDP), the World Health Organisation, and other international organisations [2]. A world-famous Belarusian tennis player, an Olympic champion Maxim Mirnyi became a UNICEF Goodwill Ambassador for Belarus in 2011. He cooperates with the United Nations in order to promote a healthy lifestyle and responsible parenting, and assist children in need of protection. An Olympic champion biathlete Darya Domracheva became a UNDP Goodwill Ambassador for Belarus in 2014 and helped promote a healthy lifestyle among children, teenagers and adults in our country.

Many international cultural events are held in Belarus. Among them is the annual Arts Festival Slavyanski Bazaar held in Vitebsk. Originally it was designed to introduce people to Slavonic song folklore. Today the festival includes a wide range of events the International Song Contest, the International Children’s Song Contest, performances of famous singers and musicians from Belarus, Russia and other countries. Brest is well known to theatre and classical music lovers. The international classical music festival “January Music Nights” and the international theatre festival “Belaya Vezha” are held in Brest every year. The festival of medieval culture “Our Grunwald” attracts those who love old folk music and want to learn more about the medieval way of life. The Belarus Fashion Week gathers fashion designers from Belarus and abroad in Minsk. Such international events are a good way to build cross-cultural relationships with other countries.

Some Belarusian cities have their twin towns in other countries, e. g. Minsk – Nottingham (England), Gomel – Aberdeen (Scotland), Brest – Radom (Poland). Town twinning helps to promote cultural ties between cities and towns located in countries which have many geographical, cultural and political differences.

Since 1972, UNESCO has been protecting the unique sites included into the World Heritage List [1, p. 30]. At the moment, UNESCO’s World Heritage List includes four sites: the Belovezhskaya Pushcha National Park, the Mir Castle Complex, the residence of the Radziwills in Nesvizh and the Struve Arc, the world famous geodetic construction. These

unique sites are part of the world cultural heritage and belong to all people of the world. UNESCO has also established the List of Intangible Cultural Heritage, which includes traditions, social practices, festive events, etc. The unique Belarusian rite of the Kolyady Tsars, which is performed only in the village of Semezhevo, was added to this list in 2009 [3, p. 35].

International cooperation in the field of education enables young people of Belarus to take part in various international projects and contests. Modern information technologies make global communication and online learning easier. More and more Belarusian students take part in international educational projects and exchange programmes.

International relations between Belarus and other countries are also based on economic cooperation. Russia is traditionally the main trade partner of our country. Belarus promotes integration with the countries of the Commonwealth of Independent States and has signed many agreements for economic cooperation and defence cooperation with these countries. Among trade and investment partners of Belarus are also China, Turkey and many European countries. Recently, IT business has been making progress and becoming global. EPAM Systems is a leading provider of software in Central and Eastern Europe. It's an American company but its first offices were opened in the USA and in Belarus and today it's the resident of the High Tech Park of Belarus.

Tourism has been developing intensively in Belarus in recent years. A visa-free entry to the country has enabled tourists from over 80 countries to visit our country without time-consuming procedures. Travelling to our country, foreigners get a chance to learn more about our history, culture and way of life, which helps to establish friendly relationships between our countries and promote international cooperation.

Thus, the Republic of Belarus plays an important role in international cooperation and its foreign policy serves to ensure favourable external conditions for the internal development of the country.

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Раскрывается роль Республики Беларусь в международном сотрудничестве. Отмечается, с какими странами и международными организациями сотрудничает Республика Беларусь. Рассматриваются наиболее важные области международного сотрудничества. Особое внимание уделяется отдельным личностям, которые играют важную роль в международном сотрудничестве государства.

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HOW THE HABITS OF TOURISTS WILL CHANGE AFTER THE PANDEMIC

Today tourism is one of the most developed industries. Climatic disasters, earthquakes, volcanic eruptions and pandemics have a significant impact on the development of tourism, changing the habits of travellers. This article is devoted to the problem of the coronavirus pandemic and its possible impact on the development of world tourism in general.

The COVID-19 pandemic has locked even the most active travellers at home. Will the coronavirus be defeated in 2021? The question remains unanswered. All that people can do now is to have a good time at home and remember their past travels. But the epidemic will end soon or late, and the habits of tourists will change.

Professor Joseph Cheer from the Centre for Tourism Research shared his thoughts about the future of tourism and travel preferences. The professor says that after the restrictions are lifted, domestic and ecological tourism will actively develop. The industry will be able to regain its position pretty soon, especially if a vaccine or effective treatment is found. “I am confident that people’s desire to travel will ultimately be stronger than existing fears and doubts,” says Cheer. Moreover, some people, traveling around their country, will be able to realize that it is not always necessary to go somewhere far [1].

But not all experts are so optimistic. Andy Rutherford, the founder of a British travel agency “Fresh Eyes”, says: “People are likely to travel less around the world. What used to be called ‘home vacations’ will become the norm” [1].

Bruce Poon Tip, author of “Unlearn: The Year the Earth Stood Still” and the founder of the “G Adventures” travel agency, says not only we will travel again, we’ll do it better. “I still believe travel can be the biggest distributor of wealth the world has ever seen,” he says. “This pause gives us the gift of time to consider how we can travel more consciously” [1].

In our opinion, people will value quality more than quantity. Today high-mileage travellers are putting more thought into their bucket lists. “COVID-19 has allowed me to rethink how and why I travel,” says Erick Prince of The Minority Nomad. “It has given me the freedom to explore travel projects for passion instead of the paycheck” [2]. Rather than focusing on paid gigs, the blogger, who lives in Thailand, says he will be embarking on a self-funded project to highlight off-the-beaten-track provinces in his adopted country.

Travel habits are likely to change in terms of hygiene as well. Now people who are planning a trip will be more careful in choosing accommodation, in particular, hotels, hostels and cruise ships, as this environment is the most suitable for the spread of the virus. For this holiday season, tourists are predicted to favour boutique hotels and rental apartments.

Another change in habits is that people will keep their distance, use antiseptics while travelling. While back in the old days the price used to be one of the main criteria for choosing a transport, now everything can change. Preference to the means of transport with fewer passengers, may contribute to the fact that car rental will become more attractive for travel.

Furthermore, there will be many new security regulations at airports that we will need to get used to. Most airports have already introduced rules for people who are forced to fly to another country or city.

Firstly, there is a mandatory distance of at least two meters. “Just as packing all liquids and gadgets out of your luggage has become the norm, so will social distancing rules,” said James Thornton, head of travel firm Intrepid [2].

Secondly, measures have been taken to reduce the number of passenger contacts: electronic kiosks for self-check-in, self-service points for buying food and drinks.

They are also testing cleaning robots that travel through the halls and kill germs with ultraviolet rays. The same robots have already been tested in field hospitals.

Several airports are ready to monitor the temperature of passengers. But this method is not entirely effective, as there are people carrying the coronavirus without any symptoms. And United Arab Emirates has announced that it will invite passengers at Dubai airport terminals to test for COVID-19 before boarding the plane.

Security checks at airports will become more stringent, so the process of going through all the procedures may take longer. So those who like to come to the airport just before their plane departure will have to arrive in advance.

Tourists will need to get used to the fact that flight attendants will now serve them in masks. Moreover, Korean Air says they are going to issue chemical protection suits to their personnel. Travellers no longer have to share seat handrails as most companies are going to leave the aisle seat empty. This decision was made to maintain the distance between passengers [2]. This, of course, can affect the price, since such transportation will be very costly for air carriers.

Despite COVID-19 continuing to claim lives, numerous tourist destinations all over the world are beginning to open again. Countries and states are beginning to welcome visitors, despite the remaining risks.

Undoubtedly, after the pandemic, the habits and needs of tourists will change. But anyway, the world is now changing so quickly that we cannot accurately predict what awaits the tourism industry and when we will be able to return to our former life.

Thus, the tourism industry must be prepared for various changes in the habits and behaviour of travellers and be able to adapt to new requirements. Only then this type of industry will be able to continue to develop successfully.

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Рассматривается проблема влияния природных катастроф и эпидемий на развитие туристической индустрии мира. В частности, анализируются изменения, которые уже происходят или ожидаются в будущем в привычках путешественников и в самой организации путешествий в связи с пандемией COVID-19. Автор приходит к выводу, что индустрия туризма должна научится приспосабливаться к любым неожиданностям, чтобы в дальнейшем успешно развиваться.

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FUSION ENERGY

In the face of global warming caused by our dependence on hydrocarbon fuels, the world needs sustainable sources of alternative energy.

An analysis of fossil energy reserves demonstrates that with the existing pattern of their use and taking into account the restrictions on the generation of CO_2, in the next 20-30 years, the humanity is threatened with energy starvation. The situation can be solved by seriously increasing the share of modernized nuclear energy and the active use of solar energy, while the degree of the use of the latter is currently difficult to calculate. One of the most promising components of nuclear power engineering is thermonuclear power engineering.

A thermonuclear reaction is the fusion of atomic nuclei, resulting in the release of energy, which can help solve an energy crisis [1].

This is the same process that takes place inside the Sun; it is clean and relatively safe because the fuel consumed by a fusion reactor, as well as the final fusion product, is not radioactive. However, when colliding under tremendous pressure, these nuclei of deuterium and tritium (two isotopes of hydrogen) require huge amounts of energy – more than we can extract from the reaction.

In the 1950s, when fusion research began, scientists believed that the “era of fusion” would begin in 20–30 years at the latest. The task turned out to be more difficult. For a thermonuclear reaction to occur, the nuclei must approach a distance of 10^{-14} meters, breaking the Coulomb barrier. This requires the kinetic energy of the nuclei to be increased by heating to 100–150 million °C, which is 10 times higher than the temperature in the interiors of stars, and the concentration of nuclei in the plasma formed at this temperature should be about 10^{2}–10^{21} m^{-2}.

The advantages of thermonuclear fusion include the fact that it is not a chain reaction, which makes it more stable and easier to control [2].

There are many unsolved problems. First, it is necessary to develop alloys with specific properties that combine strength and ductility. (So far, the main candidate for structural materials is tungsten.) Secondly, there are questions about the physics of plasma, its control, safe cooling, and most importantly, stable confinement.

In addition to technical difficulties, the safety issues of fusion reactors should not be neglected. Despite its attractiveness and the use of relatively safe raw materials in the form of deuterium and lithium, the process of nuclear fusion itself is accompanied by the release of energy in the form of hard radiation.

Radiation absorption can cause induced radiation in the structural materials of the reactor. The reactors will be built with a large unit capacity, therefore, in emergency cases; the instantaneous release of even ordinary thermal energy can have catastrophic consequences. The USSR was at the forefront of research on thermonuclear fusion; today the USA, Europe, Korea, China, Japan and other countries have joined the “thermonuclear race”.

The idea of creating a fusion reactor was based on the thermal insulation of a high-temperature plasma using a high-voltage electric field. Tokamak is a toroidal chamber with magnetic coils, a prototype reactor for maintaining a controlled thermonuclear reaction in hot plasma [3].

The first tokamak, TMP (USSR), was constructed in 1958 at the Kurchatov Institute. Today the largest and most powerful operating tokamak is JET. It is located in the UK near Oxford.

The fusion reactor runs on fuel consisting of a mixture of deuterium (a component of ordinary water) and tritium, which must be heated to a temperature of over 150 million °C. At such colossal temperatures, the nuclei of hydrogen isotopes collide and form helium atoms. As a result of each act of such fusion, 17.6 MeV of energy should be released. In a nuclear reaction, on average, 8 MeV of energy is released.

So the use of one kilogram of water in thermonuclear fusion is equivalent to burning 100 kg of coal. The mass of water in all oceans of the Earth is approximately 1.45–1024 kg. Thus, deuterium is an almost inexhaustible source of energy.

However, there is another concept of thermonuclear fusion – initiation of chain reactions inside a reactor by heating and compressing a fuel target using powerful laser radiation (the so-called inertial fusion). Powerful lasers are used to light a small target – an ampoule containing fuel – and quickly (in less than one billionth of a second) achieve fusion conditions.

This technology has its pitfalls. High-efficiency lasers must irradiate targets intensively and, most importantly, uniformly; in this case, ultra-precise focusing of lasers, scrupulous adherence to the dimensions of the targets, and their strictly spherical shape are important. Several ampoules per second have to be loaded into the reactor with a fixed central position – this is especially difficult given the scale of the reactor.

The largest inertial fusion experimental facility is the National Center located in the United States. At the moment, a project is being implemented to build an ITER tokomak in France. The main partners of the project are the European Union, India, China, Republic of Korea, Russia, USA, and Japan. Construction began in 1985 and is scheduled to be completed by 2025. The project cost is estimated at 15 billion euros.

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Рассматривается проблема управляемого термоядерного синтеза более тяжелых атомных ядер из более легких с целью получения энергии, который, в отличие от взрывного термоядерного синтеза, носит управляемый характер. Перед лицом глобального потепления, вызванного нашей зависимостью от углеводородного топлива, мир нуждается в устойчивых источниках альтернативной энергии.

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INVESTIGATION OF THE PHYSICAL PROPERTIES OF FLUORINE-SUBSTITUTED HEPTYL ALCOHOL

The study of the nature of thermal motion in liquids refers to one of the important problems of modern molecular physics and thermophysics, optics. Successful solution of many problems is associated with the construction of theories of the liquid state of substances, as well as predicting the behavior of liquids in various technological processes.

The aim of the work is to study experimentally the rheological and optical properties of fluorinated alcohols; in establishing probable molecular mechanisms of relaxation processes and determining their kinetic parameters; in studying the relationship between the structure of the studied objects and their thermophysical properties.

Fluoro-substituted compounds are widely used in industry, agriculture, medicine, engineering and continue to be introduced into new areas of production. Therefore, a detailed study of the physical properties of fluorinated substances determines the practical value and new areas of use of these compounds [4]. The purpose of this work is to determine the effect of substitution in the molecule of normal aliphatic alcohol of side hydrogen atoms by more massive fluorine atoms on the physical properties of fluorine-substituted molecular liquid.

The objects of the study are heptanol-1 ($C_7H_{15}OH$) and its fluorine substituted analogue – 1H,1H,7H-dodecafluoroheptanol-1 ($H(CF_2)_6CH_2OH$), some information about which can be found in [3], but physicochemical the properties of this compound remain poorly understood. Measurements of refractive index and density of liquids were performed in the temperature range 303-333 K. Density (ρ) was determined by pycnometric method with an error of 0.05%; refractive index (n_D) was measured with an IRF-454B refractometer $2\cdot10^{-4}$ with an error according to the method described in [2]. The values of the temperature dependences of the experimental values are presented in table 1.

Table 1.

T, K	Heptanol-1 ($C_7H_{15}OH$)		Dodecafluoroheptanol-1 ($C_7H_3F_{12}OH$)	
	$\rho, кг/м^3$	n_D	$\rho, кг/м^3$	n_D
283	830,1	1,4263	1781,3	1,3216
293	821,9	1,4232	1761,6	1,3183
303	813,7	1,4221	1743,4	1,3150
313	805,5	1,4171	1725,2	1,3118
323	797,2	1,4132	1706,1	1,3086
333	789,0	1,4119	1687,1	1,3053

To compare the molecular structure of heptanol-1 and its fluorine-substituted analogue, we turned to molar refraction. This value has the properties of additivity, so it can be calculated by adding refractive constants, based on the structure of the molecule. The calculation of the predicted additive refraction is performed by atomic refraction, refraction of bonds, group refraction, structural increments, using Vogel tables [3]. Molar

refraction was calculated on the basis of experimental data using the Lorentz-Lorentz formula:

$$R_D = \frac{n_D^2 - 1}{n_D^2 + 2}\frac{M}{\rho}, \quad (1)$$

where n is the refractive index, M is the molar mass, ρ is the density. The difference between the values calculated experimentally by formula (1) and the additive values of molar refraction is called the exaltation of molar refraction. The causes of exaltation, in addition to measurement errors and mediocrity of additive constants, are multiple bonds, skeletal branches, spatial conformations of molecules. With increasing molecular weight and length of molecules, the amount of exaltation can take on large values.

Experimental molar refractions of heptanol and dodecafluoroheptanol differ slightly, which indicates the similarity of the structures of these alcohols [1]. For heptyl alcohol, the values of experimental and calculated molar refraction coincide within the error of the experiment, while for dodecafluoroheptanol, the experimental value differs significantly from the calculated values according to the Vogel tables [2]. This indicates the presence of structural features that cause exaltation of molecular refraction. Referring to [4], we can assume the presence of a steric substitute halogen effect in the molecule of dodecafluoroheptanol, which causes repulsion between adjacent fluorine atoms. Typically, the steric effect is a change in the length of the bonds and the valence angle between the hydrocarbon backbone and halogen, which causes the stress of the molecular structure and its change. We believe that as a result, the zigzag structure of the aliphatic alcohol molecule changes into a helical arrangement of fluorine atoms in the fluorine-substituted alcohol molecule [1].

Thus, based on experimental data on the temperature dependences of the refractive index and density of heptanol-1 and 1H,1H,7H-dodecafluoroheptanol-1, the effect of replacement of hydrogen atoms by fluorine atoms in a monohydric alcohol molecule on the optical properties and structure of a fluorine-substituted alcohol molecule was investigated.

It was found that when the lateral hydrogen atoms are replaced by fluorine atoms, the value of the enthalpy of activation of the viscous flow increases. This can be explained by the assumption that to maintain the excitation energy in the active complex at the required level, you need to break more bonds: the energy fluctuation of the active complex ΔE + increases in fluorine-substituted alcohols.

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Рассматриваются химические особенности гептанола и вступление его в реакции с различными веществами. Делается попытка определить влияние замещения в молекуле нормального алифатического спирта боковых атомов водорода более массированными атомами фтора на физические свойства фторированной молекулярной жидкости.

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THE EFFECT OF EPIBRASSINOLIDE UNDER CONDITIONS OF TEMPERATURE STRESS

By chemical nature, brassinosteroids are compounds structurally related to animal steroid hormones. Compounds of this class are widely distributed in the plant world. They are part of both higher and lower plants and are found in all plant organs. A particularly rich source of brassinosteroids is usually pollen and immature seeds. At the same time, their concentration in the vegetative tissues is quite low compared to other plant hormones.

Research on the synthesis and effect of brassinosteroids on the growth and development of many agricultural plants is carried out at the National Academy of Sciences of Belarus and is one of the priority areas of scientific research in our country. Many compounds of this class have been synthesized in the laboratory of Steroid Chemistry of the Institute of Bioorganic Chemistry of the National Academy of Sciences of Belarus.

Among brassinosteroids, castasterone and brassinolide are the most widely distributed compounds. They are regulators of plant growth, affect the activity of the system of metabolic pathways, contribute to the regulation of cell division, stimulate vegetative growth and seed germination, interact at the endogenous level with other hormones, regulate gene expression and have anti-stress activity.

Currently, epibrassinolide is widely used to increase crop yields, protect plants from adverse environmental factors, including diseases, pests, as well as to improve the quality of crop production. Its action is based on stimulating the natural defenses of the plant organism, increasing photosynthetic and anabolic activity, improving adaptive responses and immune status. For example, when using epibrassinolide on cereals, there is a stimulation of plant growth, an increase in grain yield, which occurs due to an increase in the number of ears, an increase in graininess and grain weight, an increase in the protein value of grain due to the accumulation of essential amino acids, an increase in the strength of the stem and resistance to lodging. All this happens against the background of changes in the content of endogenous phytohormones, activation of photosynthesis, transport of assimilates to the ear, changes in the activity of a number of enzyme systems. The drug has a protective effect in conditions of salinity, drought, high temperatures [1].

The physiological effects of brassinosteroids depend not only on the species, but also on the varietal characteristics of plants [2]. Therefore, in the ongoing systematic studies of brassinosteroids, it is important to increase the test objects.

Epibrassinolide has a growth-regulating effect on cereals. Thus, pre-sowing treatment of wheat seeds with epibrassinolide contributes to an increase in the number of seedlings roots, an increase in the raw and dry mass of roots and shoots of wheat seedlings [3].

Our study of the growth-regulating effect of epibrassinolide on rye (*Secale cereale* L.) showed that under optimal temperature conditions, epibrassinolide shows a more significant stimulating effect in relation to morphological growth criteria – root length and shoot length. Under conditions of temperature stress, epibrassinolide largely stimulates the physiological criteria of growth – the germination energy and germination of rye seeds.

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Показана роль брассиностероидов, охарактеризовано действие эпибрассинолида на злаковые культуры. Автор приводит результаты исследования рострегулирующей активности эпибрассинолида на культуре ржи посевной.

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DOES PLASTIC MAKE LIFE BETTER?

Plastic was invented in the early 1900s. But for most people, it didn’t become a big part of everyday life until the 1950s when companies began making household goods with plastic. Rather than washing dishes people could simply throw them out after every meal and disposable plates, cups, utensils and other items were advertised as a way to save time [1].

Over time plastic has become a low-cost, durable replacement for other materials as plastic bottles don’t shatter like glass ones and plastic bags are sturdier than those made of paper.

What happens to all the plastic we throw away?

Only about nine percent of it gets recycled, but most of the rest ends up in landfills where it’s buried under the layers of dirt. Experts can only guess how long it takes plastic to decompose or break down. It may take centuries.

At the same time a lot of plastic trash never gets to landfills but becomes litter on the street. Rain and wind carry plastic bags, bottles and other debris into storm drains or rivers that flow to the ocean.

In case when plastic waste ends up in the ocean the results can be tragic. In 2018 a dead sperm whale washed ashore in Spain and scientists found that it had eaten 64 pounds of plastic trash, including plastic bags, fishing nets and even a plastic drum [2].

It’s not just big pieces of plastic that can be dangerous though, while in the ocean, sunlight and waves often break down plastic into much smaller pieces called microplastics and these tiny bits of plastic also contain chemicals that can harm the seabirds, turtles and fish which accidentally swallow them. This can have an impact on the whole food chain. A scientist Matthew Savoca, who studies the effects of plastic on marine life says that “it

affects not just the individual animals that eat plastic but the animals that eat those animals" [3].

Most of the types of plastic we come across in our daily life is recyclable. There are some of the most common plastic types that one can recycle:

- PET (Polyethylene Terephthalate) is a thermoplastic, the material which is thin and perfect for producing low-pressure products. Clothing fibers and soft drink bottles are popular products made from PET.
- PVC (Polyvinyl Chloride) is another thermoplastic. It is also one of the plastic materials commonly used to produce wires, pipes, bottles and clings films around the world.
- HDPE (High Density Polyethylene) is also a thermoplastic which is softer and more flexible compared to PVC. The examples of products that manufacturers use HDPE to produce are gallons and pipes.
- LDPE. This material is the opposite of HDPE. LPDE (Low Density Poly Ethylene) is used to make plastic bags. It is not easy to recycle this material and instead of recycling the bags you can clean and reuse them for other purposes [2].

However, you cannot recycle all types of plastic. This is because plastic products come from different types of materials and it is uneconomical to recycle some of these materials. Usually this is either due to the long process or high cost, sometimes because of the ineffectiveness of the existing recycling process. For instance, if you put these materials into recycling equipment they may cause the equipment to stop or break.

The following plastic-type fall under this category:

- PS is a polymer. Examples of products that come from this plastic include plastic cutlery and yogurt containers.
- PP is also a polymer and manufacturers frequently use it to make plastic boxes, plastic furniture and plastic jar lids. In most cases recycling companies will reject it for recycling.

So recycling plastic depends on the type of material. And plastic materials that you don't recycle get destroyed or disposed of in landfills. Nevertheless, recycling is the best choice for plastic materials.

How is plastic recycled? Plastics are: 1) sorted by polymer type; 2) shredded; 3) washed; 4) melted; 5) pelletised; 6) made into new products.

It is a two-stage process: 1) sorting is mainly done automatically with a manual sort to ensure all contaminants have been removed; 2) once sorted and cleaned plastic can either be shredded into flakes or melt processed to form pellets before finally being moulded into new products.

There are many different types of plastic in use, some of which can be recycled and other types – including that used to make flexible pouches – require new technology before we are able to recycle it effectively. This means that some plastic still goes to landfill, some is incinerated and some shipped to other countries for recycling.

The solution is to prevent plastic waste from entering rivers and seas in the first place. This could be accomplished with improved waste management systems and recycling, better product design that takes into account the short life of disposable packaging and reduction in manufacturing of unnecessary single-use plastics [1].

In the meantime, we can all do our bit to improve things now and recycling plastic bottles is one easy way to help. They are usually made from two easily recyclable plastics – PET and HDPE – and can be recycled by most of us via our household recycling collections or local recycling centres.

There are currently large investments being made in many countries to help plastic recycling sector cope with the variety of plastics in use and it won't be long before people operate a more efficient recycling system for all different types of plastic packaging.

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Раскрываются проблемы, возникающие в связи с использованием пластика, дана характеристика видов пластика, описан процесс его переработки. Показан вред, причиняемый окружающей среде при использовании и переработке отдельных видов пластика.

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FORMATION OF MEDIA COMPETENCE AT THE MIDDLE SCHOOL LEVEL THROUGH FOREIGN LANGUAGE LEARNING

The pendulum of the modern world development has recently swung to informatization, computerization, and digitalization of all spheres of public life, in particular of education. The core element of Russian educational system is represented by school which provides individuals with knowledge necessary for integrating into society. Under competency-based approach school leavers are expected to possess core competencies (communicative, information, research, legal, intercultural etc.). Due to the fact that the media is a vital part of the modern information society, it is obvious that media literacy and media competence must become a compulsory element of general school children training as well. The article is mostly focused on formation of media competence as a result of educational process through means of school subjects, namely through means of foreign language. The aim of our research is to reveal the modern approach to defining media competence and to specify the methods that can be applied by a teacher to reach the desirable level of media competence of school children in foreign language class.

Media pedagogy is not a new phenomenon though its major development was in the early sixties when TV broadcasting gained its momentum. In Russia of this period the problems of media education were studied by O. A. Baranov, L. S. Zaznobina, A. V. Fyodorov, A. V. Sharikov and by other eminent scholars. As the media has made formidable strides in its development (from newspapers and radio towards TV broadcasting and the Internet) it is now obvious that modern teachers and educationists must turn their attention to media studies for one more time. Having synthesized the experience on media education in Russia and abroad (C. Freinet, L. Masterman) we now have the system of media education that is characterized by: interrelation of learning theory and practice of media with

process of aesthetic education; development of proper media perception, ethical and self-awareness, critical thinking; media literacy as one of the results of media education; coexistence of integrative, optional and special approaches to media education; stimulating the creativity and evolving artistic skills for creating one's own media products; focusing on personal development of a child [8, p. 150; 10, p. 241].

The most common definition of media education in Russia was given by A. V. Fyodorov who defined it as "the process of education and upbringing of a person through and on the material of media aimed at building a culture of interaction with the media, developing creativity and communication abilities, critical thinking, skills of interpretation, analysis and evaluation of media text, teaching different forms of self-expression through media techniques" [7, p. 39]. Media competence as one of the central ideas of media education is viewed as "multidimensional notion allowing to renovate the traditional understanding of abilities to comprehend, interpret and create the printed texts in terms of new means if communication" by I. A. Tsaturova and K. A. Avetisova [9, p. 107].

The FSES of Basic General Education does not give a clear definition of media competence, but it stresses the need to develop in school children "aesthetic consciousness through acquiring artistic heritage of the peoples of Russia and the world, creative skills of the aesthetic nature", the ability to "consciously use verbal means in accordance with the communication task to express their feelings, thoughts and needs", critical thinking and healthy perception of the world [6, p. 5–7]. To form the personality of a media literate student who is capable of critical analysis and creative activity the teacher needs to establish conditions under which the media educational approach is effectively implemented. S. I. Gudilina and T. Y. Lomakina consider that the environmental demands favorable for the formation of students' media competence are the following:

1) availability of media education environment;
2) students' knowledge of basic academic subjects;
3) correlation of media education and learning goals;
4) designing learning activities with media texts;
5) organization of individual and group creative activities;
6) consistency;
7) moral and ethical education, the development of critical thinking [2, p. 19].

One of the most effective ways to develop media competence is the integration of media education technologies into the process of teaching individual subjects. The following methods can be applied at different stages of the lesson:

1) according to the sources of the acquired knowledge: verbal, visual, practical;
2) according to the level of cognitive activity: explanatory-illustrative, reproductive, problem, research;
3) according to the engagement and level of students' activity: passive, active, interactive [4, p. 82].

Working with authentic media texts is one of the main methods of formation of media competence in a foreign language class. According to F. G. Fatkullina and R. R. Khabirov media text is "a text of any media type and genre, which allows verbal communication in the field of mass communications to be carried out". The peculiarity of this text lies also in the fact that it "integrates various semiotic codes (verbal, non-verbal) into a single communicative unit" [5, p. 1184]. In terms of studying foreign languages, it is possible to combine various active, interactive, project, game-based and group methods with working on a media text (an article from a magazine, newspaper, podcast, radio and television broadcast). The pedagogical value of such training lies in the authentic nature of the studied material and

the relevance of the lexical items and grammatical constructions used in the media text, as well as the cultural element of the content which allows students to explore the culture of the country of the target language. It also contributes to the development of a harmonious, capable of communication and critical thinking, fully functioning person. When working with a media text a teacher can follow the stages of working on a regular text proposed by E. N. Solovova: 1) pre-text stage; 2) text stage; 3) post-text stage [1, p. 131]. V. N. Kartashova notes that when organizing training in traditions of media education, it is necessary to adhere to the principles of:

1) coherence with the objectives, content, methodological and didactic norms of teaching a particular subject;

2) moderation and forethought;

3) taking into account the existing media experience of students;

4) involvement of students;

5) combination of digital and traditional media [3, p. 432].

In conclusion, one can emphasize that there exists a strong need to integrate media education into general training process and to strive to build the educational environment appropriate for media competence formation which at the current stage is associated with media interaction, communication, creativity, aesthetic consciousness, critical thinking and healthy perception of the information space. One of the ways to foster a media literate person is to integrate media education techniques into the process of teaching particular subjects. Among the most effective means of teaching one can mention different forms of working on media text implying combination of active, interactive, project, group and game-based teaching methods.

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Раскрываются особенности медиаобразования в России на современном этапе. Рассматривается возможность интеграции медиаобразования в учебный процесс с целью формирования медиакомпетенции школьников. Приводятся методы и приемы работы, а также рекомендации по созданию благоприятной образовательной среды.

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THE RELEVANCE OF ENGLISH LANGUAGE SKILLS IN THE MODERN WORLD

In the modern world, thanks to the processes of globalization and integration, there has been an active growth of intercultural relations in all spheres of our life, for example, a large number of situations of intercultural communication aimed at exchange, internships of students and scientists, various trips and conferences, and so on. For this reason, proficiency in a foreign language can be regarded as one of the conditions for successful adaptation in a foreign social space.

In addition, knowledge of a foreign language determines the personal and professional development of a modern person, since this advantage arises when applying for a job and makes a favourable impression on the employer.

Nowadays, the most popular language is English, due to the fact, that it is considered the language of international communication, namely: the language of navigation, aviation, literature, tourism and programming.

This is easily seen in the statistics of the use of English in the world, which looks like this:

- The number of people who regard English as their native language is four hundred million.
- Seven hundred million people speak English as a foreign language.
- Ninety percent of all information stored on the Internet is in English.
- Eighty-five percent of international conferences and organizations use English.
- Seventy-five percent of letters and telegrams are written in English.
- Fifty percent of scientific and technical publications are published in the English language [1].

If you ignore the numbers, you can find some interesting facts about this foreign language:

- Originally, there were twenty-nine letters in the English language.
- English contains more words than any other language. Currently, there are about a million words.
- The longest English word consists of forty-five letters – “pneumonoultramicroscopicsilicovolcanoconiosis”, it means a disease of the respiratory tract.
- Some words can be read from left to right, or vice versa.
- At one time, there was a gender category in English, which was removed in order to avoid gender inequalities.
- There are abbreviated words in this language.
- Previously, there were no punctuation marks in the English language [2].

Since the XXth century, the role of the English language has increased significantly. It was considered one of the indicators of success and education of a person. This was the reason for its direct intensive and in-depth teaching in most educational institutions. People, who have a good command of English, when building their career, are more likely to be able to implement the latest quality standards in the field of their professional activities.

Besides theoretical knowledge of English, it is necessary to understand it, to be able to use the skills acquired in the process of studying. Therefore, all educational programs are aimed at the ability to use the English language.

Students who are fluent in English have more opportunities for internships in programs that will help them gain not only invaluable experience, but also provide them with opportunity to review the structure of foreign business, learn about developments and trends in their field of interest, as well as improve their language and knowledge of foreign culture.

In addition, learning English will allow students and other people not only to improve their linguistic skills, but also get the latest and most useful knowledge on the topic, through access to free online courses from the world’s most famous universities, which are informative in themselves, and can be successfully used in professional activities.

It can also be said that there is an opinion that any educated person is simply obliged to speak English, since it is the key to self-education and self-improvement. For this reason, many different organizations have been set up to teach people English. However, we cannot say that the learning process itself is quick and easy. Learning any language is a long process that requires certain costs, both mental and financial.

Likewise, learning a foreign language can be successful only when it is relevant to the business that the person is engaged in. Considering and studying various professional situations, a person studying English masters a wide range of words and expressions that are grouped together in such a way that each following new expression turns out to be a characteristic consequence of the previous one. It is this property that allows the learner to concentrate more deeply and fully on those aspects of the English language that reflect the

specifics of his professional activity, so the process of learning a language can be relatively simple, easy and specific.

Everybody needs to learn English. This can be useful even for ordinary life, for example, while travelling.

So, we can conclude that a good knowledge of English today is a specific window into the world. Having the knowledge of this foreign language of international communication, a person will be able to achieve their cherished goals with the help of new opportunities. Only having acquired a sound knowledge of this language, will a person be able to understand that the importance of the English language is not exaggerated and the obtained skills are valuable for the modern society.

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Рассматривается владение английским языком как один из аспектов успешности и образованности человека, а также важность изучения английского языка для достижения поставленных целей и успешного карьерного роста. Представлена статистика использования английского языка в современном мире и перечислены причины, по которым необходимо изучать данный язык.

