

Министерство образования Республики Беларусь  
Учреждение образования  
«Брестский государственный университет имени А. С. Пушкина»  
Факультет иностранных языков  
Кафедра иностранных языков

## Иностранные языки и современный мир

## Foreign Languages and Contemporary World

*Сборник материалов  
международной научной конференции  
студентов, магистрантов, аспирантов*

Брест, 14 апреля 2023 года



Брест  
БрГУ имени А. С. Пушкина  
2023

УДК 81'243(082)  
ББК 81.2я431

И 68

*Рекомендовано редакционно-издательским советом учреждения образования  
«Брестский государственный университет имени А. С. Пушкина»*

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*Редакционная коллегия:*

**Л. М. Максимук, Н. В. Иванюк, Л. М. Калилец,  
О. Н. Коваленко, Л. Е. Левонюк, С. В. Милач, К. В. Спесивцева**

И 68 Иностранные языки и современный мир : сб. материалов междунар. науч.  
конф. студентов, Брест, 14 апр. 2023 г. / Брест. гос. ун-т. имени А. С. Пушкина ;  
редкол.: Л. М. Максимук, [и др.]. – Брест : БрГУ, 2023. – 376 с.

ISBN

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.

**УДК 81'243(082)  
ББК 81.2я431**

ISBN

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## **EL DESHIELO GLOBAL Y SUS PELIGROS**

A lo largo de la mayor parte del siglo pasado y actualmente el planeta Tierra se está calentando. Este proceso recibió el nombre de calentamiento global y ocurre debido a las actividades humanas, principalmente la quema de combustibles fósiles, que aumenta los niveles de gases de efecto invernadero los cuales a su vez atrapan el calor en la atmósfera de la Tierra. El calentamiento está distribuido de manera muy desigual en todo el planeta y muchos lugares están cambiándose poco o incluso enfriándose. Sin embargo, lo que sí se ve afectado negativamente por el aumento de las temperaturas son los recursos mundiales de hielo.

Por lo tanto, el objetivo de este artículo es analizar más de cerca las consecuencias del derretimiento del hielo.

Los efectos del derretimiento del hielo son diversos. Y aunque pueden tardar algún tiempo en cruzar el umbral alarmante, su creciente peligro ya tiene un impacto en el planeta.

La primera gran preocupación es el aumento del nivel del mar. Con el exceso de agua viene el aumento del nivel del mar. Es tan simple como eso.

Alrededor de un tercio del aumento total del nivel del mar ahora proviene de la pérdida de hielo de Groenlandia y la Antártida. Poco menos de la mitad proviene de la expansión térmica del calentamiento del agua del océano y una quinta parte de otros glaciares más pequeños. Pero estas últimas fuentes no se están acelerando, a diferencia de Groenlandia y la Antártida [2].

Aunque el hielo marino no contribuye al aumento del nivel del mar, debe tenerse en cuenta que el hielo marino del Ártico también está cayendo a un ritmo acelerado. La excepción a esta pérdida de hielo es el hielo marino antártico que ha estado creciendo a pesar del calentamiento del Océano Austral. Esto se debe a factores locales exclusivos de la zona.

Sin recortes rápidos en las emisiones de carbono, podría haber un aumento en los niveles del mar que dejaría a 400 millones de personas expuestas a inundaciones costeras cada año para fines del siglo [2].

Áreas enteras de las principales ciudades y grandes partes de los continentes tienen el potencial de quedar sumergidas bajo el agua si no controlamos los factores impulsores detrás del derretimiento de los casquetes polares.

Algunas de las ciudades más grandes del mundo, como Shanghai, podrían verse afectadas significativamente por el aumento del nivel del mar. El aumento

del nivel del mar también afectará a tales ciudades como Miami, Osaka, Alejandría y Río de Janeiro. Los países insulares como las Maldivas serían una de las primeras naciones en ser tragadas enteras junto con partes de los Estados Unidos, principalmente alrededor de la región de la costa del golfo [2].

Además, el derretimiento del hielo en sí mismo puede conducir al cambio climático por dos medios:

1. Liberación de metano. El hielo ártico y el permafrost, un suelo permanentemente congelado, almacenan grandes cantidades de metano, un gas de efecto invernadero que contribuye al cambio climático. Cuando se descongela, se libera metano, lo que aumenta la tasa de calentamiento. Esto, a su vez, hace que más hielo y permafrost se descongelen, liberando más metano, lo que provoca una mayor fusión [3].

2. Exposición al sol. La nieve y el hielo han desempeñado durante mucho tiempo un papel vital en la moderación del clima de la Tierra. Las superficies blancas reflejan la radiación del sol, que a su vez ayuda a mantener una temperatura agradable para la vida en el planeta. Pero con un planeta que se calienta, ese hielo se derrite o se adelgaza, exponiendo el agua oscura o el suelo debajo, que absorbe esa radiación. Así que cada año la temperatura global aumenta, derritiendo más hielo y nieve. Es un circuito de retroalimentación positiva: el calentamiento causa el derretimiento del hielo, el derretimiento del hielo causa el calentamiento. Y ese proceso, también llamado amplificación ártica, conduce a lo que estamos observando ahora, que es un clima que cambia rápidamente.

También está el hay un factor de vida silvestre salvaje. Los osos polares están perdiendo sus hábitats en las regiones glaciares, y muchos se están ahogando como resultado de las inundaciones excesivas. El derretimiento del hielo también afecta a otras especies, incluida la foca anillada y especies conocidas como la ballena beluga, el zorro ártico, la morsa y el pingüino emperador. Estos cambios también tienen graves implicaciones para la vida marina. En última instancia, el derretimiento de los casquetes polares podría extinguir muchas especies de mamíferos marinos y terrestres.

Otras consecuencias efectos podrían manifestarse más adelante tener lugar a finales de este siglo, si el calentamiento continúa. Entre ellos Estos incluyen:

- Habrá menos agua dulce disponible, ya que los glaciares almacenan aproximadamente tres cuartas partes del agua dulce del mundo.
- Algunas enfermedades se propagarán ya que el hielo no solo contiene agua, sino también aire y bacterias de hace siglos.
- Es probable que los huracanes y otras tormentas se vuelvan más fuertes debido al cambio climático [1].

Las consecuencias irreversibles del derretimiento de los glaciares en el Ártico, la Antártida y otras regiones del planeta sólo pueden prevenirse si se

тoman las medidas necesarias en todas partes y a todos los niveles, desde el mundo hasta la acción de todos.

Ya hoy, los científicos están desarrollando formas de proteger los glaciares que se derriten de los efectos dañinos de las temperaturas.

Un aspecto muy importante de la solución del problema es encontrar fuentes de energía alternativas que eviten la quema de materias primas de carbono. Se instalan paneles solares, parques eólicos y plantas de energía de las mareas. Se mejoran las características técnicas de los automóviles, se producen modelos híbridos. A nivel estatal, se ejerce un estricto control sobre las empresas, que no permite superar el nivel de emisiones peligrosas y tóxicas [1].

Cada persona puede contribuir a la preservación de los glaciares y el estado próspero del planeta en sus actividades diarias. Por lo tanto, los científicos recomiendan evitar el uso excesivo de todo tipo de aerosoles, que contienen clorofluorocarbonos que destruyen la capa de ozono. El uso de bicicletas o transporte público para distancias cortas en lugar del uso frecuente de automóviles ayudará a reducir los volúmenes de gases de escape. Si es posible, se recomienda plantar áreas cerca de la casa con espacios verdes [1].

Es necesario adoptar medidas serias en todos los niveles de la sociedad para resolver el problema. A nivel mundial, la conservación de los glaciares depende de los científicos y las autoridades, a nivel individual, de cada uno de nosotros.

#### СПИСОК ИСПОЛЬЗОВАННОЙ ЛИТЕРАТУРЫ

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Автор статьи анализирует актуальную экологическую проблему таяния ледниковых покровов Земли. В процессе определяется причина данного явления. Затем раскрываются его последствия, которые мы можем наблюдать на данный момент, а также в долгосрочной перспективе. Кроме этого, автор предлагает пути улучшения сложившейся экологической ситуации посредством усилий каждого человека. На глобальном уровне подчеркивается работа ученых и представителей власти.

**к содержанию**

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## **DER EINFLUSS DES INTERNETS AUF DIE GLOBALISIERUNG IN DER GEGENWÄRTIGEN PHASE**

Mit der Entwicklung der Technologie und der weltweiten Verbreitung des Internets ist die Globalisierung zu einem immer wichtigeren Prozess in der Weltwirtschaft, Politik und Kultur geworden. Das Internet ist ein wichtiger Bestandteil der Globalisierung, da es die sofortige Verbindung von Menschen aus der ganzen Welt ermöglicht und Zugang zu globalen Märkten und Informationen bietet. Infolgedessen hat das Internet die Globalisierung in den letzten Jahrzehnten erheblich beeinflusst. In diesem Artikel wird der Einfluss des Internets auf Globalisierungsprozesse untersucht.

Eine der wichtigsten Auswirkungen des Internets auf die Globalisierung ist, wie es den globalen Informationsfluss erleichtert hat. Mit einem Knopfdruck können Menschen Nachrichten und Informationen aus der ganzen Welt abrufen. Dies ermöglichte es den Menschen, auf eine Weise, die vorher nicht möglich war, unterschiedliche Kulturen, Ideen und Einstellungen kennenzulernen und mit ihnen zu kommunizieren [2].

Einer der bedeutendsten Einflüsse des Internets auf die Globalisierung ist die Möglichkeit, aus der Ferne zu arbeiten und zu handeln. Dank des Internets können Unternehmen Waren und Dienstleistungen zwischen verschiedenen Ländern austauschen und Mitarbeiter aus anderen Regionen einstellen, wodurch sich die Geschäftsmöglichkeiten erheblich verbessern. Das Internet ermöglicht es auch kleinen Unternehmen, weltweit zu operieren, was wiederum das Wirtschaftswachstum stimuliert.

Neben der Erleichterung von Handel und Kommunikation hat das Internet auch die kulturelle Globalisierung maßgeblich geprägt. Soziale Medienplattformen haben es möglich gemacht, kulturelle Inhalte auf globaler Ebene zu schaffen und zu verbreiten, von Musik und Mode bis hin zu Essen und Kunst. Dies hat zur Herausbildung einer globalen kulturellen Identität geführt, bei der Menschen aus verschiedenen Teilen der Welt gemeinsame kulturelle Interessen und Werte teilen [1].

Trotz der vielen Vorteile, die das Internet bei der Förderung der Globalisierung bietet, gibt es auch Bedenken hinsichtlich seiner Auswirkungen auf lokale Kulturen und Gesellschaften. Die Dominanz westlicher Medien und Technologien wirft die Frage nach der Homogenität der globalen Kultur sowie nach dem möglichen Verlust lokaler Traditionen und Bräuche auf.

Darüber hinaus können das Internet und die Globalisierung die Ungleichheiten zwischen verschiedenen Ländern und Gesellschaften verstärken, die Einkommensungleichheit verschärfen und zur Marginalisierung der weniger entwickelten Länder in der Weltwirtschaft beitragen. Die digitale Kluft, d. h. die Kluft zwischen denen, die Zugang zum Internet haben, und denen, die keinen haben, ist in vielen Teilen der Welt nach wie vor ein ernstes Problem.

Es ist wichtig festzustellen, dass das Internet zur Verschärfung globaler Probleme wie Klimawandel, Verlust der biologischen Vielfalt und soziale Ungerechtigkeit führen kann. So kann beispielsweise der Online-Handel zu einem Anstieg der Kohlendioxidemissionen führen, die mit der Lieferung von Waren in die ganze Welt verbunden sind, und die Internetnutzung kann in einigen Ländern die Energiekosten erhöhen, was sich negativ auf die Umwelt auswirkt.

Insgesamt sind das Internet und die Globalisierung untrennbar miteinander verbunden. Das Internet hat neue Möglichkeiten für Wirtschaft, Kultur und Bildung geschaffen und die Verbindungen zwischen Menschen aus der ganzen Welt gestärkt. Um die Vorteile des Internets und der Globalisierung voll ausschöpfen zu können, müssen jedoch auch die negativen Folgen bedacht und deren Überwindung angestrebt werden. In diesem Zusammenhang sollten die Globalisierung und das Internet als Instrumente betrachtet werden, die für eine gerechtere und nachhaltigere Entwicklung der Welt eingesetzt werden können.

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В статье представлены наиболее распространенные последствия влияния интернета на процессы глобализации. Автор рассматривает преимущества и недостатки влияния интернета на глобализацию, распространенные сегодня для эффективного развития бизнеса, культуры и образования, а также укрепления связей между людьми со всего мира.

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## **LA FORMACIÓN DE UNA ECONOMÍA CIRCULAR A EJEMPLO DE LOS PAÍSES DE LA UE**

La globalización de la economía mundial ha tenido muchos efectos positivos socioeconómicos en el mundo, pero también ha agravado los problemas mundiales, entre ellos la escasez de recursos, en particular de fuentes de energía, la contaminación y la protección del medio ambiente. La comunidad mundial ve una salida de esta situación en la introducción de una economía circular. El objetivo de este estudio es examinar la formación de una economía circular en el caso de los países de la UE.

¿Qué se entiende por economía circular? El modelo económico lineal, vigente hoy en día, consistente en «tomar, hacer, tirar», y no es sostenible. Una economía circular es una alternativa atractiva y viable que en el ámbito empresarial ya se ha empezado a explorar. La Economía Circular es un sistema de aprovechamiento de recursos cuyo pilar es el uso de las tres “R”: reducir, reutilizar y reciclar. Es un modelo que va más allá del reciclaje y que se propone ir a la raíz del problema para ofrecer soluciones viables. Con este modelo de gestión de los recursos que ofrece el planeta se establece un ciclo circular que evita el despilfarro de los recursos naturales.

La Unión Europea es una de las fuerzas motrices de la promoción de la economía circular, porque es una asociación de los países más desarrollados y con mayor conciencia pública sobre el consumo y la huella ecológica. También hay otro requisito previo para la primacía de la UE en muchas iniciativas de economía circular que es el propio continente, en el que se encuentran los estados miembros, con su escasa dotación de recursos. Europa es geográficamente relativamente pequeña y densamente poblada, por eso deja poco espacio para vertederos. Algunos países, como Suecia, han empezado a usar los residuos para producir energía; otros, como Alemania, se destacan por sus ámbitos de aplicación de las ideas de circularidad: los industriales alemanes se centran en los productores y los canales de distribución. Al ser siempre un país industrializado con una amplia gama de impactos ambientales procedentes de un gran número de industrias, Alemania ya adoptó en 1972 una ley sobre gestión de residuos, que teóricamente fue el primer nivel en el establecimiento de la economía circular. [2]

Deben examinarse las políticas de introducción del principio de circularidad, es decir, las instituciones que han surgido en el proceso de establecimiento de la

economía circular; los reglamentos que consagran las normas, los estándares de la economía circular, así como las principales direcciones de su desarrollo; y el conjunto de medidas que aplican estas instituciones, basadas en los reglamentos.

Detrás del desarrollo de la economía circular en la UE se encuentra hoy una institución financiera como el Banco Europeo de Inversiones (BEI). En los últimos diez años, sus inversiones en diversos proyectos ascendieron a 15 000 millones de euros, de los cuales 40 millones se destinarán solo a la gestión de residuos sólidos en 2020 [1]. En los últimos años, la plataforma financiera de la economía circular se ha centrado, entre otros, en los tres objetivos siguientes:

- popularización de las mejores prácticas para atraer a posibles inversores y otras partes interesadas en realizar los proyectos pertinentes; análisis de proyectos específicos y sus necesidades de financiación; asesoramiento financiero.
- promover proyectos de economía circular y organizar su apoyo financiero;
- préstamos a organizaciones empresariales implicadas en la economía circular, especialmente a proyectos a medio y largo plazo.

Además de financiar las iniciativas circulares, es necesario regularlas a nivel nacional y supranacional. En la UE estas instituciones a nivel nacional son diversos ministerios, que varían de un país a otro, y a nivel supranacional se encuentran tales agencias como la Agencia Europea de Medio Ambiente y la Comisión Europea. La Comisión Europea también lleva registros y elabora estadísticas.

La historia legislativa de la consolidación de la economía circular de la UE se remonta a 1992. La cronología de las leyes recientes relacionadas con la economía circular es la siguiente:

- En 2015. La Comisión Europea adoptó Cerrar el círculo: un plan de acción de la UE para la economía circular;
- En 2016, Finlandia se convirtió en el primer país de la UE en publicar una hoja de ruta para lograr una economía circular para 2016-2025 [3];
- En 2019 se adoptó el Pacto Verde Europeo, que comprende un conjunto de documentos políticos, entre ellos:
  - un paquete de medidas sobre una nueva estrategia industrial de la UE (Nueva Estrategia Industrial para Europa; Estrategia de las PYME para una Europa sostenible y digital: Identificación y supresión de los obstáculos al mercado único) destinada a lograr tres prioridades clave: mantener la competitividad global de la industria europea y la igualdad de condiciones tanto a escala nacional como mundial, conseguir que Europa sea climáticamente neutra en 2050 y configurar un futuro digital para Europa;
  - un plan de acción para una economía circular que aborde todo el ciclo de vida de los bienes (desde su desarrollo hasta su mantenimiento y reciclado) con

el fin de modernizar y transformar la economía de la UE, protegiendo al mismo tiempo el medio ambiente;

- Una estrategia "de la granja a la mesa" con propuestas para una política alimentaria sostenible, que incluya medidas para reducir el uso de pesticidas, fertilizantes y antibióticos en la agricultura, optimizar el transporte, almacenamiento y envasado de alimentos y reducir el desperdicio de alimentos en la industria alimentaria y el comercio minorista;

- La Estrategia Forestal de la UE, en virtud de la cual se prevé un aumento significativo de la superficie forestal;

- un paquete de iniciativas para revisar todos los instrumentos políticos relacionados con el clima, incluidos el régimen de comercio de derechos de emisión y la directiva sobre fiscalidad de la energía, las subvenciones a los combustibles fósiles y los incentivos a determinados sectores económicos, en particular la aviación y el transporte marítimo [4].

Cabe señalar que estas leyes, a excepción de la hoja de ruta finlandesa, son acuerdos marco, y a nivel nacional cada país se compromete con sus propias instituciones y normativas. Sin embargo, debido a la actual exigencia de armonización legislativa, todos los conceptos y estrategias adoptados en los países de la UE en los últimos 10 años son similares entre sí y difieren en su énfasis en las distintas áreas de aplicación del principio de circularidad: clasificación social y obligatoria de residuos, circulación de residuos industriales, ecodiseño, expansión de plataformas de refabricación. Además, debido a la dicotomía actual entre los conceptos de "bioeconomía" y la "economía circular" la legislación recomienda o prescribe determinadas medidas para la aplicación de la economía circular.

Las principales conclusiones son la conclusión sobre un ámbito institucional desarrollado que apoya la introducción de una economía circular en los países de la Unión Europea. La asociación ha creado apoyo financiero, órganos ejecutivos y un marco regulatorio. Esto proporciona una experiencia de aprendizaje para todos los países del mundo que buscan utilizar los principios de la economía circular para alcanzar los indicadores de los Objetivos de desarrollo sostenible.

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В статье раскрывается процесс формирования циркулярной экономики в странах ЕС. Формирование нового экономического типа происходит посредством осуществления политики по внедрению принципов циркулярности. Автором рассмотрена политика в трех измерениях: финансовом, исполнительном, законодательном. Приведенная в статье характеристика всех трех измерений формирования циркулярной экономики свидетельствует о высокой развитости этого направления в области целей устойчивого развития.

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#### **THE MAIN WAYS OF TRANSLATING A LANGUAGE GAME IN AN ENGLISH-LANGUAGE ADVERTISING TEXT**

The translation of advertising requires a huge amount of preliminary preparation, since for the implementation of a high-quality and adequate translation of the advertising text it is absolutely not enough to simply perform a competent translation. Due to the specifics of the advertising text, it is almost never possible to translate it literally, because in this case it loses its meaning and impact or pragmatic value.

The translator is obliged to thoroughly study the subject to understand exactly what the author of the text wanted to say, what message is embedded in the text and how it should affect the audience according to the author's plan.

Ross McKerras identified three main approaches to the transmission of the language game in advertising texts. The first is based on a literal transmission and the explanation of the language game is given briefly in a footnote or comment. The second method is to select a language game in the target language and use it, even if it does not include words equivalent to the original. The third method is the selection of other means in the target language that would

contribute to the transmission of the spirit of the original. But it should be noted here that the use of the second or third method is possible only in the case of total control over both the source text language and the target language [1, p. 7].

One of the main ways of transcoding a language game in advertising discourse is compensation. Compensation in the transmission of a language game is a reconstruction of the original source information using some other stylistic and structural means, carried out by the author of the text after evaluating the information capabilities of the transcoding language and decoding the original language game. In this case, the equivalence of transmission is achieved at the level of the total semantic integrity of the text, and not by decoding individual fragments of text (for instance, words or phrases).

The language game in the advertising discourse can be transmitted in translation using the following types of techniques:

**Modulation** is the replacement of a word or phrase of the source language by a transcoding language unit, the value of which is logically derived from the value of the original unit. For instance, *It is the **cheesiest!*** can be translated as *Это наш лучший сыр!*

**Explication** is a lexico-grammatical transformation in which a phrase explaining its meaning is used instead of the lexical unit of the source language. With the help of explication, it is possible to transfer the meaning of any non-equivalent word of the source text. One of the disadvantages of descriptive transmission is its verbosity and bulkiness. The good example of this kind of method is *Sloggi: it is **string time*** where we can translate it as *Магазин нижнего белья Sloggi. Время покупать у нас!*

A **paraphrase** is a replacement of a lexical unit for which there is no equivalent, with a full description of its meaning. Despite the bulkiness, this technique helps to convey the essence of the original word or expression as accurately as possible. To illustrate this technique, we can look at the following example: *Inspire me. Surprise me. **AMD me*** which we can translate as *Вдохнови меня. Удиви меня. Инновационные технологии AMD.*

And the last type of transcoding of the advertising text is **adaptation** which is understood as a type of transformation in which not only a transformation is carried out in the description of a particular thematic situation, but also the thematic situation itself changes. Adaptation is based on the idea that some thematic situations described in the original message may be misunderstood by the recipient. For instance, *The **quicker picker-upper*** can be translated in this case as *Bounty. Райское наслаждение!*

Thus, the main condition for the transmission of the language game in the advertising discourse from the point of view of adequacy is not only the preservation of the mental image that forms the basis of the original text, but

also the impact exerted by the advertising message, and the main way of transcoding the language game in the advertising discourse is compensation.

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В статье рассматриваются основные способы перевода англоязычной рекламы, в которой используется такой прием, как языковая игра. Точность и уместность передачи формы и содержания языковой игры может быть осложнена под влиянием ее ярких лингвистических и культурных особенностей при переводе с одного языка на другой. Автором рассмотрена классификация основных методов перевода языковой игры в рекламном дискурсе, которые позволяют сохранить воздействие на получателя, присущее оригинальному тексту.

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### **METHODS OF DESIGNING MULTIMEDIA PRESENTATIONS IN THE STUDY OF STEREOMETRY**

One of the most important tasks of informatization of society in our time is the use of information technologies in education. The process of informatization and computerization of all spheres of human activity creates prerequisites for the introduction of information technologies into pedagogical activity [1].

The use of multimedia presentations in the learning process changes the nature of the traditional training session, makes it more lively and interesting. The use of multimedia in the classroom helps to expand the general horizons of students, enriches their knowledge.