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FORMS AND FUNCTIONS OF ACROSTIC

An acrostic is a poem or other form of writing in which the first letter or syllable, or word of each line or paragraph, or other recurring feature in the text spells out a word, message or the alphabet. The term is derived from the Greek words *akros* that means '*at the end'*, and *stichos* that means '*line'* or '*verse'* [3]. The term acrostic is also applied to alphabetical or abecedarian verses, in which each line after the first, which begins with *a*, uses a succeeding letter of the alphabet. Examples of these are some of the Psalms (in Hebrew), such as Psalms 25 and 34, where successive verses begin with the letters of the Hebrew alphabet in order. The aim of the article is to tell about the history, forms and usage of acrostic in both poetry and prose.

The word was first applied to the prophecies of the Erythraean Sibyl, also called Sibylla, prophetess in Greek legend and literature. Tradition represented her as a woman of prodigious old age uttering predictions in ecstatic frenzy, but she was always a figure of the mythical past, and her prophecies in Greek hexameters were handed down in writing. They were written on leaves and arranged so that the initial letters of the leaves always formed a word. Acrostics were common among the Greeks of the Alexandrine period, as well as with the Latin writers Ennius and Plautus, many of the arguments of whose plays were written with

acrostics on their respective titles. Medieval monks were also fond of acrostics. They used it to tell about their love for God. We can name one of these people. It was Albertus Magnus. One of his poems illustrates how Albertus understood the name of Jesus. In ancient times the language of educated people was Latin, that is why the poem was written in this language. ***J**ucunditas maerentium (joy of the mourners) / **E**ternitas viventium (Immortality of the living) / **S**anitas languentium (Healing the Weakened) / **U**bertas egentium (An abundance of those in need) / **S**atietas esurentium (Saturation of the hungry)* [1].

As a form of constrained writing, an acrostic can be used as a mnemonic device to aid memory retrieval. An acrostic is mostly applied in poetry, but can also be used in prose or word puzzles. The word hidden in acrostic is often connected to the theme of the poem. It is deliberately inserted to make readers discover the layered message. An acrostic also acts as a mnemonic device that can quicken the pace of the memorization process. Acrostic poetry can be written in any meter or free verse form, with or without a rhyme scheme. However, the most common types of acrostic poems are those in which the initial letter of each line forms a word, and is often capitalized. Acrostics were common in medieval literature, where they usually served to highlight the name of the poet or his patron, or to make a prayer to a saint. We can find them most frequently in verse works but they can also appear in prose. The Middle High German poet Rudolf von Ems, for example, opens all his great works with an acrostic containing his name, and his world chronicle marks the beginning of each age with an acrostic of the key figure (Moses, David, etc.). In chronicles, acrostics are common in German and English but rare in other languages. Even the Dutch national anthem is an acrostic! The first letter of each word in the first fifteen lines of the song spell out “Willem Van Nassov,” a Dutch military leader who later became Prince of Orange.

There are several types of Acrostic Poems. The first one is Telestich: these are the poems in which the last letters of each line spell a word or message. Mesostich is a kind of a poem in which the middle of words or verses forms a word or a message. Double Acrostic is a poem in which words are spelled by both the first and last letters of each line in a way that one word is read vertically down the left side of the text, and another word is read vertically down the right side of the text. Abecedarian is an acrostic in which alphabets are spelled instead of words. Chaucer’s poem *La Priere de Nostre Dame* is a good example of an abecedarian acrostic. There is a group of non-standard acrostics that do not use first or last letters to spell out a word. Instead, they emphasize letters in different places within the poem [2].

A vivid example of a most common type of acrostic where the initial letters of the poem spell out the names of people was written by Lewis Carroll. In his work he spelled the names of three sisters: Lorina, Alice, and Edith. He wrote this poem for three children on Christmas. The poem illustrates the lovely sense of domestic life during the holidays: ***L**ittle maidens, when you look / **O**n this little story-book, / **R**eading with attentive eye / **I**ts enticing history, / **N**ever think that hours of play / **A**re your only HOLIDAY, / **A**nd that in a HOUSE of joy / **L**essons serve but to annoy: / **I**f in any HOUSE you find / **C**hildren of a gentle mind, / **E**ach the others pleasing ever – / **E**ach the others vexing never – / **D**aily work and pastime daily / **I**n their order taking gaily – / **T**hen be very sure that they / **H**ave a life of HOLIDAY* [2].

Acrostic is not exclusively poetic form, writers also use it in prose. One of acrostic is given in Nabokov’s *The Vane Sisters*. This is an excellent example of acrostic formed in prose. It is a story about a professor who believes that codes and concealed meanings wrapped in acrostics evoke the thrill of discovery. Therefore, the first letters of each word in the final paragraph of the text spells out a phrase *Icicles by Cynthia; Meter from me, Sybil*. Although these words may sound like nonsense if someone has not come across the story, they are the keywords to interpret the story’s mysterious plot.

***I** could **i**solate, **c**onsciously, **l**ittle. **E**verything **s**eemed **b**lurred, **y**ellow-**c**louded, **y**ielding **n**othing **t**angible. **H**er **i**nept **a**crostics, **m**audlin **e**vasions, **t**heopathies – **e**very **r**ecollection **f**ormed **r**ipples **o**f **m**ysterious **m**eaning. **E**verything **s**eemed **y**ellowly **b**lurred, **i**llusive, **l**ost* [2]. Many poets addressed acrostic in their creativity. Among them we can name a renowned American poet, Edgar Alan Poe.

Acrostics function as a tool to add a new dimension to the texts. The writers, very artistically, transform a simple text into a word puzzle by allowing the audience to interpret the hidden message of the text. It also enables the writers to project information comically. Sometimes writers purposefully choose this strategy to convey their thoughts, ideas, and messages. The acrostic style makes poems easy to remember. This conventional style of poetry is widely exercised in children literature to make learning fun for them. Double acrostics are puzzles constructed so that not only the initial letters of the lines but in some cases also the middle or last letters form words. In the United States, the Double Crostic puzzle, devised by Elizabeth Kingsley for the *Saturday Review* in 1934, had an acrostic in the answers to the clues giving the author and title of a literary work; the letters, keyed by number to blanks like those of a crossword puzzle, spelled out a quotation.

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Рассматривается акростих как отдельная литературная форма в различные периоды времени, а также рассказывается про виды данного стиха. Показаны способы использования акростиха в творчестве различных поэтов, сделан акцент на функциях, которые акростих может выполнять в литературе для взрослых и детей.

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THE PHENOMENON OF SYNESTHESIA

Many of us have met people who feel colours where there are none. Least they know that they exist. Synesthesia is like augmented reality, extremely rich in sensory exoticism: many synesthetes hear the song not only with their ears but also with their eyes or tongue – they see sounds in colour or taste the melody. For many years, scientists did not take these quirks of consciousness seriously, taking these phenomena as a product of a hyperactive imagination or even a mental disorder.

What are the psychophysical characteristics of a person, in particular the phenomenon of synesthesia?

Synesthesia is a neurological phenomenon, a phenomenon of perception in which sensations caused by different senses are mixed. Based on the reasons, synesthesia can be

divided by types: intoxication, traumatic, hypnagogic and hypnopompic (at the moment of transition from wakefulness to sleep and back), deprivation synesthesia, synesthesia in an altered state of consciousness (ASC-synesthesia), etc. The similarity of experiencing types of synesthesia is not indicated the uniformity of the causes that cause them. For example, synesthesia of natural development (congenital synesthesia) is presumably the result of the interaction of genetic inheritance and the peculiar influence of the environment [3].

Neurophysiologists have not yet come to a common point of view on this matter. According to one of the versions the pathways in the brain of the synesthetic lose the myelin sheath which plays the role of an insulator and prevents the dispersion of nerve impulses. As a result, the neurons responsible for different sensory impressions begin to spontaneously exchange electrical impulses and strange interconnections between sensations appear in the human mind.

But the most popular hypothesis is the cross-activation model. According to it, cross-activation occurs between two adjacent areas of the cerebral cortex responsible for different sensations. For example, the area responsible for the perception of geometric shapes becomes dependent on the area responsible for the perception of sound. This can be due to abnormal connections between neurons or malfunctioning neurotransmitters.

In this model synesthesia is an innate human trait caused by a gene mutation. It can be inherited, which is confirmed by the biography of V. Nabokov, who inherited the colour perception of letters from his mother and passed on to his son. But it is worth emphasizing that only the ability of “mixed perception” is inherited: this does not mean that the same sounds in parents and children will be associated with the same colours [2].

In the majority of cases synesthesia is an independent and self-contained phenomenon. For example, the Soviet psychophysiologist S. V. Kravkov characterized synesthesia as a group of special varieties of coordination of the sense organs, which “are expressed in a relatively limited circle of subjects.” They manifest themselves in sensations and representations are “foreign and related in quality to other sensory systems.” He also noted the involuntary nature and “obsessive nature”, the variety and the probable hereditary origin of synesthesia, emphasizing that “all such phenomena are by no means generated by the fantasy of individuals and do not serve as an indicator of any psychopathic character” [4].

The prevalence of synesthesia is 4.4 %, and the most common type is the sensation of days of the week in colour.

Several researchers and journalists consider the ability to see sounds or feel words as a deviation, while the majority speak positively about synesthesia. Scientists from the University of California think that synesthesia appeared due to mutated genes and is an evolutionary advantage [3].

Many foreign researchers divide synesthesia into “strong” and “weak”. There is a hypothesis according to which synesthesia is originally inherent in all people but in infancy the ability to perceive the world undifferentiated disappears and only “weak synesthesia” remains, which can be observed in human speech in the form of metaphors (“warm colour”, “grayness of our conversations”, “prickly gaze”), while “severe synesthesia” is a failure in the normal stage of development [1].

The owners of “strong synesthesia” themselves usually appreciate their characteristics and are attentive to them. The synesthetes explore the possibilities of their synesthesia and use unusual skills in work, life or creativity. For example, the ability to see letters and numbers in colour helps train memory and solve equations in mind.

It is believed that synesthesia is seven times more common among artists, musicians, poets and writers but it is not limited to purely creative professions. Large companies like

“Ford” recruit people with synesthesia on purpose, as the task of the synesthetic experts is to touch, listen and sniff cars and then share their experiences.

Some of the most common types of synesthesia are:

– grapheme-colour synesthesia: letters or numbers are perceived in colour;

– phonemic-colour synesthesia: the connection between the sound of human speech with different colours;

– phonemic-gustatory synesthesia: gustatory sensations arise from certain sounds;

– chromaesthesia: the combination of sound and colour;

– number line: a mental map of numbers that automatically appears when the synesthete thinks about numbers;

– lexico-gastric synesthesia: gustatory associations arise from words or images;

– acoustic-tactile synesthesia: some sounds cause physical sensations in a person in different parts of the body;

– empathy of touch is a rare form of synesthesia with which the synesthete can experience the same as the other person (touch, pain, affection, etc.) [3].

Synesthesia can also help in creativity, although not all writers, artists and composers who are fascinated by the topic of mixed perception have the gift of synesthesia. In particular, the colour-sound associations of V. V. Kandinsky and A. N. Scriabin, according to the researcher Sean Day, were completely arbitrary fruits of their fantasy. But Vladimir Nabokov, Van Gogh, Duke Ellington and Franz Liszt are recognized as real synesthetic. For example, Franz Liszt once shocked the musicians of the Weimar orchestra by asking them to play a little less rosy, not realizing that not everyone shares his perception of sound [1].

However, synesthesia can affect creativity only within certain limits, the associations it generates are much less flexible than those that arise with ordinary metaphorical thinking.

Such openness, unresolved and sharp discussion indicates that synesthesia is a unique phenomenon that challenges such traditional ideas as the division of the mental sphere of a person on thinking, perception and feeling.

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Описывается феномен синестезии, при котором смешиваются ощущения, вызываемые разными органами чувств. Раскрываются причины, показаны типы синестезии и их особенности на конкретных примерах.

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THE PROBLEM OF MIGRATION IN THE MODERN WORLD

In research literature, population migration is defined as "any territorial displacement of the population associated with the crossing of both external and internal borders of administrative-territorial entities in order to change their permanent place of residence or temporary stay in the territory for study or work, regardless of the prevailing by the influence of what factors it occurs – attracting or pushing". In addition, migration is considered as a complex social process affecting many spheres of social life. Since migrations have played an important role in the history of mankind, they are associated with the development of tribal relations, land development, the formation of various races, cultures, languages and peoples. Currently, there is an intensive expansion of migration flows, and at the same time, the migration process has become a component factor in all global changes.

Population migration is currently acquiring a global character and at the same time is a sign of globalization itself. Globalization, as we all know, is the process of uniting peoples, states leading to the erasure of borders between peoples and the creation of a single political, economic and spiritual space. It unites the economic systems of various states in a common system, in the world market, thus contributing to the change in both the culture and the way of life of peoples. The process of globalization facilitates the access of all mankind to new inventions, technologies, knowledge, removes prohibitions and restrictions for development and creativity; therefore, globalization is systemic in nature, which covers all spheres of society [1].

In the modern world, globalization, having embraced not only developed countries, but also the third world ones, has raised migration to a completely new level, making it a necessary component of any state. The UN report notes that more than half of all migrants live in 10 countries of the world. Among them, the United States is in the first place (45.8 million), the Russian Federation is in the second place (11 million), and Germany is in the third (9.8 million). A new concept "globalization of migration processes" has appeared. This phenomenon, as a rule, is understood as "an increase in the scale of international migration of the population, the involvement of an increasing number of countries in the world in migration interaction, a qualitative change in the structure of migration flows in accordance with the needs of the globalizing labour market".

Government policies of the recipient states take into account the negative and dangerous aspects associated with illegal migration. In an effort to protect their countries from excessive flows of immigrants, governments are moving from a liberal migration policy to tightened migration regimes, including entry restrictions. First of all, they seek to establish control over the illegal activities of migrants and, in this regard, undertake systematic campaigns and raids to legalize them. Such raids are being carried out in the USA, Germany, and more recently in Russia. This legalization of migration generates considerable revenue for the state budget. With regard to the influx of new migrants, including illegal immigrants, at present, rather tough measures are being taken [2].

Rapid population growth in developing countries has led to a surplus of labour force there, and the development of education has led to the fact that a growing proportion of young people are quite capable of adapting to the demands of the labour market in developed

countries. Illegal immigration has become enormous. We are talking about a cheap and completely disenfranchised labour force, a significant part of which are women.

Adopting children born in other countries and cultures is becoming more and more common. As we can see, migration processes affect the gene pool of the nations of the recipient and donor countries. Migration is revitalizing the global market for highly skilled labour. This phenomenon is observed in the USA and Canada. On the contrary, the movement of unskilled workers is limited by national barriers that are constantly increasing. Sustainable labour migration over several decades has led to the segmentation of labour markets in developed countries and the isolation of sectors predominantly occupied by migrants. These are, first of all, non-prestigious jobs that do not require high qualifications, with difficult conditions and low wages; these are the most discriminated, informal or shadow employment segments. Conflicts of a territorial nature are increasingly emerging. According to UNFPA (United Nations Population Fund) estimates, about 13 million refugees fled their countries to escape persecution, armed conflict and violence [3].

Illegal migration creates the so-called “network organizations” that are elusive, have great international connections and, in fact, control migration flows. As a rule, illegal migrants often end up in “network organizations”, through which they receive all the information. “Network organizations” are often associated with sects of a religious nature and are very cleverly able to process the minds of young people, instilling in them religious fanaticism.

It is especially dangerous when illegal organizations are engaged in arms trade, import and sale of drugs, all kinds of explosives. All this is happening uncontrollably, often leading to the emergence of hotbeds of international tension, open military conflicts. Illegals are most often associated with terrorist organizations and the commission of the terrorist acts themselves.

A significant number of people are forced to leave for social and environmental reasons. The increase in migration activity is causing the aggravation of interethnic problems. There is a clash of different cultures, values, confessions, which can lead to serious consequences, such as an interethnic conflict, war [4].

As to the issue of migration today both in Europe and throughout the world, there are two diametrically opposed points of view. One point of view says that the more migrants come, the more dynamic the development of the state, civilization and culture becomes. The other reflects the opinion that migrants are evil and by any possible means it is necessary to preserve their own national identity. Today in Europe there is a clash between adherents to these two points of view, and it is quite natural that both groups come to protests against the adoption of the pact.

Immigrants tend to not only avoid returning to their homeland, but also seek the resettlement of close relatives. Thus, the globalization of migration processes is, first of all, an objective increase in the permeability of interstate barriers and a sharp increase in the speed and intensity of transnational flows of human resources. The consequences of migration, as we can see, are manifested in various spheres and can be both positive and negative. In this regard, one of the main tasks facing countries in the era of globalization is the development of an effective migration policy that clearly regulates migration processes in order to ensure the conflict-free and prosperous development of countries, their further economic, political, cultural and social prosperity.

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Рассматриваются основные аспекты внутренних миграций, причинами которых являются поиск работы, улучшение жилищных условий, повышение уровня и изменение образа жизни и т. д. Помимо политических, демографических и экономических последствий, широкомасштабная миграция может иметь и санитарно-эпидемиологические последствия.

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BILINGUALER SCHULUNTERRICHT IN DEUTSCHLAND UND IN BELARUS

Das Problem des bilingualen (zweisprachigen) Unterrichtens ist heute aktuell wie nie zuvor. 70 Prozent der Bevölkerung sprechen heutzutage mehr als eine Sprache und 50 Prozent der Kinder in der Welt sprechen in der Schule und im Elternhaus verschiedene Sprachen. In unserem Beitrag betrachten wir die wichtigsten Aspekte des bilingualen Unterrichts in Deutschland und in Belarus.

Im Allgemeinen versteht man unter den Zweisprachigen die Personen, die von Geburt an oder in jungen Jahren zwei oder mehr Sprachen sprechen. So wachsen in Deutschland 20 Prozent der Kinder zweisprachig auf, das sind vorwiegend die Kinder aus Mischehen oder Auswandererfamilien. Es gibt aber auch Länder, in denen zwei Sprachen gleich häufig sind und in denen Zweisprachigkeit die Norm ist, wie dies in Belarus der Fall ist: In Belarus gibt es zwei Amtssprachen, die parallel verwendet werden, beide Sprachen sind ein fester Bestandteil des Curriculums.

Fremdsprachenkenntnisse und multikulturelle Kompetenz werden zu Schlüsselvoraussetzungen für die uneingeschränkte Teilnahme einer Person am öffentlichen Leben. In dieser Hinsicht ist eine der vorrangigen Richtungen der Bildungspolitik der Bundesrepublik Deutschland heute die Unterstützung des zweisprachigen Unterrichts als eine der wirksamsten Möglichkeiten zur Bildung multikultureller und beruflicher Kompetenz unter den jüngeren Generationen Für die vollständige und harmonische Entwicklung einer Persönlichkeit des zweisprachigen Kindes, wurde ein Konzept für den bilingualen Unterricht in die Schulprogramme aufgenommen [3].

Im europäischen Kontext hat sich in den letzten Jahren eine Definition des bilingualen Sachfachunterrichts durchgesetzt, die lautet: „Der bilinguale Sachfachunterricht ist ein doppelt ausgerichteter pädagogischer Ansatz, in welchem eine zusätzliche Sprache für das Lernen und die Vermittlung eines Sachfachs wie einer Sprache gebraucht wird“. Diese sehr

weit gefasste Definition des bilingualen Sachfachunterrichts wird im deutschen Kontext überwiegend in zwei Varianten realisiert: in der einen findet der Sachfachunterricht durchgängig in der Fremdsprache, meist über mehrere Jahre hin weg, statt, in der anderen werden einzelne Sachfachthemen aus dem Curriculum herausgegriffen und in der Fremdsprache unterrichtet. Diese Form rückt derzeit immer mehr in den Vordergrund. Dies hängt mit einer ganzen Reihe unterschiedlicher Überlegungen zusammen, nicht zuletzt aber auch damit, dass sich nicht alle sachfachlichen Lerninhalte für einen Unterricht in der Fremdsprache eignen [5].

Es gibt seit ungefähr dreißig Jahren bilingualen Unterricht in Deutschland. Geschätzte 450 Schulen bieten heute bilingualen Unterricht, oder besser: fremdsprachlichen Sachfachunterricht, in der Sekundarstufe I an. Die meisten Angebote sind mittlerweile englischsprachig, viele aber, vor allem im Deutsch-Französischen Grenzgebiet, auch französischsprachig.

Der bilinguale Unterricht sieht an Schulen sehr unterschiedlich aus. Je nach Bundesland unterscheiden sich die Unterrichtsauflagen. Die Schulen unterscheiden sich im Einstiegsjahr, der Intensität und den Fächern, wobei die meisten weiterführenden zweisprachigen Schulen ab der siebten Jahrgangsstufe Fächer des gesellschaftswissenschaftlichen Aufgabenfeldes, wie Geschichte und Geographie, in der Fremdsprache unterrichten. Meistens haben Schüler einer zweisprachigen Klasse zusätzlich zum bilingualen Schulunterricht verstärkt Sprachunterricht. Außerdem haben viele Schulen nicht ausschließlich zweisprachige Klassen, sondern parallel auch Klassen, die auf Deutsch unterrichtet werden. In vielen zweisprachigen Schulen werden Schulpartnerschaften gepflegt, um durch Schüleraustausche die Sprachfähigkeiten zu erweitern [4].

Eine neue Dimension bekam das Problem des bilingualen Unterrichtens in Verbindung mit der zunehmenden Einwanderungswelle. Jahrzehntelange Migrationsbewegungen haben die gesamte Bevölkerungsstruktur in Deutschland verändert. Die Frage nach der Förderung der mitgebrachten Migrantensprachen wird sowohl in der einschlägigen Forschung als auch in der bildungspolitischen Debatte in Deutschland seit Jahren. Durch Maßnahmen zur Behebung der Sprachdefizite versuchte man, die zugewanderte Schülerschaft schnellstmöglich in die Regelklassen einzugliedern.

Die Zweisprachigkeit in Belarus ist eng mit der historischen Entwicklung des Landes verbunden. In den 1930er Jahren brach die sogenannte Belarussifizierung an. Aktivisten eröffneten belarussische Schulen im ganzen Land, um ihre einheimische Kultur und Identität zu entwickeln. Als Teil des russischsprachigen Unionsstaates musste Belarus jedoch künftig Russisch für das Schulunterrichten einführen. Da die russische und die belarussische Sprache verwandt sind und zur gleichen Gruppe slawischer Sprachen gehören, hat die russische Sprache schnell Fuß gefasst und ist fest in den Verkehr gekommen. Seitdem spricht die belarussische Bevölkerung zwei Sprachen.

Der Spracherwerb von Kindern in Belarus findet in einer Situation russisch-belarussischer Zweisprachigkeit statt. Die erste Sprache, die Kinder im Vorschulalter lernen, ist Russisch. Gleichzeitig erfolgt der Unterricht von Kindern in belarussischer Sprache recht früh. Kinder hören zwei Sprachen im Fernsehen, im Kindergarten (getrennte Klassen, Feiertage). Das Vorschulsystem in Belarus ist zweisprachig, sowohl in seiner Form (in der Republik gibt es Vorschuleinrichtungen mit belarussischen und russischen Unterrichtssprachen) als auch inhaltlich (dem Lehrplan gemäß). Der bilinguale Unterricht gewährleistet die allseitige Entwicklung der Persönlichkeit eines Kindes durch zwei von ihm vertretene Sprachen und Kulturen. Die Beherrschung der belarussischen Sprache trägt zur Bildung der nationalen Identität eines Kindes bei [1].

Die russischsprachige Kommunikation erweitert das Kommunikationsumfeld der Schüler und trägt zu ihrer Einführung in die Weltkultur bei. Die gleichzeitige Beherrschung von zwei Sprachen durch Kinder im Vorschulalter (Russisch und Belarussisch) erweitert ihr Weltbild, fördert die Entwicklung eines multikulturellen Bewusstseins und erhöht ihre potenziellen Sprachfähigkeiten. Das höchste Maß an Sprachkompetenz von Kindern bietet jedoch weiterhin die russische Sprache. Belarussisch, die Sprache der Nationalität, fungiert hauptsächlich als Sprache der nationalen Identifikation. Da die belarussische Sprache hauptsächlich nach dem Identifikationskriterium für belarussische Kinder einheimisch ist, ist es notwendig, sie so früh wie möglich zu lernen, sobald das Kind eine Vorschuleinrichtung besucht, und zwar durch Akkulturation, d. h. Einführung der Sprache in den national-kulturellen Hintergrund. Sonderkurse zum Unterrichten der belarussischen Sprache in Vorschuleinrichtungen mit Russisch als Unterrichtssprache sollten mit Kindern ab dem mittleren Vorschulalter durchgeführt werden. Um die Zweisprachigkeit erfolgreich zu gestalten, ist es wünschenswert, in der Vorschulerziehungseinrichtung ein spezielles Kommunikationsumfeld zu schaffen, das die Präsenz von zwei Sprachen bei allen Arten von Kinderaktivitäten und die Organisation spezieller Klassen für die Entwicklung der Kindersprache vorsieht. Wenn die Lehrer Muttersprachler sind, ist dies eine Garantie dafür, dass das Kind die Kommunikationsfähigkeiten in der belarussischen Sprache erfolgreich beherrscht [2].

In den Schulen sind Russisch und Belarussisch ab der ersten Klasse bis zum Abschluss gleichberechtigte Schulfächer. Da man diese zwei Sprachen parallel erwirbt, ist es wichtig, mögliche „Verflechten“ von Sprachsystemen auszuschließen. Die Auswahl der Inhalte und Methoden für den Russischunterricht in der belarussischen Schule wird durch ein differenziell-systematisches Prinzip bestimmt. Für die Umsetzung ist es erforderlich, dass die belarussische Sprache im Voraus gelernt wird, um eine Unterstützung für die relevanten Themen im Russischunterricht zu schaffen. Gegenwärtig wurde ein solcher Vorsprung aufgrund der klaren Konstruktion und korrekten Korrelation von Inhalt und Struktur von Lehrbüchern für Russisch und Belarussisch erreicht.

Didaktisches Material und insbesondere die Texte in den Lehrbüchern für Schulen mit belarussischer Unterrichtssprache werden so ausgewählt, dass Phänomene, die auf allen Ebenen in eng verwandten Sprachen voneinander abweichen, so oft wie möglich auftreten.

Wir können also schlussfolgern, dass Zweisprachigkeit in Belarus und Deutschland völlig unterschiedliche Gründe und Voraussetzungen hat. In beiden Ländern wird dem zweisprachigen Unterricht im Bildungsbereich besondere Aufmerksamkeit gewidmet. Der bilinguale Schulunterricht, der in europäischen Ländern immer beliebter wird, ist einer der wirksamsten Mechanismen, um auf die dringenden Bedürfnisse der Gesellschaft im Bildungssystem zu reagieren. Trotz der Tatsache, dass diese Art der Bildung eine Reihe von Nachteilen aufweist, darunter Sprachstörungen, soziale Anpassung usw., wird der zweisprachige Unterricht jedes Jahr mehr erforscht und gewinnt an Dynamik. Durch das Erlernen von zwei Sprachen mit unterschiedlichen Strukturen und logischer Organisation entwickeln zweisprachige Menschen eine kreativere Sicht auf die Welt.

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Дается определение понятий «билингв», «билингвальное обучение», определяется сущность концепции билингвального обучения. Анализируются социальные предпосылки билингвизма в Германии и Беларуси, характеризуется специфика билингвального обучения в двух странах, акцентируется внимание на различиях, обусловленных разными условиями двуязычия.

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COMPARATIVE CHARACTERISTICS OF RUSSIAN AND IMPORTED COMBINE HARVESTERS

A highly specialized machine that is used only during the harvesting period is a combine-harvester; therefore, the features of its use analysis can be paid attention to: while the analysis takes into account the average seasonal number, the harvesting period is measured by its actual duration.

The reliability and efficiency of using foreign-made grain harvesters are of great economic importance, the reason is that the costs of the equipment technical operation are much higher than their initial cost, and solving the reliability problem saves significant funds.

New Holland CR10.90 is recognized as one of the best among combine harvesters. It has high efficiency rates: the undercarriage was made in a caterpillar cart; tires were installed at the rear. For comparison, let us consider the characteristics of the New Holland CR.10.90 combine and the domestic Rostselmash TORUM 760 combine, which are the most productive for harvesting [1; 5] (table 1).

Table 1

	New Holland CR10.90	Rostselmash TORUM 760
Combine power	480 kW	360 kW
Working speed	15 km/h	5.4–7.1 km/h
Hopper capacity	14.5 m^3	12 m^3
Engine power	653 hp	506 hp
Engine capacity	15 927 cm^3	13 500 cm^3
Width	6.1–13.7 m	9.0 m
Loss of grain	Up to 1 %	1 %

From the table data, the following conclusion can be made: the aggregates differ in a number of indicators. Due to the higher engine power of the imported harvester, a more stable

operation of the unit is provided; it is less sensitive to overloads, which is important in ordinary operation. The working speed of the New Holland CR10.90 combine is twice as high as the speed of the domestic Rostselmash TORUM 760. Another indisputable advantage, like in all imported equipment, is reliability in the first two years. It is also worth noting that NH CR10.90 is included in the Guinness Book of Records (it harvested 797.66 tons of wheat in 8 hours!) [3; 4].

Figure 1 – New Holland CR.10.90

Figure 2 – Rostselmash TORUM 760

Equipping agricultural production with new high-performance tractors, wide-cutting implements, harvesters of increased throughput, expanding the network of stationary points for primary processing of products – all this requires new organizational forms of mechanized work to ensure efficient use of machines and obtain high yields.

The organization of technological lines and complexes is one of these forms, taking into account the collective nature of labor, the complexity of the operation of modern technology and the features of technological processes [2].

At the same time, the current methods of increasing the reliability and efficiency of using combine harvesters do not sufficiently take into account the principle of redundancy of machine components provided by the theory of reliability by creating a resource-saving stock of parts and assemblies in farms for their use in technological lines. As a result, the functioning of modern means of agricultural mechanization is not effective enough.

With the increasing complexity of modern means of mechanization, which is especially characteristic of the New Holland CR10.90 combine harvesters, this problem becomes especially urgent. Therefore, the state budgetary research topic related to the development of methods to improve the reliability and efficiency of the New Holland CR10.90 combine harvesters is an urgent scientific and technical problem, the solution of which is of great scientific and practical importance. The problem of increasing the reliability and efficiency of using the New Holland CR10.90 combine harvesters is undoubtedly relevant for many modern sciences studying technical operation. However, until now it remains poorly developed, and therefore it is largely debatable both in terms of general principles and especially in terms of specific classification schemes and determining the place of individual methods and even their groups in the general system of scientific knowledge [6; 7].

In the author’s opinion, one of the measures to improve the efficiency of using grain harvesters is to create an optimal stock of units and parts. It is well known that the timing of harvesting and crop losses largely depend on the reliable operation of grain harvesting equipment, which is largely determined by the availability of spare parts.

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Приводится сравнительная характеристика российских и импортных комбайнов на примере моделей Ростсельмаш ТОРУМ 760 и New Holland CR.10.90. Рассматриваются методы повышения надежности и эффективности использования зерноуборочных комбайнов. По мнению автора, одной из мер по повышению эффективности использования зерноуборочных комбайнов является создание оптимального парка запасных узлов и деталей.

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HEMINGWAY'S SHORT FICTION AND ITS INFLUENCE ON HIS NOVELS

Ernest Hemingway began his literary career as a short story writer and his stories won considerably critical acclaim while he was still in his twenties. While still writing short stories Hemingway moved into the realm of longer fiction. The 1914–1918 war had a decisive impact in his development as a short story writer and continued to serve as a major subject in his early novels. His principal thematic concerns put in their early appearance in the short stories. These were further explored and developed in the novels, hence the short stories and the novels form continuity. Hemingway's famous prose style too acquired its distinct identity in the early Nick Adams stories. Nick Adams is the first Hemingway protagonist who keeps appearing under other names in the novels. It is this recurrent figure of "the Hemingway-hero" which provides a unity and continuity to the author's work. Since there is a frequent

recycling of the older materials in Hemingway's fiction, it is advisable to consider each of his works as a developing whole and see the right perspective of the author's style [3].

Hemingway's stories appeared in three major volumes: *In Our Time* (1925), *Men Without Women* (1927) and *Winner Take Nothing* (1933). Later these stories appeared in a single collection entitled as *The First Forty Nine Stories* (1938).*The Complete Short Stories* was published in 1987. Hemingway wrote *In Our Time* with the experience of World War I in the background and the experience of peace time disorder of the entire World in the foreground. *Men without Women* presents men in various situations of defeat in the post-war world that can no longer produce a deep relationship between men and women. *Winner Take Nothing* was written with the knowledge that his father had committed suicide. The defeat of man became even more violent in these stories [1].

Hemingway's stories mark a significant advance in a new direction underlining the care, restraint and control with which they are handled. The early stories are sketchy, episodic and have uncertain action or plot. Sometimes they depend for effect on their placing along the brief vignettes which show in a contrasting or clarifying form what the story tells by way of a more detailed but less obvious narrative. Hemingway often used explication avoiding direct exposition of theme, didactic description or discussion of character and any authorial commentary upon motive and action [4].

Most of the stories in the book *In Our Time* deal with the life of Nick Adams and were a mystified version of Hemingway's personality and contained episodes based on autobiographical events or situations. The later stories handled the themes having a more universal meaning rather than autobiographical value. They became more inventive and imaginary, presenting palpable action and plot turning more expansive in form. In his early stories Hemingway developed traditional track and invariably using third person narrative. In the later volumes he employed the definite narrative techniques and definite ends. The structure of these stories was based on irony, implication and mode of presentation. He aroused more ambitious themes in his later stories [2, p. 30].

Taken together, Hemingway's stories are studies in loss the discovery of evil and full of melancholy. In most of his stories Hemingway presents a picture of the negative side of life. Death must be accepted and faced unflinchingly. This seems to be the final message that his stories convey.

Beginning from his childhood, Hemingway gained a vast store of experience and wrote simply because he could not help doing it. He was a very detached sort of person and never wrote for publicity. But because he acquired great fame in his lifetime, because he identified himself with his characters, because he represented himself as writer applying to his personal experience and he did not restrain the impulse towards autobiography in his later works the attraction of the biographical fallacy seemed nearly irresistible [3].

The protagonists of many of Hemingway's works so resemble one another that critics often refer to them in the singular as the "Hemingway hero". The critical approaches dealing with the "Hemingway hero" or the "code hero" begin by simplifying the various Nick Adams characters into one emerging character, the first of a succession of typical Hemingway heroes that include Jake Barnes, Frederic Henry and others. There is a running disparity between the Hemingway-hero and the code-hero. The former includes most of Hemingway's protagonists. The latter is comprised of a small group that faces life's vicissitudes with proper stoicism [4].

Hemingway is a peculiar writer and the principle peculiarity of his creative method is that his work forms the so-called "rounded whole". One part explains and interprets another part. It is quite obvious that there have been changes between the earlier and the later work, that there has been an increasing self-consciousness, that attitudes and methods which were

instinctive and simple in the beginning have become calculated and elaborated. But the best way to understand his work is to compare its components as parts of continuity and seek the motives and methods that sustain his entire work [4].

Hemingway shows his protagonist in the post-war world. On the one hand Hemingway focuses his attention on protagonist's loss and bewilderment in this ruthless world, and on the other hand Hemingway's short stories highlight the tragic consequences of war in which man's responses and attitudes were mercilessly dependent. For Hemingway's contemporaries also the post-war years were years of painful trauma that made the future of mankind hopeless and provoked people to protest against traditional social values. This terrible destiny of man described by Hemingway in his short stories, and the themes that he chose allow the predicament of man to voice itself without frill. It is in the short stories that Hemingway began to shape his hero, "the macho-figure desperately trying to redeem himself through self-knowledge, exemplifying that quality of courage Hemingway describes as "grace under pressure" [2]. Such a protagonist by the very nature of his circumstances defies moral judgments in terms of commonly accepted norms of behavior.

In his short stories Hemingway highlights the peculiar stresses and dilemmas of the protagonist and his revolt against society. He intended to mirror the tragic consciousness of the war-torn generation of which the protagonists in many ways were the lonely products. The hero's revolt against society is due to an overwhelming degree of Hemingway's experience in World War I. Hemingway's experience was of a man disillusioned by the war. He returned from war to society whose values seemed to him senseless and artificial in comparison with harsh realities of the warfare. For example, Harold Krebs, the hero of *Soldier's Home* is sickened by the brutality of war, and decides to revolt against society's artificial and hollow norms. Yet what gives him a significant place as here are the basic qualities of courage, endurance and the will to strive against the odds of life. He is quite often a fighter, and in his struggle to redeem himself, he is usually destroyed. He is not afraid of death, but he hates the idea of accepting death as a solution to life's problems [1].

The tragic sense of life is constantly present in all the short stories of Hemingway. The tragic sense not only throws the zest of life into relief but gives it much content and meaningless world and Hemingway's heroes make efforts to establish their personal attitudes, freedom and identity in the contradictory and meaningless universe. They encounter with life which is full of shocking and horrified experiences of violence, atrocity and death. That is why Hemingway avoided intellectualism because he thought it shallow and pretentious. His unique vision demanded the expression of emotion through the description of action rather than of passive thought [2, p. 37].

The creation of larger fiction demands greater power of execution and sustained strength. It envisages assimilation of various events and situations, concentrating on a larger span of time, a large number of people and issues of life. In Hemingway's novels as in his short stories, the structure and theme became more complex with the passage of time. He was able to give a new pattern and direction to the plot of the succeeding novels. The plot of the novel *A Farewell to Arms* is more complex with greater action than *The Sun Also Rises*, and the story is also told in a more captivating manner. In *To Have and Have Not* the manipulation of point of view gives the story a new direction in the experimental narrative technique. *For Whom the Bell Tolls* has a bulky plot and presents a complex spectacle of life characterized by multiplicity of incidents and actions and the story is narrated with an unfailing charm. The last novel *The Old Man and the Sea* has apparently a very simple plot, dealing with a single action but it has a great narrative grip and several layers of meaning

underlying its basic structure. Thus his later stories and novels show a great preoccupation with the deeper and subtler manifestations of human feelings and emotions [3].

Both short stories and novels are inseparable constituents of the total literary legacy of Ernest Hemingway and their interrelatedness should be recognized for a comprehensive study of the writer's fictional creations. Since the short story is considered an independent form, it is often studied separately or neglected in favour of the novel. But it was the genre in which Hemingway greatly succeeded – the genre that was the sustainable ground of his novels [2, p. 42].

"The writer's job is to tell the truth," Ernest Hemingway once said. Hemingway's search for truth and accuracy of expression is reflected in his short stories which are widely acknowledged to be his greatest contribution to World Literature [1].

E. Hemingway's works of literature were exceptionally attractive for people of his generation. He received wide recognition through his novels but his short fiction made real fundamentals for his famous novels. His short but emotionally intensive stories greatly influenced his famous novels and the Literature of the XX century.

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Проводится обзор творчества выдающегося американского писателя Эрнеста Хемингуэя как автора короткого рассказа. Многие образы и сюжеты малой прозы стали основой романов писателя. Демократичность и гуманизм его рассказов снискали любовь читателей во многих странах мира. Идейная сила, свежесть и оригинальность литературной формы – главные достоинства стиля писателя.

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DIE PERSÖNLICHEN RECHTE UND FREIHEITEN DER BRD-BÜRGER IM KONTEXT DER PANDEMIE COVID-19

Die Welt steht vor einer beispiellosen Krise, die auf einem globalen Notfall der öffentlichen Gesundheit beruht, der mit keinem anderen Notfall im letzten Jahrhundert verglichen werden kann und der globale Maßnahmen erfordert, die weitreichende Auswirkungen auf unser wirtschaftliches, soziales und politisches Leben haben. Unsere

Priorität ist es, Leben zu retten. Angesichts der Ausnahmesituation und um das Leben der Menschen zu retten, haben die Länder keine andere Wahl, als Notfallmaßnahmen zu ergreifen. Die allgemeinen Isolationsregime, die eingeführt wurde, um die Ausbreitung des Virus zu verlangsamen, schränken die Bewegungsfreiheit und den Gebrauch vieler anderer Menschenrechte ein. Solche Maßnahmen können unbeabsichtigt die wirtschaftliche Lage und Sicherheit der Menschen sowie ihren Zugang zu Gesundheitsversorgung (nicht nur zur Behandlung von COVID-19), Nahrung, Wasser und Abwasserentsorgung, Arbeit, Bildung und Freizeit beeinflussen. Das Ziel dieser Arbeit ist es, die Gesetzmäßigkeit der Maßnahmen des Staates gegenüber den Bürgern in dieser schwierigen globalen Situation aufzustellen.

Die Gewährleistung der Menschenrechte für alle Menschen stellt in unterschiedlichem Maße eine Herausforderung für jedes Land auf der ganzen Welt dar. Die Krise im Bereich der öffentlichen Gesundheit entwickelt sich schnell zu einer sozioökonomischen und Menschenrechtskrise. In einigen Fällen haben anhaltende Krisen, insbesondere bewaffnete Konflikte, zusätzliche negative Auswirkungen auf den Schutz der Menschenrechte und andere Arten des internationalen Rechtsschutzes. Die durch COVID-19 verursachte Krise verschlechtert die Anfälligkeit der am wenigsten geschützten Gruppen der Gesellschaft [3].

Im Mittelpunkt der Menschenrechte und auf vorderster Front gegen die aktuelle Epidemie stehen drei Rechte (BGB):

Das Recht auf Leben und die Pflicht, das Leben zu schützen [1]. Der Verweis auf das Recht auf Leben erinnert uns daran, dass alle Staaten verpflichtet sind, das menschliche Leben zu schützen, auch durch die Beseitigung der grundlegenden Bedingungen in der Gesellschaft, die direkte Bedrohungen für das Leben darstellen.

Das Recht auf Gesundheit und Zugang zur Gesundheitsversorgung [1]. Das Recht auf Gesundheit ist ein wesentlicher Bestandteil des Rechts auf Leben. Die von COVID-19 verursachte Krise testet die Stärke der Fähigkeit der Staaten, das Recht auf Gesundheit zu verteidigen. Jeder Mensch hat das Recht auf das höchste erreichbare Gesundheitsniveau, das ihm menschenwürdige Lebensbedingungen bietet. Jeder Mensch, unabhängig von seiner sozialen oder wirtschaftlichen Lage, sollte Zugang zu der medizinischen Versorgung haben, die er benötigt. Die Gesundheitssysteme auf der ganzen Welt sind überlastet, und einige von ihnen stehen kurz vor dem Zusammenbruch.

Freizügigkeit [1]. Um die Ausbreitung des Virus zu kontrollieren und das Recht auf Leben zu schützen, ist es notwendig, die Kette der Infektion zu brechen: Menschen müssen aufhören, sich zu bewegen und miteinander zu interagieren. Die Isolation kann jedoch schwerwiegende Auswirkungen auf Beschäftigung, wirtschaftliche Lage, den Zugang zu Dienstleistungen, einschließlich Zugang zu Gesundheit, Nahrung, Wasser, Bildung und sozialen Diensten, sowie auf eine sichere häusliche Umgebung, einen angemessenen Lebensstandard und ein Familienleben haben. Es wird deutlich, dass die Bewegungsfreiheit eines der wichtigsten Rechte ist, das zur Ausübung vieler anderer Rechte beiträgt.

Während der Isolationsregime waren die Verletzungen dieser drei grundlegenden Menschenrechte, die zu Massenprotesten gegen restriktive Maßnahmen im Zusammenhang mit der COVID-19-Pandemie führte.

April 2020 gab es Informationen über eine nicht autorisierte Kundgebung gegen die Einschränkung der Rechte und Freiheiten der Bürger unter Quarantäne, die in Berlin stattfand. Der erste Mai in Berlin stand unter dem Zeichen des Kampfes um Verfassungsrechte unter Quarantäne. Zu Beginn versammelten sich die Demonstranten zu einem „hygienischen Protest“ auf dem Rosa-Luxemburg-Platz und zogen dann in den Stadtteil Kreuzberg. Es gab auch einzelne Streikposten mit Plakaten: „Masken – nein“, sowie Versuche, eine Yoga-Stil-Meditation an einem öffentlichen Ort durchzuführen.

Am 9. Mai 2020 hatten sich die Proteste gegen „Lockdown“ (Isolationsregime) ausgeweitet. Tausende Menschen haben an der Aktion in Stuttgart teilgenommen. Die Teilnehmer hielten einen sozialen Abstand von 1,5 Metern. In Berlin war der Protest weniger, aber aggressiver. Etwa 3 000 Menschen sind auf den Marienplatz in München gekommen. Rund 500 Menschen haben in Frankfurt am Main zur Abschaffung der Massen-Regelung aufgerufen.

Diese Kundgebungen verbreiten oft Fehlinformationen über die COVID-19-Pandemie. Sie umfassen Falschmeldungen, pseudowissenschaftliche Gesundheits-tipps, Vereinfachungen, Desinformation und Verschwörungstheorien zu allen Aspekten der Krankheit. Die angesichts einer neuen, bisher unbekannten Viruserkrankung relative wissenschaftliche Unkenntnis begünstigt Spekulationen und die Verbreitung von Falschinformationen.

Ihre Verbreiter berufen sich zum Teil auch auf legitime wissenschaftliche Minderheitenmeinungen. Bisweilen wurden die Falschinformationen aus politischen Motiven verbreitet. Die Herkunft des Virus und sich darauf beziehende Verschwörungstheorien stehen dabei insbesondere bei Antisemiten und Rechtsextremisten, aber auch bei einigen Staatsregierungen und deren Staatsmedien im Mittelpunkt.

In einigen Fällen wurden diese Maßnahmen bewusst verletzt, was zu einer regelmäßigen Zunahme der Morbidität und zu einer regelmäßigen Abnahme des Wirtschaftsniveaus führte.

Im Dezember 2020 veröffentlichten die Soziologen Oliver Nachtwey, Robert Schäfer und Nadine Frei von der Universität Basel eine Studie über die „Politische Soziologie der Corona-Proteste“ und kamen zu dem Ergebnis, es sei von einer „großen Heterogenität innerhalb der Bewegung der Corona-Kritiker/innen und Querdenker/innen“ auszugehen. Es handele sich „nicht um eine, sondern um mehrere, häufig disparate soziale Gruppen, die über geteilte Mentalitäten verbunden sind. Gemeinsam ist ihnen, dass es sich mehrheitlich um gebildete Angehörige der Mittelschicht handelt“. Das Durchschnittsalter der Studienteilnehmer liege bei 47 Jahren, 31 % hätten die Hochschulreife, 34 % einen Studienabschluss, 25 % sind Selbstständige; diese Merkmale liegen deutlich über dem Durchschnitt der Gesamtbevölkerung. Deutlich sei „eine starke Entfremdung von den Institutionen des politischen Systems, den etablierten Medien und – zumindest für Deutschland – den alten Volksparteien“, aber auch der Wissenschaft. Es sei eine Gruppe, „die eher von links kommt, aber stärker nach rechts geht“ [2]. Diese Proteste fanden in Städten wie Berlin, Hannover, Bremen, Stuttgart, München, Nürnberg, Leipzig, Bonn, Frankfurt am Main und vielen anderen Städten statt.

Es ist wichtig, dass alle Akteure, insbesondere die Regierungen, bei allen Maßnahmen zur Reaktion auf die COVID-19-Krise die internationalen Menschenrechtsnormen, das humanitäre Völkerrecht und das Flüchtlingsrecht in den Mittelpunkt stellen.

Wenn diese Krise vorbei ist und das Coronavirus beendet ist, muss die internationale Gemeinschaft ihre Anstrengungen zur Gewährleistung des Rechts auf Gesundheit und zur Erreichung des Ziels auf dem Gebiet der nachhaltigen Entwicklung verdoppeln, einschließlich der Aufgabe, die allgemeine Gesundheitsversorgung sicherzustellen und die Kapazitäten aller Länder auf dem Gebiet der Frühwarnung, der Risikominderung und der Regulierung nationaler und globaler Gesundheitsrisiken auszubauen. Die internationale Gemeinschaft muss die weit verbreitete Ungleichheit und Diskriminierung bekämpfen, durch die einige Menschen sowohl für diese Krankheit als auch für die wirtschaftlichen und sozialen Auswirkungen von Maßnahmen anfälliger sind. Alle Schichten der Gesellschaft müssen „eine bessere Zukunft aufbauen“ und die Dynamik der internationalen Zusammenarbeit, die auf der Achtung der Menschenrechte beruht, erhalten.

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Раскрываются проблемы, возникшие в связи с ущемлением некоторых личных прав и свобод граждан ФРГ из-за пандемии COVID-19. Разъясняется сущность и цели принимаемых правительством Германии непопулярных мер, вызванных пандемией.

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DIGITALISIERUNG IM KLASSENZIMMER

Kinder und Jugendliche wachsen heute als Digital Natives mit Smartphone, Tablet und PC auf. Das Surfen im Internet und die Interaktion in sozialen Netzwerken sind bereits feste Bestandteile Ihrer Freizeitgestaltung. Wichtig für ihre berufliche und private Zukunft ist jedoch, dass sie unter fachgerechter pädagogischer Anleitung digitale Kompetenzen erwerben. Zahlreiche wissen-schaftliche Studien belegen, dass der Einsatz digitaler Technologien und Medien im Schulunterricht großes pädagogisches Potenzial hat und Schüler positiv motiviert. Die vorliegende Arbeit beschreibt, welche Vorteile das digitale Lernen bietet.

Der digitale Unterricht ist heute ein wichtiger Teil der Bildung. Er zeichnet sich besonders durch den Einsatz diverser Medien, eine gesteigerte Interaktivität und die Möglichkeit zur Nutzung von digitalen Plattformen aus. Digitale Medien vervielfältigen nicht nur die methodisch-didaktische Bandbreite für Lehrkräfte, sondern bieten Schülerinnen und Schülern auch die Möglichkeit, sich aktiv mit dem Unterrichtsinhalt auseinanderzusetzen: Wissen wird durch die technischen Hilfen nicht mehr nur dargereicht, es kann Stück für Stück selbst erfahren und erlebt werden. Lernen heißt nun, sich selbst-ständig und aktiv die Welt anzueignen – im Gegensatz zum traditionellen Unterricht, wo die SchülerInnen die Lerninhalte nur als passive Rezipienten aufnehmen und durch simples Auswendiglernen ihr Fachwissen erweitern. Somit werden selbständiges Lernen und kritische Informationsrecherche gefördert. Auch das individuelle Lerntempo und die Lerninhalte können mit digitalen Lernmethoden besser an die persönlichen Bedürfnisse der SchülerInnen angepasst werden. Zurück-haltende oder leistungsschwache Schüler bekommen leichter die Möglichkeit, sich am Unterricht zu beteiligen, individuelle Fortschritte lassen sich besser kontrollieren. Daneben bietet das digitale Lernen noch viele weitere Vorteile:

• Lerninhalte lassen sich multimedial, interaktiv und vernetzt vermitteln. Interaktive Lernerlebnisse verbessern die Motivation und können Lernfortschritt der SchülerInnen effektiver steigern.

• Spannende und innovative Lehrmethoden und Lernkonzepte sorgen für mehr Spaß am Lernen und vermitteln den Kindern und Jugendlichen die für ihre Zukunft unverzichtbaren digitalen Kompetenzen.

• Der Lehrplan ist sehr viel mehr an die Lebensrealität der SchülerInnen angelehnt, da das Internet aus dem Alltag nicht wegzudenken ist.

• Die digitalen Lehrmaterialien sind stets auf dem neuesten Stand und die Recherche im Internet ermöglicht zudem den Zugriff auf eine nahezu unbegrenzte Menge an Zusatz-Informationen, die den Unterricht spannender und vielseitiger machen. Veraltete Schulbücher und Lehrinhalte gehören damit der Vergangenheit an.

• Schüler lernen, digitale Technologie produktiv, projektorientiert und kollaborativ zu nutzen – in der Arbeitswelt der Zukunft sind das unverzichtbare Voraussetzungen für den beruflichen Erfolg.

• Wichtig für die persönliche Entwicklung der Schüler ist auch, dass sie unter fundierter pädagogischer Anleitung in der Schule lernen, sich kritisch mit den Risiken des Internets und der digitalen Technologie auseinanderzusetzen [1].

Der Einsatz neuer Medien im Unterricht sollte aber stets sinnvollerweise dann geschehen, um neue Lernerfahrungen und Zugänge zu Themen zu ermöglichen. Eine zentrale Rolle spielen Unterrichtsform und Lehrkräfte: Das lernförderliche Potenzial digitaler Medien wird bei schülerorientierten, problemorientierten und offenen Unterrichtsformen weit besser ausgeschöpft als bei lehrerzentriertem Unterricht. Für die Integration von digitalen Medien bieten sich besonders Projektarbeit oder Lernwerkstätten an. Dabei nutzen die SchülerInnen bei ihrer Arbeit digitale Geräte für Information und Recherche, für Dokumentation und Präsentation.

Wie eine repräsentative Befragung von mehr als 500 Schülern belegt, sehen 83 % der SchülerInnen in der Digitalisierung eine Chance für die Schulen. Investitionen in digitale Technologien und deren Anwendung haben für die SchülerInnen oberste Priorität – und sind sogar noch wichtiger als andere drängende Herausforderungen. So ist für sechs von zehn der fehlende Einsatz digitaler Medien das dringlichste Problem an ihrer Schule. Auch eine schlechte technische Ausstattung wird von mehr als der Hälfte beklagt [2].

Obwohl immer mehr Schulen dazu übergehen, moderne Medien zu nutzen, um den Unterricht ansprechender gestalten zu können, ist der Einsatz von Digitaltechnik im Schulunterricht noch nicht einheitlich geregelt, sondern ist in den einzelnen Schulen in vielen verschiedenen Ausprägungen realisiert. Das fängt bei der einfachen Ausstattung der Klassenzimmer mit einem einzelnen PC und einem Beamer oder digitalen Whiteboard für Präsentationszwecke an und reicht über einen speziellen Computerraum in der Schule, in dem SchülerInnen mit fest installierten PCs lernen können, bis hin zu sogenannten Notebook- oder Tablet-Klassen. Hierbei steht jedem Schüler ein Mobilrechner mit WLAN-Anbindung für den Unterricht zur Verfügung. Einige Schulen haben auch bereits BYOD-Konzepte (Bring Your Own Device) umgesetzt, wann jeder Schüler sein eigenes Notebook in die Schule mitbringt und damit am Unterricht teilnimmt. Daneben sind heute im Unterricht folgende digitale Medien im Einsatz: virtuelle Klassenzimmer, digitale Simulationen, digitale Lernspiele, Dokumenten-kameras, Online-Dokumentationen, E-Books usw. Mit dem Einsatz von Virtual Reality (VR) im Unterricht kann SchülerInnen sogar der Zugang zu Orten, die in der Realität gar nicht besucht werden könnten, ermöglicht werden: Eine Reise ins alte Rom, auf den Mond oder ins Körperinnere. VR bedeutet ein komplettes Eintauchen in eine virtuelle Umgebung, ermöglicht durch spezielle Brillen.

Aus den Studien lässt sich jedoch nicht eindeutig ableiten, dass bestimmte Ausstattungskonzepte besonders wirksam sind. Auch muss der Einsatz digitaler Medien

sorgfältig vorbereitet, begleitet und ausgewertet werden, damit sich fachliche und medienbezogene Lernvorteile einstellen.

Die Digitalisierung kann den Schulunterricht verbessern, den Lernerfolg steigern und die begrenzten Lehrkapazitäten effizienter einsetzen. Der Einsatz digitaler Medien wirkt sich insgesamt positiv auf die fachlichen Leistungen von Schülerinnen und Schülern aus. Somit ist klar: Die aktuellen Entwicklungen gehen stark in Richtung Ausbau von digitalen Medien an Schulen, dem Kampf gegen die sozialen Risiken und dem Fokus auf die Medienbildung für Schüler, Lehrer sowie Eltern.

Die Digitalisierung stellt das Bildungssystem vor große Herausforderungen. Für die Schulen bedeutet das, in die Weiterbildung der Lehrer zu investieren und die Modernisierung der gesamten Schul-IT voranzutreiben. Das betrifft den Einsatz leistungsfähiger und zuverlässiger Computer, Notebooks und Tablets, den Ausbau schulischer IT-Netze und Serverstrukturen sowie die Beschaffung von aktueller OfficeSoftware und digitalen Lernprogrammen. Zugleich müssen sie den IT-Support und die Datensicherheit den Anforderungen des digitalen Zeitalters anpassen. An Schulen wird eine Digitalisierung stattfinden müssen, um junge Menschen auf eine digitalisierte Welt vorzubereiten, die sie in sämtlichen Lebensbereichen finden werden.

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Показаны преимущества использования цифровых технологий в процессе обучения. Использование новых средств позволит повысить качество и уровень образования, облегчит процесс усваивания и закрепления знаний, а также поможет развить интерес к изучению предмета.

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UMWELTFREUNDLICHE AUTOS: VORTEILE UND NACHTEILE

Wollen wir das oder wollen wir das nicht, aber Autos sind aus dem Leben des modernen Menschen einfach nicht wegzudenken. So ist das Ziel dieses Artikels, erstens die Entwicklungsgeschichte des Autos kurz zu beschreiben und zweitens zu versuchen die Definition den umweltfreundlichen Autos zu geben sowie deren Vor- und Nachteile aufzulisten.

Die Geschichte des Automobils im engeren Sinne begann im 19. Jahrhundert. Der Begriff *Automobil* (griechisch αὐτός ‘selbst’ und lateinisch mobilis ‘beweglich’) diente

ursprünglich nur zur Unterscheidung von Motorfahrzeugen und Fuhrwerken bzw. Kutschen, heute bezieht er sich auf den in der Alltags-sprache gemeinten Personenkraftwagen.

Obwohl bereits seit Anfang des 19. Jahrhunderts verschiedene Dampfkraftwagen und Dampfomnibusse und ab 1881 auch schon Elektroautos gebaut wurden, gilt 1886 mit dem Benz Patent-Motorwagen Nummer 1 des deutschen Erfinders Carl Benz als Geburtsjahr des Automobils als Personenkraftwagen mit Verbrennungsmotor. Im Jahr 1900 wurden in den Vereinigten Staaten noch 40 Prozent der zunächst wenigen Automobile mit Dampfkraft, 38 Prozent elektrisch, und nur 22 Prozent mit Benzin betrieben. Schon 20 Jahre später hatte sich als überlegener Antrieb mit unbeschränktem Aktionsradius der Ottomotor durchgesetzt, bevor ab den 1930er Jahren der Dieselmotor vor allem bei Lastkraftwagen zunehmend Marktanteile gewann.

Nachdem die motorisierten Wagen in nahezu allen Bereichen die von Zugtieren gezogenen Fuhrwerke im Verlauf der ersten Hälfte des 20. Jahrhunderts ablösten, erreichte in dessen zweiter Hälfte in einem regelrechten Boom der motorisierte Individualverkehr in Industrieländern einen Höhepunkt, der dessen ökologische und ökonomische Grenzen angesichts endlicher Ressourcen aufzeigte. So werden seit Anfang des 21. Jahrhunderts Lösungen wieder verstärkt in elektrischen und Hybridantrieben gesucht, sowie in neuen Mobilitätskonzepten mit der Abkehr vom motorisierten Individualverkehr [3].

Deutschland ist eines der verkehrsreichsten Länder der Erde. Knapp 82 Mio. Einwohner besitzen 46 Mio. Autos. Die Tendenz ist weiter steigend. Der Autoverkehr kostet Jahr für Jahr viele Milliarden Euro, er verbraucht wertvolle Ressourcen und er zerstört die Landschaft. Trotzdem ist das Auto das „liebste Kind“ der Deutschen. Das liegt sicher auch daran, dass es rund 850 000 Arbeits-plätze sichert. Aber noch wichtiger ist seine Bedeutung als Symbol für individuelle Freiheit [1, S. 65].

Auf der anderen Seite ist Autokäufern und -besitzer die Umweltfreundlichkeit und Nachhaltigkeit von Fahrzeugen in den vergangenen Jahren immer wichtiger geworden. Autos und Umwelt: Wie passt das zusammen und welches Auto ist eigentlich umweltfreundlich? Folgende Faktoren spielen bei der Bewertung der Umweltfreundlichkeit eine wesentliche Rolle: Schadstoffausstoß und Kraftstoffverbrauch. Da Elektrofahrzeuge keine Schadstoffe ausstoßen, gelten sie als umweltfreundliche Personenkraftwagen. Auch Erdgas- und Hybridfahrzeuge können mit guten Emissionswerten glänzen. Auch wenn sie in letzter Zeit eher mit Fahrverboten Schlagzeilen gemacht haben als mit Sauberkeit – es gibt tatsächlich auch umweltfreundliche Diesel-Autos. Dabei handelt es sich um moderne Dieselfahrzeuge, die der neuesten Abgasnorm entsprechen.

Jedoch gibt es Unterschiede in Bezug auf die Umweltfreundlichkeit, da auch der Verbrauch berücksichtigt wird. Gute Emissionswerte bedeuten somit nicht automatisch eine ausgezeichnete Umweltbewertung und sind daher nur die halbe Miete. So kann ein Fahrzeug zwar wenig Schadstoffe ausstoßen, aber dennoch aufgrund eines hohen Verbrauchs und CO^2-Werts als weniger umweltfreundlich eingestuft werden.

Zu den umweltfreundlichsten Autos gehören überwiegend Autos mit Elektroantrieb. 6 der 7 umweltfreundlichsten Fahrzeuge sind schließlich Elektroautos. Doch welches ist das umweltfreundlichste Auto einer Antriebsart? Das sind:

- Elektro: VW e-Golf;
- Erdgas: Fiat Panda 0.9 8 V Twinair Natural Power;
- Hybrid: Toyota Yaris 1.5 Hybrid;
- Wasserstoff: Hyundai Nexo;
- Otto: VW up! GTI;
- Diesel: Kia Ceed 1.6 CRDi.

Doch welche Vor- und Nachteile haben umweltfreundliche Autos? Zu ihren Vorteilen gehören also:

– geringer Kraftstoffverbrauch;
– weniger Schadstoffausstoß;
– sie sind geräuscharm;
– niedrigere Kfz-Steuer;
– keine Fahrverbote (Diesel-Fahrverbot);
– in Umweltzonen erlaubt durch grüne Umweltplakette [4];
– Rückgewinnung von Energie beim Bremsen;
– hohe Leistung, einfacher Motor.

Zu ihren Nachteilen zählen:

– Kosten und Gewicht der Batterie;
– Umweltbelastung und Rohstoffabhängigkeit durch Batterien [5];
– höherer Kaufpreis;
– bei E-Autos: begrenzte Reichweite, lange Ladedauer und fehlende Ladeinfrastruktur [4].

Mit Batterie betriebene Elektroautos haben je nach Batterie, Modell und Fahrweise eine Reichweite von 100–200 km. Da die meisten im Alltag gefahrenen Strecken in diesem Bereich liegen, ist diese Reichweite im Allgemeinen jedoch ausreichend. Es gibt jedoch auch Modelle mit Reichweiten bis zu 390 km. Und hier ist vor allem der luxuriös ausgestattete und durch seine Leistungen überzeugende Tesla Roadster zu erwähnen.

Unter Autobauern gelten Hybridfahrzeuge, neben Elektroautos, derzeit als Königsklasse der Fahrzeugtechnik. Denn sie verbinden die Vorteile des E-Antriebs mit den Stärken eines Verbrennungsmotors. Auf kurzen Strecken fahren vor allem Plug-in- und Vollhybrid-Fahrzeuge dank ihres Elektromotors leise, kraftstoffsparend und emissionsarm. Und ist man länger unterwegs, als die Batterien Strom liefern können, muss man nicht zum halbstündigen Boxenstopp an die nächste Ladesäule. Stattdessen treibt dann der Benzin- oder Dieselmotor das Auto an. Eine Sonderstellung nehmen dagegen Mild-Hybride mit 48-Volt-Bordnetz ein. Sie verfügen nur über eine sehr kleine Batterie und einen elektrischen Startergenerator, der keine rein elektrische Reichweite ermöglicht. Vielmehr sorgt die Bordelektronik dafür, dass das Fahrzeug in den sogenannten „Segelmodus“ versetzt wird. Der Verbrenner ist in diesem Betriebszustand deaktiviert, das Fahrzeug rollt solange im Freilauf, bis wieder Gas gegeben wird. Egal um welche Hybridtechnik es sich handelt, lassen sich die Hersteller diese weiterhin teuer bezahlen. Doch muss es mittlerweile kein Neuwagen mehr sein: Eine Alternative sind die vielen Hybridautos, die mittlerweile auf dem Gebrauchtwagen-Markt verfügbar sind. Die Vorteile von Hybridautos sind vor allem: Als Firmenwagen steuerbegünstigt, keine Reichweitenangst, Verbrauch und Emissionen können sinken, viele Kurzstrecken sind rein elektrisch möglich.

Hybridautos erobern mit der Kombination von **Strom und Sprit** zurzeit die Straßen Deutschlands. Vor einigen Jahren waren Modelle wie der Mercedes E 300 de, der VW Passat GTE oder der Mitsubishi Outlander noch Raritäten, doch allmählich entwickeln sie sich zu Massenphänomenen [2].

Abschließend kann man behaupten, dass die Geschichte der Autos kaum sein Ende haben wird. Unterschiedliche Forderungen, Bedingungen, Interessen, selbst das Leben dazu beitragen, dass Ingenieure immer wieder neue, verbesserte Modelle entwickeln werden, aber kaum auf dieses Verkehrsmittel völlig verzichten.

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Рассматривается понятие «автомобиль», дается краткое описание появления и развития автомобиля как такового, указываются факторы, определяющие экологичность машин, и приводятся примеры наиболее экологичных автомобилей с разным типом привода.

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CHEMISTRY IS THE SCIENCE OF THE FUTURE

Chemistry is a natural science closely related to biology, physics and mathematics. It includes information about substances and their transformations. Chemistry is divided into organic, inorganic, analytical, biological, physical and technical [1].

On the basis of chemical experiments and research, you can find out the past and future of living things on the earth (evolutionary doctrine), create new materials that will be more environmentally friendly than the ones we are using now, create a new drug and defeat disease, explore other planets due to their chemical composition or simply to make our life more comfortable thanks to the development of industry [1].

Proceeding from the fact that chemistry is a natural science, the results of its development will primarily be reflected in a person. Medicine has a direct dependence on it. The most common and not fully understood disease today is oncology. It ranks the second place among the causes of death after cardiovascular pathologies. A group of scientists from the University of Tokyo in Japan was the first to draw attention to the perspective of phenazines in the fight against cancer. The main biological function of phenazine is that this compound and its derivatives exhibit antibiotic activity. Phenazines are hetero-cyclic nitrogen-containing compounds. The most notable among phenazines is the group of phenazinones, since these compounds have antibacterial, antifungal and cytotoxic properties [2]. The development and creation of a universal drug against cancer with high activity and selectivity with relatively low toxicity – the main requirements for the creation of anticancer drugs of new generation.

An important substance for all living things is water. Today, many countries have a shortage of fresh and natural drinking water. Due to the large amount of pollution, preference is given to ground-water in drinking water supply, since it has a stable composition and protected from additional pollution by a natural barrier. A special kind of filtration takes place. But a significant disadvantage of using groundwater is that it has an increased concentration of iron (III) ions, which prevents its safe use in the water supply of the population.

Modern chemists have found a solution to this problem as well. It was found out that the oxidized carbon-mineral sorbent has high kinetic characteristics in relation to iron (III) ions. For this, the dependence of the value of sorption of iron ions on the duration of phase contact was established. Oxidation of a carbonaceous mineral material can produce a sorbent capable of extracting iron (III) ions from an aqueous medium [3]. The ubiquity and renewability of sapropel as a feedstock for the production of carbon-mineral material makes the oxidized carbon-mineral sorbent from sapropel a promising material for deferrization of groundwater.