The experience of teaching geometry shows that for many schools, stereometric problems cause the greatest difficulties. A teacher who teaches mathematics in high school knows the difficulties that arise in the process of teaching stereometry literally from the first lessons. When getting acquainted with the axioms of stereometry, the spatial representations of students are very poorly developed. The initial data on stereometry are abstract in nature, the assimilation of the material is based on memorization. Students lose interest in

the subject, and many of them consider stereometry a difficult school subject. Students need to be able to see the proposed task from all sides, follow each stage of construction and correlate theoretical knowledge with visual representations. In other words, when studying stereometry, it is advisable to turn to all possible means of visualization. And one of the most effective is a multimedia presentation.

Presentations are electronic documents of a special kind, characterized by complex multimedia content and special playback control capabilities (automatic or interactive) [2].

The main unit of electronic presentation in the Power Point environment is a slide, or a frame of presentation of educational information that takes into account the ergonomic requirements of visual perception of information. At the same time, the content of the slides of the main structural elements of the presentation should be carried out in accordance with the following principles:

1. The cover should be colourful (as much as possible). The cover design should contribute to improving the emotional state of students and increase their interest in the subject or the topic being studied. In this case, the title slide should include: the name of the topic; information about the educational institution; information about the author; the date of development; on the local computer and the file name.

2. The Table of Contents is a very important structural element of the presentation. On the one hand, it should be detailed enough to provide prompt access via hypertext links, on the other hand, as visible as possible, i.e. be on the same slide.

3. The training material in an electronic presentation is presented in a short form. The presentation of the contents of the material can be carried out in the form of text, figures, tables, graphs, etc. (Because the graphical representation of the educational material allows you to convey the necessary amount of information with the brevity of its presentation) [3].

Mandatory elements of a multimedia presentation are: cover; title slide; table of contents; educational material; dictionary of terms; reference system for working with control elements; knowledge control system; information resources on the topic.

The design of presentations has a direct impact on students. One of the main components of the design of pedagogical presentation is taking into account the physiological features of the perception of colours and shapes. The most significant of them include:

- Stimulating (warm) colours promote arousal and act as stimuli (in descending order of intensity of action): red, orange, yellow.
- Disintegrating (cold) colours soothe, cause a sleepy state (in the same order): purple, blue, light blue, blue-green, green.

- Neutral colors: light pink, gray-blue, yellow-green, brown.
- The combination of two colours – the colour of the sign and the background colour – significantly affects visual comfort, and some pairs of colours not only tire the eyesight, but can also lead to stress (for example, green letters on a red background).
- The colour scheme should be the same on all slides. This creates a sense of coherence, continuity, stylishness, comfort for the student.
- The most well-perceived combinations of font and background colours are: white on dark blue, lemon yellow on purple, black on white, yellow on blue.
- Multiplication has a great influence on a person's subconscious. Its effect is much stronger than the action of a conventional video. Clear, bright, rapidly changing images easily "impress" the subconscious, and the shorter the impact, the stronger it is.
- Any background pattern increases the fatigue of the eyes of the subject and reduces the efficiency of perception of the material.
- The background is an element of the background (second) plan, should highlight, shade, emphasize the information on the slide, but not obscure it.
- Any moving (animated) object lowers the perception of the material, has a strong distracting effect, disrupts the dynamics of attention [2].
- The inclusion of various sounds (songs, melodies) as background accompaniment leads to rapid fatigue of the trainees, distraction of attention and a decrease in learning performance.
- Sufficient time (at least 2-3 minutes) should be allocated for viewing one slide so that students can concentrate on the screen image, follow the sequence of actions, consider all the elements of the slide, fix the final result, make notes in workbooks.

Taking into account these features of the presentation design significantly affects the effectiveness of the perception of the information presented in it.

Conducting stereometry lessons using multimedia presentations is a good way to develop spatial thinking, attention, observation among schoolchildren, as well as an excellent way to interest them. The above recommendations on the structure of multimedia presentations help to achieve the most effective assimilation of knowledge in the classroom using ICT.

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В статье рассматривается значение средств ИКТ на уроках стереометрии. Показаны основные структурные элементы учебной презентации. Приводятся рекомендации и правила оформления учебных мультимедийных презентаций для более эффективного оформления и использования, а также представлены преимущества применения интерактивных презентаций на уроках.

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### **TRANSLATION PECULIARITIES OF LINGUOCULTURAL REALITIES IN RUSSIAN AND ENGLISH PROVERBS AND SAYINGS**

Currently, the phenomenon of reality has been actively considered in the works of various domestic and foreign researchers. Local and national peculiarities of an ethnos find expression in realities, they convey a certain geographical, ethnic and historical component. This phenomenon is most clearly seen when comparing proverbs and sayings of different peoples.

The concept of “reality” is a certain object or situation that can exist in both material and non-material forms. L.L. Nelyubin's Explanatory Dictionary of Translation gives the following definition of “reality”:

1. words or groups of words that denote concepts, objects, situations, which have no analogues in another language;

2. various conditions studied in foreign linguistics as well as in translation studies, e.g. culture, history or polity of a country, national diversity, local color, etc.;

3. concepts that denote “national peculiarities of everyday life” [2].

Speaking about the features of proverbs and sayings conveying realities, it should be noted that their national originality is conveyed by the main, basic

meaning, which affects the holistic meaning of proverbs and sayings of the language. Proverbs contain extremely much information, as they convey not only linguistic but also general cultural meaning of the entire ethnic group, which makes them fully meaningful. Proverbs and sayings, being the carriers of culture, convey information about the peculiarities of history, increase the baggage of knowledge about traditions, economy, geography and the whole diversity of culture of the language and its speakers. Based on the above, it can be argued that proverbs act as an interpretative field of cultural realities.

“A proverb is a widely used folk expression defining a particular phenomenon or event in life. Proverbs and sayings are similar in form, but have certain differences. A saying, unlike a proverb, carries a direct educational meaning, rather than a figurative definition of a situation or phenomenon” [1]. The most significant difference between a proverb and a saying lies in the fact that the proverb expresses the public creativity brighter and they are more common in the speech of native speakers.

The linguistic worldview formed by proverbs and sayings also includes perceptions of another people (hetero-stereotypical perceptions) or of one's own people (autostereotypical perceptions).

An example is the proverbs: *«Немец тянется своим умом (изобретает), а русский – глазами (предполагает)», «Что хорошо для русского, для немца смерть»* – these paremics carry a mutually negative representation of other nations.

In this case we see features of proverbs and sayings as a means of expression of the Russian national character: *«Смелость города берет; смелому горох хлебать, а несмелому и щей не видать; смелый там найдет, где робкий потеряет»* – the given examples allow to draw a conclusion that in the Russian national character concepts “brave” and “Russian” are synonymous.

Studying Russian proverbs it is possible to notice that force, both moral, and physical, plays an important role in the Russian national character: *«И один в поле воин, если по-русски скроен»*.

Love and respect for work is also a feature of the Russian mentality: *«Без труда не вытащишь и рыбку из пруда», «без труда нет добра»*. And on the contrary, the negative consequences of laziness are opposed to labor: *«Лень добра не делает», «труд человека кормит, а лень портит»*.

A comparison of translation of Russian and English proverbs and sayings will help to reveal certain similarities and differences not only in the paremiological fund of the peoples, but also in culture as a whole. It can be revealed that many life situations and people's wisdom are reflected both in Russian and in English. So, the English proverb “*Actions speak louder than words*” corresponds to the Russian *«Не по словам судят, а по делам»*; “*After*

*a storm comes a calm*” – «Взойдет солнышко и к нам во двор»; “*After rain comes fair weather*” – «После ненастья – ведро, после горя радость».

It should be noted that Russian and English proverbs and sayings often touch upon the theme of friendly relations: “*Among friends all things are common*” and «Для милого дружка и серезжку из ушка».

The theme of labour is also reflected in the proverbs of both cultures: “*As you sow, so you reap*” – «Что посеешь, то и пожнешь»; “*A bad workman always blames his tools*” – «У плохого мастера плохая пила».

Another observation that can be made is the similarity of proverbs containing proper names with the same meaning: “*All roads lead to Rome*” – «Все дороги ведут в Рим»; “*Don't carry coats to Newcastle*” – «В Тулу со своим самоваром не ездят». [3]

After examining the proverbs and sayings of the Russian and English languages and their peculiarities, it can be argued that there are no strong differences between them. However, many proverbs and sayings have many meanings, so we have chosen one, the most important translation.

Thus, we came to the conclusion that realities, as well as proverbs within it, are an integral part of language and culture. We have determined that the difference between proverbs and sayings lies in the fact that proverbs are used only in relation to certain persons and their actions, while proverbs have a general universal character. Paying attention to the peculiarities of Russian proverbs, we found that courage, strength, love of work and daring stand out among the value orientations of the Russian culture. In this paper we studied Russian and English proverbs and sayings and their translation reflecting national characteristics of these two cultures. Having analyzed the concepts “Labour”, “Friendship” in Russian and English proverbs and sayings, we have identified the closest in meaning proverbs and sayings in translation, which indicates the similarity of languages and cultures. To sum up, we can argue that proverbs and sayings are of significant importance in the linguistic consciousness of speakers, as they express the characteristic national features of the language and culture of the whole society.

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В статье исследуется феномен реалии и паремии. Описана русская паремия как средство выражения русского национального характера. Охарактеризованы сложности определения понятий «поговорка» и «пословица». Особое внимание уделяется рассмотрению паремий как средству выражения лингвокультурных реалий, а также переводу русских и английских пословиц и поговорок. Показаны особенности перевода русских паремий, а также их отличительные признаки.

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### **THE PROSECUTOR AS A SUPERVISOR OF A STATE'S LEGISLATION**

Modern society, as a rule, is obliged to live by laws that must be obeyed by its citizens. The Prosecutor's Office of the Republic of Belarus has been established to monitor the exact observation of these rules where the prosecutor is a mandatory link in the legal system. The system of the Prosecutor's Office of the Republic of Belarus is characterized by strict centralization. It is headed by the Prosecutor General of the Republic of Belarus who is appointed by the President of the Republic of Belarus with the consent of the Council of the Republic. The dismissal of the Prosecutor General of the Republic of Belarus from the office during the term may take place only in cases of a crime committed by them, due to the inability to perform duties in the service for health reasons, as well as at his own request.

Some might feel that the prosecutor is an active figure of society. He or she has a clearly expressed civic position. The prosecutor is strict but fair, a good speaker being in a good shape, able to express their thoughts clearly. However, everything is not so simple as that.

The activities of the Prosecutor's Office are based on the principles of legality, transparency, equality of all citizens before the law, subordination of subordinate prosecutors to higher prosecutors, mandatory fulfillment of the prosecutor's requirements, as well as the independence of the prosecutor in the exercise of their powers [2].

In addition, it is important to note that there are two main functions of the Prosecutor's Office and the Prosecutor in particular:

1. Ensuring the rule of law, law and order and legality;
2. Protection of the rights and legitimate interests of citizens and organizations and state and public interests as well.

In 2022 the Prosecutor's Office has implemented a series of measures aimed at strengthening the rule of law to ensure an adequate level of security for its citizens.

As a result, the number of the following crimes has reduced:

- Murder (-15,8%);
- Grievous bodily harm (-5,6 %);
- Robbery (-2,8%);
- Extortion (-8,8%);
- Hooliganism (-9,2%);
- Drink-driving (-27,6%);
- Property damage (-16,1%);
- Embezzlement (-13,6%).

As we can see, the prosecutor monitors the rule of law in the state. He or she is the guardian of justice, integrity and honesty in making a court decision.

According to Nadezhda Slabeyko, the prosecutor of the Oktyabrsky district of Minsk, the most important thing in this profession is to make decisions quickly and carefully, discuss something with an experienced colleague, be responsible for your words and actions. To get pleasure from a job, one has to be really interested in it, ask questions all the time, not to be afraid of consulting on different issues and be ready for mutual assistance. Furthermore, this profession can be psychologically difficult and result in emotional burnout [1].

Strictly following the law, the prosecutor mustn't commit immoral acts. However, in addition to the moral norms prescribed in the law, he or she must have his or her own, rather significant potential which will help them in their activities, revealing the principles of the activities of the Prosecutor's Office.

Nevertheless, the advantages of being a prosecutor are obvious: prestige, high pay, demand, career prospects and significance for society. In order to become a prosecutor, one has to get a higher legal education and work experience in the Prosecutor's Office for at least 3 years. A special internal audit is carried out. After that they have to pass a qualifying exam and undergo training. And after successfully completing each stage, your chances of getting a job in the Prosecutor's Office are very high. After all, they are real experts in their field.

Thus, the profession of a prosecutor is complicated but multifaceted and honorable. Additionally, it is suitable for people who, in any situation, strive to achieve justice and honesty. Overall, making a huge contribution to the life of an entire state is a really great thing.

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В статье представлен краткий обзор профессии прокурора в Республике Беларусь. Рассматриваются его полномочия, компетенции, задачи и обязанности перед государством и обществом. Говорится о характере работы и личных качествах, которые делают эту профессию сложной, но интересной.

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## **DIE WIRTSCHAFTLICHE WIEDERAUFBAU DEUTSCHLANDS NACH DEM ZWEITEN WELTKRIEG**

Deutschlands Wirtschaft befand sich nach dem zweiten Weltkrieg in einer schwierigen Lage. Vernichtung und Lähmung weiter Teile der wirtschaftlichen Infrastruktur und der augenscheinlich totale Stillstand der Produktion ließen keine Hoffnung aufkommen, Deutschland könne die Niederlage – wie nach dem Ersten Weltkrieg – in absehbarer Zeit wirtschaftlich verkraften. Die Siegermächte waren offenbar fest entschlossen, ihre eigene Wirtschaft und die ihrer Verbündeten zu Lasten Deutschlands zu stabilisieren, die potenziellen Märkte der besiegten wirtschaftlichen Großmacht unter sich aufzuteilen, vorhandene Produktionsanlagen zu demontieren und deutsche Produktion nur soweit zu erlauben, wie sie den Besatzungsmächten direkt zugutekam [5].

Mit der Berliner Viermächteerklärung vom 5. Juni 1945 wurde der Viermächte-Status in Deutschland eingeführt. Dieser Status legte fest, dass die vier Siegermächte des Zweiten Weltkrieges – Frankreich, Großbritannien, USA, Sowjetunion – die Kontrolle über Deutschland in den Grenzen von 1937 übernahmen. Der Status übergab die Regierungsgewalt über Deutschland an die Siegermächte.

Demnach wurde Deutschland in vier Zonen aufgeteilt: Eine amerikanische im Südosten, eine sowjetische im Nordosten, eine französische im Südwesten

und eine britische im Nordwesten. Berlin wurde ebenfalls in vier Zonen aufgeteilt und gemeinsam von den Vier Mächten regiert.

Die Regierungsgewalt war von da an in den Händen des Alliierten Kontrollrats, der sich aus den militärischen Oberbefehlshabern der vier Mächte zusammensetzte und gemeinsame Ansätze für das besetzte Deutschland erarbeitete.

Im Zuge der Demilitarisierung und Demontage wurden große Teile der deutschen Industrie von den Besatzern abgebaut. Das sollte zum einen dem Zweck dienen, eine deutsche Wiederaufrüstung zu verhindern. Zum anderen nutzte die Sowjetunion die demontierte deutsche Industrie aber auch für den eigenen Wiederaufbau. Auch machten Frankreich und die Sowjetunion umfänglich Nutzung von deutschen Kriegsgefangenen, um ihre Industrien wieder aufzubauen. Zusätzlich forderten die Franzosen und Sowjets Rohstoffe in ihren Zonen, wie Holz oder Kohle, im Zuge der Reparationen ein. Mit den Ressourcen aus den deutschen Besatzungsgebieten ermöglichten sie den Wiederaufbau im eigenen Staatsgebiet.

Die Briten und Amerikaner hingegen strebten eine Produktivitätssteigerung im deutschen Gebiet an, um die europäische Wirtschaft zu stärken. Dennoch profitierten auch sie von der Kontrolle über Deutschland. So ließen die Amerikaner zum Beispiel deutsche Wissenschaftler für sich arbeiten, was auch der Entwicklung der Raumindustrie voranbrachte [2].

Am 5. Juni 1947 verkündete der amerikanische Außenminister George C. Marshall ein wirtschaftliches Aufbauprogramm für Europa. Hilfsaktion des European Recovery Program (ERP) – wie die offizielle Bezeichnung des Marshall-Plans lautete – bewogen. An die Stelle punktueller Unterstützungsmaßnahmen trat nun die Strategie, durch Kredite die Volkswirtschaften Westeuropas zu eigener Güterproduktion zu befähigen. Gleichzeitig wurden die Empfänger gezwungen, ihre Volkswirtschaften aufeinander abzustimmen. Damit sollten ein für allemal die Kriegsfolgen überwunden werden. Der Marshall-Plan bezweckte auch die Abwehr kommunistischer Einflüsse auf die notleidende Bevölkerung Europas durch wirtschaftliche Immunisierung; Ziel war ebenso die langfristige Sicherung von Absatzmärkten für die amerikanische Wirtschaft [3].

Dieser „europäische“ Marshallplan hatte aus deutscher Perspektive einen ambivalenten Charakter. Die Westzonen verloren im zweiten Marshallplanjahr nicht nur überdurchschnittlich an Devisenhilfe aus dem Marshallplan, sondern mussten erst recht in Form von conditional aid am Gesamteffekt empfangener Auslandshilfe die höchsten Kürzungen zu Gunsten von Defizitländern hinnehmen. Es ist daher nicht überraschend, dass auch Erhard und seine Mitstreiter überzeugt waren, der Marshallplan habe „nicht das Geringste“ zum Aufschwung der Wirtschaft beigetragen.

Offensichtlich taugt der Marshallplan nicht als Erklärungsmuster für die Dynamik des westdeutschen Wirtschaftswachstums nach dem Zweiten Weltkrieg und schon gar nicht als Modell in Sachen Entwicklungshilfe. Der Marshallplan war in Westeuropa deshalb erfolgreich, weil er auf wirtschaftliche Substanz stieß. Er trug dazu bei, Westeuropa nach dem Zweiten Weltkrieg zu stabilisieren, und gewährte potenziell starken Volkswirtschaften Hilfe zur Selbsthilfe [5].

1949 wurde aus den Besatzungszonen der drei Westmächte, also aus Westdeutschland, die Bundesrepublik Deutschland gebildet. Ihre Hauptstadt wurde Bonn am Rhein. Ihr erster Kanzler war für viele Jahre Konrad Adenauer. Die Aufgabe der deutschen Regierung war der Wiederaufbau des zerstörten Landes. In den fünfziger Jahren fand das sogenannte deutsche „Wirtschaftswunder“ statt.

Die Weichen hat Ludwig Erhard gestellt, Vordenker der Währungsreform und erster Wirtschaftsminister der Bundesrepublik. „Soziale Marktwirtschaft“ heißt die neue Wirtschaftsordnung. „Wohlstand für alle“ – so der Slogan der CDU vor der Bundestagswahl 1957 – soll diese Wirtschaftsform bringen. Das heißt: eine freie Wirtschaft ohne staatliche Bevormundung, in der – wie auf einem Markt – Verkäufer und Käufer frei miteinander verhandeln können, und die doch der Staat dem einzelnen ausreichend sozialen Schutz gewährt. Das wirtschaftspolitische Leitbild der Sozialen Marktwirtschaft bildet bis heute die Basis der deutschen Wirtschafts- und Sozialordnung [4].

Die militärische Niederlage und der wirtschaftliche Zusammenbruch des Jahres 1945 machten die Deutschen bettelarm und von fremden Mächten abhängig, konfrontierten sie mit der Zerstörung ihrer Großstädte, mit dem Ruin der Landwirtschaft und der Knappheit von Lebensmitteln aller Art. Das Entwicklungspotential der deutschen Industriegewirtschaft war aber gleichwohl beträchtlich verbessert worden, so dass auf vielen Gebieten die Grundlage für die wirtschaftliche Dynamik der Nachkriegszeit gelegt worden war [1, S. 538].

Die Rolle Deutschlands auf dem Weltmarkt macht beispielhaft klar, dass es nicht die Rückkehr auf den alten Wachstumspfad allein war, die die Dynamik des Rekonstruktionsprozesses erklärt. Der nahtlose Anschluss an die nachindustrielle Verfassung der deutschen Wirtschaft, der sich dabei vollzog, war das eigentliche Wunder [5].

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В статье рассматривается экономическая реконструкция Германии после Второй мировой войны. Автор анализирует влияние «Плана Маршалла» и социальной рыночной экономики Людвиг Эрхарда на социально-экономическое состояние Германии. Особое внимание уделено предпосылкам так называемого «экономического чуда» и его последствий в Германии.

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### **EL PAPEL DE LA MUJER EN LA POLÍTICA LATINOAMERICANA**

América Latina es una región única en su estructura sociopolítica. Es el continente con mayor número de mujeres que ocupan altos cargos políticos. El estilo de gobierno de las mujeres se considera más suave y flexible, pero su estilo de gobierno nunca es débil. Mientras que las primeras presidentas llegaron al poder casualmente y esos casos eran escasos, ahora vemos cómo cada vez más mujeres se hacen cargo del destino de todo un país.

En 1973 Argentina dio al mundo su primera mujer presidenta, María Estela Martínez de Perón. La primera victoria presidencial femenina en América Latina fue un ejemplo inspirador para otras mujeres políticas que también decidieron competir con los hombres en las elecciones nacionales. Bolivia, Haití, Nicaragua, Ecuador, Guyana, Panamá, Chile, Costa Rica y finalmente Brasil siguieron su ejemplo [1, c. 5].

La sociedad se muestra cada vez más favorable a la llegada de las mujeres al poder, un número creciente de votantes cree que las mujeres pueden ser mejores líderes que los hombres, más conscientes de las necesidades diarias de la gente, pero aún hay muchas dificultades que impiden a las mujeres tener una carrera política. Cabe mencionar algunos que se conservan hasta el día de hoy.

1. Para las mujeres de hoy, no sólo en América Latina sino en todo el mundo, existe un «techo de cristal», una frontera invisible que les impide ascender en la escala profesional. Además del "techo de cristal", existe también el concepto de «suelo pegajoso», es decir, restricciones impuestas por las propias mujeres que les impiden hacer carrera y ocupar un puesto de liderazgo.

2. Otro obstáculo importante son los problemas sociales -la pobreza, el desempleo, la necesidad de trabajar en 2 ó 3 empleos-, que afectan especialmente a las mujeres e impiden no sólo su acceso a la política, sino que reducen por completo su interés por ella.

En los países latinoamericanos, siempre se ha creído que las mujeres solo "calientan la silla", pero la vida demuestra gradualmente lo contrario. Recientemente se han abierto nuevas perspectivas para las mujeres. En primer lugar, los cambios positivos afectaron a la región Latinoamericana y caribeña.

1. La educación es más accesible. Cabe señalar que en América Latina el número de las niñas que cursan estudios supera al de los hombres. La razón de esto es que una mujer, para lograr algo en áreas dominadas por hombres, por ejemplo, en la política, necesita hacer muchas veces más esfuerzos.

2. El segundo aspecto importante es el acceso libre de las mujeres para participar en la vida pública, que tiene mucho en común con las luchas históricas de las mujeres por sus derechos y los movimientos feministas.

3. El tercer aspecto fue la redemocratización de casi todos los países latinoamericanos. Este proceso se caracteriza por la aparición de un nuevo clima político en la región.