Chemistry is not only a part of our life, but also a fundamental science. Many substances are not fully understood and that is why most chemical laboratories are engaged in experimental activities.

In the modern world, much attention is paid to environmental problems. In addition to the high concentration of carbon dioxide CO (greenhouse effect) and a large amount of plastic, there is also a large amount of industrial waste. They pollute water, soil and air.

Unfavorable environmental conditions also include an increase in the concentration of heavy metals in water, food and the environment. Their concentrations, even in small doses, accumulate in tissues and cause serious consequences for the body, which are stressful.

A significant place is occupied by poisoning with salts of heavy metals. Heavy metals include more than forty chemical elements with a specific gravity of 6.0 and more.

In a laboratory study on rats, it was proved that prolonged intoxication with heavy metal salts causes stress. It should be noted that the females were in the lactating position (feeding the cubs). Based on the study, it follows that it is necessary to compensate for the resulting deficiency of natural antioxidants in animals [4].

The use of antioxidant drugs, such as the biological active substance Tanakan and vitamins C and E, reduce the secretion of adrenaline and norepinephrine against the background of intoxication.

The same happens with the human body when it is oversaturated with salts of heavy metals. Also, this condition can be transmitted from mother to child during gestation or feeding.

The topic of ecology also requires a solution to the issue of waste. That is why low-waste technologies have been introduced into the chemical industry. The creation of low-waste technologies is necessary for the development of the industry as a whole. Low-waste technologies are also associated with a more rational use of raw materials, including secondary ones, which will make it possible to get maximum profit with low raw material costs. Low-waste technologies can replace some expensive raw materials.

In addition to economic benefits, low-waste and zero-waste technologies will greatly benefit the environmental situation, since a much smaller volume of material will be recycled.

There is also a technology for controlling chemical compounds. The technology of analytical control of chemical compounds is aimed at determining the chemical composition of a substance, its compliance with established standards and norms.

Experts in this field deal with quality control of food products, medicines, analysis of drinking water, air and soil.

Chemical technologies occupy a special place in modern industry. Thanks to technological processes using chemical reactions, it became possible to produce many substances and materials that can equivalently replace natural analogs, but with significantly lower costs for the extraction of raw materials and the production of the final product [5].

Thanks to such a science as chemistry, we can study the world in detail, literally by atoms. Thanks to the development of biochemistry, it is possible to study in detail living organisms, the processes occurring in them, the dependence of the body's work on specific factors affecting it. Natural phenomena are also closely related to chemical processes. Studying chemistry we study ourselves in the world and the world in ourselves.

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Раскрываются проблемы, возникающие в связи с влиянием химических элементов на организм человека и окружающую среду. Показывается пути, способствующие изменению регресса в сторону прогресса данных ситуаций в результате химических исследований.

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ENDANGERED LANGUAGES

The main topic of the article is the phenomena of endangered languages, their geography, present and future development. This topic was chosen because of countless, priceless heritage of these languages, because of the profit that helps us to research cultures, develop the whole world's language map, to save unique pieces of people's state of mind. In this article will be researched the areas of concentration of vulnerable languages, what will be with them and how they can be saved and revived.

There are about 7,000 languages across the world, but not every single of them is so popular within the humanity as 40 of the most popular ones that are spoken by about 2/3 of the world's population. Most people speak Chinese, Hindi, English, Spanish, Arabic, Russian and Portuguese. French is also widely spoken, but the number of those who consider it their first language is relatively small. So, it is noticeable that the process of globalization has spread even to this sphere of communication. People need a universal language to

communicate with each other, to make business but this position leads sometimes to the loss of cultural self-identity. And in this is the case of some native languages which become more and more rare. People don't want to spend time and strength to learn "useless" native language when there are international ones.

As for statistics – there is some information about percentage of languages: 96 % of dialects are used just by 3 % of the planet's population and it is shocking even without the statement that about 360 languages have less than 50 native speakers. Mostly these languages are from Africa, Asia, and Icelandic countries [1].

According to the "Atlas of the World's Languages in Danger" of UNESCO currently in Europe disappearance threatens about 50 languages. In the world on the whole, there are more than 400 languages that are considered as endangered, and about half of the currently existing languages will go out of use by the middle of the 21st century [1]. Many languages are disappearing due to the fact that their speakers come into contact with a stronger linguistic environment, therefore languages of small nationalities and those of peoples without statehood are under the threat of extinction in the first place. If less than 70 % of children learn a language, it is considered endangered [1]. From this fact we can make a conclusion that it is necessary to teach children their native language if we want to save it.

But this is not the only problem faced by the humanity. It is known that languages and dialects are grouped into families, where the symbols, pronunciation, lexical and grammar constructions are the same or at least very similar. The science that studies these language families is linguistic taxonomy. That is really important because of the similarities of related languages – we can apply rules of one language to another one of the same family, and it will work. Also, some sub-families have their unique features, for example, letters, that are unknown in other language families. What is the motivation factor of rejecting and forgetting these languages?

The most common factor is bulling, social pressure on people who speak this endangered language or dialect. As Gregory Anderson, a linguist who has been studying peoples of Siberia for ages, said once about the discrimination: "Communities of people speaking an endangered language are often under constant pressure. In Siberia, the predominant language over the rest is Russian. But people must understand that with regard to endangered languages, we are not faced with an 'either-or' choice" [2].

What do we know about the nature of this process? Is it normal to lose languages?

The answer can be found in Maxim Krongauz's quote, who is the director of the Institute of Linguistics: "This is such a general question, in the spirit of whether it is necessary to preserve architectural monuments or endangered species. Everything in nature is dying – languages, houses, and cultures. The question is whether we want to remember this or not, to forget all this and cheerfully go into the future. I'm not sure whether this will be smart or not. Is it possible to go forward losing culture? It seems to me that this is robotization of society. Ultimately, the need to preserve the past is a question of the conscience of the culture of mankind and each individual" [2].

Thus, in our opinion, the conclusion will be as follows: endangered languages have the right to be kept in the speech turnover. Despite the fact that nowadays our world is globalized and there is no need to preserve vulnerable languages, they can be really useful in some research in the field of linguistic, they will be the guarantee of cultural identity of almost every country and region. Every language is important in the heritage of mankind, and this is beyond any doubt.

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Статья посвящена исчезающим языкам. Рассматривается статистика наиболее распространенных и исчезающих языков, структура распространения языков, их культурное, научное и коммуникативное значение. Делается вывод, что разнообразие языков мира необходимо сохранить для будущих поколений наряду с произведениями искусства и памятниками архитектуры.

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GENETIC ENGINEERING: PROS AND CONS

Humans have been manipulating plant and animal life since the beginning of our history. That is why we have so many different types of dogs, for example, or have access to different types of crops. Genetic engineering just increases the speed at which this progress can occur. Selective cross-breeding, based on specific traits, that work with similar traits in other species, is how we've achieved results. DNA insertion allows us to take this concept to new levels.

Genetic engineering is often used by scientists to improve their understanding of how genetics actually work and how they affect our talents and our decisions. From these findings, scientists can provide insights for medical purposes and thus increase the probability of curing serious diseases in the future. Genetic engineering allows us to create food products that have a better nutritional profile. That means we can get what we need nutritionally from fewer food products. In return, more food can be shipped to areas of the world where food insecurity is a major problem. Not only do we all get to eat healthier foods, but more people get to benefit from nutritionally dense foods when they are properly engineered. We can even use genetic engineering to extend the lifespan of foods, allowing them to be shipped further because they can survive longer and in harsher conditions. Genetic engineering does more than create healthier and faster products for our food chain. It can also create specific traits that make food products become more attractive. Scientists can use DNA manipulation to create different food colours. A wider range of produce can be created by combining different items, like tomatoes and blueberries. Cows can be developed to produce more milk. Poultry can grow more muscle tissue at a faster rate. Even sheep can be manipulated to improve the quality of their coat for sheering [1].

There are many important areas in the field of medicine in which genetic manipulation could contribute to better treatment of diseases. This also includes the invention of more effective drugs with fewer side effects. Moreover, model animals can be genetically modified in the hope to get new insights on how these modifications would work on humans. For this purpose, using mice in order to examine the effects of genetic manipulation on obesity,

cancer, heart diseases and other serious conditions is common practice in nowadays scientific work. We already have genetic testing in place to test for certain cancers. We could use DNA manipulation to help treat or cure people who are born with genetic disorders. Over time, this could mean longer lifespans, a better quality of life, and faster disease treatment. There are some severe diseases that we will likely never be able to fight if we do not use genetic engineering. From only small manipulations of genes, it is expected that we can fight a significant number of deadly diseases. Moreover, even for unborn babies, there could be genetic diseases detected. The most prominent example of this kind of genetic disease is Down syndrome. If our scientists get quite advanced, it is likely that we will be able to cure all genetic diseases, even that of unborn children [2].

Genetic manipulation is also a field of interest for industrial purposes. Since through genetic engineering processes, all kinds of properties of animals and plants can be modified, this also comes down to a potential increase in revenue for firms if they are able to optimize the gene structure for their purposes. An example of this is the use of genetically modified bacteria for making biofuel. The rules and regulations for genetic engineering vary significantly across different countries. However, there is some consensus on the level of danger genetic modification poses to humanity. Moreover, some groups like Greenpeace or the World Wildlife Fund claim that genetically modified food should be tested more rigorously before releasing it for public consumption.

Genetic manipulation can also cause genetic problems if we do not handle it in a proper way. Since science is still at an early stage in the understanding of genetics, manipulations of genes may even do more harm than good at our current state of genetic understanding. Errors could even lead to the development of new diseases. Genetic engineering also poses a risk to human health. For example, genetically modified food may lead to long-term health issues. There is just not enough reliable data yet on how harmful genetic engineering really is in the long term. Thus, it may pose serious health effects, some of them currently even unknown to scientists [1].

Since genetically modified plants often contain own pesticides, they can be quite harmful to animals that are consuming these kinds of plants. Animals can suffer severe diseases from these pesticides and even die. Researchers found that residues of genetically modified plants persist on the soil of fields for many months. Thus, the activity of microbes is adversely affected which can lead to a loss in fertility of the soil. If genetically modified plants are more resistant against pests, they will displace local natural plant species. This also contributes to a reduction in genetic variety. We also know that genetically engineered plants and animals do not stay within a contained, controlled environment. They eventually interact with domestic species that do not have any genetic manipulations to them. This also works against species diversity and create problems, such as a lack of disease resistance, in the future.

Genetic engineering may be a proven science, but outcomes are not always predictable. Dolly the Sheep is credited as being the first mammal cloned from an adult somatic cell. But Dolly was the only lamb that was born out of 277 attempts at the cloning process. There were only 29 early embryos created, and 13 surrogate mothers were used in the effort to create Dolly. Genetic engineering can be very destructive when it wants to be and the attitude toward the outcomes that are possible is that the ends justifies the means to get there. That can be problematic when considering genetic engineering for human-based purposes [2].

Genetic engineering is a quite controversial topic in our society. It has many advantages and fields of application, but can also have detrimental effects on humans as well as on the whole ecological system. Thus, as humans, we have to make difficult decisions in the future on whether we want to “play god” in order to be able to fight deadly diseases or if we do not want to take the risk.

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Освещаются достижения человека в области генной инженерии, а также отмечается их негативное влияние на окружающую среду.

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ESTABLISHING RELATIONSHIP BETWEEN THE ROASTING STRATEGY AND THE SENSORY QUALITIES OF COFFEE

According to the International Coffee Organization (ICO), over the past ten years, the amount of coffee imported to Russia has grown by more than 2 million bags (60 kg) per year. The growing import volumes indicate a high rate of market expansion and growing demand. There are only two types of coffee are produced in the world – Arabica and Robusta. The last one occupies more than 30 % of the market due to lower quality properties. Science has already proved the possibility of simulating taste through fermentation. Manufacturers are successfully applying the knowledge gained at the stage of post-harvest processing of Arabica and are just beginning to apply the experience gained to Robusta. In this case more Robusta lots with improved quality indicators have appeared on the market, which requires a search for new approaches in roasting this type of coffee in order to maximize the potential of green beans. In this research, we had made for optimal roasting modes aimed at improving the quality of the product obtained using the new technology. Coffee imports to Russia have grown significantly in recent years. This indicates a growing demand, as well as an increase in consumer requirements for product quality.

The coffee market is predominated by two types: Arabica and Robusta. The difference between Arabica and Robusta is caused by the different quantitative chemical composition of each species. The taste of Arabica is more complex and multifaceted, due to the genetic characteristics of this species. Depending on the origin of the green beans, roasted coffee may have different flavor notes that are specific to a particular region. Of course, the type of coffee dictates the potential of physical and chemical characteristics, which inevitably affect the organoleptic properties.

Currently, several processes are being developed and tested to improve quality and add value to the product, which forces Robusta coffee producers to change technology modes [1].

It follows that the taste of Robusta can also be modeled, resulting in a completely new product, for which it is necessary to look for new optimal approaches in roasting in order to maintain the level of quality and unleash the maximum potential of green coffee.

In this study, three samples of green Robusta coffee, produced at the Fazenda Venturim farm in Brazil, and treated with a semi-washed method, were examined. In the process of post-harvest processing, the berries were washed with water, freed from the outer shell (peel),

after which the coffee was immersed in a fermentation vessel with yeast for sixty hours, and finally the grains were dried mechanically, using special drying modes. Drying was carried out cyclically with stops every six hours in order to ensure a more uniform loss of moisture in the grain, such a process as the subsequent rest period of the grain ensures the stabilization of moisture and water activity. Based on the above technology, we can obtain the stability of grain indicators during storage. Before export, coffee underwent multi-stage sorting and was packed in bags with a grain-pro insert, which ensures the required level of quality during transportation. In order to ensure that the quality of the green coffee samples meets the standards, we examined the moisture level and density of the green beans (Table 1)

Table 1 – Measuring moisture and density of green coffee

Average	Moisture, %	Density, g/l
	10.03	854.34

Through controlled fermentation of coffee, it is possible to increase the curve of special aromas and flavours, obtaining notes of sweets, citrus fruits and flowers. After roasting, the quality of the coffee and the consistency of quality increase, but an uncontrolled process can lead to quality losses [2].

By far the most commonly used operations are carried out on coffee farms. Roasting is primarily to induce chemical changes in the coffee beans, resulting in the desired flavour compounds [3].

Green coffee is devoid of the pleasant aroma and flavour that roasted coffee is distinguished throughout the world. The desired aroma and flavour of the coffee beans used to make the beverage develop during the roasting process when the beans undergo a series of reactions leading to the desired changes in chemical and physical composition [4].

That is why it is extremely important to choose the optimal roasting modes to maximize the potential of green coffee.

For this study, the samples were fried in a Giessen gas sample roaster with a maximum capacity of 300 grams. Roasting control was carried out using the Cropster program, which allows you to track all indicators during the roasting process. The profiles of the reference temperature mode of roasting are shown in the graph.

Green coffee was loaded at 130 °C, sample weight was 300 grams, and roasting lasted from 11 to 12 minutes depending on the sample. The unloading temperature was 195, 202, 210 °C for the first, second and third samples, respectively. The weight loss was 13.8–15.8 % depending on the sample. The same energy delivery strategy was applied to each sample to ensure that the rate of temperature rise was matched during the roasting process for each sample.

To confirm the difference in the degree of roast, all samples were examined using a LightTells CM-100 calorimeter, which determines the degree of coloration of the grain in points (Table2).

Table 2 – Physical characteristics of roasted coffee

	Sample 1	Sample 2	Sample 3
Color of roast (whole bean)	73.10	60.50	46.90
Color of roast (ground bean)	103.20	80.90	61.70
Difference between roast values for whole and ground coffee	30.10	20.40	14.80
Moisture, %	1.43	1.40	1.30
Density, g/l	457.34	432.00	415.34

The value of the difference between the roast rates of whole and ground beans indicates the uniformity of roasting of coffee. It should be noted that with an increase in the degree of roasting, the value of the difference in indicators decreases.

In addition, during the study, organoleptic analysis of samples of roasted coffee of different degrees of roast was carried out, which showed a clear difference between the samples (Figure).

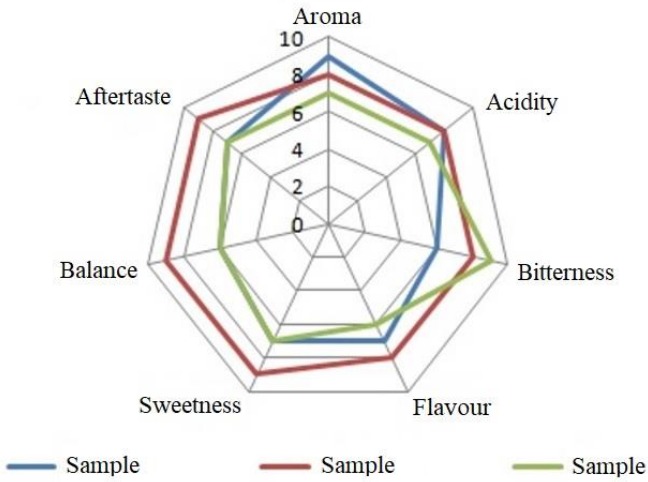

Figure – Sensory characteristics of roasted coffee samples

It should be noted that when brewing coffee, the cap on the first sample of opal is a sign of insufficient intra-grain development of the coffee, in other words, insufficient degree of roasting.

For sensory analysis, a taste scoring system was used with a scale from 0 to 10. Samples were compared for the balance of taste, sweetness, acidity, bitterness, bouquet and aroma quality, as well as for the quality and duration of aftertaste. According to the results of the organoleptic evaluation, it can be said that the first sample was distinguished by a bright aroma and acidity; however, in terms of the balance of taste, it has a rather low indicator. Also, the first sample was marked by characteristic light roast descriptors and had floral, bready, honey notes in its taste. The third sample featured an incompletely revealed bouquet and low coffee balance, as well as a high degree of bitterness. Third pattern descriptors, such as burnt flavour and tobacco notes, are characteristic of dark roasts. The second sample had a pronounced sweetness, balance and aftertaste, while the rest of the evaluation criteria are at the same high level. Despite the presence of tobacco, alcoholic notes and a bitter chocolate and cocoa aftertaste in the taste, no burnt aftertaste was found, which indicates the optimal degree of roasting.

Based on the study results, it can be concluded that it is necessary to accurately select the roasting modes for green coffee produced using the new technology, as well as monitor the correlation of measurements of physical indicators and organoleptic properties.

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По данным Международной кофейной организации (ICO), за последние десять лет объем импорта кофе в Россию вырос более чем на 2 миллиона мешков (60 кг) в год. Растущие объемы импорта указывают на высокие темпы расширения рынка и растущий спрос. В мире производят всего два вида кофе – арабика и робуста. Последний занимает более 30 % рынка из-за более низкого качества. Наука уже доказала способность улучшать вкус с помощью ферментации. Разработаны оптимальные режимы обжарки, направленные на улучшение качества продукта, получаемого по новой технологии.

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OCEANIC ISSUES AND THREATS

The oceans are a huge, but very fragile system. This has become especially evident in recent decades, when the pollution of ocean waters has reached unprecedented levels. Meanwhile, not only the well-being of ecosystems depends on the state of water – human civilization itself largely depends on the World Ocean: it affects the weather and the climate of the entire planet. That is why the pollution of the World Ocean has become one of the most serious environmental problems of our time.

More than 70 % of the surface of our planet is covered with water. The volume of water in the World Ocean is enormous – 1,370 million cubic kilometers. The ocean determines the climate on the planet: currents bring cold or heat with them, and water evaporating from the surface of the World Ocean forms clouds. If we talk about the humanity in general, more than 100 million people live on the coast, their life is somehow connected with the sea. However, this can be said about each and every one of us, even about those who have never seen the sea. After all, it is from this gigantic “weather factory” that rains originate, falling in the central regions, it is here that about 90 % of all fish is mined, it is from the ocean depths that oil is often pumped, it is the seas that move cargo.

If humanity for some reason lost the ability to use the resources of the ocean, the economy would stop, and the world would plunge into chaos. However, due to such intensive and often irresponsible use, the oceans are now in serious danger.

The development of civilization has led to increased pollution of the World Ocean. The situation began to deteriorate from about the middle of the XXth century, which was associated with the development of the chemical and oil refining industries.

All types of ocean pollution, in one way or another, affect the ecosystem of the planet, including humans. Nevertheless, in the first place is the pollution of seas and oceans with oil products. In the process of oil extraction, up to ten million tons of product gets into the environment every year. The same amount comes with river flows. Oil gets into the water as a result of man-made disasters, tanker wrecks and well drilling, but a lot of oil products are dumped by ordinary sea transport. Oil spills lead to the death of a huge number of marine animals, fish and birds, and in addition, they interfere with normal heat transfer between water layers [1].

Wastewater is no less damaging to the world's waters than oil production. Chemicals and heavy metals are used in a wide variety of industries. Enterprises dump waste water into open water bodies, through underground water all this gets into rivers, and then into the world ocean, leading to its pollution. However, large factories are not the only ones to blame for the chemical pollution of the ocean: a lot of chemicals get into the water and from the sewers, because we constantly use synthetic detergents. Waste from textile, cellulose factories, chemical plants pose a danger to the aquatic world. The waste waters of such enterprises contain heavy metals, synthetic compounds – xenobiotics, mercury. Mercury, which accumulates in living organisms, is especially dangerous. As a result of the use of such a product, severe poisoning is inevitable. For example, tuna from the Adriatic Sea is often found to have a very high content of mercury, and fish from the northern seas often have an increased content of lead. Poisoning from seafood containing toxins can be fatal: Minamata disease, caused by poisoning from seafood high in mercury, has killed at least 70 people. Moreover, as a result of the constant negative impact of harmful substances, the biospheric function of reservoirs and their ecological significance decreases.

Fertilizers and pesticides are also very dangerous. They are widely used in agriculture, as they provide a high yield. Such bait is useful for the plant world, but not for the animal world. Getting into water bodies, the bait accelerates the growth of vegetation, which leads to a violation of the natural balance between flora and fauna. But the problem of industrial enterprises is not only the ingress of fertilizers and harmful chemicals into wastewater, but also the fact that as a result of their activities, they discharge tons of heated water into the world's waters. The main problem is the temperature of this water is above average in the ocean. This disrupts food chains and leads to the extinction of many animal species. At the same time, some types of algae begin to multiply too actively, resulting in water bloom [2].

On the surface of the oceans, millions of tons of plastic waste drift, and, according to experts, 80 % of this garbage fell into the ocean from land and only 20% was dumped or washed away from ships. Garbage damages more than 250 species of marine animals and birds and releases toxic substances into the water. The garbage thrown into the ocean forms the most real floating islands. In the world's oceans, five such islands are recorded; the largest is called Tilafushi and is located near the Maldives. The inhabitants of these islands created this island themselves, taking tons of plastic waste there.

The most famous garbage island is the Pacific Garbage Patch, which can be seen even from the ISS. This is a giant accumulation of debris in the North Pacific Ocean. The area of the slick, according to the most optimistic estimates, is no less than 700 thousand square kilometers. Two Germanies could be located on this spot.

The ocean has long turned into a radioactive waste cemetery. According to research estimates, there are so many radioactive substances in the World Ocean today that they would be enough for 30 Chernobyls. The consequences of radioactive contamination are understudied, so it is difficult to assess the severity of the consequences. These substances enter the world's oceans as a result of dumping containers with dangerous goods, testing

nuclear weapons. There are data on 11,000 containers of radioactive debris dropped from 1964 to 1986. No less poisonous substances got into the water as a result of major disasters at nuclear power plants.

In addition to the anthropogenic impact on the ocean, natural sources also play their part. Thus, as a result of volcanic activity, tons of volcanic rocks, sulfur, polluting the water by entering the ocean. The rocks are destroyed. Every living organism excretes metabolic products, which also leads to deterioration in the water composition of the planet.

Pollution of the waters of the World Ocean by alien bacteria and various microorganisms, as well as organic waste, inevitably leads to a disruption of the fragile ecological balance [3].

Thus, the planet suffers from numerous consequences of water pollution. One of them is human and animal diseases. The fact is that plankton accumulates harmful substances. At the very bottom of the food chain, it is absorbed by those higher up the chain. Moreover, the protozoa themselves are resistant to the destructive effects of harmful compounds. Toxic compounds accumulate in the muscle tissue of fish. In addition, human activity disrupts the water balance on the planet. Certain areas of the planet suffer from excess rainfall, which leads to flooding. Others, on the contrary, experience a huge shortage of water resources. Entire regions suffer from prolonged, devastating droughts. Tsunamis and landslides are another type of natural disasters that provoke human activities.

Ecologists also note that global changes in the planet's climate are caused by many factors, pointing out the main reason – the polluted world ocean. A qualitative change in the surface waters of the earth leads to an imbalance in all natural systems of the planet. The regime of precipitation is changing; the number of anomalous phenomena is increasing.

In addition to all the above, we note such problems as fish extinction, violation of acid-base balance, an increase in water temperature, a decrease in the amount of oxygen produced, pollution of coastal zones, and damage to the fishing industry.

On the initiative of the UN, many important international agreements were signed to regulate the use of the resources of the World Ocean, oil production, and so on. Perhaps the most famous is the UN Convention on the Law of the Sea, signed in 1982 by most countries. There are also various world and regional conventions: the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, the International Convention for the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 and 1974, the International Convention on Liability and Compensation for Damage in Connection with transportation by sea of hazardous and noxious substances from 1996 and others.

Scientists around the globe have been keeping themselves busy for years with the question of how to save the world's oceans. Science does not stand still. Recycling the most harmful pollutants – oil and plastic – has made significant progress. But the problem still exists. It is in our power to reduce the consumption of goods. This will lead to less waste generation. Only as a result of the joint work of government, scientists and ordinary people can the ocean be protected.

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Раскрывается проблема загрязнения Мирового океана – огромной, но очень хрупкой системы. Это стало особенно очевидно в последние десятилетия, когда загрязнение океанских вод достигло невиданных прежде масштабов. Состояния воды определяет не только благополучие экосистем – сама человеческая цивилизация во многом зависит от Мирового океана: он влияет на погоду и климат всей планеты.

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EFFECTS OF RADIATION ON HUMANS

Radiation plays a significant role in the development of civilization at this stage. Due to the phenomenon of radioactivity, there has been a significant breakthrough in medicine and in various industries, including energy. But at the same time, the negative aspects of the properties of radioactive elements began to appear: it became clear that the effects of radiation on the body can have tragic consequences. Such a fact could not go unnoticed by the public. And the more we learned about the effects of radiation on the human body and the environment, the more contradictory became the idea of what role radiation should play in various spheres of human activity.

The purpose of the article is to investigate the influence of radiation on humans' health.

Radioactivity is the phenomenon of the involuntary conversion of an unstable isotope of a chemical element into another isotope by the emission of gamma quanta or elementary particles. Radioactivity was discovered in 1896 by Antoine Henri Becquerel. It happened by accident. The scientist worked with uranium salts and wrapped his samples together with photographic plates in an opaque material. The photographic plates were illuminated, although no light was available to them. Becquerel concluded that the invisible radiation of uranium salts. At first Becquerel doubted it seemed to him that he had repeated the X-rays, but this was not the case. As a result, he decided to conduct an experiment. The idea was to apply a lot of stress and see what would happen to uranium. He placed uranium in the center and electrodes with "+" and "–" charges on the sides, and wrapped it all in photo paper. The experiment revealed:

α rays are helium nuclei;

β rays are the flow of electrons;

γ rays are electromagnetic radiation of energy with a wavelength less than 1 angstrom (10^{-10}м) [3].

The human body is regularly exposed to radiation. About 80 % of the amount received annually falls on cosmic rays. Air, water and soil contain about 60 radioactive isotopes, which are sources of natural radiation. The main natural source of radiation is the inert gas radon, which is released from the earth and rocks.

Radionuclides also enter the human body with food. Part of the ionizing radiation that humans are exposed to comes from anthropogenic sources, from nuclear power generators and nuclear reactors to use for the treatment and diagnosis of radiation. Today, common artificial radiation sources are:

• medical equipment (the main anthropogenic source of radiation);

• radiochemical industry (extraction, enrichment of nuclear fuel, processing of nuclear waste and their recovery);

• radionuclides used in agriculture, light industry;

• accidents at radiochemical enterprises, nuclear explosions, radiation emissions.

Radiation exposure by the method of penetration into the human body is divided into two types: internal and external. The latter causes burns to mucous membranes and skin. At internal penetration the radionuclide gets into blood circulation, for example, introduction into a vein or through wounds, and is removed by excretion or by means of therapy. Such irradiation provokes malignant tumors [2].

We can say that each object emits a certain dose of radiation, in order to prevent fatal consequences for humanity, you need to at least expose yourself to radiation. Typically, a person encounters the creation and testing of nuclear weapons, nuclear power plants and other facilities. In this situation, the radiation dose will be based on gamma rays and high-frequency alpha and beta particles. So, first of all, you need to think about your children's health.

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Рассматривается влияние радиации на здоровье человека. Анализируются различные способы облучения человека и исследуется степень ее угрозы для человеческого организма.

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VIRTUAL REALITY

In recent years, the development of information technologies has allowed the creation of technical and psychological phenomena, which popular and scientific literature has called “virtual reality”, “imaginary reality” and “VR-systems”. The development of programming techniques, the rapid increase in the performance of semiconductor chips, the development of special means of transmitting information to a person, as well as feedback (stereoscopic displays worn on the head, gloves and a suit, in which sensors are embedded that transmit information about the user’s movements to the computer) – all this has created a new quality of perception and experiences, realized as virtual reality.

The external effect is that a person gets into a world that is very similar to the real one, or previously conceived, staged by a programmer (for example, gets to Mars, participates in space travel or space wars), or finally gets new opportunities in terms of thinking and behavior. The most impressive achievement of the new information technology, of course, is

the ability for a person caught in the virtual world, not only to observe and experience, but to act independently. As a matter of fact, a person could previously, and quite easily, get into the world of virtual reality, for example, plunging into the contemplation of a picture, a movie, or simply, enthusiastically absorbing a book. However, in all such cases, the activity of a person was limited by his position as a spectator, reader or listener – he himself could not join in the action as an active character. Virtual reality systems provide completely different opportunities: to engage in action yourself, and often not only in a conditional space and world, but also in seemingly quite real ones – at least from the point of view of human perception. All this, apparently, predetermined the boom in demand for new information technologies and, accordingly, their rapid development. However, the wide spread and introduction of such technologies gives rise to many very special problems and trends that humanity has not encountered before and that cannot be ignored.

Although the concept of "virtual reality" and everything connected with it has become widely known and popular relatively recently – already in the era of personal computers and the global Internet – however, the ideas that led to the emergence of this phenomenon were born much earlier. Let us briefly consider the history of the origin of the term itself, as well as the technology designated by it.

The word "virtual" in "virtual reality" goes back to a linguistic distinction formulated in medieval Europe. The medieval logician Duns Scott gave the term traditional meanings: the Latin "virtus" was the main point of his theory of reality. He insisted that the concept of a thing contains research attributes not formally, but virtually. Although we may need to delve deeper into our experience to understand the properties of a thing, the real thing itself already contains many empirical qualities in its unity, but it contains them virtually – otherwise, all of them would not be fixed as qualities of this thing. Scott used the term "virtual" to bridge the gap between a formally unified reality and our disordered, diverse experience.

Modern virtual reality technology began with an attempt to combine visual perception with the perception of movement and sound. Its initial use predates the invention of the computer. It was a flight simulator, the original model of which used a moving picture and pneumatic gears, similar to organ pipes. The Link Trainer lever simulator, patented in 1929, caused the simulation device to move, rotate, fall, change course, and thus create a satisfying sense of movement. And in 1956, Morton Heilig created the experimental theater "Sensorama", in which shaking, noise, wind gusts, smoke, and smells were imitated during the demonstration of the film about the trip. In 1964, the book "Summa technologiae" by Stanislaw Lem was published in Krakow, in which an entire chapter was devoted to "phantomology". According to Lem, "phantomatics "is a field of knowledge that solves the problem: how to create a reality that, for intelligent beings living in it, would not differ in any way from normal reality. Questions related in one way or another to virtual reality are considered by Lem in various aspects and in many other works.

Since the early 1960s, Ivan Sutherland has been developing technical devices that will later be evaluated as the first real results in the field of VR. The results of his research in 1965, he outlined in the work "Ideal Display", which marked the beginning of technical and technological developments, including with his participation, in the field of image processing and output. In 1972, Miron Kruger coined the term "artificial reality" to define the results that can be obtained by using a system of video overlay images of an object (person) on a computer-generated image and using other tools developed by that time. The main ideas were later published in the book "Artificial Reality" (1983) [1].

With the advent of a new generation of computers in the mid-eighties, there was a breakthrough in the development of VR systems. At the same time, in fact, the term "Virtual

Reality” appeared, which in 1985 was introduced by Jaron Lenier, who is currently one of the most famous specialists in the field of VR, a businessman, writer, musician, artist (and all of the above – not without the direct use of computer technology), and at that time – a former computer hacker.

Virtual reality is one of the most promising areas of science and culture. But the essence of virtual reality is not only in the simplified understanding of this word in the field of computer technology; it is much broader, much more dangerous than it may seem at first glance. Currently, the term “virtual reality” has four meanings. On the one hand, it is a moral value, a good, on the other – a certain actual and active reality, on the third hand – a certain artifact, on the fourth, “virtual” – most often a synonym for the potential, imaginary, unreal. However, most often, virtual reality is understood as a world created by technical means and transmitted to a person through his usual sensations for the perception of the material world: sight, hearing, smell, and others [2].

But this is only one side of virtual reality. If we look at it from the other side, we will be convinced that the disadvantages of this reality are no less than the pros. Now we can clearly see the problems that await us in the future. One of them is the so-called “Drug of Freedom”. It's no secret that the regular visitors of virtual reality are now “gamers” – players. What gives the gamer “virtual reality” – it gives a person a sense of permissiveness within the virtual world – you can be any person, do any actions. As a result, a person feels so comfortable in the virtual world that the real world loses its absolute value for him. The “gamer” becomes absolutely asocial; in reality it is bad for him – because he feels his inferiority relative to the virtual character. The second problem of virtual reality lies in the blurring of the line between reality and virtuality. Having experienced the taste of freedom and permissiveness in the virtual world, the gamer transfers it to reality and begins to behave according to the laws of the virtual world. Even kills living people. The third problem is the “reality shift”. This problem applies not only to computer technology, but also, for the most part, to television. Imagine a viewer who watches TV series and various shows every day. So over time, this viewer begins to perceive reality as a show or as a TV series, or as a movie.

In conclusion, we can say that it is obvious that virtual technologies – as, indeed, any other – bring with them not only many advantages, but also a whole bunch of hitherto unknown problems. However, progress cannot be stopped, and it is clear that, despite the statements of some technophobes, virtual reality, one way or another, will take its place in our lives. Therefore, the task of a Reasonable Person is to use his mind in such a way as to extract the maximum benefit from new achievements (if possible, enjoying it) – but never allow virtual reality to become an illusory substitute for the real world.

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Раскрываются особенности развития программирования, повышения производительности полупроводниковых микросхем, разработки специальных средств передачи информации человеку, а также обратной связи, что создает новое качество восприятия и опыта, реализованного в виде виртуальной реальности.

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BIONIK IN ARCHITEKTUR UND DESIGN

Das Leben in den Städten wird heute wegen schlechter Ökologie immer schwieriger. Die gleichen Häusern-Boxen haben zum Problem der harmonischen Symbiose der architektonischen und natürlichen Umwelt geführt. Tatsächlich sind wir die Bewohner einer künstlichen „Natur“ geworden, die aus Glas, Beton und Kunststoff besteht und deren Kompatibilität mit dem Leben des natürlichen Ökosystems stetig gegen Null tendiert. Und je stärker die künstliche „Natur“ das Leben ergreift, desto deutlicher wird das Bedürfnis des Menschen nach natürlicher Harmonie. Aber das moderne und von der Natur inspirierte Design von Gebäuden und Innenräumen kann langweilige Architektur ersetzen und gleichzeitig das Problem der schlechten Ökologie lösen. So ist das Ziel dieses Artikels, den Ort und Besonderheiten der Bionik in der modernen Architektur zu bezeichnen.

Die bionische Architektur ist eine zeitgenössische Bewegung, die die physiologischen, verhaltensbezogenen und strukturellen Anpassungen biologischer Organismen als Inspirationsquelle für die Gestaltung und den Bau ausdrucksstarker Gebäude untersucht. Dieses Zusammenspiel von Architektur, Design, Biologie und Ingenieurwissenschaften hat sich über das gesamte 20. Jahrhundert vorbereitet und wurde ermöglicht durch den Einsatz hoch-effizienter computergestützter Visualisierungs- und Simulationsverfahren in der Biologie und durch die bahnbrechenden Entwicklungen in der Gentechnik [4].

Der Begründer der Anwendung natürlicher Formen in der Architektur ist nach Meinung vieler Forscher der spanische Architekt Antonio Gaudi (1852–1926), der die bestehenden architektonischen Stile und Traditionen in der Architektur gebrochen hat. Er hat eine Architektur geschaffen, die keiner anderen ähnelt [3].

1921 wurde nach dem Projekt des deutschen Philosophen Rudolf Steiner das skulpturale und organische Bauwerk *Goetheanum* errichtet, in dem sich bionische Ideen widerspiegelten. Rudolf Steiner behauptete: „Der spirituelle Aspekt der Schaffung bionischer Formen ist mit dem Versuch verbunden, die Bestimmung des Menschen zu erkennen. Dementsprechend wird Architektur als „Ort“ interpretiert, an dem die Bedeutung des menschlichen Seins offenbart wird“ [1].

In den 20-er Jahren des 20. Jahrhunderts entstand in Deutschland und den Niederlanden eine neue architektonische Strömung – der Expressionismus, der die allgemein akzeptierte Form von Gebäuden mit einem völlig unpraktischen Zweck verzerren sollte – nur um Unterhaltung und starke emotionale Wirkung zu erzielen. Die Volumina der expressiven Architektur erinnerten an natürliche Gebilde – Berge, Hügel, Wälder – und passten perfekt in die bestehende Landschaft. Dies war einer der ersten Versuche, Bionik in die moderne Architektur einzuführen. Die lutherische Kirche *Grundtwig* in Kopenhagen (Dänemark), die vom lokalen Architekten Peder Clint entworfen wurde, ist ein leuchtendes Beispiel für die Richtung des Expressionismus in der Architektur.

In der ganzen Welt wurden die Ideen der bionischen Architektur von bekannten Architekten erfolgreich verkörpert: der Wolkenkratzer-Zypresse in Shanghai, die Oper von Sydney in Australien, das Verwaltungsgebäude der NMB Bank – Niederlande, das Rolex Training Center und das Obstmuseum – in Japan. Die weitere Entwicklung der Bionik

beinhaltet die Entwicklung und Schaffung von Ökohäusern – von energieeffizienten und komfortablen Gebäuden mit unabhängigen Lebenserhaltungssystemen.

Der erste Eindruck eines Gebäudes im bionischen Stil ist es, dass das Gebäude auf der richtigen Geometrie beruht. Die Form in der Natur zeichnet sich durch Plastizität und Vielfalt solcher korrekten geometrischen Formen und Figuren aus wie Kreise, Ovale, Rauten, Würfel, Dreiecke, Quadrate sowie eine Reihe von extrem komplexen und schönen, leichten, robusten und kostengünstigen Designs. Private Häuser, die nach einem originellen Projekt gebaut worden sind, zeichnen sich oft durch ungewöhnliche organische Architektur aus: Muscheln, Blätter, Blumen. So regen komplexe natürliche Formen moderne Architekten zur Schaffung von Wohngebäuden an, die sich von den üblichen Kanonen abweichen. Laut einer Untersuchung fühlt sich der Mensch in abgerundeten Räumen bequemer, und gehackte Umrisse von Häusern können dagegen Aggression verursachen. Bionik in der modernen Architektur ist nur der Stil, der das menschliche Bewusstsein überrascht und erstaunt, aber nicht unterdrückt. Solche Strukturen spiegeln die Komplexität der Evolution der Entwicklung lebender Organismen wider [2].

Die bionische Architektur soll sich innerhalb der Landschaft befinden. Dabei passen die umgebenden Pflanzen, Bäume oder z.B. der Wasserfall nicht nur ästhetisch in das Konzept des Gebäudes, sondern sie sind auch ein Teil der Konstruktionen, der Hilfselemente oder des Lebenserhaltungssystems.

Computer und 3D-Drucker ermöglichen komplexe Objekte im dreidimensionalen Raum, glatte organische Formen zu erstellen. Architekten, Designer und Wissenschaftler nähern sich bionischem Design und Technologie flexibel an: Es geht nicht nur um Regeln oder Stil, sondern auch um die Verbesserung der Lebensqualität. Auf dieser Grundlage gibt es drei Grundprinzipien der Bionik in der modernen Architektur:

1. *Ressourcensparen*. Das Ziel der Bionik ist es nicht nur die Inspiration durch oder von der Natur zu bekommen, sondern auch Energie und Materialien zu sparen, Kosten zu senken und gleichzeitig die Haltbarkeit und Festigkeit des Gebäudes zu erhöhen.

Das Nautilus House z.B., das 2006 vom Designer Javier Cenosiain in Mexiko entworfen wurde, ist von den Formen der Nautilus-Muschel inspiriert. Die Verwendung von geschichteten Strukturen, die den Geräten von Muscheln von Tiefsee-Muscheln ähnlich sind, ist eine der vielversprechenden Richtungen in der bionischen Architektur und Konstruktion. Weichere und haltbarere Platten wechseln sich ab: Die weiche Schicht absorbiert den Schaden der steifen, so dass das Material der Last leichter standhält. Im Jahr 2013 wurde in Deutschland z.B. ein Wohnhaus nach dem Projekt der britischen Firma Arup und Studio Splitterwerk Architects gebaut, das Energie aus Algen bekommt, die im Raum noch als Jalousien verwendet werden.

2. *Umweltfreundlichkeit*. Die „grüne Architektur“ und der Dachgarten sind auch die Prinzipien der Bionik, die Architekten bei der Schaffung einer wohlhabenden Wohnumgebung verwenden. Als Beispiel kann das chinesische Projekt einer Wohnanlage mit vertikaler Begrünung Qiyi City Forest Garden dienen. Auf jedem Balkon und zwischen den Etagen befindet sich ein Garten, der von den Bewohnern gepflegt werden sollte.

3. *Kontakt zur Natur*. Das bionische Design schafft die Verbindung der Wohnung mit dem Raum außerhalb des Hauses und den Rhythmen der Umgebung. Manchmal genügt es, mehrere Fenster im Raum zur Verfügung zu stellen, so dass das Layout nicht nur ergonomisch, sondern auch organisch ist. Elemente wie Glasschiebetüren und Panoramafenster verbinden sich mit der Umgebung. Z.B. ist es schwierig, in einem kalifornischen Wüstenhaus, das von Marmol Radzine Architekten entworfen wurde, sofort zu verstehen, wo die Innenräume enden und wo der Hof beginnt. Natürliche Materialien im

Inneren betonen die Verbindung mit der Erde und der Natur im Allgemeinen – der Bodenbelag von der Straße fließt in das Haus.

Abschließend kann man sagen, dass Bionische Architektur nicht nur exotische Gebäude sind, sondern auch einfache Haushaltsprinzipien des Bauens und Designs, die in Harmonie mit der Natur stehen und mit ihr nicht ständig kämpfen. Die architektonische Bionik ist eine neue Seite in der Entwicklung der Bautechnik. In der Natur ist alles sehr harmonisch. Die Natur erzeugt beim Menschen ein Gefühl der Lebensbejahung, des Strebens nach Licht, Wärme. All dies versuchen die Architekten in Stein, Metall, Ziegel, Beton zu reflektieren. In der bionischen Architektur wird angenommen, dass man solche Häuser bauen sollte, die eine natürliche Fortsetzung der Natur darstellen und die mit ihr in keinen Konflikt geraten.

Heute sind die Perspektiven der architektonischen Bionik schwer zu überschätzen. Ohne sie können die bedeutenden Probleme der Architektur nicht gelöst werden, und vor allem selbst die komplexe Entwicklung der Architektur.

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Рассматриваются особенности такого направления архитектуры и дизайна, как бионика. Подчеркиваются основания для дальнейшего развития стиля, его принципы и источники возникновения. Анализируется связь бионики с природными формами, а также затрагивается тема возможности решения экологической проблемы.

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MOBILE APPLICATIONS IN EVERYDAY LIFE

A mobile application is a special software that is developed for smartphones, tablets, and other mobile devices. IBM Simon’s R&D department introduced the first mobile app for smartphones in 1993.

Mobile phones are important in our daily life and activities. Mobile phones are no longer the common communication device they used to be. With the many incredible features and capabilities that mobile phones offer, they have become the object of tremendous attention. It is impossible to imagine your life without a mobile phone now.

Since smartphones came into use, App development has started growing exponentially to make human lives easy and to provide them with every small thing at their fingertips.

Mobile apps have become one of the important parts of our life that connects us with people living in different places just by sitting at home. These apps do not only connect the people but are also a source of information, entertainment, and a medium to learn various things anytime and from anywhere.

In this article we aim to reveal the areas of application of mobile apps and to describe the most popular and the most useful applications for the smartphones, as well as to show what apps are popular among students.

Presently, the use of mobile apps can be seen in areas such as communication, education, cooking, social media, transportation, entertainment, shopping, business (money making), matrimony, and banking [1; 2].

Social Media: we use such apps as Skype, Telegram, Facetime, WhatsApp, and Facebook Messenger in our daily lives to connect with our loved ones, regardless of distance. These apps are the only source for us to stay in touch with our loved ones who are far away from us.

Education: these apps have provided help to the students across the world to understand the concepts easily which they find very difficult. These apps are of more importance to the kids for making them learn and remember things easily.

Entertainment: there are various entertainment apps that allow you to watch movies, series, listen to your favorite music, and play games depending upon your interest. Most of us have online music apps in our smartphones which we use while working also to enjoy the work as well the music. Gaming apps help to divert our mind and also improve our analytical skills.

Shopping: mobile apps have made it easy for us to buy things online just by sitting at home rather than going out. These apps provide the users with a wide variety of things with proper information about the item and its price so that the user can purchase things online. Users can also order groceries, fruits, vegetables with the help of these apps and can pay for these items online as well as on delivery.

Transportation: these apps help us to book a ride and the driver comes to pick us at our location and to drop us at the destination within a short time.

Banking: we can easily transfer money from one account to another with the help of these apps. These apps play an important role when there is an emergency need for money transfer.

Mobile apps have become an integral part of our life and help us to stay connected with the social world and are the source of entertainment to keep our mind fresh and strong. In this technical era smartphones have occupied the market and they need apps to provide comfort to users by making things easy for them. Mobile apps are important in helping us solve various problems.

We have conducted the survey among Applied Mathematics majors at Brest State A. Pushkin University of mobile apps they use. Here is the list of the most common apps on every student's phone.

1. Instagram (an application for sharing photos and videos with social network elements, allowing you to take photos and videos, apply filters to them).
2. Google Translate (a Google web service designed to automatically translate a part of a text or web page into another language).
3. FBReader (a computer program for reading e-books in various formats).
4. YouTube (a video hosting service that provides users with video storage, delivery, and display services).
5. QR and Barcode Scanner (barcode processing software).

6. Skype (free proprietary, closed-source software that enables text, voice, and video communication over the Internet between computers or phones).
7. Facebook / Messenger (an instant messaging and video app created by Facebook).
8. Gmail (free email service from Google).
9. Viber (a messenger application that allows you to send messages, make video and voice VoIP calls over the Internet).
10. Shazam (a free cross-platform project that allows the user to determine what song is currently playing).

In conclusion, it is worth noting that in future, many applications will be developed for every conceivable task.

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Показана роль мобильных приложений в повседневной жизни, описаны самые популярные из них. Приведен список наиболее полезных приложений для смартфона с точки зрения студента.

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QR-CODE, ITS CREATION AND APPLICATION

With each new stage of the formation of human society, information becomes more in demand and the most important resource. Information needs to be protected, for this purpose; information is often encoded by the sender and decrypted by the recipient. The QR code is just an intermediate encoded state of information that can be deciphered by anyone with a scanning device. The QR code is part of modern life, and we need to be able to use it.

The purpose of the study was to determine:

- What’s the QR code?
- What is usually encrypted in a QR code?
- How QR codes are used in different fields?
- Disadvantages of using it.

A set of methods were used, such as theoretical (the study of literature and internet resources) and empirical (observation).

A QR code is a two-dimensional barcode that provides information for quick recognition by scanning it with a smartphone or tablet camera. It is a set of black squares arranged on a square grid on a white background, and is adapted for quick reading and recognition by smartphone cameras. They can encrypt various information in a machine-readable format [3].

To read the information, you need to run the program and bring the smartphone camera to the code. After scanning, a link to the data that is encrypted in the image will appear on the screen. Many devices are equipped with the function of auto-scanning codes. In this case, you do not need to download additional software, because everything you need is already in this device.

Most often, the QR code is encrypted:

- *The web address.* They contain quite a large number of characters, which makes it inconvenient to type manually.
- *Business card*. In this code, the contact information about the person is encrypted in a special format. The smartphone, reading such a barcode, will offer to create a new contact.
- *Text or Email message*. Reading the QR code will help simplify the procedure: a ready-made SMS message will appear on the smartphone screen.
- *Geographical data.* With the help of a QR code, you can show the location of the desired object on electronic maps of Google, Yandex, etc.

QR codes are used in different fields such as:

Health care

As the coronavirus pandemic swept through China, authorities began using QR codes as a tool to track and monitor the movements and infectious status of millions of residents. The system, which requires citizens going outside to scan a QR code when entering and leaving a room, as well as measure the temperature. During the pandemic, digital passes with QR codes were also used in Moscow. The presence of a digital or printed code was a prerequisite for finding a person out of the house during isolation. The use of QR codes for such tasks is not something fundamentally new: they are built into everyday life as a means of communicating online and offline around the world. For example, a Woolworths supermarket in Australia uses QR codes to track contacts. Customers of the store are invited to scan the QR code at the entrance and share their contact details to receive notifications if any of the visitors are confirmed to have Covid-19.

VUCA Health, a provider of educational medical videos, has also launched an initiative that uses QR codes to inform patients about vaccines. Each vaccine is assigned a QR code, which the patient can scan to get a virtual information sheet about the vaccine on a mobile device. This allows you to safely inform people during vaccination periods.

Hospitality industry

For the hotel sector, QR codes have largely become a key component of the safe opening of facilities. In restaurants where the physical menu is now a potential vector of infection, QR codes on stickers or disposable cards have become commonplace as a means of accessing the digital menu.

The introduction of “contactless” menus has a number of advantages for restaurants: they can be made interactive, quickly updated to reflect dishes as they are added or sold out, and include coupons or special offers. QR codes are used even for processing contactless orders and payments. And customers are happy to use it. According to VTB Online, from April to August 2020, the number of purchases by QR code through the Fast Payment System among the bank’s customers increased 5-fold, and the volume of transactions increased 4-fold over the same period [2].

Social Media

The new Instagram feature, which was discussed at the beginning, helps companies attract a new audience to their social network profiles. The QR code can simply be printed on the advertising distribution, transport, buildings-wherever users notice them and can go to the company’s page. Facebook Instagram seems to be satisfied with the results of the experiment,

because the function of adding contacts via scanning a QR code is planned to be launched in WhatsApp as well. So it becomes a normal way to share profile information on social networks.

Advertisement

In 2020, many brands have rediscovered the possibilities of QR codes in advertising, writes Business Insider. In the spring, Burger King offered a free whopper to American TV viewers, to get it you just had to scan the QR code during the ad. And L'Oreal has replaced the testers in its stores with QR codes, so that users can scan them and try on the sample that interests them [2].

Education

In universities, schools, and scientific institutions, you can find various graphic information encrypted with a QR system about outstanding figures of science and culture. QR codes are usually placed on information stands in classrooms and laboratories. At the same time, after deciphering the code, the user, whether a student or a teacher, receives not only a biography and photo of a famous person, but also a list of scientific works. Moreover, each work has an individual link to the electronic version on the Internet, which allows readers to get acquainted with the author's work in the shortest possible time. This technology simplifies the processes of scientific and educational communications [1].

But usage of QR code has not only advantages but disadvantages too.

Compared to other non-cash payment methods, the QR code is considered unsafe. It can lead to a phishing site which is made to steal bank data.

In early 2018, speaking at the National People's Congress in Beijing, Liu Qingfeng, deputy head of the board of cloud service provider iFlytek, told the media that "more than 23 % of Trojans and viruses are transmitted using QR codes, as it is very easy" [2]. Some cybersecurity experts have estimated that a quarter of the malware found on smartphones is transmitted via QR codes.

Another disadvantage is that not everyone understands the principle of use QR codes. The vast majority of designers who create the add layout don't think about the convenience of scanning the label and its correct location on the add. The interviewed audience, even if they know about the essence of the concept of a QR code, in the vast majority of cases do not have software to read it [3].

In addition, some links even are not available.

In conclusion we should say that QR code is a common technology and it is a part of our lives. That is why it is necessary to know about the benefits of using it. Perhaps humanity will develop the use of this technology in other areas of our lives. If are you able to use it or not is everyone's business.

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Раскрывается понятие «QR-код», рассматриваются варианты применения QR-кодов в различных сферах деятельности человека, таких как образование, медицина, сфера обслуживания и реклама. Анализируются преимущества и недостатки, а также потенциальные угрозы использования QR-кодов.

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3D PRINTING TECHNOLOGY: ITS PRINCIPLES AND APPLICATIONS

Our society is already so used to technology that it's getting harder and harder to surprise us. However, a few years ago, we could not have imagined that 3D printing would enter our lives, and it would be possible to print machines, equipment, various figures, houses, and entire blocks in the future. It sounds like science fiction, but it's already a reality.

The purpose of this work is to analyze the importance and necessity of using 3D printing in different spheres of life.

3D printing has only recently entered our lives, but we are already on the threshold of a real 3D revolution. Every day, the scope of 3D printing is expanding. The demand for 3D printers is constantly growing.

This technology was discovered and patented by an American scientist Chuck Hull back in the 1986, but the first equipment appeared only ten years later. First 3D printers were modernized ink-jet printers, but later models were created with the use of photo polymeric liquid plastic in their operation [2].

Before these devices were quite large, and now 3D printers can easily be located on a standard writing desk. We consider their broad sphere of application the main advantage of such inventions. As far as using a 3D printer we can create objects of various materials and produce ready-made parts, today these devices can be used in architecture, construction, medicine, automotive industry and even in the production of weapons. The possibility of the use of these devices in medicine has the greatest importance to humans. Without 3D printers, it would not have been possible to create modern, high-tech prostheses, artificial internal organs, dental implants and more.

What is a 3D printer? This is a device that allows you to create physical objects based on their 3D model. The 3D printer prints an object in three planes at once from the bottom up. 3D printers work with completely different materials, but their main principle is to create an object in layers.

What is the main purpose of using 3D printers? First of all, this is necessary to reduce the cost of production. Now engineers don't need to look at hundreds of drawings, just look at a real 3D model. They can test this model and then create a ready-made version. But working with prototypes isn't everything. 3D printing is also needed for fast production. Unfortunately, the prices for such prototypes are still very high, but they will certainly decrease over time.

What are 3D printers? At the moment, there are food, construction, military, medical and printers that produce themselves.

Food 3D printers target a single variety of food, meaning they only make cakes or just pizza. This printer uses an edible base and edible ink. These printers can easily print even

hamburgers. Why is a food-grade 3D printer such a rarity? Firstly, there are not enough programmers and special SOFTWARE, and secondly, semi-finished components are not widely distributed everywhere. Food 3D printers are divided into 2 large groups. These printers use ready-made semi-finished products and fillers. These printers themselves synthesize the necessary substances and dress them in any form.

Military 3D printers are capable of creating rocket engines. Also, such printers are able to make ready-made weapons.

Construction 3D printer allows people to dream up, it is easy to create houses with unusual shapes. In the future, such 3D printers will create truly unique and highly aesthetic works. 3D printers will also be very convenient for building new homes in areas that have been affected by natural disasters.

Medical 3D printers are already very popular. They allow us to take into account the smallest individual features of the structure of any person and make any ideal implant. People are already actively printing prosthetics, trying to make whole organs. There are also printers that reproduce not only their details, but also print themselves entirely.

One of the most important 3D goals is prostheses for ears, noses and chins. Prostheses for ears, noses and chins are often painful, expensive and time-consuming for both the patient and the doctor. British industrial designer Tom Fripp has been working with scientists from the University of Sheffield for the past 5 years to develop a cheaper and easier-to-manufacture facial prosthesis that can be obtained using 3D printing. The process of creating such a prosthesis includes 3D scanning of the patient's face (which is much less painful than casting it), modeling the replacement part and printing it using pigment, starch and medical silicone [1].

3D printing applications in dentistry has helped in a variety of different ways from orthodontics to general dentistry. The different dental areas currently integrating 3D printing are fabricating customized and accurate braces, dental restorations, castable crowns, dental bridges, and denture frameworks and bases.

3D printing in medicine has helped the dental health field to offer convenient chair-side care at a lower cost and with a controlled treatment plan. It also minimizes the wait time because no mold is needed – the feature can be printed directly.

Another important aspect of 3D printing when applied to dentistry is its easy adoption into a clinic, laboratory or dental office. Speed and accurately designed and developed solutions are key to this application, and 3D printing in medicine does just that.

3D printing in medicine is accelerating the health care industry at an impressive rate. The result is more comfort for the patient, better understanding for the doctor, and an easier time for the pocketbook. The precision, speed, and low cost is paving the way for a more intelligent and joyful approach to healthcare.

From households to the industry to disaster zones, 3D printing is transforming the world for the better. The future looks extremely bright for this technology and the benefits it will bring us. In fact, the future is so bright, that we might all need some 3D printed sunglasses real soon.

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Статья посвящена истории развития 3Д принтеров и 3Д печати, которая в настоящее время применяется практически в любой сфере деятельности человека. Аанализируются возможности использования 3Д печати в строительстве, пищевой промышленности, военном деле и медицине.

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ТОПОНИМЫ АРАБСКОГО ПРОИСХОЖДЕНИЯ В ИСПАНСКОМ ЯЗЫКЕ

Андалусия – испанское автономное сообщество, в которое входит восемь провинций: Альмерия, Кадис, Кордова, Гранада, Уэльва, Хаэн, Малага и Севилья. Андалусия расположена на юго-западе Испании. Южную часть омывают Гибралтарский пролив и Средиземное море, западную – Атлантический океан. Андалусия на западе граничит с Португалией, на севере – с Эстремадурой и Кастилией – Ла Манчей, на востоке – с Мурсией. Столица Андалусии – Севилья [1].

Иберы были первыми племенами, обосновавшимися на Пиренейском полуострове. Они жили здесь более 5 000 лет назад и считаются коренными жителями полуострова. Финикийцы, великолепные мореплаватели, начали приплывать в Андалусию позже. Ими были основаны первые города на полуострове. Кадис был основан более 3 000 лет назад и послужил примером для строительства других городов [1].

Новый этап в развитии Испании начался с расцветом Римской империи. Рим господствовал на Пиренейском полуострове более чем 700 лет. Во время правления императора Константина в IV в. н. э. в Испании начало распространяться христианство.

В 711 г. мавританские войска приплыли из Африки и высадились на берег в Тарифе, что положило начало эпохе мавританского господства. Андалусия происходит от арабского названия Аль-Андалус. Мусульмане называли так весь Иберийский полуостров, кроме Астурии. В ходе Реконкисты христиане использовали это наименование по отношению к югу полуострова, позже оно закрепилось за последней захваченной территорией. Андалусия была покорена маврами до 1492 г. Во время Реконкисты войска христианских королей Изабеллы Кастильской и Фердинанда Арагонского освободили от мавров последний город – Гранаду. Эпоха мавров оказала огромное влияние на культуру, науку и историю страны. В Испании получили широкое развитие медицина, математика, астрономия [1].

Арабское влияние той эпохи отразилось на истории испанского языка, привнеся в него новые понятия политической, культурной и социальной жизни мусульман. В испанском языке сохранилось около 4 тыс. арабских слов. Большая часть слов сохранила форму арабского артикля – al или – a: la alcoba – спальня, la alfombra – ковер, el algodón – хлопок, la almohada – подушка, el alcazar – замок, la álgebra – алгебра, el albaricoque – абрикос, el azúcar – сахар и т. Д. [1; 2].

Арабское влияние на науку Испании также оставило след в испанском языке, когда появилась следующая группа слов: el ajedrez – шахматы, la cifra – цифра, el azufre – сера, el azoque – ртуть, el alcanfor – камфара и др. [2].

Существуют также такие понятия, как топонимы – географические названия, которые занимают особое место в лексической системе языка. В этом плане важно отметить, что многовековое пребывание арабов на территории Иберийского полуострова привело к проникновению в испанский язык топонимической лексики. Арабизмы такого рода распространены по всей территории, подверженной арабскому влиянию, в особенности там, где располагались основные культурные центры [2; 3]. К ним относятся побережье Валенсии, территория Андалусии и часть Кастилии, где встречается большое количество топонимов арабского происхождения.

Эти названия включают в свою структуру арабские имена собственные, которые означают принадлежность тех или иных земель какому-либо арабскому владельцу: Benimulsen – дети мусульман, Almudena – покровительница Мадрида [2].

Арабская традиция сохраняет латинскую тенденцию включения в состав топонима слов medina – город и zumura – изумрудный город.

В освоении географического пространства важную роль играли дороги, что также нашло отражение в топонимах арабского происхождения: Albacete – равнина, Alcira – остров, Granada – ущелье между горами, Guadalajara – долина камней, Guadalquivir – большая река и др. [3].

Таким образом, видно, что большое количество испанских слов, включая географические названия городов, крепостей, рек, а также слов, связанных с наукой, привнесены в испанский язык с периода арабского господства.

Наличие в современном испанском языке значительного количества арабских заимствований объясняет ту большую роль, которую они сыграли в обогащении словарного состава и становлении лексической нормы испанского языка.

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WATER MANAGEMENT IN FRANCE: PROBLEMS AND SOLUTIONS

Nowadays water has become a fragile good, both in quantity and in quality. If in developed countries water pollution by domestic and industrial wastewater is better and better controlled, agricultural pollution remains alarming. In the developing countries the populations suffer from the lack of safe water and from serious microbiological contaminations: water remains the first cause of mortality in the world with 4 million deaths per year according to WHO.

Water management must meet several fundamental challenges: allowing everyone to have access to drinking water and wastewater treatment; preserving water resources and aquatic environments; preventing permanent and accidental pollution; preventing and managing floods and droughts, fighting against erosion; ensuring agro-food production, while limiting the impacts of agriculture on the environment and resources; allowing the sustainable development of industry, energy production, recreational activities, tourism and inland waterways transport.

These stakes often compete and the problems cannot be solved in a sectoral manner. A cross-sectoral approach is necessary: it is integrated water resources management (IWRM). The geographical reality of water must be taken into account at river basin level. This means defining an adapted institutional and legal organization: regulations, administrative organization, agreements and partnerships, management and action plans, financing, controls, monitoring of the environments.

The basic unit for water management is the river basin. Integrated Water Resources Management (IWRM) at the level of river basins allows a coordinated approach: between upstream and downstream; between quantity and quality; between surface and ground waters; between the needs linked to human activities and the needs of the ecosystems; between the risk prevention policies regarding erosion, floods and droughts.

Integrated water management implies knowing the resources, uses and needs. The gathering and interpretation of many data are necessary to plan the actions, to follow up their implementation and to assess their effects.

In order to limit pollution at the source, standards are applied to domestic, agricultural and industrial discharges. Specific measures are enacted in the particularly sensitive areas, which are the subject of special protection. It is the case, in particular, of protection areas which must be set up around drinking water intakes, in order to avoid non-point and accidental pollution (activities are prohibited or authorized under very restrictive conditions). Particular water policing measures are also taken for shellfish farming areas, bathing areas, “vulnerable zones” according to the Nitrates Directive, “sensitive areas” according to the Directive on “Urban Waste Water”, wetlands, Natura 2000 zones [2].

The most fragile aquatic environments, such as marshes and ponds, low alluvial valleys, estuaries, are the subject of particular protections. Specific agroenvironmental programmes are implemented there in agreement with the farmers, within the framework, in particular, of the European Community regulations. Local authorities, farmers and industrialists, are incited to comply with the standards or to increase the capacities for wastewater treatment. The Water Agencies financially support the development of programmes for controlling urban, industrial or agricultural pollution and for the restoration of rivers.

Fish fauna is a good indicator of the status of a river. The “Law on Fishing” of 1984 obliges the developers to maintain a “reserved flow” (or “environmental flow”) downstream of the installations, to guarantee aquatic life and the healthiness of rivers. Fishing activities must fit in with a Departmental Plan for the Protection of aquatic environments and fish resource Management (DPPM) implemented on a departmental scale and local Fish Resource Management Plans developed for each river. The Programmes for the restoration of highly migratory fish initiated 25 years ago.

The raw waters that can be used for the production of drinking water must meet very strict criteria. They must be protected from pollution. The protection areas are entered into urban planning documents. The raw water is then treated and the supplied tap water must meet many criteria: organoleptic parameters (color, taste, odor even if they have no direct relationship to health), physicochemical characteristics, standards concerning the substances

tolerated up to a certain limit (fluorine, nitrates), standards concerning the toxic substances whose contents should not exceed millionth per liter (lead, chromium), standards concerning microbiology (bacteria, pathogenic viruses), standards concerning pesticides and phytosanitary products. These rigorous quality standards are based on the WHO work and on the European directives.

Common cause between all the stakeholders is necessary to meet the challenges of water management and the impacts of climate change. The lessons that can be learned from the French experience are: integrated water management at the level of river basins; decentralization of water management; participative management, involving all the stakeholders and the public; local public responsibility for water supply and sanitation utilities; experience feedback from the various methods used for managing water utilities, either managed by a public authority or by a delegated private company; transparency in the operation of services and information to the users.

But, of course, while this system is efficiently operating in France, it cannot be exported as such to other countries. On the other hand, the methods developed in France can help the countries to reinforce their water resources management at the national, regional or local level and to develop international coordination for transboundary water resources management.

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Статья посвящена проблеме управления водными ресурсами на территории Франции. Управление водным хозяйством Франции осуществляется на основе бассейнового принципа: территория страны разделена на 6 бассейнов. В каждом бассейне работают Бассейновый комитет, который определяет политику развития бассейнов и определяет плату за водопользование, и Бассейновое агентство, обеспечивающее реализацию водной политики с использованием экономического механизма платежей и субсидий.

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EL PAPEL DE LA LENGUA ESPAÑOLA EN LA COMUNICACIÓN MULTICULTURAL MODERNA

Los procesos de globalización universalmente están penetrando en la vida de la sociedad, la vida privada de los ciudadanos y en todas las esferas de actividad vital de habitantes modernos de espacio multicultural.

La globalización destaca el problema actual y significativo de la preparación de los jóvenes para la vida en las condiciones de la esfera multinacional, formación de las habilidades para comunicarse y colaborar con la gente de las razas, nacionalidades, religiones diferentes con la

ayuda de la comunicación multicultural que es fenómeno más discutido que llama el interés auténtico no solo dentro de los lingüistas sino dentro de los especialistas de las demás esferas de la vida. Por tal popularidad a menudo es muy difícil determinar este concepto. En su sentido general se puede defenir la comunicación multicultural como buen entendimiento entre dos participantes del acto comunicativo, que pertenecen a las culturas nacionales [1].

La conexión inseparable entre los estudios de las lenguas extranjeras y la realización de la comunicación multicultural es tan evidente y cercana que no hay alguna necesidad de revelar su esencia porque cada lección, cada frase aprendida en el idioma extranjero se acercan a la realización acertada de la comunicación multicultural.