Una de las herramientas más importantes y eficaces de la lucha por el poder para las mujeres latinoamericanas son organizaciones de derechos. En 1993, las mujeres paraguayas fueron las primeras en unirse a esta organización, creando la RMMP (La Red de mujeres Municipales del Paraguay). En casi todos los países de América Latina existen organizaciones idénticas a la RMMP. Pero lo más importante es que estas organizaciones no sólo actúan dentro de su propio país, sino que también cooperan entre sí [2, c. 3].

Cabe señalar que, aunque las mujeres latinoamericanas han sido activas, las que han tenido éxito y han sido elegidas para puestos de liderazgo no lo han hecho sin la participación de los hombres. Mireya Moscoso, por ejemplo, era la esposa del ex presidente de Panamá, derrocado en un golpe de Estado en 1968, mientras que Violeta Barrios de Chamorro era la esposa de un periodista y dirigente de un partido político asesinado por sus opositores. Tanto la líder panameña como la líder nicaragüense lucharon por la democracia, pero tuvieron que exiliarse durante años como consecuencia de un golpe militar. Tras la democratización y la transición política, Moscoso y Barrios de Chamorro volvieron a liderar los partidos que en su día dirigieron sus maridos. Gracias al protagonismo de sus esposos, consiguieron el apoyo necesario del electorado.

En resumen, para los Estados de América Latina, la "cuestión de la mujer " siempre ha sido difícil. Las mujeres tuvieron que enfrentar muchas dificultades antes de mostrarle al mundo que el sexo "débil" es solo una palabra. Ahora se han abierto nuevas perspectivas para las mujeres: el electorado está listo para elegir a las mujeres y las mujeres están listas para ser elegidas, y todo esto está sucediendo en América Latina, una región tradicionalmente considerada "machista".

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Автор исследует роль женщин в современной Латинской Америке в контексте властных отношений в регионе. На примерах отдельных стран выделяется ряд предпосылок, благодаря которым женщины смогли занять главенствующие политические посты в странах Латинской Америки. В заключении делается вывод о том, что женщинам региона сегодня открываются новые перспективы.

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### **EL PAPEL DE ESPAÑA EN LA COOPERACION UE-AMERICA LATINA**

Desde su adhesión a la UE, España ha aumentado cada año su nivel de vida, ha mejorado su componente económico y se han reforzado las instituciones democráticas ya existentes. La prioridad del Gobierno español era liderar las actividades de la UE. Pero el embate de Francia y Alemania obligó a España a moderar sus ambiciones. Así, España asumió el papel de intermediario en la promoción del diálogo y la cooperación con los países latinoamericanos. Cabe



señalar que el desarrollo de las relaciones entre la Unión Europea y los países latinoamericanos era necesario para que España reforzara su papel en la Unión, así como para mejorar sus relaciones con América Latina. Europa era vista como un nuevo mercado prometedor para sus productos. Para la Unión Europea, América Latina era un mercado prometedor para sus productos industriales, materias primas y mano de obra barata (ya que la región aún no estaba bien desarrollada).

En la década de 1990, España aumentó su influencia en la región latinoamericana, convirtiéndose en el mayor inversor europeo en América Latina. Durante su presidencia de la UE, España prestó gran atención a América Latina. En 1995, por ejemplo, la Comisión Europea diseñó una estrategia de asociación para el período 1996-2000, que incluía tales aspectos necesarios como:

- Expansión del comercio (aumento de las exportaciones de bienes de alta tecnología);
- Profundización del diálogo político;
- Cooperación técnica y financiera (participación en programas de privatización en la industria, la banca);
- Apoyo a la integración regional en América Latina [2].

Esta estrategia ha sido eficaz. Las exportaciones de los países de la UE a los de América Latina se han duplicado, lo que ha atraído a empresarios europeos a la región para invertir.

De especial importancia para España en el diálogo UE-América Latina es el diálogo interregional: la celebración de cumbres de la UE. La Comunidad de América Latina y el Caribe (CELAC) comenzó a celebrar cumbres en 1999. La práctica de las cumbres consiste en que todos los países se reúnan cada dos años con el objetivo de reforzar las relaciones en diversos ámbitos (política, educación, cultura, economía, desarrollo, asuntos sociales, etc.). El resultado de la primera cumbre, celebrada en 1999 en Río de Janeiro, fue la elaboración de dos documentos: "Declaración de Río" (compromisos de los Estados para formar una alianza política) y "Prioridades para la Acción Conjunta" (acuerdos de cooperación económica, comercial, cultural y medioambiental). Sin embargo, no se presentaron iniciativas concretas y la cumbre no dio contenido a las relaciones [2].

España nunca ha renunciado a la esperanza de establecer un diálogo entre las dos regiones de su ámbito de interés. Así, en 2002, ante la insistencia del gobierno español en la cumbre de la UE, se incluyó la lucha contra el terrorismo en el documento final [3]. Sin embargo, los programas de inversión propuestos por España no fueron aceptados en Europa. Esta cumbre demostró que existen dificultades para tomar decisiones comunes y alcanzar consensos, no sólo entre las regiones, sino también dentro de ellas. La cumbre de 2004 se celebró con una

nueva Unión Europea, lo que provocó una fragmentación aún mayor de los puntos de vista. Sin embargo, la cuestión de la desigualdad social, planteada por España, fue uno de los temas clave de la cumbre. Tampoco se olvidó la formación de una zona de libre comercio, pero el debate no desembocó en acciones concretas, ya que a los países de Europa del Este les interesa aplicar políticas proteccionistas para el desarrollo de sus países.

La cumbre de 2006 mostró una incapacidad aún mayor para desarrollar un diálogo cualitativo entre las regiones. En la UE no se pudo alcanzar una decisión común sobre la adopción de una constitución, y en América Latina se produjo una división entre los líderes tradicionales y los gobiernos radicales (Venezuela, con Hugo Chávez a la cabeza, por ejemplo). Así, la cumbre consagró que la democracia es un valor universal y que debe respetarse la soberanía de un país. El resultado fue una tendencia a la nacionalización de las empresas. Las empresas españolas se han visto obligadas a vender sus acciones a empresas nacionales. En Venezuela, por ejemplo, Telefónica cedió su participación en 2007 a CANTV, líder del mercado venezolano de telecomunicaciones [1].

Merece la pena prestar atención a la cumbre de 2010 que tuvo lugar durante la presidencia española de la UE. El Gobierno español destacó que la cumbre era el principal acontecimiento internacional de su presidencia. Sin embargo, la conferencia pudo no haberse celebrado porque algunos Estados latinoamericanos se negaron a participar si a la cumbre asistía el presidente hondureño Porfirio Lobo, que llegó al poder, según los Estados latinoamericanos, de forma ilegal. Pero España consiguió resolver la situación invitando al presidente de Honduras sólo a la cumbre UE-Centroamérica. La declaración final reafirmó: el compromiso con los intereses comunes de asociación estratégica, diplomacia multilateral, desarrollo social, lucha contra el crimen organizado, etc. A diferencia de cumbres anteriores, en ésta se adoptó un Plan de Acción concreto para 2010-2012, un Acuerdo de Asociación (UE, Centroamérica y Panamá) y un Acuerdo Comercial con Perú y Colombia. Estos acuerdos cuestionan el compromiso de la UE con la integración interregional. Las diferencias en la aplicación de las políticas latinoamericanas llevaron a la Unión Europea a alejarse de la construcción de una alianza estratégica para desarrollar relaciones con países individuales. España apoyó esta decisión porque, de lo contrario, las cumbres habrían quedado inconclusas [3].

La nueva fase de las relaciones regionales se produjo en la cumbre de 2013, cuyo documento final consagró el apoyo al comercio y la inversión y la oposición al proteccionismo. También cabe destacar que Cuba participó en la cumbre, a la que no había asistido anteriormente. Esto supuso la normalización de las relaciones del país con la UE. Como la Unión Europea estaba en proceso de superar los efectos de la crisis económica mundial de 2008, se instó a España a aprovechar sus relaciones con los países latinoamericanos y exportar allí sus

productos. También se abordó la cuestión de las inversiones latinoamericanas en Europa, con el papel de España como puerta de entrada. El principal beneficio de la cumbre fue la posición común de los países latinoamericanos, gracias a su asociación en la CELAC (una asociación de integración creada en 2010, formada por todos los países de la América continental excepto Canadá y EE.UU., diseñada para profundizar en la integración y reducir la influencia de EE.UU. en la región). Tras esta cumbre, las relaciones bilaterales entre la UE y América Latina comenzaron a desarrollarse con fuerza.

En todas las cumbres, un acuerdo comercial entre la UE y MERCOSUR fue un importante tema de debate, pero las negociaciones al respecto nunca alcanzaron su objetivo. Esto se debió principalmente a la negativa de Europa a dejar de subvencionar su agricultura. En 2019, sin embargo, se concluyó un acuerdo de libre comercio. Esto se debió a la mejora del diálogo entre los países latinoamericanos y la UE, y al consiguiente aumento del comercio entre las regiones [2].

Así, España es miembro de la UE y promueve activamente las relaciones de la UE con los países latinoamericanos. Aunque no todos los objetivos se alcanzaron al principio, España ha seguido incluyendo el diálogo latinoamericano en la agenda y proponiendo nuevas áreas de cooperación, lo que ha dado resultados positivos. El diálogo entre la UE y CELAC está consolidado y requiere un desarrollo progresivo.

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В статье представлен общий обзор двусторонних отношений между Испанией и странами Латинской Америки в рамках ЕС. Благодаря различным двусторонним

договорам, сотрудничеству в разных сферах, поддержанию диалога Испании удалось вывести отношения с латиноамериканскими странами на новый уровень. Европейский союз уделяет особое внимание поощрению сотрудничества в целях развития данных отношений.

### **к содержанию**

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### **EMOTICONS AND STICKERS: FUNCTION AND USE**

With the development of the internet and technology, computer mediated communication (CMC) is infiltrating daily life to a greater and greater extent. It has many advantages, however, the lack of non-verbal cues such as facial expressions, intonation, and gestures in CMC can affect the transmission of information. To address this problem, communicators have devised non-verbal cues, such as capitalization as a substitute for shouting, multiple exclamation points for excitement, and symbols for facial expressions. These expression symbols compensate the lack of non-verbal cues in social media communication. Emoticons, emoji and stickers are used more and more frequently in network communication, and the way they are used is becoming more and more diversified as well. In this article we aim to show the history, function and use of emoticons and stickers in computer-mediated communication.

The first emoticons appeared as pictograms. In 1963 American graphic designer Harvey Ross Ball created a popular smiley face graphic picture, which became an enduring and notable international icon. It was developed for State Mutual Life Assurance Co. of America. The birth of “the digital emoticon” was on September 19, 1982. The :- ) “smiley” and :- ( “frowny” emoticons are now very familiar to users of the Internet. Scott E. Fahlman first suggested that we use these character-based symbols for online communication in a message [1]. Then in the 1990s the emoticon idea gave rise to the thousands of graphical emoji that are used today all over the world. By most estimates, emoticons and emoji are now used several billion times every day. There is an analogue of Wikipedia, but for emoticons – Emojipedia (<https://emojipedia.org/>).

The concept of emoticons and stickers is their universality. That means that everyone in the world can understand the meaning of emoticons and stickers.

The difference between emoticons and stickers is that emoticons are a part of codified Unicode standard that evolves over time and pretty much every typeface that is able to show emoticons is able to show the same amount of them, unless they're working on outdated specifications, then you get the infamous white square used for unsupported characters. In other words, stickers are more independent and always readable.

Among them, there are popular and fashionable ones. Their popularity depends on events in real life. For instance, ahead of Saint Valentine's Day the most usable emoticon is "Red Heart" in many variations. There are emoticons, that are fundamental like "Rolling on the Floor Laughing" which expresses hysterical laughter, "Smiling Face with Smiling Eyes" – genuine happiness and warm, positive feelings, "Face Blowing a Kiss" – kiss goodbye or good night and convey feelings of love and affection more generally, etc.

There are quite ridiculous emoticons, so their meaning remains a mystery, and because of this, users begin to speculate about and invent a meaning. For instance, "Weary Cat". A cartoon cat variant of "Weary face", but expression resembles "Screaming face in fear". Developers try to defend true value of this emoticon [2].

Thus, emoticons, emoji, and stickers are nonverbal cues used to compensate the lack of "personalization" of virtual communication. That is, despite the fact that computer mediated communication offers more flexibility for people to exchange information, it lacks the nonverbal elements of face-to-face communication, including facial expressions, eye contact, and body movements. Using emoticons, emoji, and stickers can enhance human interaction in virtual environments, by supplementing textual information exchange and allowing people to express emotions with ease [3]. Emoticons can help those receiving them correctly understand the sender's emotions and attitudes, clarify intentions in ambiguous contexts. Moreover, they just bring enjoyment and enhance the attractiveness of the message to receivers.

To sum up, using emoticons, emoji, and stickers supplements the lack of human nonverbal cues of communication in computer-mediated environment. Being a reliable way to express thoughts and emotions, they help participants express emotions with ease and aid message comprehension.

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Статья посвящена смайликам, эмодзи и стикерам, широко применяемым в коммуникации в компьютерной среде. Описаны история их возникновения, значение и характеристики. Их использование может восполнить недостаток человеческих невербальных сигналов коммуникации в виртуальной среде, дополняя обмен текстовой информацией и позволяя людям с легкостью выражать свои чувства и эмоции.

### к содержанию

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## LINGUA-AND-DIDACTIC LITERACY ASSESSMENT

**Introduction.** The present study examines assessment of lingua-and-didactic literacy of pre-service foreign language teachers. The complex nature of literacy was investigated in depth in many studies, but it is still underestimated in the context of foreign language teacher professional training the main focus of which is teaching methodology. Knowledge of educational theory gives ground for critical awareness of practices in the classroom, substantiated reflection and improvements. At the same time the results at the exams on the course of “Foreign language teacher methodology” prove the topicality and necessity of the study aimed to explore the nature of professional literacies of pre-service foreign language teachers, and the ways to master the lingua-and-didactic literacy in order to improve the quality of learning.

**Main part.** In this study, lingua-and-didactic literacy is considered as content and educational literacy. Dr. R. Kapur states that literacy is a set of knowledge and skills in a particular field [3]. According to R. Khany, M. Aliakbari teacher’s content and educational literacy consists of multiple components [3]. Thus, content literacy includes primarily conceptual and theoretical literacy, command of languages – grammar and language acquisition, – and also teaching approaches and methods. Additionally, researchers ascribe

knowledge of physical and sociocultural context to classroom context literacy, and consider knowledge of the curriculum, syllabus and teaching materials design as elements of curriculum and material development literacy. Among other components, they single out evaluation, assessment and research literacy. Educational literacy is explained in terms of teaching skills, competences and strategies. Additionally, it includes class, course and time management. Finally, educational technology – technologically integrated teaching and computer assisted language testing – are core elements of educator's literacy.

To organise the empirical study, the following objectives were stated: (a) to choose the learning materials which correspond to the selected literacies; (b) to select control and experimental groups and organise their instruction; (c) to test an online web application; (d) to design quizzes which match the structural components of content and educational literacy; (e) to approbate the reflection tasks; (f) to assess students' literacy.

The analysis of the educational standards and the syllabi of the course of "Foreign language teaching methodology" helped to discover seven literacy components to be tested in formative and summative assessment: (1) conceptual and theoretical literacy; (2) classroom context; (3) curriculum and material development; (4) evaluation, assessment and research; (5) teaching skills and strategies; (6) classroom management and (7) the use of educational technology [3].

According to the intervention program focused on the above literacies, there were seven classes in the control and experimental groups ( $n = 55$ ). Two groups of students had approximately similar academic performance and equal numbers of participants: 23 students in the control group, and 22 in the experimental group. In the control group formative assessment was done at the seminars after the lectures, and in the experimental group the same quizzes were accompanied by a series of reflective tasks focusing on the most complicated part of the quiz. Finally, there was a summative assessment in both groups that provided the data for comparison.

At the preliminary stage of the pilot study, we designed quizzes on the areas under investigation: each question corresponded to a certain type of literacy. Altogether, we created 7 tests which included 80 tasks, and uploaded them on the testing platforms. The quizzes contained five types of tasks: (1) single choice tasks, (2) multiple choice tasks, (3) matching, (4) substitution, and (5) open answer tasks. We assumed that open-ended questions are of great importance for pre-service teacher's professional awareness formation. Meanwhile, the use of this type of tasks significantly complicates processing of test results, for this reason, finally, we decided to abandon this type of tasks in quizzes.

In the experimental group we suggested to use the collaborative reflective approach, for this reason four group reflection techniques were approbated. It is also necessary to note that this approach is able to compensate the lack of open-

ended questions in tests. The reflective collaborative approach is a relatively simple in organization form to implement formative assessment. Formative assessment is defined as ‘assessment conducted during the process of materials development to provide information about how to revise early drafts’ [2, p. 54]. Small groups to do reflection after completing an online test were organized in different ways: (1) according to the time spent on it and (2) according to the leading score. The leaders were those students who got the highest score on the previous test; they chose their own groups and started group reflection. By reflection on their test fulfillments, students created deeper connections of methodological units to retrieve them in the long memory (Table 1).

Table 1. Group reflection [1]

Reflection technique	Reflection task
1. Cause - problem – effect	Write down the problematic issues that are preventing you from fully learning and place them in the middle of the sheet. Then for each problem, find probable causes and consequences that may occur if the problematic issue isn't resolved
2. Three statements reflection	List three statements on the topic that you found helpful and give an example of one statement that you think is not important or essential and explain why.
3. 3-2-1 reflection	Indicate three ideas that are definitely useful for you. State two ideas that surprised or puzzled you. State one idea that was unfamiliar to you
4. A challenging issue	What question caused the most difficulty? Which question caused the most difficulty? Why did this question raise a problem?

The pilot study was organised from October to November, 2022; and seven tests were suggested to students in control and experimental groups (Table 2).

Table 2. Test results on the themes in the course of foreign language teaching methodology

Test	Average test result	
	Control group (%)	Experimental group (%)
1. Aims, content and tools of foreign language teaching	27	35
2. Conceptual framework for foreign language education	71	77
3. Communicative foreign language teaching	73	66
4. Foreign language class	56	64
5. Didactic means of the educational process	62	59
6. Exercises to teach a foreign language	53	62
7. Planning in foreign language education	50	54
On the average:	56	59.5



The statistics shows that both groups obtained practically similar results with a slight difference of 3.5% in favour of the experimental group.

In order to assess the effectiveness of the reflective collaborative approach, we compared these data with the test results obtained in the midterm summative assessment which took place at the end of November, 2022 (Figure 2).

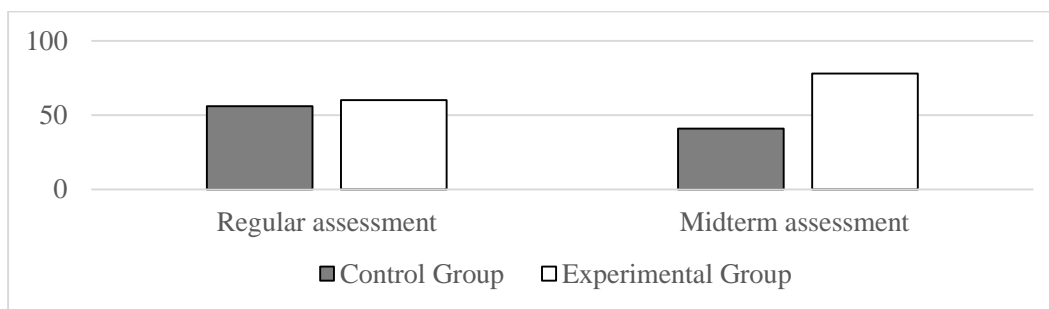


Figure 1. The results of formative and summative assessment

The quantitative analysis proves the hypothesis of the effectiveness of the reflective collaborative approach, because the students demonstrated their literacy growth in the experimental group up to 78%, and regression in the control group to 41%. Precisely, the dynamics in the experimental group is 18.5%, the regression in the control group constitutes 15%.

**Conclusion.** So, the reflective collaborative approach resulted in the increase of mastery in the two major domains: content and educational literacy. The combination of the two forms of formative assessment – thematic tests combined with dynamic small group reflections – allows educators to assess students’ level of literacy, and stimulates better retention of learning material demonstrated in summative assessment in the experimental group.

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Статья посвящена оценке лингводидактической грамотности будущих учителей иностранного языка. Статья раскрывает содержание и результаты исследования, направленного на повышение качества подготовки будущих специалистов. В рамках исследования автор применяет метод групповой рефлексии, как дополнительный инструмент формирующей оценки. Анализ результатов исследования показал высокую эффективность вышеуказанного метода: итоговые результаты в экспериментальной группе характеризуются положительной динамикой.

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## **IMPORTANCIA Y CARACTERÍSTICAS DE LOS MEDIOS DE COMUNICACIÓN EN EL MUNDO ACTUAL**

No se puede imaginar la sociedad moderna sin los medios de comunicación. Internet, la televisión y las publicaciones en la Prensa acompañan nuestras vidas las 24 horas del día, cumpliendo diversas funciones: informar a la población sobre los eventos que ocurren en el país y el mundo; educación y socialización; publicidad. Los medios de comunicación influyen en casi todas las esferas e instituciones de la sociedad, incluidas la política, la salud, la educación y la religión; son herramientas esenciales para llevar a cabo el proceso político.

Los medios de comunicación juegan un papel importante en la vida de todos. Apelan a la personalidad en el conjunto de sus roles sociales: como ciudadano, como hombre de familia, como representante de la sociedad en su conjunto y como residente de un área en particular. El contenido de los medios de comunicación abarca todos los aspectos de las relaciones del hombre con la sociedad y sus subsistemas, todas las áreas de las relaciones sociales en las que está incluida la personalidad. [1, с. 991].

Los medios de comunicación son un sistema de órganos dedicados a la recopilación, el procesamiento y el almacenamiento de información, así como a la transmisión de la información necesaria al público.

La información transmitida debe ser necesariamente de interés público. Su difusión es una parte integral de la comunicación espiritual colectiva de las personas, que surgió en una cierta etapa del desarrollo de la humanidad, así como de la comunicación interpersonal directa.

Todos los medios de comunicación se dividen en 4 grupos principales:

Los medios impresos son medios fabricados con una imprenta y llevan información en forma de letras impresas, fotografías, dibujos, carteles, diagramas, gráficos y otras formas gráficas que el lector-espectador solo ve visualmente. La televisión es un conjunto de dispositivos para transmitir imágenes y sonido a una pantalla de televisión, así como un medio de comunicación para la exploración espacial y militar. La radiodifusión, a su vez, es un tipo de comunicación de Radio en la que las ondas de Radio que se propagan libremente en el espacio se utilizan como portador de la señal. Internet es un sistema universal de redes informáticas integradas para almacenar y transmitir información [2, c. 86].

El rápido desarrollo de las tecnologías de la información es característico para el mundo moderno.

Por lo tanto, se presta cada vez más atención a los problemas de los procesos de comunicación de masas. La sociología de la comunicación de masas en el siglo XX se desarrolló muy activamente en los países de América y Europa. En los últimos años, los flujos de información han recibido un fuerte impulso al desarrollo debido al aumento constante del número de bases de datos, computadoras personales y recursos humanos involucrados en el campo de las actividades de comunicación y las tecnologías de comunicación de masas. Algunos investigadores han comenzado a hablar sobre la próxima era de los "medios": el poder de los medios de comunicación que ya no solo reflejan e interpretan la realidad, sino que también la construyen según sus propias reglas.

Incluso si los medios de comunicación tratan de ser lo más neutros posible en la cobertura de lo que está sucediendo en el mundo, todavía no logran alcanzar este objetivo. Guiados por los intereses del público objetivo en el que se basa una publicación en particular, los medios forman la agenda de varios eventos, centrándose en unos y bloqueando otros. Al mismo tiempo, el género de las notas pasa a un segundo plano, dando paso al reportaje, ya que el factor más importante hoy en día es la "inclusión", la presencia inmediata y una especie de participación en los eventos actuales.