Vamos a examinar en detalles la realización de este tipo de comunicación con la ayuda de uso del idioma español. Para esto hay un montón de motivos. El español es hoy por hoy una fuente de riqueza indiscutible cuyo valor tiene su origen en tres factores determinantes. Su potente demografía: es la tercera lengua más hablada del mundo después del chino y el inglés; su funcionamiento apreciado: como lengua de comunicación internacional el español ocupa un lugar determinante en el escenario internacional al tiempo que abre las puertas en el futuro profesional para todos aquellos que la estudian; y su reconocido prestigio cultural: el español es el vehículo idóneo para tocar el rico patrimonio cultural de España; la lengua española es la puerta de acceso a la producción cultural que se genera en todos los países donde se habla en cualquiera de sus expresiones: literaria, artística, cinematográfica [1].

Llegando a la arena mundial la lengua española pretende al status muy alto, desalojando muchos idiomas germánicos y románicos. Vamos a estudiar la cantidad de población española en el mundo.

Unos 450 millones de hablantes son nativos del español, 23.138.000 de hablantes no son nativos usuarios, además considera la estimación del Instituto Cervantes de 14 millones de estudiantes del español en el mundo, y finalmente, 1.860.000 extranjeros con competencia limitada, en los países con el español como la lengua oficial. Sin ser tan rigurosos en el análisis, la población hispanohablante podría estar en el umbral de los 500 millones.

Estas cifras permiten concluir que el principio del estudio de español con el objetivo de futuro ingreso en la comunicación multicultural es el garante de que la cuestión territorial favorecerá a este en todas las formas posibles.

La realización del diálogo multicultural no es solo la comunicación con los representantes y usuarios del idioma sino es hundimiento en los valores y tradiciones culturales que han conservado en sus mismos todo en su aspecto prístino que ayuda más tocar el castellano.

Estando en el cautiverio del siglo XXI – el siglo de las tecnologías de información y de computador es muy absurdo hablar sobre las dificultades posibles en la realización de la comunicación española. Al lado de las clases tradicionales y la comunicación directo en el idioma hay un montón de los medios técnicos que están usando para perfeccionamiento de los hábitos de español: el internet que ha abierto la época nueva al camino de realización de la comunicación multicultural.

El desarrollo de los procesos de la realización de la comunicación multicultural con el uso de la lengua española y de los conocimientos de los valores culturales es lo mismo como la lengua: dinámico, expresivo y progresivo y por eso es necesario hacer todo lo posible para tener la integración acertada en la comunicación española.

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Рассказывается о роли испанского языка в современном мире. Анализируется роль испанского языка как одного из условий профессиональной компетенции. Его знание необходимо для эффективного взаимодействия государств друг с другом во многих сферах жизни (науке, политике, культуре, искусстве и т. д.).

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СИСТЕМА ОБРАЗОВАНИЯ В ИСПАНИИ: СОСТОЯНИЕ И ОСОБЕННОСТИ РАЗВИТИЯ

Испания входит в число стран с высоким уровнем образования. Дипломы испанских вузов признаются во всех европейских странах.

Для испанской системы образования характерно сочетание многовековых академических традиций с динамичностью учебных программ, адаптирующихся к потребностям современной Европы [1]. Система образования в Испании интегрирована в общеевропейскую систему. Каждый университет в Испании является автономным и может вносить свои изменения в учебные программы.

Рассмотрим особенности начального и среднего образования. В рамках школьной программы учащиеся изучают как обязательные предметы (географию, историю, испанский язык, математику, искусство, музыку, естественные науки), так и предметы по выбору и основы профессиональной подготовки в какой-нибудь области. По завершении обязательного среднего образования выпускник может либо продолжить обучение в системе профессионального образования, либо после успешно пройденного тестирования поступить на двухгодичную программу Bachillerato, необходимую для последующего поступления в вуз, и завершить полное среднее образование. Во время обучения по программе Bachillerato происходит разделение по потокам с углубленным изучением предметов в области, в которой учащийся планирует специализироваться в дальнейшем. Обычно школы предлагают четыре направления специализации: искусство, естественные науки, гуманитарные и социальные науки и технология. После завершения образования сдается экзамен Selectividad, который является вступительным в испанские высшие учебные заведения [1].

Система образования в Испании начинается с дошкольного образования для самых маленьких (Educación Infantil), которое не определено в качестве обязательного, является бесплатным в государственных учреждениях (гарантированно бесплатным в государственных учреждениях является обучение детей с 3 до 6 лет) и платным – в частных. Его можно разделить на два этапа: 1 – для детей от 0 до 3 лет; 2 – для детей от 3 до 6 лет [2].

Далее следует начальное образование (Educación Primaria) от 6 до 12 лет и среднее обязательное образование (Educación Secundaria Obligatoria) (ESO) – от 12 до 16 лет. Полное среднее образование (Bachillerato), или 1-й уровень профессионального образования (Formación Profesional I), охватывает возраст с 16 до 18 лет.

Обязательное образование в Испании начинается с шести лет. Оно относительно бесплатное и получать его можно в государственных и частно-государственных школах [2].

Учебный год в Испании разделен на три триместра. Он начинается с 15 сентября, а завершается в середине июня. Начальная школа начинает учебный год и заканчивает его на несколько дней раньше, чем остальные ученики. Начальное образование разбито на три цикла по два года каждый [2].

Среднее образование в Испании является обязательным. Каждый ребенок в возрасте с 12 до 16 лет обязан посещать учебное заведение. Среднее образование в Испании состоит из четырех ступеней. Предметы, изучаемые в средней школе, готовят ученика к последующему выбору направления обучения или к работе. После того как этап среднего образования окончен, ученик должен выбрать свой дальнейший путь. Можно получить профессиональное образование. А можно продолжить учебу в школе в Bachillerato.

Система высшего образования имеет следующие особенности. Бакалавриат охватывает 2 курса (как правило, предоставляется возможность подготовки в университет по гуманитарным предметам, социальным наукам). После прохождения бакалавриата студенты могут поступать в университет. Следует иметь в виду, что в некоторых университетах недостаточно подобной двухгодичной подготовки – здесь требуется пройти дополнительную годичную подготовку (COU) [2].

Вступительный экзамен в университеты комплексный, называется Selectividad и включает обязательные предметы и выборочные (гуманитарные или технические, в зависимости от университета). В Испании распространены следующие типы образования: обычное (дневное), вечернее (для работающих или получающих два образования – во второй половине дня, по 3–4 раза в неделю).

Академический год в университетах Испании длится, как правило, с октября по июнь. Большая часть испанских вузов проводит обучение на испанском языке. Иностранным абитуриентам предлагаются подготовительные курсы по испанскому языку, которые могут быть специализированы по направлениям (с юридическим уклоном, экономическим, медицинским и т. д.). С каждым годом в университетах Испании увеличивается и количество англоязычных программ.

При поступлении на некоторые программы необходимо подтверждение уровня владения испанским языком. Подтверждающим документом может быть признан DELE (Diploma de Español como Lengua Extranjera) [1].

Планирование учебного процесса в вузах Испании организуется системой «кредитов». 10 часов аудиторных занятий соответствуют одному «кредиту». По сумме набранных «кредитов» судят о степени подготовки студента, интенсивности его обучения и достигнутых в учебе успехах.

Ведущим образовательным центром Испании является Университет Саламанки, представляющий большие возможности для изучения языка и/или университетской подготовки. Университет Саламанки, основанный в XIV в., имеет большое количество факультетов и предоставляет большие квоты для иностранцев [2].

Из всех специальностей наибольшим успехом среди испанских студентов пользуются гуманитарные и общественные науки (их выбирают около 40 % всех поступающих в университеты). На втором месте с небольшим отрывом находятся медицинские специальности (около 36 % поступающих). Техническими науками предпочитают заниматься лишь 14 % испанских студентов.

В настоящее время в Испании насчитывается 47 государственных и 10 частных высших учебных заведений [2]. Государственные университеты котируются выше частных. За качеством образования следит Национальный институт качества и оценки (Instituto Nacional de Calidad y Evaluación) Министерства образования и культуры

Испании, который находится в Мадриде. Самыми престижными университетами Испании являются Universidad Complutense de Madrid, Universidad de Barcelona, Universidad Autónoma de Barcelona, Universidad Autónoma de Madrid.

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POWER CONSUMPTION FORECASTING

Nowadays, it is impossible to imagine life without electrical energy. With the help of electrical appliances, we solve a wide range of daily tasks, from cooking to writing a dissertation on a computer. With the advent of new devices and industrial electrical equipment, electricity consumption is growing. But power systems are designed for certain loads.

It is necessary to use the power supply system at rated loads without exceeding the limit values. This mode of system operation is the most cost-effective. Therefore, the study provides theoretical economic grounds for power consumption forecasting as inaccurate forecasting is associated with increased costs of electricity.

The service life of the power supply system can reach tens of years. At the same time, the annual growth of electricity consumption is rather significant. For example, electricity consumption in Turkey increases by 4–5 percent annually, while in Europe this rate is lower [3]. The electricity market has a rapidly developing structure due to rapid urbanization, industrialization and population growth.

The operation of the power system with a load higher than the rated one is abnormal. The use of the power supply system during overload entails a number of consequences:

- the current increases above the permissible value;
- increase in case of emergency shutdowns;
- additional losses of electricity;
- reduction of voltage at the consumer site;
- wire overheating;
- reduced life of the wire etc.

In general, the operation of equipment in such modes leads to a decrease in the quality of electricity and reliability of power supply and an increase in the number of accidents. In order to avoid these consequences, electricity consumption should be forecast within the given timeframe.

Forecasting allows you to understand how much the load will increase over the operational period of the power supply system. The results obtained are taken into account when designing a new or reconstructing an old power supply system.

For clarity, we have made a forecast of electricity consumption for the city of Solnechnogorsk for a ten-year period using two methods [2]:

1. Balance method;
2. The method of extrapolation of time series.

Initial data for the analysis:

- electricity consumption over the past 18 years;
- current electrical loads;
- capacity of production facilities planned for construction.

The analysis results predict an increase in electricity consumption by 12–15 % by the end of the ten-year period. The design load should be increased by 15 % while developing a new or reconstructing an existing power supply system. It will ensure that the power supply system would be consistent throughout its entire service life.

The power reserve implies the use of equipment that can withstand loads higher than the available ones. Naturally, the cost of such equipment is higher. On the scale of an enterprise or a small city, the difference is tolerable. But on a national scale, we are talking about raising costs by billions. Hence, there is an urgent need to improve the accuracy of estimation.

Long term electricity consumption forecasting is the basis for energy investment planning. It plays a vital role in developing countries for governments. On the one hand, overestimating the projected consumption will lead to excessive idle capacity, which means a waste of financial resources. On the other hand, underestimation will lead to high operating costs of the energy supplier and potential power outages. Therefore, good accuracy becomes vital in order to avoid costly errors.

Electricity forecasting models are developed individually for a particular country or enterprise, taking into account prevailing market conditions. Each country has its own specific consumption model for its own conditions. There are several important points to consider in order to accurately model power consumption. Firstly, the parameters that affect the country's electricity consumption should be clearly defined. Historical data and independent indicators that are considered to influence this consumption are usually taken into account. Secondly, the choice of a forecasting method that is suitable for the consumption model. There is a huge variety of methods. Traditional methods include such as time series, econometric models, regression, as well as soft computational methods such as artificial intelligence, fuzzy logic, and more. Ant colony optimization, particle swarm optimization, and support vector regression are new methods for modeling electricity demand [1].

There is a wide variety of forecasting methods that take into account many factors. But in addition to the methods taken into account, there are always unforeseen circumstances that cannot be predicted in advance.

To sum it all up, the exchange of experience between countries and enterprises in such matters will ensure an increased level of accuracy in power consumption estimation. This will make the construction of electrical systems as cost-effective as possible.

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Поднимается вопрос значимости прогнозирования потребления электрической энергии. Объясняется необходимость получения расчетных значений грядущего электропотребления и обращается внимание на важность точности результатов вычислений. На основе анализа теоретических положении был осуществлен прогноз потребления электричества в г. Солнечногорск Московской области на десятилетнюю перспективу с использованием балансового метода и метода экстраполяции временных рядов.

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ENVIRONMENTAL PROBLEMS OF THE WORLD AND THEIR SOLUTION

Environmental problems are one of the hot topics in the modern world. The emergence of these problems is associated with the development of industry, modern technologies, science, etc.

Five of the world's largest environmental issues are air pollution and climate change**,** overpopulation, deforestation, global warming from fossil fuels, lack of food and water security.

Unfortunately, there's now too much carbon in the air. Burning of fossil fuels, deforestation for agriculture, and industrial activities have pushed up atmospheric CO_2 concentrations from 280 parts per million (ppm) 200 years ago, to about 400 ppm today. That's an unprecedented rise, in both size and speed. This leads to climate disruption. The World Health Organization recently estimated that one in nine deaths in 2012 were attributable to diseases caused by carcinogens and other poisons in polluted air.

The good news is that clean energy is abundant – it just needs to be harvested. Infrastructure – solar panels, wind turbines, energy storage and distribution systems – are already widespread, and getting cheaper and more efficient all the time, experts say we're not applying them quickly enough to prevent catastrophic climate disruption.

In the wake of the COVID-19 pandemic, attention has been put on the role that air pollution has in transporting the virus molecules. Preliminary studies have identified a positive correlation between COVID-19-related mortalities and air pollution and there is also a plausible association of airborne particles assisting the viral spread. This could have contributed to the high death toll in China, where air quality is notoriously poor, although more definitive studies must be conducted before such a conclusion can be drawn.

Human population continues to grow rapidly worldwide. Humanity entered the 20th century with 1.6 billion people; right now, we're about 7.5 billion. Estimates put us at nearly 10 billion by 2050. Growing global populations, combined with growing affluence, is putting ever greater pressure on essential natural resources, like water. Most of the growth is happening on the African continent, and in southern and eastern Asia [1].

Research has shown that when women are empowered to control their own reproduction, and gain access to education and basic social services, the average number of births per woman drops precipitously.

Species-rich wild forests are being destroyed, especially in the tropics, often to make way for cattle ranching, soybean or palm oil plantations, or other agricultural monocultures.

Today, about 30 % of the planet's land area is covered by forests – which is about half as much as before agriculture got started around 11,000 years ago. About 7.3 million hectares of forest are destroyed each year, mostly in the tropics. Tropical forests used to cover about 15 percent of the planet's land area; they're now down to 6 or 7 percent. Not only do natural forests act as biodiversity reserves, they are also carbon sinks keeping carbon out of the atmosphere and oceans. In order to conserve of what is left of natural forests, and restore degraded areas by replanting with native tree species [2].

Increased emissions of greenhouse gases have caused temperatures to rise, which are causing catastrophic events all over the world. Scientists warn that the planet has crossed a series of tipping points that could have catastrophic consequences, microplastic being found in Antarctic ice for the first time, a heatwave in Antarctica that saw temperatures rise above 20 degrees. In decades, methane levels rising to their highest on record, Canada's last intact ice shelf collapsing, a national park in the US recording the highest temperature ever recorded on Earth, 13 % of deaths in the EU being linked to various forms of pollution, a report saying that population sizes of wildlife have experienced an average decline of 68 % since 1970 and record-breaking wildfires in California that have blocked out the sun – and these are just a fraction of the events. Global warming would only be halted by around 2033 [1].

Rising temperatures and unsustainable farming practices have resulted in the increasing threat of water and food insecurity. Globally, more than 68 billion tonnes of top-soil is eroded every year at a rate 100 times faster than it can naturally be replenished. Laden with biocides and fertiliser, the soil ends up in waterways where it contaminates drinking water and protected areas downstream. Exposed and lifeless soil is more vulnerable to wind and water erosion due to lack of root and mycelium systems that hold it together. A key contributor to soil erosion is over-tilling with the global population expected to reach 9 billion people by mid-century. The Food and Agriculture Organization of the United Nations (FAO) projects that global food demand may increase by 70 % by 2050. In terms of water security, only 3 % of the world's water is fresh water, and two-thirds of that is tucked away in frozen glaciers or otherwise unavailable for our use [2].

As a result, some 1.1 billion people worldwide lack access to water, and a total of 2.7 billion find water scarce for at least one month of the year. By 2025, two-thirds of the world's population may face water shortages.

Summarizing all the information, we can conclude that environmental problems are mainly associated with the activities of a person.

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Раскрываются наиболее актуальные проблемы загрязнения окружающей среды, возникающие в процессе развития промышленности. Анализируются причины, последствия, а также возможные пути их решения.

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IS IT POSSIBLE TO MASTER ENGLISH WHILE LISTENING TO FOREIGN SONGS? SURVEY RESULTS

English is the language of science, computing, aviation, politics, and tourism. It is an official or one of the official languages in more than 45 countries around the world, and it is widely used in other countries where it does not have an official status. English plays an important role in the cultural, political, and economic life in many countries around the world. In a word, English is all around us. It unites people of different nationalities, cultures, and religions. English is quite easy to learn, but there are people who have difficulties in the learning process. At such moments, they try to move away from the traditional method of learning the language, preferring to read books, watch movies, play games, listen to music etc. Does music really help people learn English? In order to answer the question a survey was conducted. Five questions were asked 100 people were involved [1].

I. Is the method of learning English by listening to songs a traditional or non-traditional one?

Teaching methods are one of the most important components of the educational process. Without the use of appropriate methods, it is impossible to achieve the goal, implement the intended content, and fill the training with cognitive activity. Teaching methods can be divided into traditional and non-traditional. The first question asked was whether this method of language learning is traditional or non-traditional. 16 % of respondents believe that this method of language learning belongs to the traditional method. And 84 % believe that this method is non-traditional. And they are right, because a non-traditional method is considered to be one that is not used at school or university [2].

II. Is it possible to learn English completely by listening only to music?

As for the possibility or impossibility of learning a language through music, the author believes that everything depends on the abilities of each individual. For someone it will be enough to listen only to the song and he will begin to understand it, and for someone it is important to repeat the grammar in the traditional way. But there are very few people who will understand everything at once. 8 % of respondents think that it is possible to learn a language through listening to songs. And 92 % of respondents disagree with this opinion. To

learn English at the desk, by memorizing the rules, performing grammar exercises and retelling numerous texts, the desire does not arise either in childhood or in adulthood. Ten years of school cramming have proved to many the ineffectiveness of traditional methods of language learning. The motivation of students and their interest is the main thing in learning English. One of the ways to improve the effectiveness of learning is to use the audio-lingual method. Popular and folk songs, in most cases, best reflect the interest of young people. Music that was especially composed to study any grammatical structures did not catch on and did not increase the interest of students, as it was boring. Young people like modern popular and folk songs, thanks to their authentic content. Of course, it cannot be said that all the problems concerning motivation in learning English can be solved with the help of songs. After all, it causes a great surge of enthusiasm and is a pleasant and, at the same time, stimulating approach. So what are the methodological advantages of songs in teaching English?

- Music is a means of stronger assimilation and expansion of the lexical stock, as it includes new words and expressions.
- In songs, already familiar vocabulary is found in a new contextual environment. Proper names, geographical names, and poetic words are also common. This contributes to the development of a sense of language, knowledge of its stylistic features.
- Musical compositions stimulate monological and dialogical utterances; serve as the basis for the development of speech-making activities.
- Songs help improve your pronunciation skills.
- They better assimilate and activate grammatical constructions [3].

III. Is it possible that there are grammar mistakes in songs?

If you still decide to learn English in such an unusual way, let's talk about how correct it is. In modern music, grammar is always sacrificed to rhyme. 94 % of the respondents think so.

Three striking examples:

1. Justin Timberlake – What Goes Around… Comes Around

"You cheated girl
My heart ~~*bleeded*~~ (bled), girl
So it goes without saying that you left me feeling hurt".

2. Fergie – A Little Party *never* killed *nobody*

"A little party never killed nobody".

According to the grammar rules, more than one negation can't be used.

3. Lady Gaga – Bad Romance

"I want your love and I want your revenge, you and ~~*me*~~ (I) could write a bad romance".

But not all songs contain grammar mistakes and can be used when learning English [4].

IV. Would you use this language method?

76 % of the respondents were happy to use this method. But 24 % of the respondents refused to use this method.

People are interested in understanding what this method is and how it can be used to achieve maximum results. Of course, there are people who believe that listening to music and learning English is a waste of time. It is really difficult to learn English by listening only to songs, this is possible only for talented people who are able to understand and remember information at once. But what should a person who does not have such capabilities do? Learn English. But just do it in a different way. Let us honestly admit that the tedious study of grammar cannot be abandoned, and it would be a mistake to say that music can fully satisfy our needs for acquiring knowledge. Music will not help to form English in a "conversational" form; it contains phonetic and grammatical errors. And musicians can be understood, because

for them, rhyme is more important than the correct spelling of words or pronunciation of expressions [5].

V. Your opinion about learning English while listening to foreign songs.

There were four main opinions:

1) an interesting method – 32 %;

2) an additional learning method – 22 %;

3) an opportunity to improve speaking skills – 26 %;

4) this method impairs learning the language – 20 % .

As a result, the author came to the conclusion that it is impossible to abandon the traditional methods of learning English. Combining traditional and non-traditional methods can have a much greater effect than learning a language by some separate method.

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Раскрывается проблема изучения языка с помощью прослушивания музыки. Приводятся данные социологического опроса, проведенного с целью выявить отношение к этому нетрадиционному методу изучения языка.

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APPLICATION DU TRAITEMENT DE CAVITATION DANS LE BRASSAGE

Le vecteur innovant du développement de la technologie alimentaire est l’application de la théorie des processus mécano-chimiques sous les mélanges liquides et solides. L’un de ces processus est le cavitation.

Les technologies de cavitation sont utilisées pour la préparation de sirops invertis, d’émulsions et de dispersions, ainsi que pour la purification microbiologique de l’eau.

L’utilisation de cette technologie dans le brassage permet de réduire le nombre d’opérations technologiques en combinant l’étape de broyage et de brassage du moût. De plus, augmenter le degré d’extraction des substances extractibles du malt [3].

Le but de ce travail est de montrer la possibilité d'obtenir un produit avec des performances organoleptiques plus élevées en intensifiant les processus d'extraction.

La bière, comme ses cousins le vins et le cidre est une boisson alcoolisée. Elle est obtenue par fermentation alcoolique d'un moût de produits végétaux amylacés tels que l'orge, le maïs, le riz, le blé etc [5].

Elle a une agréable amertume, un arôme de houblon, une capacité à mousser et à maintenir une couche de mousse compacte sur la surface pendant une longue période.

La qualité de la boisson finie est influencée par des facteurs tels que : le type de levure utilisée, la quantité de houblon introduit, des additifs supplémentaires tels que le zeste d'orange, et sans doute, les caractéristiques géographiques de la production.

La bière est une solution aqueuse d'extraits de malt tels que l'alcool éthylique, les métabolites secondaires de la levure, substances aromatisantes dérivés du houblon [1].

En analysant le schéma technologique de la préparation de la bière, on peut distinguer quatre étapes principales : le concassage et l'empâtage du malt, la brassage, la fermentation, la filtration et l'embouteillage. La productivité du processus détermine l'étape de l'empâtage.

L'empâtage est basé sur le mélange de produits céréaliers concassés avec de l'eau chaude dans une certaine proportion. Un chauffage périodique à certaines températures est nécessaire pour extraire au maximum les solides de la matière première céréalière. La saccharification des féculents du grain s'accompagne de leur transfert de la forme insoluble à la forme soluble. L'empâtage normalement dure d'une heure et demie à deux heures.

L'intensité de l'extraction est influencée par les conditions hydrodynamiques de l'agent d'extraction, la durée du processus, l'ampleur du contact des phases, la température extérieure [2].

Une alternative au processus d'extraction traditionnel est une approche technologique moderne en guise de l'effet de cavitation. L'un des avantages principaux est l'intensification des processus, les nouvelles propriétés de masses obtenues et l'amélioration de la qualité du produit fini.

Par cavitation on entend les effets acoustiques et hydrodynamiques sur les masses traitées par les fréquences de la gamme ultrasonore.

Dans l'installation de cavitation, la matière première sous pression pénètre dans la chambre de traitement ultrasonore. Ensuite elle traverse un espace étroit formé par les parois internes et l'organe de travail émettant des vibrations à haute fréquence (figure 1).

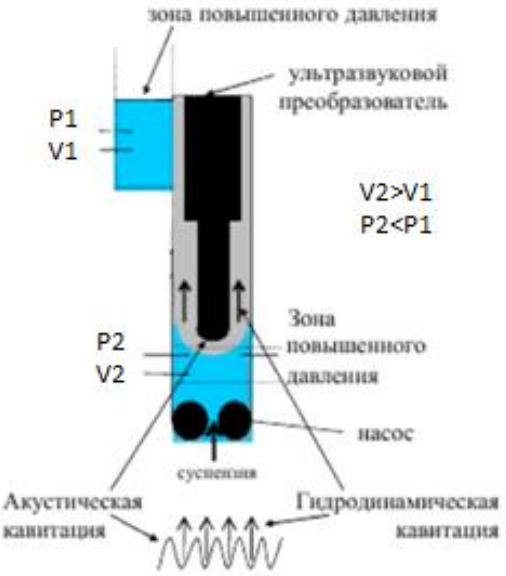

Figure 1 – Concept de chambre de traitement de cavitation

À l'avenir, en raison de l'augmentation de la vitesse se forme des bulles de vapeur et de gaz. Ainsi, la cavitation hydrodynamique se produit.

Le processus principal continue dans la chambre de traitement ultrasonore. Il provoque des changements importants dans le produit en raison des manifestations caractéristiques de la cavitation : la formation d'ondes de choc et la libération de chaleur lors de l'effondrement des vides apparus [4].

Techniquement, la combinaison des effets hydrodynamiques et acoustiques, dans lesquels le déroulement des processus physico-chimiques est initié, est réalisée sur l'installation laboratoire «SYRINX-1» (figure 2).

Figure 2 – Installation laboratoire «SYRINX-1»

La cavitation dans le brassage permet de concasser rapidement le malt en petites particules. En sautant l'étape de concassage il peut être utilisé dans son intégralité. Ça facilite l'extraction des sucres. Le brassage et le houblonnage peuvent se réaliser à des températures plus basses.

Les résultats obtenus indiquent qu'après 15 minutes de traitement l'extraction des particules solides ne se déroule plus. Le processus d'échange de masse stabilise.

La formation de sucres faiblement digestibles et de dextrines se produit traditionnellement à 70–75 ºC. Le traitement de cavitation se rend à une température de 65–70 °C.

Le volume d'alcool dans les échantillons de test sont plus élevés par rapport à la technologie classique. L'extrait visible dans la bière jeune était 4,5 %, car dans la gamme classique il y avait de 4,0 à 4,2 %.

L'évaluation dégustative a montré que l'application d'effets de cavitation favorise l'obtention d'une boisson avec un profil organoleptique harmonieux.

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Описаны теоретические основы процесса экстрагирования и рассмотрено применение кавитационных воздействий в производстве пива. Проведенное исследование позволяет лучше понять особенности и преимущества современного пивоварения.

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LE TOURISME DANS LA RÉPUBLIQUE DU BÉLARUS

Chaque pays du monde est célèbre pour ses sites nationaux, ses conditions naturelles, sa cuisine nationale, ce qui détermine les particularités du développement de l'industrie touristique nationale. Cet article est consacré à l'examen des particularités du développement du tourisme au Bélarus et des raisons qui les provoquent.

Le Bélarus est célèbre pour sa nature intacte, ses forêts et ses marais. Tout cela attire des milliers d'amateurs d'écotourisme de différentes parties de la planète. Chaque touriste peut visiter le Parc national de Bélovezshkaya Pushcha, les lacs de Braslav, les parcs nationaux de Pripyat ou de Naroctch. Sur le territoire des parcs nationaux, des sentiers écologiques sont aménagés, le long desquels on peut se promener librement et admirer le paysage local.

En outre les réserves et les Parcs nationaux la République comprend plus de 350 objets d'importance locale, 540 monuments naturels régionaux de l'État [1].

Le Bélarus est aussi célèbre pour son climat curatif et le traitement phytothérapeutique, les eaux minérales et les boues thérapeutiques, ce qui rend le tourisme médical populaire parmi les étrangers. Chaque année, les touristes viennent aux sanatoriums du pays pour se reposer, se récupérer, améliorer la leur santé. Tout cela détermine le développement de types du tourisme spéciaux, typiques du Bélarus.

Le ministère du sport et du tourisme de la République du Bélarus distingue les types de tourisme suivants: tourisme écologique, tourisme religieux, tourisme agricole et écologique, tourisme militaire et historique, tourisme d'affaires, tourisme de santé.

Pour les amateurs du tourisme écologique le repos au Bélarus est une occasion unique de profiter de la nature dans des endroits écologiquement purs du pays et non touchés par l'urbanisation. De nombreux objets naturels du Bélarus sont considérés comme exclusifs en Europe. Parmi les remarquables objets du tourisme écologique on peut citer : le point le plus élevé du Bélarus l'écorce de Dzerzhinskaya de la hauteur de 345 m, le plus grand lac de Naroctch d'une superficie de 79,62 km. carrés, parcs nationaux uniques (Narotchanski, de

Pripyat, lacs de Braslav, Bélovezshkaya Pushcha, Bérezenski, forêt de Naliboky, lac Bleu et beaucoup d'autres [2].

Le tourisme religieux donne la possibilité de purifier l'âme, découvrir la grâce des lieux saints, toucher aux icônes miraculeuses, c'est-à-dire acquérir une nouvelle expérience spirituelle. Tout cela les touristes peuvent faire en visitant les lieux saints du Bélarus. Dans le monde entier, on connaît des sanctuaires biélorusses tels que le monastère d'Euphrosyne de Polotsk, le plus grand temple du pays en l'honneur de la Résurrection du Christ à Brest, l'église catholique de Novogroudok, construite sur le site du Capitole païen, les fresques bibliques de l'église de Saint-Stanislav à Moguilev et beaucoup d'autres.

Le tourisme agricole et écologique est un type de loisirs relativement nouveaux pour le Bélarus, mais notre pays y a déjà réussi. Aujourd'hui, les touristes sont accueillis dans plus de 180 manoirs situés dans les endroits les plus pittoresques du pays. Certains offrent aux visiteurs une maison séparée avec une cheminée, un billard et un bain, tandis que d'autres proposent de petites chambres en commun avec les propriétaires de la maison et un bassin avec de l'eau de puits pour le lavage [3]. En fonction de cela, le prix du repos varie, mais en tout cas les touristes se voient offrir une abondance de délicieux plats nationaux, des produits écologiques, l'air frais et la cordialité sincère des hôtes.

Un autre type du tourisme qui se développe au Bélarus est le tourisme historique militaire. Certains historiens affirment que presque tout le territoire biélorusse peut être considéré comme un parc historique militaire thématique. Il n'y a pas d'endroit dans le pays qui ne soit pas affectée par la guerre. Depuis des temps immémoriaux, le Bélarus a été le théâtre d'actions militaires. De nos jours, ce type du tourisme est devenu très populaire parmi les visiteurs étrangers. Parmi les sites militaires historiques les plus visités sont Khatyn, la forteresse de Brest et la Ligne de Staline, les lieux des combats de la Première guerre mondiale, les monuments en l'honneur des victoires dans les batailles avec l'armée de Napoléon et les croisés suédois, etc.

Aujourd'hui, quand un voyageur sur quatre quitte son pays pour des raisons professionnelles, c'est le tourisme d'affaires qui offre l'occasion de se familiariser avec les nouvelles technologies, de rencontrer des investisseurs, des partenaires, des fournisseurs et des consommateurs de biens ou de services.

Les voyages d'affaires donne de nouvelles idées et offre des opportunités de développement de l'industrie, de la science, de la culture, etc. Et le Bélarus est un nouveau point sur la carte de l'hospitalité d'affaires. Les étrangers viennent dans notre pays non seulement pour se détendre, mais aussi pour établir des contacts commerciaux rentables. Car le pays a tout ce dont on a besoin pour organiser le tourisme d'affaires et d'entreprise : une situation géographique favorable au centre de l'Europe, une économie en développement, un riche patrimoine historique et culturel, des paysages naturels pittoresques, une chaîne hôtelière et un service de restauration haut de gamme.

Pour les gens qui souhaitent passer des vacances avec des avantages pour leur santé, au Bélarus, il existe de nombreuses propositions pour l'organisation du repos et de l'amélioration de la santé dans les sanatoriums et les stations thermales.

Les sanatoriums biélorusses sont situés dans les endroits les plus pittoresques du pays : dans les forêts de pins, au bord des rivières et des lacs. Le climat continental tempéré du pays, avec des hivers doux et humides et des étés chauds, est propice à l'organisation de loisirs favorisant la santé.

Le repos touristique au Bélarus a pris de l'ampleur ces dernières années. De plus en plus de touristes préfèrent passer leurs vacances dans notre pays, car ici tout le monde peut trouver quelque chose à son goût.

Les Biélorusses font tout pour que les invités du pays se reposent confortablement dans le pays. De nouveaux hôtels et manoirs sont construits, les transports sont améliorés, de nouvelles routes sont ouvertes. L'hospitalité biélorusse est devenue un symbole de notre pays avec la réserve de Bélovezhskaya Pushcha ou la forteresse de Brest.

En conclusion, il est à noter que le développement de l'industrie du tourisme est très important pour l'économie du Bélarus, car elle représente une part importante des revenus nécessaires à la poursuite de la croissance de la production et du bien-être de la population, ainsi qu'au développement de la science.

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Статья посвящена развитию туристической индустрии в Беларуси. Видами туризма, характерными для страны, являются сельскохозяйственный и экологический туризм, оздоровительный, религиозный, исторический и военный туризм. В последние годы активно развивается деловой туризм. Делается вывод, что развитие туризма очень важно для экономики страны, повышения благосостояния населения и развития науки.

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PARCS NATIONAUX ET RÉSERVES NATURELLES DU BÉLARUS

Le Bélarus est un pays de rivières bleues et de forêts majestueuses avec une nature pittoresque, de nombreux musées et une histoire riche de plusieurs siècles, un pays, qui abrite des objets architecturaux et des châteaux anciens. Cet article concerne les parcs nationaux et les réserves du pays, qui reflètent les particularités et le caractère unique de la nature bélarusse. L'un d'eux est le parc national le plus beau et le plus célèbre du monde Bélovezhskaya Pushcha. Cet article couvrira également de nombreux autres parcs nationaux et réserves avec la plupart des oiseaux et des animaux rares que l'on ne trouve nulle part ailleurs sur la planète.

Le parc national Bélovezhskaya Pushcha est l'une des attractions les plus importantes de notre pays. C'est le plus grand vestige de la forêt primitive relique, qui se trouvait autrefois sur le territoire de l'Europe. La zone protégée est connue depuis 1409. Dans le cadre du programme de l'UNESCO « l'Homme et la biosphère », la réserve de biosphère Bialowiezha a été créée en

1976 dans la partie polonaise de la forêt, et en 1993 sur le territoire du Bélarus – le parc national d'État Bélovezhskaya Pushcha avec une superficie de 216 200 hectares [1].

L'âge moyen des arbres dans les forêts de Bélovezhskaya Pushcha est de 81 ans, dans certaines parties, les arbres ont 250–350 ans et un diamètre jusqu'à 150 m. Il y a plus d'une mille d'arbres géants.

Par le nombre d'espèces de plantes et d'animaux, Bélovezshkaya Pushcha n'a pas d'égal en Europe. On y trouve 958 espèces de spores vasculaires et de plantes à graines, 260 espèces de mousses et de bryophytes, plus de 290 espèces de lichens et 570 espèces de champignons. La liste de la faune de la forêt comprend 59 espèces de mammifères, 227 espèces d'oiseaux, 7 espèces de reptiles, 11 espèces d'amphibiens, 24 espèces de poissons et plus de 11 000 invertébrés [1]. Il abrite la plus grande population de bisons au monde. Parmi les grands herbivores, il y a le cerf noble, le sanglier, le chevreuil et l'orignal, parmi les prédateurs – le loup, le renard, le lynx, le blaireau, la martre des bois, la loutre et d'autres. Des communautés uniques d'invertébrés y ont également été préservées.

La flore et la faune sont représentées par un grand nombre d'espèces rares de plantes (sapin blanc, chêne rocheux, astrance grande, etc.), d'animaux (bison, lynx, blaireau) et d'oiseaux (pygargue à queue blanche, cigogne noire, hibou, pic à queue blanche, etc.), inscrits dans le livre Rouge de la République du Bélarus.

Le Parc national de Pripyat est le plus grand parc du Bélarus. Il comprend un réseau dense de grands et petits affluents de la rivière Pripyat et de nombreux canaux, qui ont été créés pendant les activités de l'expédition occidentale pour drainer les marais de la région boisée à la fin du XIXe siècle. En 1969, la réserve paysagère et hydrologique d'État de Pripyat a été fondée, en 1996 elle a été transformée en parc national. La faune du parc comprend plus de 50 espèces de mammifères, 11 espèces d'amphibiens, 7 espèces de reptiles, 37 espèces de poissons, environ 250 espèces d'oiseaux. En 1987, des bisons ont été introduits sur le territoire du parc. La flore est représentée par plus de 950 espèces de plantes vasculaires et environ 200 espèces de mousses. Plus de 500 hectares du parc sont occupés par des fourrés de canneberges. La forêt couvre plus de 85 % du territoire (le pin, le chêne, le bouleau) [2].

La réserve de biosphère de Bérézinsky est la seule zone naturelle spécialement protégée sur le territoire de notre pays. C'est un complexe naturel unique, comprenant une variété exceptionnelle de différents types de forêts, de prairies et de marais, un complexe de plaine inondable de la rivière de Bérézina, de nombreuses grandes et petites rivières, des lacs uniques. L'importance particulière de la réserve réside dans les vastes massifs marécageux des forêts, préservés ici dans leur forme originale, avec leurs espèces rares de plantes et d'animaux. Sur le territoire du complexe dans des conditions sauvages vivent « les cinq grands mammifères européens » – l'orignal, le bison, l'ours, le loup et le lynx; la population de l'ours brun (35–40) représente près d'un tiers de l'ensemble biélorusse.

Au sud-est du Parc national de Pripyat se trouve la réserve écologique et radiologique d'État Polessky, qui a été créée en 1988 aux fins de la recherche radiobiologique et environnementale. 1 251 espèces de plantes sont enregistrées ici, ce qui représente plus des deux tiers de la flore du pays, 18 d'entre elles sont inscrites dans le livre Rouge International et dans le livre Rouge de la République du Bélarus. La faune comprend 54 espèces de mammifères, 25 espèces de poissons, 280 espèces d'oiseaux. Plus de 40 espèces animales sont considérées comme rares et en voie de disparition [2].

Le parc National des lacs de Braslav a été créé en 1995. Dans le parc, on organise des activités scientifiques, ainsi que des travaux de protection de la nature. Les lacs de Braslav ont une composition riche et nombreuse du monde animal : on y trouve 189 espèces d'oiseaux, dont 45 sont rares et en voie de disparition. Sur le territoire du parc, il y a environ 500 espèces de flore, dont 20 sont rares pour notre pays.

Dans la région de Minsk se trouve le Parc national Narotchansky, créé en 1999. La superficie du parc est plus de 87 mille hectares, plus de 50 mille hectares de son territoire sont occupés par une couverture végétale naturelle. Les lacs et les forêts du parc sont uniques. L'arbre le plus commun est le bouleau suspendu ou verruqueux. Il y a aussi le bouleau de Carélie à cause de quoi ces territoires sont déclarés monument naturel d'importance républicaine. Sur le territoire du parc National Narotchanski il y a 43 lacs, dont le plus célèbre est le Narotch, le plus grand réservoir de la République. Le parc national est caractérisé par une flore et une végétation riches, sur son territoire on trouve plus de 30 espèces de plantes, qui sont inclues dans le livre Rouge de la République de Biélorussie. Parmi les espèces végétales protégées: nénuphar blanc, anémone des bois, bouleau nain, tulipe de la forêt, etc. La faune du parc présente une grande diversité : 185 espèces d'oiseaux (dont 24 espèces, inclues dans le livre Rouge de la République du Bélarus), 25 espèces de poissons, 17 espèces de mammifères [2].

Pour conclure, il faut dire que les parcs nationaux et les réserves sont très importants pour notre pays, car ils aident à préserver les espèces rares d'animaux, d'oiseaux et de plantes figurant dans le livre Rouge de la République du Bélarus. L'objectif principal des parcs nationaux et des réserves est d'augmenter le nombre d'animaux et de plantes rares en voie de disparition et de les protéger du braconnage et des activités humaines négatives. Les parcs nationaux et les réserves naturelles sont des endroits très visités par les touristes qui s'intéressent à la flore et à la faune uniques et rares des forêts du Bélarus, ce qui contribue à augmenter les revenus du pays et, par conséquent, à améliorer la qualité de vie de la population et de l'état de l'environnement.

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Рассматриваются основные заповедники и национальные парки Беларуси, приводит статистические данные количества редких видов растений и животных, обитающих здесь. Делается вывод, что парки и заповедники не только играют огромную роль в сохранении уникальной природы страны, но и являются важной статьей экономических доходов и роста благосостояния населения Беларуси.

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VIRTUAL LABORATORIES IN TEACHING CHEMISTRY

Laboratory activities have long had a distinctive and central role in the science curriculum. The most efficient way of chemistry education is through laboratories. "Laboratory method" is one of the learning methods and its main function is to enable

students to prove basic scientific facts in lab environment. Besides, laboratory method improves students' implication, critical thinking, scientific view, and problem-solving abilities [1]. However, it is known that laboratory applications which are very important in chemistry lessons do not get enough attention. Teachers may avoid using laboratories because of different reasons like safety doubts in some risky experiments or lack of time required to perform them.

Virtual laboratories and simulations could be useful then. Virtual labs are simulated learning environments that allow students to complete laboratory experiments online and explore concepts and theories without stepping into a physical science lab.

In this article, we aim to show advantages of virtual laboratories, as well as their application in teaching and studying chemistry.

Virtual labs reduce costs because purchasing a simulator for training in a classroom is expensive. Besides, maintaining all this equipment will cost more than maintaining one platform.

In a virtual laboratory, learners can try all kinds of experiments without any risk of damaging equipment or injuring themselves. They can also test different scenarios, compare, and determine which one is the most effective without having to try them out in real life.

Virtual labs help to build a realistic learning environment so that learners get complete training and are more prepared.

Working with hazardous substances can be intimidating, especially for less experienced ones. Virtual labs give them the chance to practice in an interactive lab environment before being exposed to real-life work conditions.

In virtual laboratories, learners have the chance to apply what they learned in theory, experiment, and practice as many times as they want. Moreover, learners can repeat experiments as many times as needed and practice at their own pace.

Lectures and presentations can be demotivating when it comes to chemical experiments or construction projects. You can capture learners' attention, though, by giving them the opportunity to test those procedures in a virtual lab.

Theory can be too abstract when you cannot see how it applies in real-life. Without active visual tools, it can be incredibly hard to explain to students the complexities of certain scientific concepts. But in virtual laboratories, learners can play with molecules, substances, etc. Virtual labs help you explain complex theoretical concepts. A visual, immersive experience can make it easier for students to understand complex concepts.

Thus, the main advantages of virtual labs are their relatively low cost, safety, a true-to-life learning experience. Virtual labs also boost confidence, enhance learning experience, explain complex concepts and procedures. Conducting experiments in a virtual lab allows you to engage your students in a unique, enriching experience that has real-world relevance and application.

There are many virtual labs and simulations. Some of them are costly (like Labster [2]) and others are free of charge (like ChemCollective [3]).

The ChemCollective is a collection of virtual labs, scenario-based learning activities, tutorials, and concept tests. Teachers can use the content for pre-labs, for alternatives to textbook homework, and for in-class activities for individuals or groups. Students can review and learn chemistry concepts using its virtual labs, simulations, and tutorials on such topics as stoichiometry, thermochemistry, kinetics, equilibrium, acid-base chemistry, solubility, oxidation/reduction and electrochemistry, analytical chemistry/lab techniques, physical chemistry, properties of solutions.

The virtual labs of The ChemCollective allow students to design and carry out their own experiments. Teachers can provide experimental procedures to students or allow them to invent their own [3].

In conclusion, we can state that virtual laboratories are a great way for learners to practice in a safe online environment. Students can try out lab techniques for the first time and become more familiar with advanced lab equipment that might otherwise be inaccessible. Virtual lab software creates opportunities for alternative access to science education.

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Статья посвящена роли виртуальных лабораторий в преподавании химии. Заостряется внимание на преимуществах их использования, описываются возможности виртуальных лабораторий The ChemCollective.

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CORONAVIRUS AND ITS CONSEQUENCES

Recently a global problem has appeared in the world which significantly affected our life. The coronavirus epidemic has become one of the main threats to health, the world economy and financial markets.

Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus (SARS-CoV-2). The first case was identified in Wuhan, China, in December 2019. The disease has since spread worldwide leading to an ongoing pandemic.

Symptoms of COVID-19 are variable but often include fever, cough, fatigue, breathing difficulties and loss of smell and taste. Symptoms begin one to fourteen days after exposure to the virus. However, some people carry the virus asymptomatically but spread the disease.

The virus that causes COVID-19 spreads mainly when an infected person is in close contact with another person. Small droplets and aerosols containing the virus can spread from an infected person’s nose and mouth as they breathe, cough, sneeze, sing, or speak. Other people are infected if the virus gets into their mouth, nose or eyes. The virus may also spread via contaminated surfaces, although this is not thought to be the main route of transmission. The virus is very dangerous therefore preventive measures are taken all over the world in order to prevent infection.

These measures include physical or social distancing quarantining, ventilation of indoor spaces, covering coughs and sneezes, hand washing, and keeping unwashed hands away from the face. The use of face masks or coverings has been recommended in public settings to minimise the risk of transmissions. Several vaccines have been developed and several countries have begun mass vaccination.

A COVID-19 vaccine is a vaccine intended to provide acquired immunity against severe acute respiratory syndrome coronavirus 2, the virus causing coronavirus disease 2019 [1].

The pandemic of coronavirus infection COVID-19 has far-reaching consequences in addition to the spread of the disease itself and attempts by different countries to organize quarantines. The pandemic itself led to the closure of enterprises in countries with a high percentage of cases, a sharp increase in demand for food, as well as for antiviral drugs, sanitary masks and disinfectants. Foodservice segment has been one of the hardest hit by pandemic-related restrictions.

Due to the shutdown of enterprises in China and then throughout the world the demand for oil and oil products dropped significantly.

The prolonged quarantine changed the priorities of consumption: demand for a number of goods such as cars and clothing fell but at the same time, demand for household goods, as for making household life easier, for example, bread bakers as well as for home entertainment (online games, board games). The demand for home office products has also increased as many types of work have become remote and video conferencing applications such as Zoom, Microsoft Teams and their analogues are experiencing a peak in the popularity.

Major car manufacturers such as Volkswagen, BMW, Daimler and many others have been forced to cut production or even stop production entirely.

Since March 2020 many EU countries have restricted or completely banned the crossing of their borders at the national level. Due to the current situation, travel has become impossible [2].

In the education system around the world the pandemic has led to a massive closure of schools and universities and a massive transition to teaching schoolchildren and students through the Internet began around the world.

Cinema visits have been limited to varying degrees, film festivals have been canceled or postponed, movie releases have been pushed back to future dates and production has been suspended.

All experts agree on the following: the coronavirus will give a strong impetus to all digital technologies that will more closely enter the health care system, public administration and security, dramatically transforming the labor market and increasing productivity. There will also be a social restructuring: much of what was inevitably changed in our lives due to quarantine measures will continue to exist in one form or another after the pandemic. At the same time the role of the state will increase which will have to simultaneously raise the market destroyed by the pandemic and fulfill its social mission with double zeal. Questions about the rate of economic growth will fade for a while into the background; all efforts will be devoted to ensuring stability, primarily to meeting the basic needs of the population.

However, people hope that with a competent approach and correctly set priorities a powerful leap will follow.

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В статье описаны проблемы, угрозы и последствия коронавирусной инфекции COVID-19, охватившей мировое пространство. Описаны способы распространения опасной инфекции и меры, способствующие предотвращению пандемии.

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THE ROLE OF THE INTERNET IN EVERYDAY LIFE

The Internet plays a great role in the modern world. It holds fast in our daily lives. With the help of the Internet, you can find any information you need, make a video call, write a message to someone via a social network, pay for any kind of services. Thanks to the Internet, there are a lot of opportunities in all areas of life. In this article we would like to show the advantages and disadvantages of the Internet and its influence on people's lives.

Although the Internet plays a serious role in our daily lives, it is impossible to say with certainty how it affects a person: positively or negatively. In this situation, it can be metaphorically compared to a kitchen knife. You can use it to prepare a delicious lunch. And you can also cause serious damage to a person. The Internet, depending on the person who uses it, is good and evil. After all, each person has their own preferences. Some would prefer to use it for peaceful purposes and look only for its positive aspects. And someone can use the information that is located in it to harm not only themselves and their health, but also the health of others, thus enticing other people to commit illegal frauds. But whatever a person does, sooner or later he/she will have to "pay for what he/she has done" on his/her own.

The Internet has many advantages: 1) The Internet is a good repository of information. Almost anyone can turn to its resources and find the answer to almost any question. If in the old days many people used to search for information in reference books and encyclopedias, now you can turn to the Internet for almost any problem. 2) The Internet can be used to listen to your favourite music, view various kinds of pictures, or play various games. 3) The Internet provides almost limitless opportunities for communication. Anyone can communicate in social networks, messengers, find friends with common interests. The Internet in the life of teenagers has become the most important way to share their thoughts and opinions with other people. 4) People can use the Web to consult a specialist, express their opinions or just chat. 5) People can also find almost any job to their taste there. Programmers, designers and many others have the opportunity to earn money online. 6) It is possible to advertise products on the Internet. Many businessmen have a wonderful opportunity to promote their goods on the Web. 7) One can also conduct live broadcasts on the Internet and shoot videos on any topic. 8) You can also make video calls to people who are in other countries [1].

However, like any technology, the Internet has some disadvantages: 1) Uncontrolled uploading data to the network filled the Internet with a lot of false information. This can mislead those people who are just beginning to surf the Internet. These are mostly young people; scammers, maniacs and other people with illegal intentions operate in social networks

along with normal people. As a result, the Internet has become a real source of danger to our lives. 2) Because of an uncontrolled posting of comments on the Network sometimes allows using obscene language. Over time, this abuse becomes the norm. 3) Freedom of speech causes a large number of different sites of an antisocial nature to appear. They are maintained by sects and extremist groups that promote violence and aggression. Many of these sites, because of their content, negatively affect children's minds. 4) The availability of many games has led to the fact that some people have become addicted to the computer. Gambling addiction in its nature has become similar to drug addiction. Having spent a lot of time in games with the opportunity to get a "new life", many players have stopped following what is happening in real life. 5) Many teenagers often risk their lives for the sake of trying to make a rare shot, in order to post it on the network, failing to understand the whole situation [1]. Therefore, it is one of the most dangerous types of Internet addiction.

The Internet also plays an important role in education. Teachers often use the materials they found on the Internet in their lessons, as the limitless possibilities of the Internet make it easier to find educational material to prepare for lessons. Teachers prefer to find educational material on the Internet in electronic form, as it allows them to: independently improve their knowledge through distance learning; find materials for studying on the Internet to prepare and teach lessons; receive information about the latest educational materials; send their methodological developments to other teachers; publish their own articles, plans, and lesson notes; correspond with teachers from other regions and even countries to share their experience; select and order methodological literature through online stores as well as use the Internet for teaching foreign languages [2].

The Internet and computers have not always been as relevant as they are now. However, over time game consoles began to appear, the first games being: "Mario", "Contra", "Ninja Turtles" and "Tanks". Gradually, technology began to invade human life. Children and teenagers could sit in front of a computer screen for hours, trying to pass the next level of the game, and then they shared their achievements with their classmates. Although gradually the role of the Internet in everyday life began to increase, at those times the use of the Internet was still far from such a mass scale. Time began to fly with great speed. Then the children grew up, worked hard, tried to successfully pass the exams, preparing both day and night to enter those educational institutions that they dreamed of. Over time, they changed, as did everyday life. Only then did mobile phones begin to appear. With the advent of computers, many children stopped going to libraries. Now you can rarely meet children who play in the street without a phone. Thus, the Internet began to replace various types of entertainment and other sources of information in everyday life. Many children have stopped playing games with others in real life, because now they can play the same games but in the virtual world.

The last blow to live communication between people was social networks. Over time, people stopped communicating live, now people communicate in social networks, and the emotions that a person experiences when communicating began to be replaced by round yellow pictures, as well as expressing their thoughts in a blog and watching how many likes and views he will have. Although people have not yet stopped meeting each other, this communication has become blander and over time it might be replaced by virtual contacts.

Thus, the Internet plays a huge role in everyday life, thereby greatly changing our daily lifestyle, bringing both positive and negative aspects to our life. While there used to be a balance between communication on the network and in real life, now in the modern world the Internet becomes more and more important. Nevertheless, we cannot deny the fact that the Internet is irreplaceable in education, science, various spheres of production, being the guarantor of progress and new achievements.

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Статья посвящена вопросам, связанным с резким ростом роли Интернета в жизни современного общества. Анализируется преимущества и недостатки международной компьютерной сети и делается вывод, что Интернет, с одной стороны, способствует прогрессу науки, образования, различных отраслей производства, но, с другой стороны, обусловливает снижение степени участия молодежи в реальной жизни и общении со своими сверстниками.

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MASSENTIERHALTUNG VS ARTGERECHTE TIERHALTUNG

Der Umgang des Menschen mit den Tieren hat in den zurückliegenden Jahren zunehmende Aufmerksamkeit erfahren. Tiere werden nach wie vor in großem Stil für menschliche Zwecke genutzt und dabei häufig schwerem Schmerz, Leiden oder Schädigungen ausgesetzt. Es geht um die Nutzung von Tieren in der Lebensmittelproduktion. Zwar steht die Nutztierhaltung immer häufiger im Fokus von Diskussionen und nicht selten in der Kritik. Faktisch hat diese gewachsene Aufmerksamkeit jedoch allenfalls begrenzte Auswirkungen auf die herrschende Praxis. Zwischen den öffentlich geäußerten moralischen Auffassungen einerseits und der alltäglichen Praxis andererseits besteht eine erhebliche Diskrepanz. Die Ziele des vorliegenden Artikels bestehen darin, einen Überblick über die Bedingungen der Massentierhaltung zu geben, deren ethische Probleme aufzuzeigen und die Notwendigkeit der artgerechten Tierhaltung zu beweisen.

Eines der größten Probleme in der modernen Welt kann das Leiden von Tieren in der industriellen Tierhaltung angesehen werden. Im Jahr 2019 wurden in Deutschland 59,7 Millionen Schweine, Rinder, Schafe, Ziegen und Pferde für den Verkauf geschlachtet, schätzt das Statistische Bundesamt, unter Umständen, die extremes Leid verursachen können. Die Aufmerksamkeit für dieses Problem scheint uns unglaublich gering zu sein. Viele Experten glauben heute, dass Tiere bewusste Erfahrungen haben und zu Schmerzen fähig sind. Die Menschen neigen dazu, dem menschlichen Leiden viel mehr Gewicht beizumessen als dem Leiden der Tiere, was in gewissem Sinne eine Form der Artenunterscheidung darstellt, eine unverdiente Unterschätzung des Wertes des Tierlebens. In den letzten Jahren bricht der Gegensatz zwischen unseren Überzeugungen und der Realität immer wieder auf. Es ist ein Kompromiss zwischen dem Tierschutz und den menschlichen Ansprüchen an die Tierhaltung nötig. Während Heimtiere oftmals artgerecht gehalten werden, ist diese Form der Tierhaltung bei den Nutztieren noch in der Minderheit. Der Kostendruck in der modernen

Lebensmittelproduktion steht dem entgegen. Deswegen werden immer öfter die Themen des Tierschutzes und der Tierethik im Bereich Massentierhaltung diskutiert.

Massentierhaltung (auch: Intensivtierhaltung) ist die wirtschaftlich orientierte Tierhaltung mit hohen Besatzdichten und hoher Mechanisierung. Massentierhaltung heißt bei allen sogenannten Nutztieren (Hühner, Schweine, Rinder, Schafe, Puten u.a.), dass eine große Anzahl an Tieren gleicher Art und Altersgruppe auf stark begrenztem Raum gehalten werden, um mit möglichst wenig Aufwand und Personal die größte Menge an Fleisch und Tierprodukten in kürzester Zeit zu produzieren. Bei der Massentierhaltung spielen also die Faktoren Effizienz, Leistungsfähigkeit und der Preis die größte Rolle. Die Bedürfnisse der Tiere sind diesen Zielen untergeordnet. Um die Produktionskosten in solchen Tierfabriken so gering wie möglich zu halten, dominieren mittlerweile Haltungssysteme, deren verschiedene Formen folgende Gemeinsamkeiten haben:

• Die Tiere werden auf engstem Raum und in reizarmer Umgebung gehalten, in Käfigen (Legehennen, Kaninchen), in Ställen ohne Tageslicht (Puten, Masthühner), in Anbindehaltung (Milchkühe) oder in kleinen Buchten oder sogar Kastenständen (Sauen). Wegen der Enge und der strukturlosen Umgebung können sie einen Großteil ihres arteigenen Verhaltens wie Bewegung, Ruhen, Futteraufnahme, Erkundungs-, Komfort- oder Sozial-verhalten nicht ausleben. Erzwungenes Nichtverhalten führt zu Stress und Frustrationen. Dies äußert sich in Aggressivität, Ängstlichkeit, Stereotypien und Kannibalismus. Nicht zuletzt wirken sich artwidrige Haltungssysteme und hohe Besatzdichten negativ auf die Gesundheit aus und auch der Infektionsdruck und die Krankheitsanfälligkeit der Tiere nehmen zu.

• Die meisten Tiere werden gewaltsam den Haltungsformen angepasst: Hörner, Ringelschwänze, Schnäbel und z.T. auch Zähne werden ohne Betäubung gekürzt/abgetrennt.

• Rinder, Schweine, Hühner, Puten und viele weitere Tiere werden unter Zwang verpaart und auf bestimmte Leistungen hin gezüchtet, die nicht in ihrem Interesse liegen und häufig zu gesundheitlichen Problemen führen.

• Angereichertes Futter und die künstliche Anregung des Wachstums sind für soche Haltungsszsteme typisch.

• Um die Tiere trotz unpassender Haltung leistungsfähig zu erhalten, ist eine häufig routinemäßige Abgabe von Antibiotika unvermeidlich geworden, was auch Gefahren für die menschliche Gesundheit mit sich bringt [1].

• Schließlich werden die Tiere nach einem Bruchteil ihrer potentiellen Lebensdauer getötet – typischerweise nach einem leidvollen Transport und oft unter Angst und Schmerzen.

Die Nutzung von Tieren in der Landwirtschaft ist also mit massiver Gewalt gegen diese Tiere und systematischer Missachtung ihrer Bedürfnisse verbunden. Die ethischen Fragen der industriellen Massentierhaltung rücken immer mehr ins Bewusstsein der Verbraucher. Viele Vegetarier verzichten rein aus ethischen und moralischen Gründen auf den Konsum von Fleisch. In-vitro-Fleisch (auch als Kulturfleisch oder künstliches Fleisch bekannt) kann auch als ein Ausweg aus der Misere angesehen werden. Grundsätzlich können Technologien, entstanden aus Forschung im Bereich der Tier-Maschine-Interaktion, und Ansätze wie Animal Enhancement zur Linderung des Leidens beitragen. Aber das ist noch die Frage der Zukunft. Heute wird gerne von „artgerechter Haltung“ oder dem „Tierwohl“ gesprochen, besonders in der Politik aber auch im Gesetzestext selbst. Das bedeutet, dass die Massentierhaltung verantwortungs-voll und artgerecht sein muss.

Unter artgerechter Tierhaltung versteht man das Halten von Tieren unter Berücksichtigung ihrer artspezifischen Bedürfnisse und der Erfordernisse des Tierschutzes. Die Kriterien umfassen Gesundheit, natürliche Verhaltensweisen sowie Wohlbefinden des

einzelnen Tieres. Die vom Tier erlebte Lebensqualität wird von den Fünf Freiheiten beschrieben:

1. Freiheit von Hunger und Durst durch freien Zugang zu Frischwasser & frischer Nahrung, um volle Gesundheit & Vitalität zu erhalten;
2. Freiheit von Unbehagen durch geeignete Umgebung, darunter Unterstand und bequeme Ruhebereiche;
3. Freiheit von Schmerzen, Verletzungen oder Krankheiten durch Vorbeugung oder zügige Diagnose und Behandlung;
4. Freiheit, normale Verhaltensweisen auszuleben durch Bereitstellung von ausreichend Freiraum, angemessenen Einrichtungen und Umgang mit Artgenossen;
5. Freiheit von Angst und Stress durch Gewährleistung von Bedingungen und Betreuung, die mentales Leiden verhindern [2].

Die tiergerechte Haltung rückt immer stärker in den Fokus einer nachhaltigen Landwirtschaft. Ziel ist es, einen praktikablen und ökonomisch tragfähigen Konsens zwischen Verbrauchererwartungen und der Landwirtschaft zu erreichen. Dabei sind Aspekte des Tierschutzes, der Tiergesundheit, der Haltungstechnik, der Tierzucht und der Tierernährung sowie entsprechende Systemansätze weiterzuentwickeln.

Am besten für das Tierwohl ist es aber, wenn man seinen Konsum von Tierprodukten reduziert. Denn unser steigendes Verlangen nach immer mehr tierischen Produkten hat Massentierhaltung überhaupt erst möglich gemacht. Inzwischen gibt es viele sehr gute pflanzliche Alternativen zu Milch- und Fleisch-produkten, die man auch als nicht-Veganer einfach einmal ausprobieren kann.

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Раскрывается проблема жестокого обращения с животными в сфере животноводства. Подчеркивается, что обеспечение условий жизни животного должно отвечать его биологическим, видовым и индивидуальным особенностям.

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MÄNNLICHE FACHKRÄFTE IN KINDERTAGESSTÄTTEN

Das Idealbild der Familie ist seit eh und je: Vater, Mutter, Kind. In der durchschnittlichen Kindertagesstätte sieht das jedoch ganz anders aus: Obgleich Krippe und Kita für viele Kinder einen Lebensmittelpunkt darstellen, sind Männer in diesen Einrichtungen noch immer eine Seltenheit. Die vorliegende Arbeit setzt sich mit der Frage auseinander, was Männer zum Kita-Alltag beitragen und welche Bedenken die Gesellschaft in dieser Hinsicht hat.

Männer sind wichtig für Kinder. Und zwar von Anfang an. Diese Erkenntnis setzt sich langsam durch und männliche Erzieher sind sehr begehrt, heißt es in offiziellen Stellungnahmen. Das Familienministerium versucht seit Jahren mit verschiedenen Förderprogrammen wie dem „Boys' Day" oder der Initiative „Mehr Männer für Kitas", Männer vermehrt für den Erzieherberuf zu begeistern. Mittlerweile sind immerhin sieben Prozent des Personals von Kindertages-einrichtungen männlichen Geschlechts. Seit etwa zehn Jahren steigen die Zahlen der Männer in Erziehungsberufen stetig. Die absolute Zahl der Erzieher stieg seit 2009 von damals gut 11 000 auf über 47 600 im Jahr 2020 (inklusive Praktikanten, freiwilligen Helfern und ABM-Kräften, reine Schulhorte sind ausgenommen). Obwohl die Zahl der Männer deutlich zugenommen hat, bilden männliche Kita-Fachkräfte immer noch eine sehr kleine Gruppe. Mit zuletzt 627 950 Frauen und einer Frauenquote von 92,9 % zählt die Frühe Bildung immer noch zu den am stärksten geschlechtsspezifisch segregierten Berufs-feldern auf dem gesamten Arbeitsmarkt [1].

Einer der Hauptgründe für den geringen Männeranteil in Kindertagesstätten liegt in einer traditionellen Geschlechterordnung begründet, die zu stereotypen Geschlechterbildern und einer entsprechenden Arbeitsteilung führt. Eine Geschlechterordnung, die sich auch dadurch auszeichnet, dass frühkindliche Erziehung Frauen zugewiesen wird und sogenannte Frauenberufe, wie der Beruf der Erzieherin, eine geringe soziale Anerkennung erfahren und in der Regel schlechter entlohnt werden als sogenannte Männerberufe. Diese Gründe wirken als Barrieren und versperren Männern den Weg in den Erzieherberuf. Weiterhin führen sie dazu, dass sich die wenigen Männer, die sich für den Beruf des Erziehers in einer Kindertagesstätte entschieden haben, oftmals deplatziert und „allein unter Erzieherinnen" fühlen.

Warum werden Männer Erzieher? Die Antwort ist in den meisten Fällen wohl recht unspektakulär: Genau wie Frauen entscheiden sich Männer für den Erzieherberuf, weil sie gern mit Menschen arbeiten, weil sie Kindern etwas mitgeben möchten oder die eigenen positiven Erfahrungen in der Kindheit weitervermitteln möchten. Viele haben vor der Ausbildung ein Praktikum oder den Bundesfreiwilligendienst in einer Kita absolviert und festgestellt, dass ihnen die erzieherische Arbeit Spaß macht.

Erziehungswissenschaftler sind sich seit langem einig, dass eine stärkere Beteiligung von Männern in der frühpädagogischen Arbeit sinnvoll ist. Folgende Gründe sprechen für mehr Männer in Kindertagesstätten:

– Vielfalt im pädagogischen Alltag: Oft bringen männliche Erzieher neue Möglichkeiten mit in die Kita: Neben Vorlesen und Spielen übernehmen sie das Herumtoben und lebhafte Bewegungsspiele mit den Kindern. Studien zeigen zudem auf, dass männliche und weibliche Fachkräfte in der Tendenz andere Materialien bevorzugen und mit Kindern oftmals andere Produkte erarbeiten. Die unterschiedlichen Schwerpunkte von Erziehern und Erzieherinnen machen die Betreuung vielfältiger und abwechslungsreicher für Kinder und Erwachsene.

– Männer spielen eine wichtige Rolle in der frühkindlichen Erziehung. Denn nicht nur Jungen suchen den Kontakt zu männlichen Bezugspersonen, auch Mädchen brauchen Männer als das andersgeschlechtliche Gegenüber. Als Bezugsperson und als Spielpartner bieten Männer andere Perspektiven als Frauen. Männliche pädagogische Fachkräfte können zudem einen familiären Mangel an männlichen Bezugspersonen ausgleichen und somit vor allem bei Jungs das Aggressions- und Gewaltverhalten positiv beeinflussen. Vor allem Kinder aus sozial schwachen Familien würden von männlichen Erziehern stark profitieren, sagen Pädagogen. Da immer mehr Kleinkinder den Großteil ihres Tages in Krippe und Kita verbringen, ist es wünschenswert, dass Jungen und Mädchen gleichermaßen auch Männer in fürsorglichen, sozialen Tätigkeiten in den Betreuungseinrichtungen erleben.

– Männliche Kollegen können die Teamkultur in Kindertagesstätten positiv beeinflussen: Unter Experten gilt es als erwiesen, dass Teams, die zu gleichen Teilen mit Frauen und Männern besetzt sind, innovativer arbeiten.

– Im Sinne der Gleichberechtigung ist eine Parität der Geschlechter in allen gesellschaftlichen Bereichen wünschenswert. Ebenso wie politisch über Frauen in Führungspositionen diskutiert wird, gibt es auch einen noch recht jungen politischen und gesellschaftlichen Diskurs über Männer in fürsorgenden Berufen. Eine Erhöhung des Männeranteils im Berufsfeld Kindertagesstätten trägt zur Erweiterung des Berufswahlspektrums und der Handlungsspielräume von Männern bei.

– Personalmangel: Durch den Ausbau der Kita-Plätze wurde in Deutschland noch 2013 eine Fachkräfte-Lücke von 20 000 Personen prognostiziert. Die Erschließung neuer Zielgruppen, also auch männlicher Fachkräfte, sollte diese Lücke zumindest teilweise schließen [2].