Mediante el uso de diferentes elementos de animación, semidesnudos o texto directo, el periodista te hace preguntarte en qué dirección lo necesita o muestra el punto de vista que tiene. Todo esto se puede hacer sin proporcionar información falsa o no verificada, sin difamar a los héroes de la carta, sin violar las restricciones impuestas por la ley a la actividad del periodista y los medios de comunicación.

Se considera que los jóvenes son la parte más activa de la sociedad que establece el tono general para el desarrollo social. Los jóvenes son un grupo social fuertemente influenciado por los medios de comunicación. Si hablamos de la naturaleza de la influencia de los medios de comunicación en los jóvenes,

podemos distinguir dos tipos de influencia. El hecho es que los medios de comunicación pueden tener efectos positivos y negativos en los jóvenes.

Hablando sobre el impacto, en primer lugar, es necesario tener en cuenta su papel informativo y educativo, gracias al cual no solo "las paredes de los apartamentos se dividen hasta los límites del planeta", sino también la tendencia de convertir a los medios de comunicación en la esfera de la autorrealización de la personalidad ha ganado impulso recientemente. Los programas de Radio y televisión con la participación directa de oyentes y televidentes se agregaron a la correspondencia de larga data de los televidentes con periódicos y revistas.

El desarrollo de los sistemas electrónicos ha llevado a la aparición de un tipo completamente nuevo de comunicación y autorrealización: la participación de una persona en la interacción con ciertos socios que están interesados en él por una razón u otra, lo que le permite encontrar personas de ideas afines y expresarse en la comunicación con ellos.

Pero, por otro lado, estas son declaraciones ampliamente conocidas sobre la saturación de los medios de comunicación con actos de agresión, violencia y crueldad. Uno de los principales lugares en el tema de la televisión moderna está ocupado por los antecedentes penales. Por la proporción de tiempo de aire asignado a esto, ocupa el segundo lugar después de la publicidad. La visualización interminable o descripción de cadáveres, tiroteos, robos, etc. Ya no parece algo inusual y se percibe simplemente como una vista fascinante o una lectura.

La dependencia se desarrolla tanto que causa un daño significativo incluso a la salud física (estilo de vida sedentario, plenitud, trastornos del sueño). Forman al oyente, al espectador, es decir, al consumidor (hoy, por ejemplo, incluso el diccionario de un adolescente a menudo se forma como un diccionario de un consumidor).

Ahora es bastante obvio que cuanto mejor desempeñe el lenguaje sus funciones, más perfecta será su implementación en los medios de comunicación. Los medios de comunicación no en vano llaman la cuarta fuerza. Los medios de comunicación no son ni siquiera la cuarta fuerza, sino la primera, porque la influencia de los gustos y preferencias del habla de millones de personas es mucho más importante, al menos, no menos que la influencia de la familia, la escuela y otras instituciones sociales. Este efecto será fructífero con una política lingüística fuerte.

Hoy en día, los medios de comunicación son cruciales para el sistema político de la sociedad y desempeñan un papel importante en la formación de la conciencia política de los ciudadanos. Los medios de comunicación más populares son la Prensa, la televisión, la Radio y los recursos de Internet ocupan un lugar especial en esta lista.

La influencia política de los medios de comunicación se ejerce a través de la influencia tanto en la mente como en los sentimientos de una persona. Junto con la información real, la propaganda a menudo presenta verdades a medias, y dependiendo de la naturaleza de la organización política que realiza la propaganda, también se utiliza la falsificación: fraude de hechos, desinformación, especialmente con respecto a los recursos de Internet. Muy a menudo, en varios sitios se lleva a cabo el llamado "relleno de información", es decir, la difusión de información falsa con el fin de obtener algún beneficio.

Por supuesto, en el mundo moderno, los medios de comunicación son una herramienta importante y efectiva para formar opiniones en la sociedad y tienen una gran cantidad de métodos y formas de influir en la conciencia social no solo de la persona, sino de todo el estado. Y en la vida de la sociedad moderna, a menudo desempeñan un papel muy serio y negativo, porque la información reemplaza su función original de informar a la población con tareas para formar ciertas ideas, puntos de vista y opiniones.

Las personas modernas confían cada vez menos en Fuentes no verificadas y tratan de no sucumbir a la presión y la manipulación de algunos canales de comunicación que pueden vender falsificaciones. Para proteger su reputación, las empresas de medios de comunicación deben abordar los complejos y polifacéticos problemas creados por una información poco fiable y otras interferencias. Esto también incluye tomar medidas para reconstruir la confianza perdida la que según el periodista alemán Andreas Pырsek “es un arma poderosa para retener a las audiencias y suscripciones”[3].

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В статье приводится определение термина «средства массовой информации», перечисляются и раскрываются основные СМИ, рассматривается влияние средств массовой информации на молодежь. В статье рассматриваются преимущества и недостатки средств массовой информации. Автор раскрывает воздействие СМИ на все системы общества и современный мир.

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**ALTERNATIVES FOR SOLID WASTE MANAGEMENT IN RUSSIA**

Landfill waste is one of the global ecological problems. During the last decades, the problem of landfills and incineration has been discussed all over the world. The idea of recycling emerged as a solution to the problem.

Garbage is associated with stink and poisoned air. That is why landfills are usually located far from residential areas. However, in the conditions of a modern metropolis which is border extended and overpeopled, the new residential areas are being built near the former landfills. Moscow agglomeration is around 21.5 million residents [9]. 1 person per year produces 2.4 tons of garbage [8]. Every year 51.6 million tons of waste is produced in Moscow and Moscow region – 20% of all the trash in Russia [7]. Thus, the problem of landfill sites is urgent in Russia. The article looks into the ways to solve the problem by the example of sorting and recycling municipal solid waste and reclamation of landfills. The purpose of the article is to consider the problem of waste management in Russia by the example of Moscow and Moscow region through waste sorting and recycling.

First of all, recycling is one of the Rs of waste management [3]. The three Rs stand for reduce, recycle and reuse:

**REDUCE** – the concept of cutting down on the amount of waste produced has important implications for the waste hierarchy. The logic behind it is simple to understand: if there is less waste, then less waste should be recycled or reused.

**RECYCLE** – processing materials that would otherwise be thrown away as trash and remanufacturing them into new products.

**REUSE** – the concept of reusing items or using them for a purpose other than what they are intended for is important in the waste hierarchy.

The topic of the study is only one R of the three Rs, and that is the problem of waste recycling. “Recycling” can be defined as the process of cleaning, treating, recovering, and converting waste into new materials and objects. It is an alternative to a “conventional” waste disposal that can save materials and help reduce greenhouse gas emissions, which are one of the causes of global climate change.

There are several types of recycling.

– waste paper and cardboard recycling is processing wastepaper for reuse; possibility to make new paper – from old one. The end products of paper recycling are boxes, toilet paper, insulation material, cardboard, construction materials, disposable tableware.

– plastic recycling is the process of optimizing the lifespan of plastic by recycling and reusing it. Plastic recycling is a good idea to consume less energy and provide a sustainable source of raw materials. The final products of plastic recycling are clothes, furniture, bikes, roads.

– metal recycling is processing all types of metal for further use. Metal recycling is good because the metal can be recycled over and over again without changing its properties. Some of the most common metals to be recycled include aluminum and steel. Metal recycling can help you save your money and is generally a source of economic development – through recycling, the government can save a huge amount of money that could have been spent on recycling metals. The end products of metal recycling are cookware, car and airplane parts, and radiators.

– glass recycling is processing waste glass for reuse. A glass bottle sent to a landfill can take up to a million years to break down. In contrast, it takes only 30 days for a recycled glass bottle to leave the trash in your kitchen and appear on the store shelf as a new glass container. The end products of glass recycling are building materials, fiberglass, firearms ammunition, swimming pool filtering materials.

– wood recycling is the process by which clean wood waste that does not contain contaminants or hazardous materials such as glue, lead paint, asbestos or creosote is ground into wood chips and used to make new products. Recycled wood is diverted from landfills, reducing the number of new landfills that must be created. Wood chips are used for frame construction.

– textiles recycling is the process by which old clothing and other textiles are disposed of for reuse or material recovery. It is the basis for the textile recycling industry [4]. The products of this recycling type can be the reuse of clothing or its processing into raw materials for the production of carpets, etc.

– bricks waste recycling is the process of reusing them, since bricks are a heavy and bulky material to landfill. Mining of chalk and other primary materials needed to produce bricks is expensive and harmful to the environment. The end products of brick recycling are new bricks.

– food waste recycling is the process of recycling all the organic degradable components of our garbage bag. If we turn food waste into compost, we can not only reduce landfills but make a fertilizer that can be reused for houseplants. In addition, recycled vegetable oil is turned into biodiesel. The end products of food waste processing are pet food, fertilizer, compost, biodiesel.

– battery waste recycling is a recycling activity that aims to reduce the number of batteries being disposed as municipal solid waste. Batteries contain a number of heavy metals and toxic chemicals and disposing them in the same way as regular trash raises concerns about soil contamination and water pollution.

– tetrapak recycling is a difficult kind of recycling, since it has three different components: carton, aluminum paper and polyethylene. It cannot be placed in paper containers, it must be put in some special container. Before recycling Tetra Pak should be washed and folded, you can recycle it together with a straw and a lid. There are only 5 Tetra Pak recycling plants in Russia, and they are all located far from Moscow. The Russian environmental organization Sorting the Waste [5] advises us to avoid buying products in Tetra Pak. However, the Tetra Pak manufacturer claims that this type of packaging is 100% recyclable, and the end products of recycling are new paper and cardboard.

If we do not recycle waste, then all garbage is collected in one container and then taken to landfills for incineration or disposal. This leads to huge mountains of toxic and harmful substances that need a lot of time to decompose. Thus, landfills cause environmental problems related to soil, air and water pollution. Garbage dumped in landfills becomes combustible. During the burning process, a lot of toxic gases are released, of which  $H_2S$  (hydrogen sulfide) is the most poisonous.

The decomposition of garbage has the following stages:

Stage I. Aerobic bacteria decompose organic materials from the garbage to  $CO_2$  (carbon dioxide). This process takes several weeks. Once it is complete, there is no more  $O_2$  (oxygen) inside the garbage mountains.

Stage II. Anaerobic bacteria produce  $CH_4$  methane during this unstable phase, which lasts from several months to several years; in addition, several types of organic acids are produced:  $HCOOH$  – formic acid,  $CH_3COOH$  – acetic acid,  $CH_3CH_2COOH$  – propionic acid, etc.

Stage III. This is the stable stage of methane formation, which lasts up to several decades. During this stage, the trash continues to decompose. This process is caused by the release of a toxic biological gas, one component of which is methane. The soil is unusable for several hundred years after the landfill is closed. For example, at the Kulakovo landfill in the Cheshkov district of Moscow region the indicators of emitted toxic gases are as follows:  $NH_3$  – 1.8 t,  $H_2S$  – 0.028 t,  $CH_4$  – 2.4 t,  $CO_2$  – 39.4 t. Secondly, the stinky air spreads over long distances with the wind, igniting the distribution gas is a frequent cause of landfill contamination. Poisonous smoke penetrates the atmosphere and poisons all living things within a radius of several kilometers. Methane is said to be one of the causes of the intensification of the greenhouse effect. Besides, if there is



groundwater under the landfill, it is poisoned by waste. Consequently, nearby water bodies become toxic and dangerous for humans and other living beings.

In order to avoid harmful effects on the environment, the government decided to install waste sorting containers at each waste disposal station. Such containers for waste sorting are already required by the law on production and consumption of waste adopted in Moscow in 2005. Nowadays Moscow residents are encouraged to come to the stations with sorted paper, cardboard, plastic, metal and glass garbage, as well as dead batteries. The authorities hope that this measure will help Russians give up the long-standing habit of throwing all garbage into one container. The current environmental strategy of Moscow, developed by the City Department of Natural Resources and Environmental Protection, provides for an increase in recycling by 35% by 2030 [7].

Thus, by 2030 it is planned to close 12 out of 15 old landfills, the remaining three will be modernized and equipped with modern waste processing complexes. Remediation projects have already been implemented at the closed landfills of Kashira, Bykovo and Elektrostal, and in 2019 the landfills Kuchino and Dubna Levoberezhnaya were reclaimed. There is a project to create park areas and supporting slopes at the reclaimed landfills. More than 60% of residents of Moscow region already separate waste. Thanks to this, about 1 million tons of waste was recycled [7].

To sum up, the benefits of recycling are reducing the amount of waste sent to landfills, legal and sustainable use of resources, reducing pollution, creating green jobs, reducing energy consumption, conserving natural resources.

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В статье раскрываются проблемы, возникающие в связи с функционированием мусорных полигонов. Автор анализирует проблему утилизации отходов в России на примере Москвы и Московской области, рассматривает пути снижения последствий для окружающей среды посредством сортировки и переработки отходов.

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#### **PROBLEMS OF LABOR PROTECTION IN THE REPUBLIC OF BELARUS**

The relevance of the topic is determined by the high importance of labor protection in the system of socio-economic protection of workers' rights aimed at preserving their life and health at work.

The purpose of the study is to analyze the social problems related to labor protection of workers in the Republic of Belarus and to consider the ways to solve them.

Protection of labour is an institution that represents a set of rules united by a common purpose, namely protection of workers' health from exposure to hazards directly in the labour process.

In the past decade, the Republic of Belarus has approached a whole new level of relations between the state and the citizen, formed the legislation governing the sphere of social and labour relations. Ensuring the constitutional rights of citizens, including their rights to labour and safe and healthy working environment, is strongly focused [3, p. 89].

Nevertheless, analysis of occupational safety conditions indicates certain social problems in this area. Although the «number of persons injured at work reduced by 5% (from 1886 to 1781) as compared to 2021» [1], the rates remained sufficiently high. It should be noted that «the number of deaths at work remained at the level of year 2021 and made 132 persons» [1]. In this context, prevention activity has special significance.

Latent work-related accidents should also be treated as a pressing challenge. It is true that there is a practice of concealing work-related accidents, since amounts paid as compensation of harm caused are sizable.

The level of latent work-related accidents may look not threatening at this period, but such negative development can morph into a serious challenge unless the necessary measures are taken. The mechanism must be developed to prevent an employer and employee from escaping responsibility for concealment of an accident.

Improvement of work-related accidents investigation procedure through involvement of additional expertise able to analyze the worker's psychophysiological features is also a topical trend.

These arguments let us to conclude that «to improve protection of labour, implementation of a set of measures focused on reduction of injury should be a continuous process» [2, p. 189]. On the one hand, preventive efforts in this area must be intensified, and methods of work-related accidents prediction with account taken of the current working environment must be introduced more actively. On the other hand, mechanisms of legal regulations in this area must be enhanced.

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Анализ условий безопасности труда свидетельствует о наличии определенных социальных проблем в данной области. В частности, тревогу вызывают показатели травматизма на производстве, а также наличие латентного производственного травматизма. В целях совершенствования состояния охраны труда необходимо усилить профилактическую деятельность и совершенствовать механизмы правового регулирования в данной сфере.

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**PROTECTED AREAS OF THE BREST REGION**

Protection is a form of human use of the most valuable ecological, recreational and aesthetic aspects of natural and natural-anthropogenic territories. The system of protected areas is quite complex.

The purpose of this work is to characterize the protected areas of the Brest region on the basis of scientific research.

The most significant role in the preservation of natural landscapes and the protection of wild animals and plants in the region is played by specially protected natural areas: the National Park Belovezhskaya Pushcha (1.8% of the territory of the region), 19 reserves of republican designations (10% of the territory of the region), 30 reserves of local designation (1.1% of the territory of the region), 37 natural monuments of republican and 36 of local designations.

Their total area as of January 1, 2001 was 12.8% of the territory of the region. This is the highest index among the regions of Belarus.

The particularly intensive work on the creation of new reserves of national and local significance has been carried out in recent years. The mainland users whose territories of the reserves are transferred under protection, are the forestries. The latter do not always fulfill their obligations to maintain an appropriate nature management regime in the reserves. In some reserves, construction is underway, deforestation is allowed, and landfills appear.

The largest natural reserve on the territory of not only the Brest region, but also the whole of Belarus and even Europe, is "Belovezhskaya Pushcha". It was given the status of the National Park in 1991. Belovezhskaya Pushcha is a large forest area in the southwest of Belarus. It is on the territory of the Brest and Grodno regions (with an area of about 145 thousand hectares), and about 57 thousand hectares are in Poland. The area of the national park on the territory of Belarus has slightly increased in recent years: 1990 - 87.6 thousand hectares, 1998 - 88.3 thousand hectares, 1999 - 96.2 thousand hectares, of which 57.4 thousand hectares are in the territory of the Brest region.

The flora of the forest includes 928 species of plants (the number of species listed in the Red Book of Belarus are indicated in brackets). Among them are: 898 species of angiosperms (48), 5 species of gymnosperms (1), horsetails, club mosses and ferns (2), 270 species of mosses (5), 292 lichens (15), 400 algae and 570 species of fungi (5). Among the trees grow mainly pine, spruce, alder, birch and oak. There are about 60 species of bush plants. In total, more than 88% of

its territory is under forest. Bars predominate (about 60% of the forested area). The forests of the Pushcha are among the oldest in Europe. The age of pine forests reaches 180-200 years, spruce forests are 120-160 years, oak forests are 180-220 years old. Individual giant trees have been preserved: pine (350 years; height is 35 m), spruce (200 years, 52 m).

The variety of vegetation cover and the mild climate create good conditions for forest animals. The forest fauna includes 59 animal species, 227 bird species, 11 amphibians, 7 reptiles, 24 fish and more than 9 thousand species of insects. Belovezhskaya Pushcha is one of the last natural habitats of a large representative of the European fauna - aurochs (in 2000 - 233 individuals). There you can see a red deer (1400), a roe deer (510), an elk (66), a wild boar (860), a fox, a badger, a polecat, an ermine, a marten, a please, an otter, a raccoon dog, a hare, a squirrel, voles, a mole, bats (13 species), etc. The Pushcha has a rich and varied avifauna. There are typical western species, birds of the southern broad-leaved forests: a capercaillie, a black grouse, white and black storks, 20 species of birds of prey, etc.

Belovezhskaya Pushcha is a unique natural monument, on the territory of which distinctive natural objects have been preserved. A list of 110 rare plants of the forest subject to special protection, including 51 species of plants, 11 species of animals, 52 species of birds, 2 species of reptiles, 1 amphibian, 8 fish and 38 species of insects, listed in the Red Book of Belarus, has been compiled. Scientific research is being carried out on the protection and reproduction of flora and fauna; the museum of nature operates.

Among other protected areas of the region, a number of reserves of republican significance is distinguished. The hydrological reserve "Vygonoshchanskoye" (43 thousand hectares) was created in 1968 in order to preserve the state of Lake "Vygonoshchanskoe" and the swamp massif on the watershed of the rivers Shchara, Bobrik, Zapruda. The landscape reserve "Prostyr" (3.4 thousand hectares) was created in 1994 to preserve the standard area of natural wetland meadows with a rich flora. The Luninsky biological reserve is intended to preserve floodplain oak forests in their natural state, as well as to create optimal conditions for the residence of rare species of animals and plants.

Among the specially protected objects are ancient parks, unique natural objects, such as the only ascending spring in the region "Yasenets" or rare forms of trees. The main task of protected areas is the protection of rare and endangered species. The flora of the Brest region includes 1150 local species of higher plants. 51 species are listed in the Red Book of the Republic of Belarus. These are a mountain arnica, a Dortman's lobelia, a great astrantia, a common shieldwort and a lady's slipper.

Among the animals inhabiting the territory of the region, 11 species of animals are listed in the Red Book. Among them: an auroch, a badger, several

species of bats, etc. 3,240 species of birds, of which 52 are under protection. There are especially many rare species among birds of prey: 15 species from the order Falconiformes and 4 owls. Not the best situation with birds for which the habitat is water. All of this is the result of changes in biocenoses due to land reclamation and environmental pollution with chemical compounds. Protected 2 species of reptiles, an amphibian, 8 species of fish, a number of other species of other animals.

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В статье речь идет о Брестской области, которая обладает значительным природноресурсным потенциалом, что создает благоприятные условия для развития как отдельных отраслей хозяйства, так и всего хозяйственного комплекса. Однако возможность его использования во многом зависит от того, насколько тщательно относится человек к богатствам природы. Автор заключает, что безрассудное, умышленное воздействие на природу разрушает ее, что ухудшает условия существования человека.

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#### ENVIRONMENTAL ISSUES

Nature has always served as a source of existence for people's lives since ancient times. Obviously before people lived in harmony with the environment and it seemed to them that natural riches were unlimited. But with the

development of civilization human interference in nature has begun to increase. This eventually has led to various changes in the environment.

As we know, the word “environment” refers to everything around us: the air, the water and the land as well as plants, animals and microorganisms that inhabit them. The environment of an organism includes physical properties which can be described as the sum of local abiotic factors such as solar, climate, soil and other organisms sharing the habitat [4].

Today there are many environmental issues which are important and they are all interdependent. The most dramatic of them is climate change. Human activity is changing the amount of greenhouse gases in the atmosphere. As a result, the planet suffers from global warming. Climate change is already leading to numerous extreme weather events in all regions of the planet. A noticeable increase in air temperature in Belarus began to be observed from 1981-1990. The average air temperature was plus 6.3 degrees. The coldest ten years in the history of meteorological observations occurred in 1939-1948 with an average temperature of plus 5.2 degrees. And the warmest was the last - from 2013 to 2022 - with an average temperature of plus 8. In general, there is a tendency that each subsequent decade is warmer than the previous one. Moreover, according to scientists, the entire climate system of the Earth is changing, and these changes affect the state of the atmosphere, oceans, ice covers and the surface of the Earth [2].

Pollution of the oceans is a global problem that people, animals and plants are also suffering from. Water resources are polluted by microplastics, which are plastic particles less than 5 mm in size. Its danger is due to the accumulation of contaminants in the tissues of living organisms due to passive absorption from water and their subsequent transfer through the food chain. Microplastics is found everywhere in the World Ocean, from the surface to the bottom, from the Arctic to the Antarctic. A high level of pollution of water resources is already leading to a shortage of high-quality drinking water in certain regions of the planet, to decrease in the quality of life, and disruption of the habitats of living organisms, which are also objects of fishing and extraction. Widespread water pollution can lead to catastrophic consequences: the impossibility of using water for drinking and meeting sanitary and hygienic needs, and increase in the level of morbidity [3].

Deforestation is one more global environmental problem. More than a million species living in tropical forests are threatened with extinction. Many of them depend on the forest for their survival, reproduction and development. These species are supported by a rich forest environment that provides them with food and shelter. The number of natural forests is decreasing, in their place, as a rule, artificial plantings of monocultures appear, which, according to the ecologists, are unlikely to become a forest in all its biodiversity. In addition,

monocultures are not resistant to both climate change and insect pest outbreaks. Deforestation also degrades the quality of the soil. It is the main cause of the increase in deserts in the world. Such weather conditions and environmental changes contribute to the decline in agricultural activity. People suffer from food shortages due to low agricultural production [1].

Today our planet is facing many threats to the environment: some of them are local, but others are common to all countries. The destructive influence of man on nature brought it out of a state of natural balance. If each individual does not learn to protect the environment, then even the transition to biological fuels, waste-free production and large-scale organization of nature reserves will not be able to save our planet. Environment pollution is one of the main problems of our time as it can lead to global environmental disasters.