Mehr männliche Erzieher in Krippen und Kindergärten – das fordern viele, von Frühpädagogen bis zur Bundesregierung. Aber neben unbestreitbar positiven Aspekten gibt es auch eine Reihe problematischer Entwicklungen. Wenn sich Männer für eine Laufbahn als Erzieher entscheiden, stehen sie meist vor dem gleichen Problem wie Frauen: Das Gehalt reicht kaum zum Leben, umso mehr, weil Erzieher meist in Teilzeit beschäftigt werden. Gleichzeitig hat der Erzieherberuf einen eher geringen gesellschaftlichen Stellenwert – paradox, wenn man bedenkt, wie viel Wert auf eine optimale Kindererziehung und -förderung gelegt wird.

Ein weitaus größeres Problem für männliche Erzieher ist aber das anfängliche Misstrauen vieler Eltern. Nicht wenige stellen Männer, die sich für die Arbeit im Kindergarten entscheiden, erst einmal unter Generalverdacht: Was, wenn sie meinem Kind zu nahe kommen? In vielen Einrichtungen sind Männer daher besonders zurückhaltend, wickeln die Kinder nicht und vermeiden auch beim Toben und Kuscheln intensiven Körperkontakt. Die ständige Vorsicht im Kita-Alltag und das offensichtliche Misstrauen kann gerade für junge Erzieher entmutigend sein.

Vergegenwärtigt man sich den niedrigen Männeranteil in Kitas und die Barrieren, die einer Erhöhung des Männeranteils im Wege stehen, wird deutlich: Es können nur dann mehr Männer für eine Tätigkeit in Kindertagesstätten gewonnen werden, wenn die Gleichstellungspolitik weiter darauf setzt, frühkindliche Erziehung und Bildung aufzuwerten und traditionelle Geschlechtervorstellungen und Geschlechterrollen zu verändern bzw. zu erweitern. Zudem sind kontinuierliche und gezielte Maßnahmen sowie der Einsatz personeller und finanzieller Ressourcen diverser Akteure und Entscheidungsträger notwendig, um Strategien zur Steigerung des Anteils männlicher Fachkräfte in Kindertagesstätten tatsächlich auch umzusetzen.

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Статья посвящена проблеме привлечения мужчин к работе воспитателя в детских дошкольных учреждениях. Показаны преимущества включения мужчин в процесс воспитания и развития детей дошкольного возраста, а также проблемы, с которыми сталкиваются мужчины-воспитатели.

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FLÜCHTLINGSSTATUS IM INTERNATIONALEN RECHT

Die Erlangung des Flüchtlingsstatus ist eine formelle Bestätigung des Rechts einer Person auf internationalen Schutz oder Asyl. Der formale Flüchtlingsstatus hat rechtliche Auswirkungen, da die Situation einer bestimmten Person oder Gruppe die rechtlichen Kriterien erfüllt. Eine Person wird als Flüchtling anerkannt, sobald ihre Situation beginnt, die Definition zu erfüllen. Die Feststellung des Flüchtlingsstatus macht daher eine Person nicht zu einem Flüchtling, sondern erklärt sie lediglich zu einem solchen. Probleme entstehen, wenn Staaten davor zurückschrecken, flüchtlings- oder Staatsstatus zu schaffen. Das Ziel der vorliegenden Arbeit ist der Status und die Lage der Flüchtlinge laut internationalen Rechtes zu untersuchen.

Der Schutz von Flüchtlingen impliziert nicht nur die Zustimmung eines Staates, einen Ausländer auf seinem Hoheitsgebiet aufzunehmen und ihn nicht in ein Land zu schicken, in dem er verfolgt werden könnte. Wie jeder formelle Status erzeugt der Status eines Asylbewerbers oder Flüchtlings die Menge an Rechten und Pflichten, die die Rechtsstellung einer Person im Staat sowie die Art der Beziehung zwischen Mensch und Staat kennzeichnen.

Die Hauptquelle für Flüchtlingsrechte sind internationale Verträge in Form von Konventionen und Abkommen.

Konventionen und Abkommen, die direkte Quellen des Flüchtlingsrechts sind, können von einem territorialen Aktionsbereich zu universellen und regionalen Bereichen klassifiziert werden [1]. Universal umfasst das Übereinkommen von 1951 und das Protokoll von 1967 sowie zu regionalen internationalen Verträgen, die innerhalb regionaler internationaler Organisationen geschlossen wurden, zu denen Staaten derselben geografischen Region gehören: das Europäische Abkommen über die Abschaffung der Visa für Flüchtlinge (1959), das GUS-Abkommen über die Flüchtlings- und Zuwanderungshilfe (1993), das Übereinkommen des Europarates über Diebeswillige (1957) und das Protokoll dazu (1973) und andere Regionale Übereinkommen, wenn auch auf der Grundlage des Übereinkommens von 1951. Merkmale mit der Auslegung des Begriffs „Flüchtling“ oder der Festlegung von Fragen des Asylstatus und des Grenzübertritts. Die Rechte der Flüchtlinge lassen sich in folgende Gruppen unterteilen:

- die besonderen Rechte von Flüchtlingen, die sich aus der Institution des internationalen Schutzes ergeben;
- die Rechte, die Flüchtlinge auf Augenhöhe mit den Bürgern des Asyllandes genießen;
- die Rechte von Flüchtlingen, die mit anderen Ausländern, die sich rechtmäßig im Aufnahmeland aufhalten, gleichkommen.

Die erste Gruppe umfasst die Grundrechte, die Flüchtlingen internationalen Schutz bieten.

Eines der grundlegenden Menschenrechte, die in Artikel 14 der Allgemeinen Erklärung der Menschenrechte (1948) verankert sind, ist das Recht auf internationalen Schutz oder Asyl.

Im Geiste des Übereinkommens von 1951 sollten alle Asylbewerber Zugang zu fairen und wirksamen Verfahren für die Bearbeitung ihrer Asylanträge haben. In jedem Fall müssen die zuständigen Behörden die Anträge dieser Personen annehmen, um festzustellen, ob ihre Anträge auf Flüchtlingseigenschaft in der Sache berücksichtigt werden können, und um dem

Antragsteller die erforderliche Unterstützung zu gewähren, einschließlich der Bereitstellung eines Dolmetschers und der Verweisung des Falles an die Öffentlichkeit. Nach der Schlussfolgerung der europäischen Rechtsorganisation muss ihm im Falle der Nichtanerkennung eines Flüchtlings durch einen Flüchtling eine angemessene Frist eingeräumt werden, um die Entscheidung in derselben oder einer anderen verwaltungsrechtlichen oder gerichtlichen Einrichtung im Einklang mit dem derzeitigen System zu überprüfen [2].

In diesem Fall muss der Flüchtling die Erlaubnis erhalten, sich für die Dauer seines Antrags im Land aufzuhalten, einschließlich der Zeit, die für die Prüfung seiner Beschwerde erforderlich ist. Die einzige Ausnahme ist, wenn in der ursprünglichen Erklärung festgestellt wird, dass sie eindeutig einen Missbrauch des einschlägigen Rechts darstellt.

Zur Umsetzung dieser Bestimmungen muss der Staat Verfahren für eine faire und wirksame Prüfung von Anträgen von Schutzsuchenden erlassen und umsetzen, einschließlich Maßnahmen zur Gewährleistung des Zugangs zum Verfahren, und die Zuständigkeit der für die Durchführung dieser Verfahren zuständigen Behörden ermitteln. Diese Anforderungen sind in der Entschließung der Europäischen Union von 1995 (Artikel 3.III) als Mindestgarantien für die Wirksamkeit des Asylverfahrens aufgeführt.

Gleichzeitig sollten Asylbewerber nicht festgehalten oder festgehalten werden, während ihre Anträge bearbeitet werden. Die Beantragung von Asyl war keine Straftat, und die Freiheit von willkürlicher Inhaftierung war ein grundlegendes Menschenrecht und Freiheit. Wenn Asylbewerber in Haftanstalten untergebracht werden, haben sie das Recht zu erfahren, aus welchen Gründen sie festgehalten wurden; sie haben das Recht, die Entscheidung, sie festzunehmen, anzufechten.

Eines der wichtigsten Rechte eines Flüchtlings ist die Möglichkeit, sich in allen am Übereinkommen von 1951 teilnehmenden Ländern frei an die Gerichte zu wenden. In anderen Ländern wird ein Flüchtling mit der gleichen Situation wie die Bürger seines gewöhnlichen Wohnsitzlandes versorgt.

Die Sozialfürsorge ist der Bereich der nationalen Rechtsvorschriften, und daher können ihre Standards nicht durch internationale Abkommen geregelt werden. Gemäß dem Grundsatz der Nichtdiskriminierung haben Flüchtlinge, die sich rechtmäßig im Hoheitsgebiet des Staates aufhalten, jedoch Anspruch auf soziale Betreuung in den Beträgen, die normalerweise für Bürger des Wohnsitzlandes vorgesehen sind. Kapitel IV des Übereinkommens von 1951 bestimmt insbesondere, dass Flüchtlinge das Recht haben:

- das Rationierungssystem auf Augenhöhe mit den Bürgern eines Landes anzuwenden, in dem es ein System der Verteilung knapper Produkte gibt;
- die Wohnungsfrage in einer Position anzugehen, die nicht weniger günstig ist als die, die Ausländer unter den gleichen Umständen normalerweise genießen;
- die Grundschulbildung ist mit den Bürgern des Aufnahmelandes gleichartig, und die Situation ist nicht weniger günstig als die, die Ausländer normalerweise im Vergleich zu anderen Bildungsformen genießen;
- Anerkennung ausländischer Zeugnisse, Diplome und Abschlüsse; Befreiung von den Gebühren für das Recht auf Lehre und Gebühren sowie für die Gewährung von Stipendien;
- die gleiche Situation wie die Bürger des Wohnsitzlandes in Bezug auf die Arbeits- und Arbeitsbedingungen (Lohn, Arbeitszeit, Alter der Arbeitnehmer usw.), die soziale Sicherheit gemäß den nationalen Rechtsvorschriften (z. B. mit einer Kombination aus Solidarität und kumulativem Rentensystem, in dem Flüchtlinge geringere Renten erhalten) [3].

Das Amt des Hohen Flüchtlingskommissars der Vereinten Nationen ist von zentraler Bedeutung für die internationale Zusammenarbeit beim Flüchtlingsschutz und im

internationalen Flüchtlingsschutzsystem. Um das UNHCR jedoch effektiver zu machen, muss es in eine spezialisierte UN-Agentur umgewandelt werden, die ihren Status im Vergleich zur derzeitigen Situation der UN-Unterstützungsorganisation verbessern wird. Dazu ist es notwendig, einen umfassenden universellen Vertrag zu entwickeln und zu unterzeichnen – einen Gründungsakt. die alle Aspekte der Tätigkeit des UNHCR regeln. Ein globales System der internationalen Zusammenarbeit beim Schutz von Flüchtlingen wurde inzwischen eingerichtet und ist in Kraft. Sie ist jedoch nicht vereinheitlicht. Um es zu einem Einheitsgänger zu machen, ist es notwendig, eng zusammenzuarbeiten und alle Elemente zu koordinieren, aus denen das globale System der internationalen Zusammenarbeit besteht.

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Исследуется статус беженца в международном праве, характеризуются права беженцев и их положение в разных странах. Подчеркивается, что права беженцев должны быть унифицированы, соответственно, законодательство в этой области права требует доработки и изменений.

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TOLERANZPRINZIPIEN IM BILDUNGSUMFELD

Zum gegenwärtigen Zeitpunkt kann man die allgemeine Einführung von Toleranzprinzipien in einem soziokulturellen Kontext beobachten, um Fremdenfeindlichkeit und Diskriminierung aufgrund von rassischen, religiösen, geschlechtsspezifischen, ethnischen und anderen Merkmalen zu beseitigen. Toleranz ist heute nicht nur Respekt, Akzeptanz und richtiges Verständnis der reichen kulturellen Vielfalt unserer Welt, der Selbstausdrucksformen, sondern auch die Grundlage für die Überwindung interkultureller Konflikte.

In diesem Zusammenhang wurde das Ziel gesetzt, die Rolle von Toleranz in der Bildung zu reflektieren und ihre Wechselbeziehung mit politischer Korrektheit zu zeigen.

Tolerante Beziehung liegt der globalen Bildung zugrunde. Sie ist ein System der Erziehung und Ausbildung eines Menschen, der in der Lage ist, sich als «Bewohner der Erde» zu fühlen und zu handeln. Sie ermöglicht den Menschen, sich der globalen Entwicklung besser zu nähern, fördert eine stärkere Beteiligung an Bürgerinitiativen und rationellere Entscheidungen. Die globale Bildung umfasst die folgenden Bereiche der pädagogischen Tätigkeit: die Bildung der ständigen Aufmerksamkeit auf die Probleme des globalen Charakters, des Interesses an den Kulturen anderer Völker, des globalen Denkens und die persönliche Teilnahme an der Lösung globaler Probleme.

Anhänger der globalen Bildung, die internationale Bildungsstandards entwickeln, werden Globalisten genannt. Initiatoren dieser Bewegung waren die amerikanischen Vertreter, die 1970 nichtstaatliche, öffentliche und professionelle Organisation «The American Forum for Global Education» schufen. Auf Initiative des Amerikanischen Forums unter der Schirmherrschaft des UNESCO fand 1995 die internationale Konferenz «Bridges for the Future» in New York statt, auf der die Rolle und die Hauptrichtungen der Entwicklung von globaler Bildung im 21. Jahrhundert bestimmt wurden. Die globale Bildung wurde als eine der wichtigsten Entwicklungsrichtungen der modernen pädagogischen Wissenschaft und Praxis anerkannt, deren Ziel es ist, den Menschen auf das Leben in einer komplexen, sich schnell verändernden Welt vorzubereiten, um globale Probleme zu lösen.

Der Prozess der Institutionalisierung von globaler Bildung fand auch in Europa statt. 2001 wurde das Global Education Network Europe (GENE) mit Unterstützung des Europarats gegründet, um die Theorie und Praxis der Globalbildung auf den Kontinenten zu entwickeln und zu unterstützen.

Im aktuellen Moment wird der «globalen» Erziehungsprozess einer toleranten Person auch dank den Vereinten Nationen fortgesetzt, dass die allgemeine Einführung dieser Ideologie und ihre weitere Verbreitung über das Internet, die Medien und das Kino bestätigt. Die Vereinten Nationen verpflichten sich, die Toleranz durch ein besseres Verständnis zwischen Kulturen und Völkern zu stärken. Diese dringende Notwendigkeit liegt der Charta von Vereinten Nationen sowie der Allgemeinen Erklärung der Menschenrechte zugrunde.

Die Generalversammlung schlug 1996 den Mitgliedstaaten vor, jährlich am 16. November den Internationalen Tag der Toleranz mit entsprechenden Veranstaltungen in den Bildungseinrichtungen und der breiten Öffentlichkeit zu feiern. Laut Artikel 1 der Prinzipiendeklaration von Toleranz nach Resolution 5.61 der UNESCO-Generalkonferenz vom 16. November 1995 wird angegeben: „Toleranz, die im Einklang mit der Achtung der Menschenrechte ist, bedeutet soziale Ungerechtigkeit, die Verweigerung oder die Abtretung von fremden Überzeugungen nicht. Das bedeutet, dass jeder frei ist, an seinen Überzeugungen festzuhalten und das gleiche Recht für andere zu erkennen. Das bedeutet, dass Menschen von Natur aus in Aussehen, Position, Sprache, Verhalten und Werten variieren und in Frieden leben und ihre Individualität bewahren können. Das bedeutet auch, dass die Ansichten einer Person nicht auf andere auferlegt werden können“ [1].

Die tolerante Einstellung des Sprechers zu den Subjekten und Objekten der Wirklichkeit ist das Grundprinzip auch der heute entwickelnden Politkorrektheit, die wiederum nicht nur das taktvolle Verhalten des Menschen in einer bestimmten Situation, sondern auch die korrekte Konstruktion des Denkens vorsieht, die durch die Sprache zu einer erfolgreichen interkulturellen Kommunikation führt.

Politische Korrektheit ist eine Diskriminierung, eine gesellschaftlich akzeptable Einstellung gegenüber verschiedenen politischen und gesell-äschaftlichen Gruppen, die die Möglichkeit der Diskriminierung, Beleidigung nationaler Gefühle, Verletzung der Würde, der Rechte und Freiheiten von Einzelpersonen oder sozialen Gruppen aufgrund politischer, rassischer, religiöser, sexueller und anderer Merkmale ausschließt.

Eine der Hauptaufgaben der politischen Korrektheit ist es, freundliche und respektvolle Beziehungen aufzubauen und den Unterschied zwischen Vertretern verschiedener sozialer Gruppen zu balancieren. Aus diesem Grund gibt es eine Gruppe von bestimmten Wörtern und Ausdrücken, die durch die neutralen ersetzt werden. So unterscheidet man im Deutschen die folgenden Arten von politisch korrekten Formulierungen: Splitting, politisch korrekte Euphemismen, Ersatz eines Substantivs durch ein Adjektiv, Gebrauch von Sammelwörtern,

verbalen Abstrakten auf -ung, geschlechtsneutralen Substantiven, substantivierten Partizipien und Adjektiven im Plural (s. Schema).

Schema – Arten der politisch korrekten Formulierungen

<table>
<tr><th colspan="2">Art der politisch korrekten Formulierungen</th><th>Rolle in der Sprache</th><th>Beispiel</th></tr>
<tr><td colspan="2">Splitting in voller/kurzer Form</td><td>Die Beseitigung der Asymmetrie in der Sprache</td><td>Alle Schülerinnen und Schüler / Alle Schülerinnen</td></tr>
<tr><td colspan="2">politisch korrekte Euphemismen</td><td>Die Bildung der neutralen Vorstellung</td><td>der Körperbehinderte (der Invalide)</td></tr>
<tr><td rowspan="5">Neutralisierung</td><td>Ersatz eines Substantivs durch ein Adjektiv</td><td rowspan="5">Die Vermeidung von geschlechtsspezifischen Angaben</td><td>Ärztlicher Rat (der Rat eines Arztes)</td></tr>
<tr><td>Gebrauch von Sammelwörtern</td><td>Die Jugendliche</td></tr>
<tr><td>Gebrauch von verbalen Abstrakten auf -ung</td><td>die Leitung (leitende Personen beiderlei Geschlechts)</td></tr>
<tr><td>Gebrauch von substantivierten Partizipien und Adjektiven im Plural</td><td>Die Lernenden
Die Begeisterten</td></tr>
<tr><td>Metonymische Übertragung auf die Institution</td><td>das Institut
die Schule</td></tr>
</table>

So ist der Einfluss einer toleranten Person auf sprachliche Veränderungen eine der wichtigsten Voraussetzungen für die Existenz politischer Korrektheit. Fragen der geschlechtergerechten Politik in der Sprache verlieren heute nicht an Bedeutung, das wird durch fast allgegenwärtige «politisch korrekte» Neuerungen in der Sprache und unaufhörliche Diskussionen zu diesem Thema bestätigt. Aus diesem Grund muss man dieses Phänomen in allgemeinen Bildungseinrichtungen berücksichtigen, um die Fähigkeiten einer erfolgreichen Kommunikation zu bilden.

Die Bildung einer Toleranzkultur von den ersten Schultagen ist eine der wichtigsten und aktuellen Richtungen in der pädagogischen Arbeit. Sie strebt sich danach, Vorurteile gegenüber fremden Kulturen loszuwerden, die vor allem aus Wissensmangel über die Völker und ihre Beziehungen, über nationale Kulturen und Traditionen entstehen. Aus diesem Grund kann das Leben eines Kollektivs eine wesentliche Rolle bei der Bildung von toleranten Beziehungen in der Klasse spielen, in der alle Schülerinnen und Schüler jede Person einzigartig erkennen. Gerade im Zuge der Klassenstunden, die von bürgerlicher Position, Geschichte, Kultur jeder Nation und Probleme der Diskriminierung berichtet werden, beginnt sich die kooperative Haltung und das Interesse an anderen Völkern.

Bei der Verhinderung von Intoleranz hilft der Einsatz von Informations-technologie, nämlich das Ansehen von Videos zu diesem Thema, die Schaffung von Gruppen-Online-Turnieren, die Kontaktaufnahme mit Vertreten anderer Nationen, die in der Klasse sind. Eine kreative Lösung wäre, ausländische Lernenden als Dolmetscher zu gewinnen.

Die Fremdsprache als internationales Schulfach ermöglicht es, die Traditionen der Landesbewohner, ihre kulturellen Werte und sozialen Erfahrungen kennen zu lernen. Kulturelle Vielfalt wird dabei auf verschiedenen Ebenen und Phasen des

Fremdsprachenunterrichts präsentiert. In der Grundschule wird den Lernenden einige Begrüßungen, auch deutsche Volksmärchen und Zeichentrickfilmen gezeigt, die die Entwicklung von Hörverständnis fördern. In der Mittelschule erhalten die Schülerinnen und Schüler Informationen über die Sehenswürdigkeiten der deutschsprachigen Länder und vergleichen sie mit den Sehenswürdigkeiten ihres Landes. In der Oberstufe basiert die Arbeit auf den folgenden Methoden – Diskussion, Studium und Analyse der Literatur zu dem untersuchten Problem sowie Rollenspiele.

So muss man beim Erlernen von Fremdsprachen, die in eine andere Kultur führen, den Aspekt der Toleranz und der Politkorrektheit berücksichtigen. Das wird dazu beitragen, Missverständnisse, kommunikative Barrieren und interkulturellen Konflikten zu vermeiden. Besonders lohnt es sich, die Aufmerksamkeit auf die Übersetzung der politisch korrekten Ausdrücke aus einer Fremdsprache in die Muttersprache zu lenken.

Bildung und Kultur sind untrennbar miteinander verbunden. Das Interesse des Kulturbereichs, die Idee des Kulturellen Dialogs zu initiieren und aktiv zu unterstützen ermöglicht die Toleranzerziehung, einer der wichtigsten Bildungsaufgaben des kommenden Jahrhunderts. Gerade das Beispiel der toleranten Beziehung der Lehrkraft und die auf den optimalen Bedingungen gebaute Wechselwirkung der Subjekte des Bildungsprozesses erlauben, die Individualitätsachtung, sowie «die neue Kultur» der Kommunikation zu bilden.

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Статья посвящена явлению толерантности, ее взаимосвязи с политкорректностью и значению как на глобальном, так и на образовательном уровне. В схематической форме представлены основные виды политкорректных формулировок-замен, которые необходимо учитывать на уроках иностранного языка. Делается вывод, что именно пример толерантного отношения преподавателя и построенное на оптимальных условиях взаимодействие субъектов образовательного процесса позволяют сформировать «новую культуру» общения.

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THE INFLUENCE OF COVID-19 ON THE ECOLOGY OF OUR PLANET

At the end of 2019 a novel infectious disease with human to human transmission (COVID-19) was identified in Wuhan China, which has turned into a global pandemic now. Countries all over the world have implemented some sort of lockdown to slow down its infection and mitigate it. Lockdown due to COVID-19 has drastic effects on social and economic fronts. However, this lockdown also has some positive effect on natural environment. Recent data released by National Aeronautics and Space Administration and European Space Agency indicate that pollution in some of the epicenters of COVID-19 such as Wuhan, Italy, Spain and the USA etc. has reduced up to 30 %.

The aim of the study is to analyze changes in the amount of emissions of various chemicals, toxins by enterprises and factories, and the percentage of environmental pollution due to the COVID-19 pandemic.

An infectious disease of coronavirus family identified in Wuhan, China was later named COVID-19. In January 2020, World Health Organization (WHO) confirmed human to human transmission of COVID-19 through respiratory droplets. Later on, the same month, authorities confirmed a cluster of COVID-19 cases in Wuhan, which increased rapidly not only in surrounding areas but also spread in the whole country and the outbreak turned into epidemic. On January 30th, WHO declared worldwide public health emergency. In February, outbreaks began in Iran, Italy and other countries around the globe. Subsequently, the epidemic turned into pandemic and by the end of March half of the world population was under some form of lockdown. As of April 16, 2020, the total number of COVID-19 cases surpassed 2.1 million worldwide, with number of total deaths more than 135,000 [1].

The global outbreak of coronavirus disease 2019 (COVID-19) is affecting every part of human lives, including the physical world. The measures taken to control the spread of the virus and the slowdown of economic activities have significant effects on the environment.

As countries went into lockdown the industrial activities shut down globally. Among many other sectors, transport is the hard hit sector due to lockdown. Road and air transport came to halt as people are not allowed or hesitate to travel. According to the report, air travel dropped by 96 % due to COVID-19, the lowest in 75 years. The first thing to consider is the different reasons that emissions have dropped. Let's consider transport, for example, which makes up 23 % of global carbon emissions. These emissions have fallen in the short term in the countries where public health measures, such as keeping people in their homes, have cut unnecessary travel. Driving and aviation are key contributors to emissions from transport, contributing 72 and 11 % of the transport sector's greenhouse gas emissions respectively. Furthermore, not only transport sector but also industrial and manufacturing sector is heavily affected by pandemic. Global oil demand declined drastically and prices cut down sharply, as industrial and transport sectors came to halt worldwide. COVID-19 has severe negative influence on human health and world economy. However, it also results in pollution reduction due to limited social and economic activities.

As industries, transportation and companies have closed down, it has brought a sudden drop of greenhouse gases emissions. Compared with this time of last year, levels of air pollution in New York has reduced by nearly 50 % because of measures taken to control the virus. It was estimated that nearly 50 % reduction of NO_2 and CO occurred due to the shutdown of heavy industries in China. Also, emission of NO_2 is one of the key indicators of global economic activities, which indicates a sign of reduction in many due to the recent shut down. Usually, NO_2 is emitted from the burning of fossil fuels, 80 % of which comes from motor vehicle exhaust. It is reported that NO_2 causes acid rain with the interaction of O_2 and H_2O, and several respiratory diseases suffered by humans. The European Environmental Agency predicted that, because of the COVID-19 lockdown, NO_2 emission dropped from 30–60 % in many European cities including Barcelona, Madrid, Milan, Rome and Paris. In the US NO_2 declined 25.5 % during the COVID-19 period compared to previous years. The level of NO_2 demonstrated a reduction across Ontario and found to be reduced from 4.5 ppb to 1 ppb. Up to 54.3 % decrease of NO_2 was observed in Sao Paulo of Brazil. It was also stated that, the levels of NO_2 and PM2.5 reduced by almost 70 % in Delhi, the capital of India. Overall, 46 and 50 % reduction of PM2.5 and PM10 respectively, was reported in India during the nationwide lockdown [2].

Water pollution is a common phenomenon of developing countries like India, and Bangladesh, where domestic and industrial wastes are dumped into rivers without treatment.

Noise pollution is the elevated levels of sound, generated from different human activities (e. g., machines, vehicles, construction work), which may lead to adverse effects in human and other living organisms. The quarantine and lockdown measures mandate that people stay at home and reduced economic activities and communication worldwide, which ultimately reduced noise level. For instance, noise level of Delhi, the capital of India, is reduced drastically around 40–50 % in the recent lockdown period.

Only an immediate and existential threat like COVID-19 could have led to such a profound change so fast. As well as the toll of early deaths, the pandemic has brought widespread job losses and threatened the livelihood of millions as businesses struggle to cope with the restrictions being put in place to control the virus. Economic activity has stalled and stock markets have tumbled alongside the falling carbon emissions. It's the precisely opposite of the drive towards a decarbonised, sustainable economy that many have been advocating for decades.

Overall, the pandemic has caused huge global socio-economic disruption, which directly or indirectly affected the environment like improvement of air and water quality, reduction of noise and restoration of ecology.

COVID-19 is a global pandemic and serious threat to human health which halt the economic activities, however it is also considered as a "Blessing in Disguise", where pollution is reducing and nature is reclaiming itself. This positive impact on environment maybe temporary but governments and individuals should learn from this lockdown on how to reduce pollution on a long-term basis.

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Анализируются изменения в экологическом состоянии нашей планеты, наступившие в результате сокращения, а во многих случаях приостановки деятельности некоторых сфер экономической деятельности, в частности промышленности и сферы туризма, вызванные пандемией коронавируса.

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DESARROLLO DE LAS HABILIDADES CREATIVAS A TRAVÉS DEL ARTE Y DEL JUEGO

A medida de que la educación influya en el desarrollo de la capacidad creativa de la persona podemos esperar una sociedad más reflexiva, autocrítica y con un pensamiento libre.

El arte es un medio para que los niños se conozcan a si mismos y conozcan el mundo que los rodea. A través del arte expresan ideas y sentimientos. La actividad artística les ayuda a

enfrentarse a los retos y aprender nuevos conceptos. Mientras exploran formas, texturas y colores, también aprenden nuevas palabras. El arte fomenta la creatividad, la imaginación y, además les da a los niños una sensación de satisfacción y orgullo [1].

Por lo tanto es un deber de los profesores no caer en rutinas y fomentar la expresión artística en las aulas, comprender la necesidad de potenciar la creatividad y dotar al alumnado detécnicas y motivaciones que les den la oportunidad de expresarse libremente.

En la infancia la fantasía es más rica y variada que la de los adultos. Aunque como adultos tenemos más herramientas para desarrollar la imaginación, la limitamos y por ende en ocasiones nuestra imaginación es más pobre, los niños por el contrario no tienen límite al imaginar y crear en su mundo. El arte infantil está más centrado en el proceso que en el producto y el arte adulto está más centrado en el producto que en el proceso. Los niños no entienden el arte como lo entendemos los adultos. Para ellos es un juego donde pueden expresarse libremente [1].

Para que el arte infantil se dé en cualquiera de sus áreas, no es necesario que el niño posea habilidades especiales para su realización, sólo se requiere de un ambiente propicio, de materiales adecuados y de la no interferencia de los adultos al intentar plasmar sus ideas en las creaciones de los niños, dejándolos actuar con libertad, siendo apoyo y guía en sus creaciones. En cambio, para que el arte en el medio de los adultos sea considerado como tal, es necesaria una ardua labor y disciplina por parte del artista a fin de dominar su medio de expresión, además de ser original y reflejar conocimiento de la técnica utilizada y calidad en la realización de la obra [2].

Desde la temprana infancia encontramos procesos creadores que se aprecian, sobre todo, en sus juegos. El niño que cabalga sobre un palo y se imagina que monta a caballo, la niña que juega con su muñeca creyéndose madre, niños que juegan a los ladrones, a los soldados, a los marineros. Todos ellos muestran en sus juegos ejemplos de la más auténtica y verdadera creación.

Es verdad que, en sus juegos, reproducen mucho de lo que ven, pero bien sabido es el inmenso papel que pertenece a la imitación en los juegos infantiles. Son éstos, frecuentemente, un mero reflejo de lo que ven y escuchan de los mayores, pero dichos elementos de experiencia ajena no son nunca llevados por los niños a sus juegos como eran en la realidad, generando hábitos. No se limitan en sus juegos a recordar experiencias vividas, sino que las reelaboran creadoramente, combinándolas entre sí y edificando con ellas nuevas realidades acordes con las aficiones y necesidades del propio niño. El afán que sienten de fantasear las cosas es reflejo de su actividad imaginativa, como en los juegos.

De aquí la conclusión pedagógica sobre la necesidad de ampliar la experiencia del niño si queremos proporcionarle bases suficientemente sólidas para su actividad creadora. Cuanto más vea, oiga y experimente, cuanto más aprenda y asimile, cuantos más elementos reales disponga en su experiencia el niño, tanto más considerable y productiva será, a igualdad de las restantes circunstancias, la actividad de su imaginación [2].

El juego va más allá del solo entretener, usándolo como estrategia metodológica, dirigiéndolo hacia el arte generará retos para crear niños más sensible y abiertos al aprendizaje así como a la crítica, la reflexión y el análisis.

La educación preescolar tiene como propósitos promover en los niños el desarrollo de sus potencialidades cognitivas y comunicativas; la confianza en sí mismos; la seguridad y el respeto en sus relaciones con los demás; la sensibilidad y creatividad para expresarse a través de los lenguajes artísticos y para apreciar las diversas manifestaciones del arte; así como el desarrollo de las capacidades y disposiciones para el aprendizaje permanente [2]. Las actividades de expresión y apreciación artísticas cumplen un papel muy importante en el logro

de estos propósitos educativos, porque la música, la danza, la plástica y el teatro generan en los niños sensaciones y emociones, les permiten expresar y construir ideas, desarrollar su imaginación y su capacidad creativa, conocer su cuerpo y sus posibilidades de movimiento, y estimulan el conocimiento de sí mismos y del mundo que les rodea, así como diferentes formas de relacionarse con los otros [3].

El juego es un impulso natural de las niñas y los niños y tiene manifestaciones y funciones múltiples. Es una forma de actividad que les permite la expresión de su energía, de su necesidad de movimiento y puede adquirir formas complejas que propician el desarrollo de competencias. En el campo de la expresión y la apreciación artística se menciona que el juego dramático en los niños ayuda a que integren sus pensamiento con las emociones, además de que necesitan jugar, cantar, escuchar, bailar, etc., para de esta manera enriquecer su lenguaje, desarrollar la capacidad de percibir, así como la memoria, la atención, la escucha la expresión corporal y la interacción con los demás [3]. En este sentido, el juego puede alcanzar niveles complejos tanto por la iniciativa de los niños, como por la orientación de la educadora. Habrá ocasiones en que las sugerencias de la maestra propiciarán la organización y focalización del juego y otras en que su intervención deberá limitarse a abrir oportunidades para que éste fluya espontáneamente, en ese equilibrio natural que buscan los niños en sus necesidades de juego físico, intelectual y simbólico.

El juego en si es el primer acto creativo del ser humano, por consiguiente parte importante para la comprensión del arte en el niño.

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Речь идет об огромном значении в развитии творческих способностей игры, которая является основным видом деятельности дошкольников. Именно в игре ребенок делает первые шаги творческой деятельности. Также важная роль принадлежит взрослым, которые должны не просто наблюдать за детской игрой, а управлять ее развитием, обогащать ее, включать в игру творческие элементы.

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