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В статье речь идет о глобальных экологических проблемах современности, которые несут реальную угрозу глобальной безопасности. Анализ глобальных проблем проводится на примере таких актуальных тем, как глобальное потепление, антропогенное загрязнение Мирового океана и вырубка лесов. Особое внимание уделяется катастрофическим последствиям, которые могут распространяться на значительные части нашей Планеты.

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## **YOUTH IS THE FUTURE OF THE COUNTRY**

It is a well-known fact that the youth of any country is a great asset. They are indeed the future of the country and represent it at every level. The role of youth in nation building is more important than you might think. In other words, the intelligence and work of the youth will take the country on the pathway of success. As every citizen is equally responsible, the youth is too. They are the building blocks of a country.

The wealth of a nation lies not so much in its economic and natural resources, but in its future generation, in its children and youth, who will create the future of the country, the nation. Today's children will determine the fate of the country in the future. Therefore, the education of strong, healthy and intellectual youth becomes mandatory for every society. Adults are obliged to guide young people in the right direction. The youth of the country is its strength. They have boundless reserves of energy, will, abilities, zeal and enthusiasm, and they are able to shape the fate of the nation. Young people should be trained to use their talents in the right direction. Young people need to be taught how to use their talents and abilities constructively, as well as help in creating and strengthening the state. Without the use of this huge reserve of energy, the country and society cannot think about economic, political, social and intellectual development. The best way to involve young people in the development of the country is to educate them. If a society is careless about its youth and cannot teach them productively, then society may face destructive and violent youth. The trees and flowers of the garden should be trimmed to make it look beautiful and attractive. Otherwise, plants and shrubs will go crazy and spoil the beauty of the garden and will not bring proper flowers. Similarly, children should not be deprived of their basic instincts and properly trained to benefit society. If proper and timely attention is not paid to youth care, it can lead to failure and become unproductive. To do this, society must provide its youth with the right education. The education provided should be progressive, meets the needs of society and should create not only outstanding professionals, outstanding in their fields, but also good people. Proper facilities and supportive environment should be taken care of along with adequate and enhanced creativity. All young people need is the right distribution of abilities, the right guidance, training and the desired environment [1].

They say that youth is the best period of human life, because then a person is carefree and has nothing to worry about – young people do not have to feed their

families, do not raise children ... But is this statement true? Often our parents are eager to tell about their adventures and want to return to this wonderful and carefree period. But they forget that young people have a lot of problems. Young people in the modern world have many problems that currently seem unsolvable. They face difficulties in communicating with the older generation (parents, teachers) and in relationships with peers (in friendship, in love). They also experience a lot of mental suffering due to the conflict between the mechanisms of the soul.

Young people also have different prospects – to get a good education, according to the standards of the modern world, to start a family, to have a well-paid job in order to be able to support their family and, equally importantly, to rise in society to a certain position.

One of our biggest problems for young people is our relationship with the older generation. Young people often feel incomprehensible, because adults have completely different views on life and the world. Our parents often forbid us to do what they consider wrong or dangerous.

In many countries of the world, both in the historical past and today, issues related to youth are always in the focus of attention of the state and government. Especially in ancient times, the problem of youth was of paramount importance in public policy, and young people were considered a great physical force. They were prepared and used psychologically to ensure the security of the country and the realization of the goals of the state's military strategy. Therefore, physically strong and healthy youth was one of the most important resources of any state and society [2].

In all ages, the future of the country has been for the youth. It was young people who were the engines of revolutions, progress and development. Moreover, it was on them that the state could rely during the war, in the post-war period, in times of crises. After all, it was young, healthy people who raised virgin land, erected mighty buildings, lit up with crazy dreams and brought them to life. Everything that the state will invest in young people will be rewarded with interest. Educated young people are the pillars on which the country will always stand. If from the school bench it is possible to instill in young people a sense of patriotism and love for their homeland, then they, in turn, will put their soul into its development and well-being.

What is the role of youth in modern society? First of all, the main task of the younger generation is to become worthy citizens of the country in which they were born. A person who has embarked on the path of growing up always faces the question of self-determination. He is trying to find himself and his path. Based on this, over time, he understands what role he will play in society. Each person should make it his goal to improve his country and help people. This is what will help make the state stronger and better. The social role of youth in modern society is the development and changes of established standards. The

older generation is mostly conservative. People do not want to change either their technical equipment or their views. Young people perceive change as something natural and very logical. Schoolchildren, students and graduates of the university are happy to receive new knowledge and are in a hurry to apply it in practice. Improving their skills is the true goal of the younger generation.

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В статье речь идет о стремлении молодых людей определить своё место в мире, раскрыть свой потенциал, как наиболее перспективного человеческого ресурса современного общества.

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#### **INSTAGRAM AS A MEANS OF PROMOTION**

Instagram is an American social network for sharing photos and videos and communication as well. The application allows users to upload media files, edit them, promote them using various hashtags and geographical labels. Users can view the content of other users, click the “like” button and comment on publications. Recently, a feature has been added to the application that gives an opportunity for brands to pay for publications on the pages of media personalities.

To succeed in promotion, you need to follow several points:

*Create a business account*

To promote your business on Instagram, you need to create a business account. It provides you with valuable insights into your audience and how they interact with your content. It also allows you to run ads and add a contact button to your profile.

*Post high-quality content*

Posting high-quality content is essential for promoting your business on Instagram. Your content should be visually appealing, informative and relevant to your audience. You can use images, videos and stories to showcase your products or services and engage with your followers. To post high-quality content on Instagram, you should aim to create visually attractive posts.

#### *Use hashtags*

Hashtags are a powerful tool for promoting your business on Instagram. They help your content reach a wider audience and increase your visibility. You can use popular hashtags related to your business or create your own hashtags to promote your brand.

#### *Collaborate with influencers*

Influencer marketing is an effective way to promote your business on Instagram. Collaborating with influencers who have a large following can help you reach a new audience and increase your brand awareness. Here are some tips:

- Research and identify influencers who align with your brand and have a large following;
- Reach out to them with a personalized message and proposal;
- Clearly outline your expectations and goals for the collaboration;
- Provide them with high-quality images or videos of your products or services;
- Set a timeline and schedule for the collaboration;
- Monitor and track the results of the collaboration to see its effectiveness [2, p. 5].

#### *Engage with your followers*

Engaging with your followers is crucial for building a loyal audience. Responding to comments, liking and sharing their content, and hosting giveaways can help you build a strong relationship with your followers and increase your engagement rate [1, p. 13].

To sum it up, Instagram can be a powerful tool for businesses to promote their brand and reach a wider audience. By creating a business account, posting high-quality content, using hashtags, collaborating with influencers and engaging with your followers, businesses can effectively promote their products or services on Instagram. With over 1 billion active users, the platform offers a vast and diverse audience that businesses can tap into to increase their visibility and brand awareness.

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В статье рассматривается социальная сеть Инстаграм как средство продвижения бизнеса или услуги. Приведён анализ инструментов, используемых в рамках этой социальной сети. Автор описывает самые ключевые функции Инстаграма и доступные стратегии для успешного продвижения на этой платформе.

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## **FEATURES AND COMPONENTS OF THE COMPETENCE APPROACH**

The development of the domestic education system is conditioned by global trends. Competence-based approach is fundamental in the Republic Belarus, fixed by the main legislative documents in the field of education – The Code of the Republic of Belarus on Education [1, p. 94]. Educational standards based on the competence approach pay special attention to the features, principles and components of the competence approach. This article aims to analyze the relationship between the principles, features and the result of the training of a graduate, a specialist student.

Principles of the competence approach:

- the goals of education reflect the development of students' ability to solve problems independently in various fields and activities based on the use of social and personal experience;

- the content of education is a didactically adapted social experience of solving cognitive, communicative, organizational, moral and ideological problems;

- the meaning of the organization of the educational process is to create conditions for the formation of students' experience of independently solving the above problems that form the basis of the content of education;

- evaluation of educational results is based on the analysis of the levels of education that students have achieved at a certain stage of learning.

A feature of the competence-based approach is the organization of the educational process, largely focused on teaching, active and independent

mastery of theoretical and applied knowledge by students. Strengthening students' independence entails greater responsibility on their part for the results of their own cognitive activity. At the same time, it becomes possible to significantly reduce the academic load, but not by reducing the hours for studying a particular discipline, or reducing the volume of its content, but by determining the individual trajectory of each student's development, taking into account his individual capabilities and cognitive abilities as much as possible. This creates conditions for a more comfortable construction of the educational process at the university for the student, increases the positive motivation of students, there is an opportunity for individual classes with students during classroom classes. The result of competence-oriented training is the student's mastering the experience of identifying a problem, acquiring the skills of its research, design, cooperation, application of well-known and creation of new technologies for obtaining a product of their own activity, assessing its quality and application possibilities.

Thus, the competence approach includes a set of principles for determining the goals of education, expressed in learnability, self-determination, self-actualization and the development of students' individuality; the content of education and organizational forms of training focused on the acquisition of key pedagogical competencies by students, as well as ways to evaluate educational results. Changing the educational process is a necessary, but far from sufficient condition for the formation of pedagogical competence of students. It is important to update the content of academic subjects, methods and technologies for preparing students for professional activity at school, the development and implementation of a more reliable system for assessing the readiness of a novice teacher for pedagogical activity.

The introduction of a competence-based approach to the organization of the educational process requires changes in the methodological guidance of students' activities, the features of which are manifested in changing the purpose, forms and methods of teaching students; ways they acquire professional knowledge and skills; assessing the quality of training and the nature of the student's activities, his interaction with the teacher; learning outcomes and attitudes to education. In our opinion, the purpose of preparing students for professional pedagogical activity in the conditions of a competence-based approach to the organization of the educational process at the university is to create conditions for the development of a complex of professional skills and knowledge, semantic orientations, experience and methods of transformative creative activity, the ability to adapt to the educational process of the school, as well as the development of the ability to independently solve problems of various levels of complexity on the basis of their own and social experience.

The role of the “goal” in the system of higher pedagogical education aimed at training competent specialists to work at school is obvious, since it subordinates both the content and the structure, determines the orientation of the system. Creating a reliable task system is important for teachers for many reasons, among which we will name such as:

concentration of efforts on the main thing, that is, specifying the goals, the teacher determines the priorities, content, order and prospects for further work on the formation of pedagogical competence of students;

clarity and openness in the joint activity of “teacher – student”, that is, specific educational goals enable students and teachers to navigate the overall process of forming pedagogical competence, discuss it, make it clear to all participants in the educational process;

creation of a standard for assessing the level of formation of professional pedagogical competence.

No less important is the question of choosing forms and methods of teaching students. Training in competence-oriented education acquires an activity character, i.e. the formation of knowledge and skills is carried out in the practical activities of students; their joint activities are organized in groups; active forms and methods of teaching are used, innovative technologies of a productive nature; an individual educational trajectory is built; interdisciplinary connections are actively implemented in the learning process; the most important professional qualities of the future specialist being developed are independence, creativity, initiative and responsibility [2]. One of the main characteristics of a graduate of a pedagogical university is his/her mobility, the ability to independently acquire knowledge, sensitively reacting to innovative processes in education. Therefore, the emphasis in the preparation of students should be shifted to the process of cognition, the effectiveness and efficiency of which depends on the active transformative cognitive activity of students themselves [3]. The success of achieving the necessary level of competence of a graduate depends not only on what subject knowledge is acquired at the university, but also on how this knowledge is acquired: based on attention, memorization or on the development of students’ thinking, with the help of reproductive or active methods and forms of learning.

Competency-based degree programs open new opportunities for students who lack the time or resources to earn a degree. Instead of requiring a certain amount of time sitting in classes, competency-based learning focuses exclusively on the learning, requiring only that you master the competencies (i.e., subject areas) of your degree. You can master these competencies at whatever pace works best for you. But the fact that competence-based education is flexible does not mean that it lacks basic principles. [4]

For competency-based degree programs to be effective, they should include the following elements:

*Varied Content.* No matter what competency you're learning, your program should direct you toward or provide you with the education content you need to master it. Everyone learns a bit differently, so a good competency-based degree program should ensure there is a wide variety of content available.

*Strong Support.* While the autonomy of competency-based degree programs is part of their appeal, no program should leave you on your own. Instead, you should have access to academic coaches who can provide general guidance and faculty who can provide targeted instruction as needed.

*Clear Assessment Standards.* In a good competency-based degree program, there should be rubrics that clearly lay out the expectations and define what is considered passing and what isn't.

*Student Ownership.* Competency-based education comes from the recognition that personal learning can be the most powerful kind of learning. Your competency based degree program needs to give you the power to set your own goals and control how much and how fast you learn. [5]

In conclusion, we would like to note that the features, principles and components of the organization and implementation of the competence approach in the Republic of Belarus differ slightly from the world principles. There are local features that are justified by territorial regulatory legal acts, social and economic processes. There is a direct dependence of the components of the competence approach and the achievement of a high-quality level in the training of a modern student or specialist.

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В статье показаны особенности, компоненты и принципы компетентного подхода. Автор анализирует взаимосвязи между принципами и компонентами компетентного подхода и результатом подготовки выпускника, студента и современного специалиста.

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## **SOCIOLOGICAL FACTORS OF THE DEVELOPMENT OF EATING DISORDERS**

Eating disorders are one of the most common diseases of the current generation. According to statistics, such disorders often start during adolescence aged 14 to 19. This is the third most common chronic disease among teenage girls. On average, about 3% of the population suffer from anorexia and bulimia in developed countries. Moreover, at least one person dies from an eating disorder every 62 minutes. As we can see, eating disorders are a multifactorial problem. Only one reason is not enough for the appearance of a disorder. In fact, a combination of needs, desires and emotions leads to real consequences.

Many people believe that eating disorders are common only among models, actresses and athletes. However, this is only due to the fact that most middle-aged and older people are currently insufficiently informed about this phenomenon.

They are mental health disorders associated with a person's attitude to food, their own weight and figure and motor activity. Such disorders are expressed in inadequate eating habits and are accompanied by a high level of stress. The diagnosed eating disorders include anorexia nervosa, bulimia nervosa and compulsive overeating.

Anorexia nervosa is a "conscious restriction in eating in order to lose weight due to the belief in the presence of imaginary or dramatically overestimated fullness". Bulimia (bovine hunger) is an eating disorder characterized by compulsive eating and vomiting or eating and defecation. Compulsive overeating is dissatisfaction with the image of one's own body, low self-esteem and depression [1, p. 57].

Social factors play a special role in the development of eating disorders. Through cultural influence, a person learns certain norms like the ideal of body image and acceptable eating habits that are generally accepted in the society. In modern society the body tends to become the most effective means of social

communication. There is an idea that being successful means having to comfort the standard of external attractiveness among women in particular [2, p. 3].

The most studied feature of those who suffer from eating disorders is perfectionism as a tendency to meet high standards, both their own and social ones. Occasionally, an eating disorder can be a result of having a “student syndrome”. The desire to be perfect can lead to a permanent neurosis. In fact, a person, who seeks to achieve high results, is self-critical, as a rule.

In order to feel comfortable in a chaotically changing world, a person tries to control all aspects of their life. One of them is a physical condition of the body. People who are obsessively told about the need to lose weight tend to gain weight even more due to stress. Fatshaming victims begin to avoid sports because of a sense of shame and “seize” problems. Also, they can lose motivation very quickly which makes their disorder worse.

Relationships in the family and among friends have a great influence on the formation of self-esteem. For instance, overweight children often become victims of bullying at school. They get offended, bad-tempered, violent and reserved. But it is proved that having obsessive thoughts about losing weight can lead to gaining more weight as a result.

The same problems with eating behavior may arise due to the attitude to food in the family. Shaping nutrition habits begins with the birth of children when parents choose breastfeeding or artificial feeding. In the coming years, the child’s eating habits are formed by choosing one assortment of food and limiting other products, determining the time and amount of food taken, the situation of the environment in which the child takes food. For a child, the process of eating is a social phenomenon when a family get together to have a meal [2, p. 128].

It should be also noted that one of the main “culprits” of the development of eating disorders are the media. Firstly, this is due to the image created in advertising and cinema. One can see models with an idealized slim figure and the absence of any “defects”. Unrealistic standards of beauty can be seen in almost every TV program. As a result, many people believe that eating disorders are common only among models, actresses and athletes. But external influences affect self-perception, endangering ordinary people’s mental and physical health.

Based on the analysis of sociological factors of the development of eating disorders, it can be concluded that any teenager, regardless of an athlete, model or ordinary schoolboy, may be involved in this disease which affects both physical and mental health of a person. Eating disorders are an urgent problem among adolescents to be paid attention to.

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Статья посвящена проблеме, возникающей в связи с таким заболеванием, как расстройство пищевого поведения. Автор анализирует различные виды расстройств и описывает их отличительные признаки. Говорит об однозначном влиянии социальных факторов на развитие этой болезни.

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### **ENGLISH LOAN WORDS IN THE TEXTS OF COMMUNICATION MEDIA**

English words have become frequently used and eventually taken root in the Russian language since the middle of the 20<sup>th</sup> century. They have deeply seated in people's daily lives. Due to the digitalization of modern society, the role of information in the texts of the communication media is of particular importance. In these very conditions, the peculiarities of speech use and the nature of language shifts are changing. In order to convey an informational message to the masses without verbal distortions and to preserve its distinctive features, the introduction of foreign language vocabulary in media texts is simply necessary.

The texts of the communication media perform various functions. They are a source of information. They give a certain assessment of events taking place in the world. They attract the attention of a mass audience to various problems and ways to solve them. Thus, journalists have to use foreign language vocabulary to reflect the national and cultural specifics of the worldview of other countries [1, p. 25].

In the texts of the communication media cultural specificity is manifested at mass media and language levels, especially in the linguistic ways of forming meanings. Culture-specific units are used to express evaluation, description, comparison. The denotative cultural context is represented by words and phrases signifying the realities inherent in any culture. These can be proper names, street names, attractions, as well as words that denote some special phenomena or artifacts, for example “backbencher”, “kilt”, “dacha”, “banya”. The metaphorical context of borrowed words reflects a part of the national culture.

These are quotes from literary works, films, statements of famous people, catchy phrases, allusions, proverbs, sayings [2, p. 86].

It is obvious that the language will not perform its communicative function without most foreign words. However, their excessive use harms the language itself, especially when replacing words that already exist in the Russian vocabulary. More often, Anglicisms are used to describe accurately or keep the original meaning of a word in order to preserve the main idea of the message. It turns out that Anglicisms can displace Russian equivalents. Using of too many foreign words in the text makes it heavy and incomprehensible for a mass audience. Anglicisms give the text a fashionable flavor, as well as supply synonyms to the Russian language. They stand out in shades of novelty, “prestige” and do not require additional comments.

The introduction of new information technologies is also instrumental in the development of language processes. Since the cultural and linguistic influence is most actively carried out through the channels of mass communication, the dominant impact of the English-language media can be traced mainly in the texts of the communication media. The increasing influence of the English language on Russian media texts is associated with the spread of the Internet and with the wide coverage of English-language media broadcasting around the world. Nowadays, the English language occupies a leading position in almost all spheres of life – science, medicine, information technology, business, diplomacy, entertainment industry, education, etc. English has become the main international language and a necessary attribute of an educated person. The words like “business”, “showman”, “speaker”, “management”, “file”, “marketing”, “sponsor”, “speechwriter” have become an integral part of media texts about politics and business industry [2, p. 81].

Thus, the mutual influence of the English and the Russian languages is the main trend in the field of mass communications today. The impact of English-language vocabulary on the Russian language is inevitable, since the dynamics of speech use is very active and can deprive any lexical unit of stability. There is also a displacement of some Russian equivalents and the introduction of English-language vocabulary words. Moreover, Anglicisms are taking root and becoming part of the Russian vocabulary due to the rapid development of modern information technologies and changes in the general linguistic and cultural situation, depending on economic, political and socio-cultural factors.

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В статье предпринята попытка раскрыть основные причины заимствования слов англоязычной лексики, применяемых в текстах средств массовой коммуникации. Рассматриваются особенности культурно-языкового влияния англоязычной медиаречи на русскую лексику и концептуальная связь англицизмов с различными сферами жизни общества.

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### **THE PROBLEM OF E-CIGARETTE SMOKING IN THE SOCIAL ENVIRONMENT OF ADOLESCENTS**

There are many temptations in the modern world, and teenagers are especially prone to them. Thanks to the media, marketers are able to popularize almost any product. E-cigarettes have a modern design, is not one of cloying, tobacco smoke, but of e-cigarette vapour, which the user can choose depending on his preferences. Vaping looks more aesthetically pleasing than smoking, emphasizes image and modernity.

The harmless appearance of an e-cigarette is deceptive. Many e-cigarette users say that vaping is not as dangerous to humans as smoking. However, both cigarettes and e-cigarettes have psychoactive substances that cause addiction and substances that harm the body.

We can more and more often observe vaping people on the street, in establishments and surrounded by a teenager (it can be his/her friends, relatives). Many vaping people use e-cigarettes indoors; this is the norm among young people. There is round-the-clock access to an e-cigarette without inconvenience in use, which leads to uncontrolled consumption; as a result it harms human health. Today, many are concerned about this phenomenon: an e-cigarette can become as natural as part of a teenager's life as a smartphone that everyone now has. Our research is devoted to this problem. We want to find out whether adults have conversations with adolescents about the dangers of e-cigarettes, to identify the reasons for their use, the average age at which they learned about e-

cigarettes, whether teenagers consider vaping to be a health risk, the impact of the environment on the likelihood of smoking.

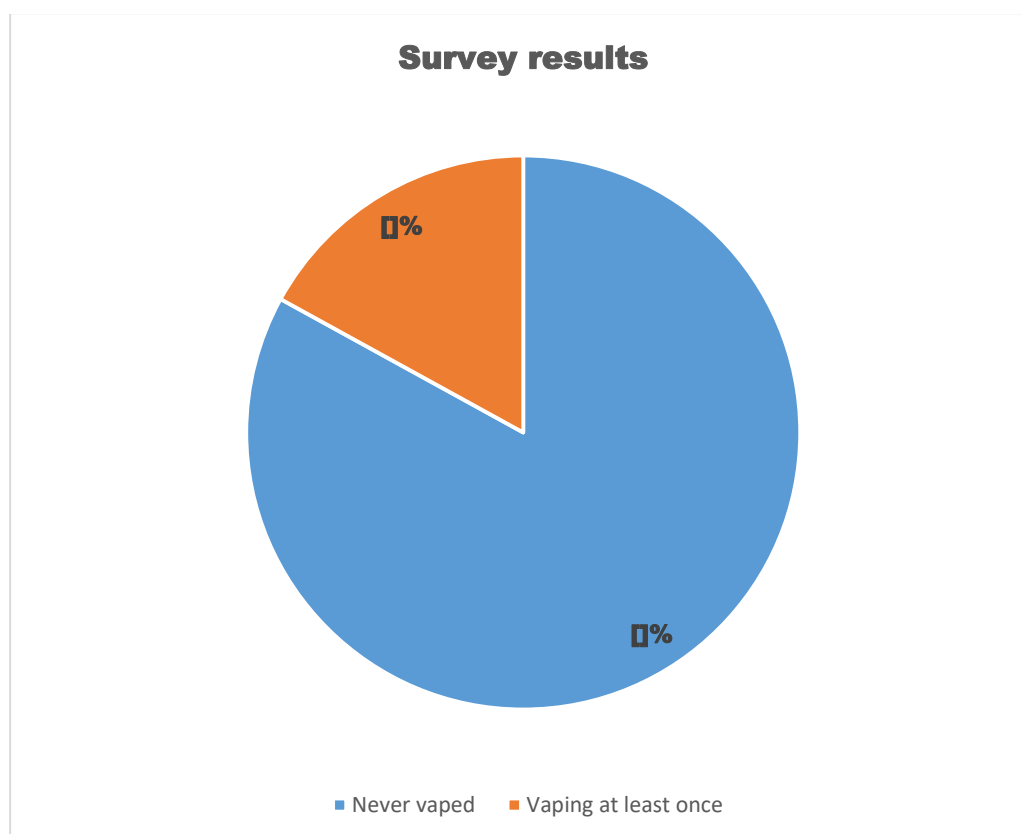
To collect data, we used the questionnaire method. We conducted a survey among students in the fifth, eighth and eleventh grades. The total number of respondents is 54 people.

The age of respondents from the fifth grade is from 10 to 11 years. The average age at which students learned about vaping is 9. Among those surveyed people, only 35% of adults had a conversation about the dangers of e-cigarettes. All students claim to have never smoked e-cigarettes, but 5% of students have half the vaping environment and 5% have the majority of the vaping environment. 15% of students believe that vaping is not harmful. When we asked: "How did you find out about vaping?" there were various combinations from the proposed answers, but the most common option is: "Saw this on the street" is 65%. The percentage of choice of other answers was: "Know from friends" is 25%, "Know from the Internet" is 20%, "Know from parents" is 0%.

The age of respondents from the eighth grade is from 13 to 14 years. The average age at which they learned about vaping was 11. To the question "How did you learn about vaping?" students answered with combinations of the proposed answers, but the most common option was "Saw this on the street" is 60%. The percentage of choice of other answers is: "Know from friends" is 20%, "Know from the Internet" is 27%, "From parents" is 0%. Adults had a conversation about the dangers of e-cigarettes with 80% of respondents. 47% of students have the majority of the vaping environment, 7% have half the vaping environment and in 7% of student, everyone surrounded vapes. All survey participants consider e-cigarette smoking harmful to health. In the class, 60% of students have never vaped and 40% have smoked e-cigarettes at least once. 7% used e-cigarettes just one time in their lifetime out of curiosity, 13% used them once a week and 20% of students are vaping several times a day. To the question "Why do you vape?" the most popular answer is "Relieves stress", it is 80%. The option "For pleasure" was chosen by 20% of e-cigarette smokers. Two people smoked regular cigarettes before vape. Of all those vaping students, only one person believes that they depend on vape, but he has not sought help yet. All e-cigarette users are in vaping environment [1].

The age of respondents from the eleventh grade is from 16 to 17 years. The average age at which they learned about vaping is 14. When we asked: "How did you learn about vaping?" there were various combinations from the proposed answers, but the "Saw this on the street" and "Know from Friends" options are equally common, it is 42%. The percentage of other responses is: "Know from the Internet" is 26%, "Know from parents" is 0%. With 63% of students, adults discussed the harms of vaping. All survey participants consider e-cigarette smoking harmful to health. 84% of students have never vaped and 16% have smoked e-cigarettes at least once. 11% tried an e-cigarette once in a

lifetime out of interest. 5% of students vapes several times a day. To the question “Why do you vape?” most answers are “Habit”, “Most of my friends vape, so I decided”. In addition, before vaping, students often smoked regular cigarettes. They also suggested that acquaintances take up vaping and believe that they are addicted to vape, but they have not sought help yet. 16% of students have half the vaping environment, 16% have the majority of the vaping environment.



According to the survey results, it can be concluded that the environment directly affects a person’s habits. Most e-cigarette smokers are surrounded by vaping people. One way or another, being surrounded by people vaping will affect non-smokers. A person can convince a non-smoker to try by telling how e-cigarettes are not harmful and relieve stress. Sometimes, if someone refuses, they can insist and emotionally affect a person.

Most teenagers learn about e-cigarettes by seeing passers-by on the streets who use this device. Looking at older people who vape, teenagers perceive vaping as an attribute of adulthood. Wanting to look more adult in the eyes of the environment, teenagers begin to imitate their elders by adopting negative habits. As a rule, a preventive conversation with adolescents is carried out not in a timely manner, but after smoking e-cigarettes. In such a case, convincing a

child to stop vaping will be more difficult, because in his environment, smoking e-cigarettes gives him the status of “cool boy”. An idea has already formed about him and for a teenager to stop vaping will mean losing his status. This will be another obstacle, because a teenager will stand out from the environment if he quits smoking e-cigarettes. So that a person gets rid of addiction, it is not enough to have a conversation and talk about the consequences. The person needs to change his social circle and lifestyle. Therefore, after a conversation, a student can begin to lead a double life: at home and at school he follows a healthy lifestyle, and outside these places with friends he smokes e-cigarettes.

Each new generation will learn about various things and activities much earlier than the previous one. So the recommendation may be to conduct preventive conversations with students in educational institutions at preschool age with the invitation of authoritative persons. They can explain and demonstrate to students the consequences of vaping in pre-prepared videos and using other means of demonstration. Parents should talk as early as possible about the consequences of various negative habits, in addition to controlling what children spend pocket money on and set a positive example. From a very young age, it is necessary to help the child form the “right” values. In this case, the child will be friends with children who share his views, and smoking e-cigarettes will not be among them.

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В статье раскрывается проблема курения электронных сигарет подростками, отношение подростков к электронным сигаретам и причины продолжительного пользования девайсом. Автор анализирует причины начала использования электронных сигарет подростками и дает рекомендации для предотвращения формирования негативных привычек.

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## **REDES SOCIALES COMO FUENTE DE INFORMACIÓN VERAZ O FALSA**

Los medios de comunicación tienen una gran importancia en el mundo actual, ya que son una fuente primaria de información y entretenimiento para las personas. La televisión, la radio, los periódicos, las revistas y los sitios web proporcionan información actualizada y precisa sobre noticias, eventos, tendencias y opiniones en todo el mundo. Además, los medios tienen la capacidad de crear conciencia sobre diversos temas, como la educación, la salud, el medio ambiente y los derechos humanos. Ellos son una parte fundamental de la vida moderna y tienen un gran impacto en la sociedad.

Los últimos años está creciendo la popularidad de tal aplicación digital como Telegram. Esta aplicación de mensajería instantánea para dispositivos electrónicos fue lanzada en el año 2013 por los hermanos Nikolái y Pável Dúrov como una alternativa a la aplicación WhatsApp. Cuenta con más de 400 millones de usuarios activos alrededor del mundo y se destaca por su sistema de seguridad y velocidad al envío de mensajes. El arranque de Telegram fue bastante modesto en comparación con otras redes sociales, alcanzando 100 millones de usuarios activos en sus primeros 3 años de funcionamiento.

Esta aplicación ha tenido un gran impacto en los países de la CEI (Comunidad de Estados Independientes), que incluye a Armenia, Azerbaiyán, Belarús, Georgia, Kazajstán, Kirguistán, Moldavia, Rusia, Tayikistán, Turkmenistán, Ucrania y Uzbekistán. Según un informe de Statista, en 2021 la red social Telegram contaba con 180 millones de usuarios activos mensuales en todo el mundo. Aunque no existen estadísticas específicas para los países de la CEI (Comunidad de Estados Independientes), se sabe que la plataforma es muy popular en la región. Según un estudio de la empresa de investigación Mediascope, en enero de 2021, el 37% de los internautas bielorrusos utilizaban Telegram al menos una vez al mes. El mismo estudio reveló que la plataforma es más popular entre los jóvenes, y que el 56% de los usuarios de Telegram en Belarús tienen entre 18 y 34 años.

Telegram se destaca por su sistema de seguridad y velocidad al envío de mensajes. Esta aplicación ofrece algunas funcionalidades que otras aplicaciones de mensajería no soportan como lo son: la creación de bots (mensajes automáticos) y la implementación de chats secretos que protegen aún más la privacidad de los usuarios con un cifrado exclusivo entre el emisor y el receptor [2].

La influencia de los medios de comunicación en la formación de la opinión pública en la red social Telegram es un ejemplo interesante, ya que esta plataforma permite la creación de canales y grupos privados en los que se pueden compartir y discutir noticias, opiniones y puntos de vista. Los canales son una herramienta para difundir los mensajes públicos a grandes audiencias. Ofrecen una oportunidad única para llegar a las personas directamente, enviando una notificación a sus teléfonos con cada publicación. Los medios de comunicación pueden participar en discusiones y debates en los grupos y canales de Telegram para influir en la opinión pública. Los medios también pueden utilizar bots y algoritmos para difundir noticias y opiniones en Telegram.

Los medios de comunicación también pueden influir en cómo se presentan los temas al público. El enmarcado de los temas puede influir en la forma en que la sociedad percibe el problema y puede llevar a una comprensión errónea o distorsionada de la situación. Ellos también pueden crear estereotipos y representaciones falsas de grupos de personas. Al hacerlo, pueden influir en la forma en que la sociedad percibe y trata a estos grupos.

Tales términos como desinformación, posverdad o fake news se han posicionado en los últimos años dentro del contexto mediático y académico. Un fenómeno que afecta a profesionales y a audiencias y que puede incidir y modificar de forma directa un discurso social colectivo con una distorsión de la realidad que dificulte los procesos de toma de decisión a favor de un determinado interés político o económico [3].

Como cualquier plataforma en línea, Telegram puede ser una fuente de información falsa de los medios de comunicación, ya que cualquier persona puede crear un canal o grupo y compartir noticias y opiniones sin ningún tipo de control o verificación. Algunos canales y grupos pueden utilizar bots y algoritmos. Estos bots pueden ser programados para compartir noticias falsas y opiniones que sean beneficiosas para los intereses de los creadores de los canales [1].

Si la fuente es desconocida o poco confiable, es mejor no compartir la noticia. En la red de Telegram, como en cualquier otra plataforma en línea, es importante saber cómo distinguir la información veraz de la falsa. A continuación, se presentan algunos consejos que pueden ayudar a los usuarios a verificar la información que reciben en Telegram:

1. Comprobar la fecha: es importante comprobar la fecha de la noticia antes de compartirla.

2. Buscar la noticia en otros medios de comunicación: es recomendable buscar la noticia en otros medios de comunicación para verificar su veracidad. Si la noticia es verdadera, es probable que se encuentre en varios medios de comunicación.

3. Comprobar si la noticia es demasiado impactante o sensacionalista: si una noticia parece demasiado impactante o sensacionalista, es posible que sea falsa. Las noticias falsas a menudo se crean para llamar la atención y generar clics, por lo que pueden ser exageradas o completamente inventadas.

4. Verificar la información con expertos: si la noticia es sobre un tema específico, es recomendable verificar la información con expertos en el tema.

5. Tener en cuenta el contexto: es importante tener en cuenta el contexto de la noticia antes de compartirla. Si la noticia es sobre un tema polémico o político, es posible que se esté utilizando para influir en la opinión pública o manipular la percepción de la sociedad.

De todo lo anterior expuesto se deduce fácilmente que la responsabilidad de las redes sociales y las plataformas de comunicación es máxima en todas las circunstancias y, muy especialmente, cuando lo que está en juego son los derechos fundamentales de las personas, tales como la libertad de expresión, la libertad de información o, en el caso del COVID-19, la salud. La difusión de información falsa en cualquier plataforma, incluyendo la red social Telegram, puede tener consecuencias graves y perjudiciales para las personas y la sociedad en general. Sin embargo, es importante tener en cuenta que Telegram no verifica la velocidad de la información que se comparte en su plataforma. Como resultado, la propagación de noticias falsas y rumores en Telegram es común. Para combatir la difusión de información falsa, es importante que los usuarios sean críticos con la información que reciben y verifiquen la fuente y la precisión de la información antes de compartirla. En resumen, la difusión de información falsa en las redes sociales es un problema común que requiere la colaboración de los usuarios y los proveedores de servicios en línea para abordar adecuadamente el problema y proteger a la sociedad de sus consecuencias perjudiciales.

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В статье раскрывается проблема распространения ложной информации посредством социальных сетей, в частности использования сети Телеграмм в качестве средства массовой информации. Автор также анализирует возросшую популярность приложения и предлагает способы его безопасного использования.

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## **EL SIGNIFICADO Y LAS CARACTERÍSTICAS DE LOS MEDIOS DE COMUNICACIÓN EN COREA DEL NORTE**

Al mismo tiempo siendo un territorio de absoluto secreto, la RPDC, sin embargo, aparece constantemente en las noticias y se declara de varias maneras. ¿Cómo es posible que tal territorio, sujeto al régimen personal de una familia durante tres generaciones, cerrado detrás de una especie de "cortina de hierro", pueda sobrevivir en condiciones temporales sin ahogarse en el flujo de información mundial, y por qué este régimen no se derrumba, demostrando ser efectivo tanto en política interna como en política exterior?

El gobierno dirige una población que, según los últimos datos, se mide en 25.899.347 personas y sigue creciendo. Pero, ¿cómo llega la información a esta población? Después de todo, es común llamar a Corea del Norte una dictadura totalitaria y un estado que se adhiere a una política de aislacionismo, que es una fuente de muchas tensiones en el sudeste asiático. Y a través de la acumulación de poder nuclear, no solo en Asia.

Para mantenerse estable desde el interior, este estado controla de ciertas maneras la comunicación de información a la población, su filtrado y cantidad, que se analizará a continuación.

Este trabajo explorará las formas en que la información se difunde en Corea del Norte y su importancia, así como los métodos de control y filtrado por parte del estado. Al mismo tiempo, se analizará la importancia de esta política de información, su comunicación con el mundo exterior y las posibles tendencias futuras.

Aunque Kim Jong-un está ahora en el poder, la imparable digitalización hace mantener los canales de información cerrados mucho más difícil. Sin embargo, Corea del Norte tiene un sistema cerrado de medios de comunicación con un cierto número de medios oficiales que difunden propaganda de alto nivel en todas partes, como el periódico Rodong Sinmun o la agencia de noticias KCNA. Incluso hay estaciones de Radio y televisión, incluida una versión en español que forma parte del aparato estatal. Hay propaganda externa del régimen en todas partes. El Departamento de propaganda y agitación, que supervisa el trabajo ideológico en Corea del Norte, "alimenta" a los ciudadanos todos sus ideas.

Los medios mencionados anteriormente tenían un monopolio real sobre la información hace unos años. Hoy en día, hay muchas fuentes bastante

contradictorias que indican que los norcoreanos tienen acceso a información alternativa que está fuera del control de su gobierno, aunque esto no es de ninguna manera comparable a obtener información en otros países. Y eso no sería posible sin la introducción de la tecnología digital. Al mismo tiempo, Pyongyang está desarrollando tecnologías digitales locales, implementando viejas tácticas de propaganda allí y cooperando con los regímenes pseudodemocráticos de China, Egipto y Tailandia para implementar mejor los mecanismos de control sobre estos nuevos tipos de medios. Por lo general, hay tres temas principales en Corea del Norte para obtener información, a saber, la "intranet" interna de Kwangmen, que técnicamente no lo es; en segundo lugar, las comunicaciones móviles legales, koryolink, y las ilegales; así como algunos dispositivos USB de contrabando procedentes de países cercanos como China y su vecino Corea del Sur.

El centro de informática de Corea, fundado en octubre de 1990, no es sólo el principal centro de investigación en tecnología de la información, sino también la institución responsable del control de la intranet. Ella presentó su propio sistema operativo basado en linux y un navegador. En base a esto, en 2013 se lanzó una tableta llamada Samjiyon que ejecuta el sistema operativo Android, lo que permite navegar por la web en la intranet. Entre las aplicaciones preinstaladas en la tableta se encuentran las obras completas de Kim Jong Il y Kim Il Sung.

En total, el desarrollo y la promoción de la tecnología son parte integral de las actividades de propaganda de Corea del Norte. El desarrollo de sus propias tecnologías indica un cierto nivel de sofisticación del aparato de propaganda de Corea del Norte. Al mismo tiempo, confirman la voluntad del régimen de mantener un control inflexible sobre la información. Hasta ahora, Corea del Norte ha logrado mantenerse al margen de la revolución de Internet, pero al mismo tiempo está presenciando cómo su capacidad para controlar los flujos de información y entretenimiento que vienen del extranjero se está debilitando más rápido de lo que parece.

Para la mayoría de la población los teléfonos móviles se han vuelto comunes. Les permiten acceder a la información necesaria como el pronóstico del tiempo, los horarios de los trenes y más, y también abren oportunidades para nuevas formas de socialización que hasta hace unos años no se podían imaginar en la rígida estructura social de Corea del Norte. Aunque las nuevas tecnologías no siempre están relacionadas con el uso político, varias organizaciones internacionales señalan que se ha intensificado la persecución de quienes utilizan las tecnologías digitales para fines ajenos al régimen. Se supone que al comunicarse de manera no autorizada con Corea del Sur, participa en la economía sumergida, obtiene acceso a información del extranjero y consume entretenimiento de otros países. Para poner fin a esta práctica, el gobierno ha

establecido unidades especiales en los servicios de inteligencia, las más conocidas son la "Unidad 27" y el "grupo 109", para rastrear mensajes ilegítimos. Además, a pesar de las sanciones contra Corea del Norte, el régimen ha adquirido y desarrollado tecnología capaz de bloquear parte de las comunicaciones móviles en la frontera. También tiene la capacidad de interceptar y monitorear llamadas y mensajes de texto. Los que son perseguidos por el régimen por violar las reglas se enfrentan a penas de prisión, trabajos forzados, confinamiento en campos de concentración y, en casos extremos, la pena de muerte. La incógnita del desarrollo futuro que surge de la proliferación de las nuevas tecnologías digitales en un país que ha estado cerrado completamente a la información externa durante décadas es hasta qué punto el régimen puede mantener el control sobre el flujo de información mundial y local y qué consecuencias a largo plazo tendrá el acceso de la población a Internet.

En general, Corea del Norte se caracteriza por un alto grado de censura debido a la falta de libertad de conciencia y prensa, como en algunos otros países. Debido a esto, a menudo ocupa el último lugar en el índice mundial de libertad de Prensa (Worldwide Press Freedom Index), que es compilado y publicado anualmente por la organización no gubernamental francesa "Reporteros sin fronteras".

Corea del Norte no es un ejemplo en términos de libertades de Internet. De hecho, no hay ninguno en absoluto. Pero el país está cada año más conectado a Internet. A pesar de que Corea del Norte mantiene a su pueblo aislado e ignorante del mundo exterior de manera deliberada y cuidadosa, sabe que debe entrar en la era de la información para sobrevivir en la economía global. Por lo tanto, la creación de una Intranet autónoma y estrictamente controlada es la respuesta autoritaria de Corea del Norte a la web libre. Y ella no puede la reemplazar, porque es un mini-Internet, con una combinación de empresas conjuntas y laboratorios vagamente afiliados al gobierno que mantienen colectivamente la infraestructura central que existe en el mundo.

Debido a la falta de experiencia de la población en general con Internet (y otros medios que distribuyen informaciones) y la percepción de que es un territorio peligroso y prohibido no hay un clamor popular en Corea del Norte por el cambio.

Solo si en el futuro se pasan cambios profundos en el sistema político de este país se puede esperar efectos positivos y tal vez incluso cambios que afecten a la información y su distribución.

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2. North Korea to offer mobile internet access – [Electronic resource] – Mode of access: <https://www.bbc.com/news/technology-21546877>– Date of access: 06.03.2023

В статье предлагается общий обзор сферы медиа в Северной Корее. Рассматриваются основные ветви передачи информации в стране, причины и методы её сложного и неполноценного пути к населению, а также взаимодействие этой страны со внешним миром в информационной сфере. Анализируется влияние цензуры на положение внутри страны и возможные тенденции в будущем.

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### **PROBLEMS OF EDUCATION IN THE “THIRD WORLD COUNTRIES”**

The goal of education, as stated by Marian Wright Edelman, is to improve the lives of others and leave your community and world a better place than you have found it. But not all children in the world can get education.

The emphasis on education, when it comes to priorities, is different in First World and Third World countries. You'll never see people fighting for their lives to make sure their children are being educated in a third world country. Their preference is for survival and making money, which are both a short-term lifestyle and a wrong way to grow. Education is much more important when a society is going through its difficult phase and development, so its importance becomes even more important in third world societies. In the Third World, education is not only a means of achieving a higher standard of living, but also a tool for transforming the face of the nation.

Third world society is always trying to overcome one or another problem associated with unrest in society or an act of intolerance. When there is enough education around, it automatically brings patience and tolerance to the people who live in the community. They begin to understand the concept of coexistence together and respect the needs of everyone who lives with them. That is why education is so important when a society is experiencing intolerance. Patience is another important attribute that can also teach people to become compassionate, and this can only come through education.

When people are educated, they are more exposed to many different things. They can get into projects and investments with a much more streamlined and logical approach and make that investment a success. This means that education can help a Third World country develop more opportunities for its growth and investment with the help of its people. This is another reason why people should first focus on the idea of getting education rather than making short-term money.

Some of the reasons why more than 100 million children worldwide are out of school are the following.

1. The biggest threat to education is the lack of funding. Many teachers have to teach in two or three shifts a day – in classes with very large numbers of students and for little money. And in some regions of Africa, so many teachers have contracted AIDS that schools have been forced to remain closed.

2. Children often have to walk very long distances to school. Many of them are not allowed to attend schools located at some distance because parents are concerned about their safety.

3. Many people in developing countries cannot afford to pay for tuition or teaching materials, school uniforms and transportation to school. Many families rely on the income their children contribute.

4. In many Third World countries, tradition prevents parents from enrolling girls in school. Many girls won't go out for fear or humiliation. This fear can often lead to violence.

5. Besides, many children have to work and help their parents.

In the circumstances described, schools in Third World countries have become a trauma for many children and adolescents, as well as for their parents and teachers. At the same time, the school remains a dream related to improving living conditions for the millions of children who are excluded, as well as for students who, despite the hard teachings they endure in school, still remain optimistic and think that the experience that school provides is worth the effort.

All children around the world have the right to education. Education gives people the skills they need to help them lift themselves out of poverty and achieve prosperity. Education in Third World countries can and does, but it is often not as good as in industrialized countries.

That is why developed countries invest so much in their academic institutions. But this is not the case for institutions in Third World countries, where many factors influence a student's choice.

A unique characteristic of Third World countries is that students are well aware of the importance of higher education even without any front-end programme or formal guidance. After completing secondary education, most of these students go to courses in which they want to make a career, unlike students from developed countries, among which vocational training is part of the norm. In Third World countries, education is seen as a means of achieving stability and



creating a class of society that will play an important role in mitigating and social evils facing the country. Students in these countries understand the importance of good education. They know that going to a good college can be a tool to transform their families and economic status.

Subjects such as sociology, political science, anthropology and others are still seen as unsatisfactory in Third World countries. The reason for this is that they do not produce graduates who can succeed in the job market. There are too many liberal arts graduates who, despite having the necessary professional qualifications, cannot achieve profitable achievements. The opportunity to get a job after graduating from higher education is still one of the leading determinants. Subjects such as engineering, medicine, computer science, etc. are the elite in academic circles here. They are more practical in their approach, unlike theoretical humanitarian subjects. Consequently, they produce qualified graduates who can either work for TNCs or be self-employed with a good compensation package.

In countries where health care is a luxury, people think twice before investing in their children's higher education. Tuition has become expensive, with academic institutions asking for more money from students each year in the form of tuition fees, hostel fees, transportation, clutter, books, etc. As a result, dropout rates are on the rise. More and more students are being forced to give up their education in the face of rising cost of living. Those who continue to pursue their interests often have to endure financial stress and the resulting mental anguish from the need to make efforts beyond their means.

Most universities in these Third World countries portray themselves as standard-bearers of change. They are trying to emulate the formula for the success of Western universities. As a result, they end up promoting cultures, norms, and values that are counterproductive to the development of their nation. The Western model of education, while successful, cannot be applied in Third World countries riddled with socio-economic problems. The faculties of these universities are endowed with additional responsibilities as advisers to government agencies or to the government itself. Others may be tempted to work outside of their role as teachers to pursue financial incentives. The curriculum taught in colleges comes at the expense of the remainder of the effort left after teachers finish their aforementioned duties.

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В статье рассматриваются проблемы, препятствующие получению образования, а также проблемы системы образования в странах третьего мира, такие как недостаточное финансирование, ограниченное количество учебных заведений и др. Авторы раскрывают пути их решения.

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## **FONDEMENTS DE L'ORGANISATION DE LA FONCTION PUBLIQUE EN FRANCE**

La fonction publique en France, comme dans tout autre pays, a ses propres caractéristiques. Le but de cet article est de considérer la fonction publique française, de définir les notions de base de fonctionnaires et d'analyser la législation régissant l'organisation de la fonction publique en France.

En ce qui concerne la législation régissant la fonction publique en France, les documents suivants doivent être mentionnés :

1. La Constitution de la République Française du 4 octobre 1958.
2. La Déclaration des droits de l'homme et du citoyen de 1789.
3. Le Code de la fonction Publique de 1999.
4. Le Décret du conseil de l'État et le Statut Général de 1983.

La particularité de la législation française qui régit la fonction publique est que chaque document est unique et ils ne se dupliquent pas.

Les lois spéciales occupent une place prépondérante dans la hiérarchie de ces règlements. Ils contiennent les droits, les obligations, la compétence qui découle des droits présentés et la responsabilité qui découle de la compétence. Les statuts sont de différents types: spéciaux, généraux, généraux et spéciaux.

Le statut général s'applique à toutes les personnes exerçant une activité professionnelle. Il contient les lois sur les droits et obligations des fonctionnaires, sur la fonction publique médicale et sur la situation de la fonction publique locale.

L'objectif principal des statuts spéciaux est de réglementer l'application du statut général aux fonctionnaires. Les statuts spéciaux contiennent les droits et obligations des fonctionnaires, les conditions et les modalités d'admission au service et l'attribution des récompenses aux fonctionnaires. Le statut est adopté par décret du Conseil d'État après consultation et approbation du Conseil Supérieur de la fonction publique centrale [1].

La fonction publique en France est définie comme l'ensemble des personnes qui sont au service de l'État, des collectivités locales et de leurs institutions administratives.

Il existe deux concepts dans l'administration publique: un fonctionnaire et un employé. La Loi française du 13 juillet 1983 définit que les personnes ayant des droits et des devoirs dans l'administration centrale de l'État et les départements régionaux, ainsi que les communes et les institutions, sont appelées personnes ayant le statut du fonctionnaire.

La législation française donne la définition suivante: un fonctionnaire est une personne nommée à une fonction publique qui est incluse dans l'État administratif et qui a reçu le rang distinctif de la hiérarchie administrative. Un employé est une personne qui participe à la prestation d'un service administratif pour le bien de l'organisme public dans lequel il occupe un certain poste. Il s'ensuit que tous les fonctionnaires en France sont des personnes s'occupant des fonctions publiques.

Il est à noter que certains fonctionnaires sont associés à la fonction publique pour toute leur vie professionnelle et les autres fonctionnaires sont considérés comme des employés temporaires. On distingue des catégories suivantes de fonctionnaires:

1. Temporaires, les personnes qui sont recrutées pour un certain travail et lorsqu'il est effectué, l'autorité publique dit au revoir à un tel employé.

2. Employés engagés pour une période de moyenne durée et qui n'ont le droit d'être réélu qu'une seule fois (postes techniques).

3. Assistants, les personnes qui n'ont pas de contrat et qui effectuent un travail temporaire.

4. Fonctionnaires, les personnes qui ont récemment obtenu leur diplôme d'un établissement d'enseignement et qui entrent dans la fonction publique, mais avec une période probatoire allant de 6 mois à deux ans. À l'issue du stage, les personnes passent des tests et des examens, et après avoir réussi les tests, peuvent être inscrites dans le personnel. En outre, ces personnes peuvent être inscrites dans la catégorie des employés de «deuxième classe», elles peuvent travailler dans un organisme public, mais ne bénéficieront pas des garanties et des privilèges prévus par la loi pour le fonctionnaire [2].

Comme défini précédemment, un fonctionnaire est une personne nommée à une fonction publique, qui est incluse dans le personnel administratif et qui a reçu un rang distinctif de la hiérarchie administrative.

La notion d'État est parfois remplacée par un corpus. Le corps réunit des fonctionnaires qui effectuent le même travail. Un fonctionnaire peut faire partie du corpus pendant toute sa vie professionnelle.

Au sein de ce corpus, les fonctionnaires sont divisés en différentes catégories: A, B, C, D. La catégorie A comprend les fonctionnaires qui exercent des fonctions d'élaboration de concepts de gestion de l'État et ils doivent avoir un diplôme d'études supérieures. Les fonctionnaires de la catégorie B, effectuent des tâches sur la mise en œuvre des concepts de gestion, pour eux l'enseignement secondaire est obligatoire. Les fonctionnaires des catégories C et D exercent des fonctions purement techniques et d'appui [2].

Lorsqu'un fonctionnaire est nommé à un poste, il reçoit un certain rang. Un rang est un titre qui donne au titulaire le droit d'occuper certains postes. Autrement dit, au fur et à mesure qu'un fonctionnaire progresse dans le service, son rang augmente.

Chaque corpus comprend des rangs qui sont divisés en échelons. Les rangs et les postes dépendent les uns des autres, mais il se peut qu'il n'y ait pas une correspondance complète entre eux. La promotion d'un fonctionnaire n'implique pas nécessairement une élévation de son rang. L'obtention du rang est déterminée par des examens concurrentiels et de la formation avancée. La promotion dépend de l'ancienneté du fonctionnaire et de la certification. La certification est une des conditions de la progression au sein du corpus administratif.

Les concours d'admission à la catégorie A visent à identifier les connaissances générales et spécialisées du candidat. Les candidats de la classe B doivent être en mesure de réglementer et d'évaluer, conformément aux lois et règlements, les activités des personnes sous leur administration. Pour faire cela, ils ont besoin d'une grande flexibilité, de vastes connaissances générales et professionnelles. Les examens et les tests pour les candidats de la classe C doivent révéler leurs connaissances spécialisées plutôt que leur capacité à être proactifs.

Parmi les organes chargés de la gestion de la fonction publique en France, on distingue: la Direction du budget du ministère des Finances, la Direction Générale de l'administration publique et de la fonction publique et la Gestion du personnel.

La Direction du budget du ministère des Finances est chargée de la dotation en personnel et de la rémunération des fonctionnaires. La Direction générale de l'administration publique et de la fonction publique s'occupe de la recherche et

de la coordination des fonctionnaires. La Gestion du personnel est chargée de la gestion du personnel des administrations centrales et locales.

En conclusion, il faut souligner qu'en France tous les citoyens sont égaux en matière d'admission dans les organes administratifs de l'État, sans distinction de race, de conviction, de sexe, etc.

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Статья посвящена вопросам организации и функционирования государственных служб во Франции. Автор приводит список законодательных документов, лежащих в основе организации административных институтов. Рассматривает статус государственного служащего во Франции и требования, предъявляемые к кандидатам на пост государственного служащего. Автор подчеркивает, что во Франции все граждане обладают равным правом занимать государственные посты.

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### **REVENUE MANAGEMENT COMO PARTE DEL MARKETING HOTELERO**

El objetivo del trabajo es identificar las características de revenue management como una herramienta para determinar la estrategia de ventas del hotel.

Hasta la fecha, condiciones tales como el estancamiento de la economía, la competencia y la lucha por el cliente, causan la presencia de una tarea prioritaria en los medios modernos de colocación: una gestión efectiva.

Revenue management es una herramienta de definición de estrategia que permite, además de optimizar los gastos del hotel, aumentar las ganancias varias veces. La gestión del ruibarbo en este momento es un conjunto de actividades

que se llevan a cabo diariamente para administrar el inventario y su venta efectiva al costo más favorable. Las principales herramientas que utiliza la gestión del ruibarbo son: Curtis-C, CH W eXpress, Opera, Revenue Diary. Como resultado del uso de estos programas, se pueden obtener datos que caracterizan diferentes indicadores: ingresos por habitación (RevPAR), costo diario promedio de habitación (ADR), descargas (OOC), etc. Sobre la base de ellos, se crean informes que reflejan el estado actual del mercado, la posición de los competidores y le permiten formar o ajustar sus propias estrategias de ventas.

Considere los informes individuales:

#### *Estadísticas de reservas*

Este informe contiene información sobre el número de habitaciones reservadas para un período determinado y su costo. El análisis de estos datos es crucial en el primer período de trabajo. El informe refleja: el costo promedio, el número de habitaciones reservadas, el número de habitaciones vacantes, la Duración de las estancias, etc.

#### *Calendario de demanda*

Se trata de un informe que permite, en primer lugar, dar forma a las decisiones estratégicas y elaborar el presupuesto del hotel. El calendario refleja el estado actual de la demanda y lo predice en el futuro, muestra la diferencia en los períodos de tiempo (por ejemplo, puede ver la información sobre la reserva de grupo para esta fecha hace un año). Por supuesto, los datos obtenidos pueden parecer secundarios en su importancia, pero a su vez pueden responder preguntas como: "¿Cuál es la proporción de visitantes de un país en particular?", "¿en qué días de la semana es mayor la actividad de los clientes?"

Otra ventaja de revenue management es el análisis continuo del estado del mercado, que se expresa en los índices siguientes: penetración en el mercado, costo promedio, rendimiento de las habitaciones del hotel en comparación con los competidores. Como resultado, obtenemos datos sobre los cuales podemos predecir la demanda y crear una estrategia para una mejor gestión de la reserva.

El resultado de la investigación: podemos decir que revenue management permite resolver eficazmente problemas tales como el desarrollo de las tarifas óptimas de las habitaciones, la optimización de la carga del hotel, el ajuste oportuno del costo de las habitaciones, que caracteriza a la gestión del ruibarbo como una tecnología que se utiliza para aumentar los beneficios.

Por lo tanto, parece obvio que en el duro entorno comercial actual en el mercado de servicios global actual, solo la implementación integrada de la tecnología de gestión de ruibarbo puede proporcionar a una empresa turística ventajas significativas sobre los competidores y la posibilidad de un mayor desarrollo.

A pesar de que el mercado turístico en la República de Belarús, a diferencia del occidental, donde la industria hotelera se encuentra en una etapa de desarrollo "madura", aún es joven, tiene un enorme potencial de desarrollo. El volumen de turismo de negocios, recreativo, rural, ecológico en el país está en constante crecimiento. Invertir en el desarrollo del sistema de gestión del rubiarbo sin duda dará a las empresas turísticas belarusas la oportunidad no solo de mantener su competitividad en el mercado belaruso, sino también de convertirse en un futuro próximo en "blue chips" (empresas con la mayor capitalización de mercado) del mercado turístico del mundo.

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В статье рассматриваются особенности ревеню-менеджмента как инструмента определения стратегии, позволяющей помимо оптимизации расходов гостиницы, увеличить прибыль в несколько раз. Показано, что ревеню-менеджмент в настоящий момент – это комплекс мероприятий, проводимый с целью управления инвентаризацией и ее эффективной продажей по максимально выгодной стоимости.

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### EPIGENETICS AS A SCIENCE

Epigenetics (Greek. ἐπι- – prefix denoting staying on something or being placed on something) is a branch of genetics. Epigenetics studies inherited changes in gene activity during cell growth and division (Epigenetic inheritance) – changes in protein synthesis caused by mechanisms that do not change the sequence of nucleotides in DNA. Epigenetic changes persist in a number of mitotic divisions of somatic cells, and can also be transmitted to the next generations. Regulators of protein synthesis (activity of genetic sequences) – methylation and demethylation of DNA, acetylation and deacetylation of histones, phosphorylation and dephosphorylation of transcription factors and other intracellular mechanisms.

Is it possible to prolong life with the help of epigenetics? The management of epigenetic processes opens up huge prospects for us. With the help of directed gene expression, we could gain physical and mental superpowers, infinitely regenerate organs and significantly prolong our lives. Unfortunately, so far this is only a theory. But already today, scientists are exploring ways to stop the development of cancer cells by modifying gene expression. And we ourselves can change our body for the better by changing the regime to a healthier one and pass these changes on by inheritance. For example, quitting smoking can trigger increased DNA methylation. Taking folic acid during pregnancy can reduce the risks of many congenital diseases and abnormalities in the child. Regular consumption of soy, turmeric and green tea, as well as a varied diet also stimulate positive epigenetic changes. A mild climate, regular exercise and fresh air have the same effect. More recently, a study was published on a new system of changing gene activity, called CRISPR. Scientists already have a CRISPR/Cas9 DNA editing tool – these are “molecular scissors” that can search for specific genes in the genome. It is enough to tell them which 20 “letters” (nucleotides) in DNA need to be recognized and where to cut them, and they will do it. Now the system has been modified so that it does not cut the DNA, but glues the methyl groups in the right place, turning off one or another gene. This can help in the fight against aging, cancer and many others.

Let’s consider some concepts of epigenetics. Epigene is a unit of dynamic memory having at least two modes of operation of the constituent genes and preserving them in a number of generations. Epigenetic variability is changes in gene activity at the cellular level. Epigenotype is part of the functional active genome in this type of differentiated cells. Epigenetic trajectories are potentially possible ways to implement the genotype. Epigenetic regulation – hereditary and non-hereditary changes in the expression of a particular gene without any changes in its nucleotide sequence. Changes occurring in a living organism at all stages from conception and intrauterine development to old age and caused by the influence of lifestyle elements and environmental factors are mediated by the regulation of gene activity by epigenetic mechanisms, including DNA methylation, histone modification and the “silencing” of genes, promoters or enhancers by small RNAs. A multilevel system of epigenetic mechanisms regulates (changes) the expression of certain genes involved in the formation of positive or negative health responses of the body, depending on the specific characteristics of external factors and mechanisms of their impact.

Today, some aspects of epigenetic regulation have been revealed. For example, it has been found that with aging, gene expression increases due to the inversion of DNA methylation towards hypomethylation, including with the involvement of histone modification, which causes the formation of the burden



of non-communicable chronic diseases in old age, many of which can be epigenetically determined at an early age by the lifestyle of the mother and the state of her health at conception and pregnancy, or even inherited. Dysregulation of small RNAs causes changes in the structures of genes controlling inflammation and metabolic disorders, which also causes the formation of non-communicable diseases. However, the epigenetic mechanisms of the effects of many factors have not been fully elucidated and are adequately integrated into the system of epigenetic regulation of the human body or have not yet been investigated. Currently, it is becoming obvious that, despite the need to clarify many epigenetic mechanisms of external and behavioral factors, epigenetics provides preventive medicine and hygiene not only with information about possible epigenetic points of intervention of healthy lifestyle in the broad sense of the term, but also with a molecular evidence base of preventive measures.

The possibility of effective health management through epigenetic mechanisms at any period of a person's life is reflected in the concept of health development throughout the life cycle (Life Cycle Health Development – LCHD), developed under the leadership of Neal Halfon, according to which health is a dynamic process that begins before conception and continues throughout life, and should develop (strengthen) in all periods of the human life cycle, since negative changes in the state of health are reversible, they can be corrected even in old age. Although the main processes of human development are genetically programmed, gene expression is modified by the previous and current environment and behaviour. In 2014 N. Halfon et al. raised the question of the need for public health reform based on the LCHD theory and make proposals for the introduction of innovations that could accelerate the translation of the principles of health development into the practice of lifelong health management, which correspond to precision (personalized) medicine. The Handbook of Life Course Health Development summarizes and analyzes the growing knowledge base about the opportunities and prospects for the development of health throughout life. The environment, lifestyle can influence the inclusion of certain genes of humans, animals and even plants. Epigenetics (“over-genetics”) studies changes in the activity of genes that do not affect the structure of DNA. Everything living on Earth contains DNA or RNA. It is DNA that controls the process of life, from plants to humans, and it is the state of gene expression, that is, gene activity, that determines the development of pathology, accelerated aging, and so on.

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Статья посвящена эпигенетике – разделу генетики, изучающему наследуемые изменения активности генов во время роста и деления клеток – изменения синтеза белков, вызванных механизмами, не оказывающими влияния на последовательность нуклеотидов в ДНК. Автор анализирует современное состояние исследований и перспективы развития науки.

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### **RISKS AND OPPORTUNITIES OF THE MOBILE INTERNET**

The Internet has become very popular in the 21st century. This is the greatest discovery that transformed people's lives. Then came the mobile internet. The mobile internet is accessing the Internet from a smartphone or tablet with a Wi-Fi or cellular connection. This article aims to reveal the benefits as well as to draw attention to risks associated with the widespread use of the mobile internet.

The most important feature of the mobile internet is the ability to freely access the network anywhere. It does not matter whether you live in the countryside or in the city, the mobile internet is pervasive everywhere. Simple and flexible configuration of the Internet connection means there is no need to carry cables everywhere and no need to worry about the communication distance of the Wi-Fi module. Thus, in many parts of the world, the phone has become the only Internet access device.

Mobile Internet can be used for many different purposes such as gathering information for school projects, communicating with people around the world, watching movies, listening to music, playing games, and a variety of other activities. The mobile internet has made people's lives more convenient: they can shop, bank, and pay bills online from the comfort of their own homes. We no longer need to visit physical stores or banks. Thus, the mobile internet is useful for people from many educational, vocational and social aspects.

However, despite all the opportunities that the mobile internet performs, there are also many risks to face. Security threats to mobile devices are on the

rise: by 2017, Kaspersky's in-lab detection technology processed 360,000 malicious files per day. 78% of those files were malware programs targeting mobile devices [1]. Mobile apps are often the source of unintentional data breaches. For example, applications with "risky software" pose a real problem for mobile users who grant broad permissions, but do not always check their security. Such apps are usually free in official app stores and function as advertised, but transmit personal data to remote servers, where it can be mined by cybercriminals [1].

Another problem is network spoofing. Hackers set up fake access points (connections that look like Wi-Fi networks but are actually traps) in high-traffic area such as coffee shops, libraries, and airports. Cybercriminals give the access point a common name, such as "Free Airport Wi-Fi" or "Coffeehouse" to encourage users to connect [2].

Spyware installed by spouses, coworkers, and employers to track one's activities, as well as cryptanalysis that occurs when app developers use weak encryption algorithms, are other risks of using the mobile internet. In addition, the number of smart devices is growing rapidly and cannot always be monitored by users or antivirus solutions.

The mobile internet can be addictive. Social media and other apps are designed to keep us engaged for as long as possible. This can lead to addiction and impact both our mental and physical health. Using mobile devices for extended periods can lead to eye strain, neck pain, and other health issues [3].

However, there are still things everyone can do to protect their devices from the risks. Threats to the security of mobile devices are both increasing in number and evolving. To protect devices and data, users must both understand common threat vectors and prepare for the next generation of malicious activity. Furthermore, your personal network and devices need to be protected during use when you are not at home.

To summarize, the mobile internet has brought numerous opportunities to our lives, but it also poses certain risks. It is important to be aware of these risks and take measures to mitigate them. This includes using strong passwords, avoiding public Wi-Fi, and limiting our screen time. By doing so, we can make the most of the opportunities provided by the mobile internet while keeping ourselves safe and secure.

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В статье описаны риски и преимущества мобильного интернета. Использование надежных паролей, отказ от общедоступного Wi-Fi и ограничение экранного времени поможет максимально использовать возможности мобильного интернета, гарантируя при этом безопасность.

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### **PROBLEMS OF THE COMTEMPORARY MODERN FAMILY**

A modern family is a small group of people based on marriage, whose members are connected by everyday life, mutual assistance and moral responsibility [2]. However, this definition is not enough to fully reveal the deep meaning of this concept. In fact, mutual understanding, love to each other, common goals and the desire to develop relationships form the basis of family life. In addition, steady income and financial independence are also a vital resource for maintaining a stable relationship within the “nest”. Practically, the absence of one of the above criteria leads to the loss of integrity, internal conflicts and the destruction of the family.

Undoubtedly, each family undergo a period of conflicts that negatively affects the relationship between its members. A modern young family occasionally seeks qualified help, deciding that it has the ability to figure things out on its own. However, in order to understand this issue, it is necessary to study the factors that aggravate relationships in modern families:

1. *The inability to live in harmony with one another.* This problem can take its roots in childhood, when a child was not given the opportunity to express his or her personal opinion. So now being an adult they try to prove their point of view without listening to their partner.

2. *Often negative family experiences of their parents.* Unfortunately, parental relationships don't always become a good healthy example for children. It turns out that "former" children transfer their parents' conflicts to their own families.

3. *Material assets are put above all.* In an endless race to earn more money, parents do not have enough time and resources to deal with children and take good care of them.

4. *Inability to raise children.* It is important to note that ineptitude is often associated with parents' unwillingness to learn to understand their children. Most often, parents raise their children according to a model once used on themselves in childhood.

5. *No separate living space.* Each family is its own state with its own rules and charter. In this regard, the family is supposed to live separately from relatives, friends, acquaintances. The resulting quarrels and conflicts among residents can also bring to discord within the family [1].

It is important to have a clear understanding of family values that can obviously help to create a strong and friendly family. Considering moral and ethical principals plays an important role in building trust and increasing confidence in each family member.

1. *A feeling of being important.* Home is a place where people come after work, university to relax, spend time together, talk about problems they have. It is necessary to support each other, share your thoughts and feelings.

2. *Being flexible in making decisions.* Every family has its own order, rules and traditions. But sticking to all the "laws", adopted in the family, can sometimes lead to the deterioration of the relations and can risk creating the grievances.

3. *Respecting each other.* Respect as a true family value spreads from the home to other institutions like kindergartens, schools, work places, that is out into society in general.

4. *Being clear with each other.* The thing is that a family member should say what they really think to avoid misunderstanding and disrespect. Honesty makes a deep bond among family members.

5. *Being able to forgive and be forgiven.* It is natural that everybody makes mistakes. The conventional wisdom is to make a choice in favour of understanding, forgiving and moving on.

6. *Being responsible.* When a family member is a role model, it is easy to understand what is really important to do to be the same. Responsibility is a skill which can be taught and followed.

7. *Communication.* It is a separate art. The transmission of information about feelings, opinions, demands, fears and hopes is an important element in the formation of family relations.

8. *Traditions.* They make a family unique. They bring families together.

Thus, the creation of a family, as a cell of society, should be a responsible and deliberate step. The tendency to idealize and infantile attitudes to family life can lead to hasty decisions to tie the knots. It, in return, will entail an imminent discord and conflicts. The solution may be a desire to study this issue in the best possible way, changing their views regarding stereotypes adopted in society.

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В статье поднимается вопрос о проблемах, с которыми может сталкиваться современная молодая семья. Описываются факторы и причины возникновения недопонимания и конфликтов. Делается вывод о том, что создание семьи – это ответственный шаг, к которому нужно подходить серьезно.

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#### **PUBLIC HEALTH AND URBAN PLANNING**

The relationship between health and urban planning presents a major issue nowadays. However, for the purposes of this article, we will consider only a fraction of it. The consequences of giving up physical activity as part of a daily routine predetermine deterioration of the quality of life, a major increase in wellness awareness and a decrease in life expectancy.

Sport as a hobby takes time, determination, willpower, organized classes and equipment cost money – therefore, not all groups of the population can afford it.

The solution to these problems can be encouraging people to move on foot or by bike to the maximum extent possible during the daily routine. Of course, this requires high-quality pedestrian and bicycle paths, as well as efficient promotional campaigns about the advantages and benefits of this commuting type.

Many large cities pay a lot of attention to improving their commuting infrastructure. They develop a network of pedestrian routes with wide sidewalks, good pavement, plantings that give shade, barrier-free environment, and convenient and safe intersections. The purpose of such changes is to encourage walking at any time of day. The streets also present picturesque views thanks to the beautiful sights and good lighting.

This position seems clear, but it requires innovative solutions and new approaches to the planning and design of the city. This is largely because urban planners have been designing cities and streets for cars, not for people, for decades and have become accustomed to it [3]. At the same time, the automotive industry has become one of the major industrial sectors of the global economy since the late 19th century, and it has strong economic ties with other industries, which also magnifies its economic importance. A private vehicle-based approach to providing transportation to cities has a range of insurmountable shortcomings, as it entails numerous adverse economic, environmental and social consequences. These include excessive energy consumption, property damage, damage to physical and mental health, urban sprawl, long commuting distances, traffic congestion, casualties from road traffic accidents, environmental pollution as well as climate change. In short, it has a negative impact on safety, livability, resilience and sustainability [1].

To my mind, projects of new cities should begin with designing the shortest and most attractive paths for pedestrians and cyclists, then constructing a public transportation network and only after that taking care of cars. Such changes are supposed to make the world a much more comfortable place to live, work, and relax, people-friendly areas being given preference as compared to those built for cars. Sustainable urban development must strike a balance between environmental protection, economic development and social wellbeing. That means reducing the ecological footprint (input of natural resources and output of waste) while at the same time improving urban livability (social amenities, health and well-being of individuals and communities) [1].

If cities and their streets were oriented towards pedestrians and cyclists, many health problems, such as obesity, would not be so acute, and the standard of living in city would increase. A Danish architect and urban design consultant Jan Gehl states that “First, we form cities — then they form us” [2].

If we consider large modern cities, then we can take Amsterdam as an example, which defeated the problem of childhood obesity. Here children ride their own bicycles to school.

In Madrid, it is easy to walk even 20,000 steps, because you are under the impression that you are taking a tour around a beautiful city. It is pleasant and interesting to walk on the streets of this city.

In conclusion, I would like to note the huge number of opportunities that open up if you shift the focus of attention to pedestrians, cyclists and city life in general.

Only this change in city policy will improve the quality of the city and solve many problems. A huge plus is that it can be done quickly and cheaply. On the other hand, expensive multi-level interchanges will only create new problems for the city and worsen the standard of living.

What is extremely important is a sincere desire to make the movement of pedestrians on foot and by bicycle part of everyday life in the city. Getting back to Jan Gehl, “If urban planners were asked to design a city that complicates people’s lives and keeps them at home, they would hardly have been able to come up with something more effective than twentieth-century cities” [2].

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В статье рассматриваются основные принципы создания здоровьесберегающей городской среды. Автор анализирует потенциал городской инфраструктуры как фактора, стимулирующего ведение здорового образа жизни, в частности велосипедные и пешие прогулки, опираясь на зарубежные научные исследования и приводя примеры из европейской практики.

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#### **SPORT AND DOPING**

Doping scandals in professional sports are discussed almost more often than the outstanding victories of athletes. One of the main problems in sports is the use of illegal drugs and the fight against them.



In competitive sport doping is the use of illegal performance-enhancing drugs by athletes as a means of cheating. The term “doping” is widely used by organisations that regulate sports competitions. The use of doping to enhance performance is considered unethical and banned by most international sports organizations including the International Olympic Committee. Furthermore, athletes who take overt steps to avoid detection are compounding ethical violations through outright lying and deception.

The origins of doping in sports go back to the very beginning of sport.

There were no restrictions on doping in the ancient Greek Olympics. Athletes used absolutely everything that allegedly helped to achieve better results: light wine, various hallucinogens, sesame seeds and even garlic. In ancient Rome, where chariot races were popular, riders not only used various stimulating infusions themselves but also gave them to horses [2].

The first attempt to ban doping was in 1928: for the first time in the history of sports an anti-doping rule was introduced into the statute of the International Athletics Federation (IAAF). According to it the use of stimulants to improve sports performance or help with this threatened exclusion from sports – both professional and amateur [2]. But the new rule didn't work because techniques that help to catch “unclean” athletes appeared much later.

From the ancient use of substances in chariot racing to the recent controversies surrounding doping in the Olympics, in the Tour de France, World and European championships, in different sports: baseball, tennis, etc. the views of athletes in different countries have varied greatly over the years. The general trend of authorities and sports organizations in recent decades is strict regulation of drug use in sports. The reason for the ban is mainly the health risks associated with performance-enhancing drugs, equal opportunities for athletes and the impact of drug-free sports on the public. Anti-doping authorities say doping is against the “spirit of sport”.

Nowadays in the modern world every athlete who plans to compete in international competitions must pass a doping test. An athlete cannot refuse a doping test otherwise he/she will be disqualified. He/she will perform a urine analysis on the spot and, if necessary, blood. At the same time the inspector will be constantly near the athlete and will monitor his/her every action. If the athlete is a minor his/her representative must appear with him/her.

If doping is discovered the athlete is threatened with severe punishments up to complete exclusion from the sport. At the first detection of prohibited drugs (with the exception of sympathomimetics drugs such as ephedrine and its derivatives) a sportsman is disqualified for 2 years and for life if repeated. In the case of the first use of sympathomimetics for the first time – disqualification for 6 months, the second for 2 years, the third – for life. The coach and the doctor who watched the athlete are also punished [1].

The use of any drugs officially classified as narcotic substances as doping results in appropriate administrative and criminal sanctions. Currently, proposals have been submitted to the country's legislative bodies to introduce criminal sanctions for the use of anabolic steroids without a medical indication.

Looking back at the history of doping one can see that sports victories today are not only won by athletes but also by pharmacists who have made a profitable business out of professional sports and a well-established system.

As far as the Olympics are concerned the main official controls on common substances took place at the 1972 Munich Olympics. Anabolic steroids were the main controlled substances at the 1976 Montreal Olympics and many athletes were disqualified and lost their medals as a result. The anti-doping convention of the Council of Europe from 1989 became the first step towards the international harmonization of the fight against doping. In 1999 the IOC organized the World Conference on Doping in Sport in response to the shocking discovery that French police at the 1998 Tour de France had discovered huge quantities of performance-enhancing drugs and paraphernalia. It was at that meeting that the independent global agency World Anti-Doping Agency (WADA) was founded. Its mission was to lead the fight against doping in sport independently of the IOC, sports organizations and governments. The World Anti-Doping Code is one of the main documents that harmonizes anti-doping policies, rules and regulations worldwide, in sports organizations and between different government bodies [3].

Despite the development of advanced drug testing systems doping in sports is on the rise in elite, amateur and high school sports.

Doping in sports is not only contrary to the spirit of fair competition but can cause serious damage to the health of athletes. An effective anti-doping program must in addition to testing also contain an educational component. Education should be collaborative and active and should involve athletes, coaches, managers, governing bodies and health professionals.

At the international level there is a need to simplify and standardize procedures, policies and educational strategies. Pharmaceutical legislation needs to be changed to ensure the safety of drugs in sports. To date, governments are investing much money in technology and implementing strict drug testing practices. Otherwise, the problem cannot be solved [1].

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Дата доступа: 14.03.2023.

В статье раскрывается проблема допинга, которая в настоящий момент является одной из главных проблем современного спорта, поскольку употребление допинга спортсменами не только противоречит духу спорта, но и наносит ущерб их здоровью.

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### **THE IMPACT OF MODERN TECHNOLOGY ON SOCIETY**

An inventor is a creative person or innovator who creates new inventions, technical devices or methods. Although some inventors may also be scientists, most of them are engineers who create technical “miracles” based on the discoveries of other scientists. The main task of the inventor is to offer and develop a sample of the newest device that could simplify routine tasks and provide comfort. Among modern inventors there are scientists, engineers and programmers who actively study the work of the first scientists in this field [1].

Bill Gates, Mark Zuckerberg, Steve Wozniak, Torvalds Linus, Ilya Valentinovich Segalovich became famous for their talent in programming. A programmer is a very creative profession, but his arsenal of knowledge is supported by a massive foundation of mathematical knowledge. Workers in this area are predominantly male, but the first programmer was a woman, it was Ada Lovelace. Thanks to her the first methods of managing computation appeared, and they are still used in programming.

Nowadays the profession of a programmer is in demand. First of all, this is due to the fact that in every home, in every office and other establishments there are computers. The development of computer technology and the Internet also have a great influence. Programmers are involved in the development of various programs for text editors, websites, games, video surveillance systems.

A programmer is a fairly popular profession in the labor market. Despite the fact that educational institutions produce a large number of programmers, there are still not enough qualified specialists in this field. This profession applies not only to the technical field, but also to the humanitarian. The development of the

program begins with its design. So you need to think up for what purposes it will serve and how it will work. Currently, specialists can be divided into three groups: application, system, and Web programmers. It depends on the application programmers how successful and safe the work will be in the institution where the technical devices are involved. The activity of system programmers is to work with system software. They are engaged in the development, creation and management of operating systems. They create websites, ways of their modernization and management.

The profession of a programmer requires specific knowledge and fertile imagination. The inquisitive mind never stops and is constantly searching for new information. Modern inventions are a vivid example of this. An invention is a new solution that can be expressed in new technology or a material product.

The modern world almost every month offers people to get acquainted with various innovations and inventions. Especially rapidly the technology develops. The most interesting invention of our days is a smartphone. Just 10 years ago people used simple phones. They had cameras and Internet access, but of poor quality. The smartphone is a small portable computer, which has everything: the ability to make calls, Internet, camera, and many different programs. For example, for smartphones, there is a program that allows you to use it as a remote control to the TV, air conditioner or player. The world is full of interesting things and it is possible that in the near future we will be shocked by many more inventions.

Most of us cannot imagine a day without a computer. The more technology develops, the more accessible are a variety of devices that simplify people's lives. This also applies to computers, which currently provide amazingly fast information processing [2].

Furthermore, the work of modernized plants is based on the widest possible use of information technology. For the most dangerous and hard work people use robots, which are controlled by computers. They have many advantages. The main advantage is that the working capacity of the mechanisms is not reduced even after many hours of monotonous actions. Robots never get tired.

Unique information technologies also allow people to treat a variety of diseases. All sorts of devices are able to examine every cell of our body to help the doctor identify the problem at an early stage. Qualified specialists in the technical field are needed now so that progress in this field and in others develops.

Computers with their impressive abilities are involved in many areas. "Smart" mechanisms are being explored for the development of the underwater world and to unlock the mysteries of the cosmos. The main thing is to use information technology for the benefit of mankind, because we decide in which way to direct these opportunities – in the positive or in the negative.

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В статье рассматриваются процессы внедрения новых технологий в жизнь человека, затрагивается тема веб-программирования и использования новых технических возможностей в реальных проектах по созданию программного обеспечения. Особое внимание уделяется проблеме востребованности профессии программиста и раскрытию причин нехватки квалифицированных специалистов в этой области.

### к содержанию

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## QUALITY OF SURFACE WATERS OF THE CITY OF BREST

Currently, surface waters affect our lives directly or indirectly. Water resources are exposed to strong anthropogenic impacts, which increases the relevance of research aimed at studying water quality. The aim of the work is to study the water quality samples from surface reservoirs in Brest, correlate it with the maximum permissible concentrations (MPC) according to the studied indicators, and separately consider the indicators of fluorides in rivers.

The study was conducted using Water test strips, which were used to study the quality of water samples (substance content) according to 17 chemical characteristics (hydrogen index, total alkalinity, nitrates, nitrites, total chlorine, residual free chlorine, hardness, mercury, copper, bromine, chromium, lead, iron, fluorides, carbonates and cyanuric acid). The study of water quality indicators was carried out for single samples from 15 sampling points. Sampling was carried out in the spring-summer from the watercourses and reservoirs of the city at representative sites.

Exceeding the MPC by more than five indicators was detected in five places (the Western Bug River, the Mukhavets River in the central part of the city and the Rowing Canal), by four indicators – in four places (the Brest Fortress water canal; the Mukhavets River near the Brest Fortress, in the

alignment of Krasnoznamennaya Street and in the eastern part of the city). At five sampling points, an increase in MPC was noted by 3 indicators (the Lesnaya River near the Katin Bor microdistrict, the Mukhavets River in the western and eastern parts of the city). The increase in MPC for two indicators was recorded only in one place (Staritsa in the floodplain of the Lesnaya River). One sampling site was characterized by water quality exceeding the MPC by more than three indicators (the Mukhavets River near Krasnoznamennaya Street). The state of water quality below the MPC by two indicators was noted in four places: the Western Bug River, the bypass canal of the Brest Fortress, the Mukhavets River in the central part of the city, by one indicator – in nine (the Lesnaya River, the Mukhavets River in the central part of the city and the eastern districts of the city, the Rowing Canal).

Fluorides are fluorine salts present in nature. In its natural form, fluorides are present in all water sources. The fluoride content of water varies depending on climate and geographical conditions. Fluorides are known for almost all elements, fluorides include both binary compounds (ionic fluorides) and complex inorganic compounds. The fluoride content was assessed for single water samples from 15 sampling points. Three samples were characterized by values of 0-25 mg/l (selected on the Mukhavets River in different parts of the city).

Values of 25-50 mg/l are set for seven sampling points (the Lesnaya River, the Mukhavets River in the middle part of the city, the Rowing Canal). For one sample, values were set in the range of 50-100 mg/l (the Mukhavets river near Krasnoznamennaya Street). Four samples were characterized by values of more than 100mg/l (the Western Bug River, the Mukhavets River in the western part of the city, the bypass canal of the Brest Fortress). Normal MPC indicators are confined to three selected sites. The place of selection is the Mukhavets River, in its western and eastern parts. High MPC levels were noted in fourteen selection sites. Along the entire length of the Rowing Canal, the bypass canal of the Brest Fortress, the Western Bug River, and the entire length of the Mukhavets River and the Lesnaya River.

The carbonates are salts and esters of carbonic acid. Inorganic carbonates are divided into medium, or simple carbonates containing the  $\text{CO}_3^{2-}$  anion, and acidic ones containing the  $\text{HCO}_3^-$  anion. For five samples, carbonate values of 0- 20 mg/l are noted. These samples were taken only on the Mukhavets River, in the upper reaches of it. Ten samples are characterized with a value of more than 20 mg/l, these are samples taken on the Lesnaya River, the Western Bug and in the lower reaches of the Mukhavets River, as well as the Rowing and bypass Canal of the Brest Fortress. Carbonation levels, all points have normal MPC values of carbonate. The samples were taken on

the Mukhavets River, the Western Bug, the Forest and bypass canal of the Brest Fortress, as well as the Rowing Canal.

Thus, in the course of the study, 17 qualitative characteristics of water samples from the surface reservoirs of the city of Brest were studied and correlated with the MPC, the indicators of fluorides in the rivers of the city were also considered. Exceeding the MPC by more than five quality indicators was established at five sampling points. The best condition of the waters in more than three quality indicators was recorded only at one sampling site. The content of fluorides within the norm is established at three sampling points. Knowing this data, we can improve the quality of our waters and the ecology of the city as a whole.

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В статье раскрываются экологические проблемы качества вод города Бреста. Раскрыты материалы и методы отбора показателей по 17 химическим показателям в 15 точках отбора проб воды. Автор подводит итоги показателей фторидов и карбонатов в воде за 2022 год, их показатели в определенной реке и части города.

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#### MAIN METHODS OF POWDER DEPOSITION

Among the wide class of methods for coating and correcting the surface of damaged cylinder heads, we can distinguish powder spraying methods – plasma, gas flame, detonation. In addition, there is a variety of applications for these methods. The great practical interest in these methods can be explained by the enormous potential, both in terms of the types of powders sprayed and, as far as possible, in terms of reworking parts of different sizes and shapes [3].

For absolutely all thermal spraying methods there is one indication that the powder material becomes very hot and is accelerated by the high-temperature gas flow. At the same time, the sprayed powder material moves along the surface of the substrate in the form of various small molten particles which deform upon impact with the substrate and at the same time are fixed by forming and continuous coating [2].

In powder coating processes, the kinetic energy of the atomized powder particles is considerably reduced. In this option, the following operations are used to improve the physical and mechanical properties of coatings:

- using sub-layers of metallic particles;
- upgrading the quality parameters of the primary treatment of the part surface;
- creating a controlled environment through special coating treatments;
- using ultra-dispersed powder materials and high-performance plasmatoms with defined dimensions and nozzle designs to atomize the powder material;
- heating the powder during spraying;
- using substances with high enthalpy;
- heated powder particles sprayed onto the surface of a vehicle part.

Nevertheless, it is not possible to solve many of the scientific and technical problems that arise during the development of the latest equipment using the above-mentioned powder spraying methods. As a result, we observe ongoing research and development into the latest coating production methods [8].

The most profitable way to improve coating performance is to develop powder particle contact rate with the part surface. One of the successfully used methods with fast indicators is the method of detonation-gas spraying of coatings [4].

During the detonation spraying period, the atomized powder particles receive energy during the combustion and movement period of the acetylene-oxygen mixture of the molded mass in the main gun. Detonation occurs during the initial combustion stage of the mixture and then propagates through the pipe at a velocity of between 2,000 and 3,000 m/s. During the detonation spraying process the combustion temperature of the mixture may rise to 5400 K. In addition, a pressure above 90 MPa is created. The flight speed of the powder particles can range from 550 to 750 m/s, and the temperature can rise up to 3000 K. Spraying does not have high porosity (0.5 %) and also has high adhesion strength (150 MPa) [5].

In the detonation spraying process metallic, composite, oxide-ceramic powders are used. In addition, these powders do not have to interact with combustion elements. The average particle size to be sprayed must be between



10 and 50 microns. Detonation spraying can be used to make wear-resistant protective coatings.

Detonation gas aerosol cans have been successfully used to harden the part surfaces under load, which can be made of a wide variety of materials. The coatings are characterized by significant physical, mechanical and performance properties. However, detonation spraying uses explosive mixtures. A significant disadvantage of this method is the enormous cost of the device as well as the high noise values during the device operation.

Nowadays the high velocity oxygen fuel (HVOF) method is widely used [1]. In spraying with this method, acetylene and propylene are used as feedstock and oxygen is used for oxidation. The energy generated in the combustion process is transferred to the heat and acceleration of the powder and gas. The highest gas velocity emitted is 1,400 m/s, and the maximum particle velocity emitted is between 400 and 500 m/s.

The material is transported by compressed air or components generated by the combustion of hydrocarbon fuels, and the heat is obtained by burning propane butane or acetylene in oxygen. The particles of powdery alloy, which can travel up to 120 m/s, are embedded in the depleted surface of the damaged cylinder head and form a coating. Current gas flow rates are within the limits of 150 to 160 m/s [6].

Although this method is energy-intensive, it is a clear success in the field of gas-thermal coating techniques. However, there are some negative conditions associated with the use of a high-temperature spray jet that significantly reduce the effect of this method. At this point, because of the use of the high-temperature jet, the sprayed product is significantly heated, which has a negative effect on the restoration of damaged aluminum alloy cylinder heads, as the joint surface can become deformed [7].

To further improve the process of gas-dynamic spraying of damaged cylinder heads, electro-erosion materials containing aluminum recycled from scrap metal can be used.

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В статье проведён анализ способов получения покрытий и модификаций плоскости поврежденных головок блока цилиндров. Представлены варианты использования рассмотренных операций для улучшения физико-механических свойств покрытий. Показаны основные преимущества и недостатки способов напыления. Определён вектор направления исследований.

#### **к содержанию**

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#### **MODIFICATION OF THE INTERNATIONAL DIVISION OF LABOR IN THE CONTEXT OF GLOBALIZATION**

The process of globalization is understood as a change in the structure of the world economy as a result of integration in the political, religious, economic and cultural spheres. Globalization is a consequence of the deepening process of internationalization and is designed to further strengthen sustainable relations between states.

In the economy, the process of globalization manifests itself through the strengthening of productive interaction and interdependence of states,

international movement of capital and labor force, international cooperation of production, growth of goods turnover, which in turn leads to the formation of a unified market economy – geoeconomics [5].

The international division of labor (DIL) is one of globalization attributes and simultaneously an outcome of globalization process because it occurs when the process of production is no longer confined to national economies. The concept of the international division of labor is understood as the specialization of particular countries in distinct branches of production, whether it concerns certain products, provision of services, extraction and sale of minerals, use of the results of scientific and technological progress or selected parts of the production process [3].

The purpose of this article is to identify the interdependencies between globalization and DIL, to reveal the problems arising from the development of the DIL in the context of globalization, and to highlight the essence of the DIL and how it affects the economy as a whole.

The state's specialization in this or that type of activity is determined by the state's advantages: natural and acquired. Natural advantages include availability of natural resources, climatic conditions, and population surplus. The acquired advantages may include a surplus of machines and equipment, technological prevalence, high proportion of educated people among the population, etc. With DIL the state reveals and develops available competitive advantages, occupies a certain niche in the world market and aspires to expand it and to surpass competitors.

The main factors that led to fundamental changes in the forms and directions of the DIL include scientific and technological revolution and related changes in the world economy, as well as the collapse of the colonial system. The abovementioned influence evoked the following changes to occur:

- there has been a comparative decline in role for industrialized countries of raw materials and food supplied from less developed countries;
- more economical spending natural raw materials, expanding the production of synthetic raw materials in the developed countries, as well as an increase in the production of some types of natural raw materials;
- processes have intensified international division of labor between industrialized countries [1].

The essence of the DIL is manifested in the unity of two processes:

- 1) dismemberment of the production process and its subsequent unification;
- 2) specialization of various kinds of labor activities in individual countries and their further interaction and complementarity.

The development of DIL occurs through the expansion of international specialization and international cooperation. This is due to the fact that both of these directions reveal the essence of DIL.

The following forms of international specialization are distinguished:

- General DIL – sectoral specialization of individual states. In other words, there is a division of labor between large spheres of material and non-material production.

- Private DIL – subject specialization. It provides for the specialization of the state on certain kinds of production;

- Unit DIL – technological specialization. Emphasis is made on production of separate kinds of parts, components.

International cooperation of manufacture assumes cooperation of the states in a part of the industrial relations, expressed in long-term economic ties concerning manufacture and the subsequent realization of production.

New trends have developed in DIL in recent decades, among which we can single out:

- 1) the specialization of countries in the production of more profitable for them products;

- 2) optimization of national economic structures and the scale of the market for national products;

- 3) transition from inter-industry to intra-industry specialization;

- 4) the increasing role of the country's scientific and technological potential in the formation of its economic profile and determining its place in the DIL [2].

At the same time, globalization processes have led to the emergence of a number of distinctive features of DIL development associated with the emergence of specific types of DIL:

- International division of production process (DIFP);

- Inter-corporate division of labor associated with the activities of transnational corporations (TNCs);

- International technological division of production (ITDP) [2].

The central organizing force in the world economy has been taken by international monopolies in the form of transnational corporations (TNCs), which impose an intra-corporate division of labor on the DIL. International economic relations are the external environment for these corporations to operate in. At the same time, acting in accordance with their main goal which is profit maximization, they constantly modify their strategies and structure, thereby influencing the formation of international economic relations.

Transnational companies (TNCs) are powerful economic subjects of the world economy. Today they number for about 90% of all foreign investment. The large size of TNCs makes them extremely powerful in negotiations with nation-states. Their ability to hire many people and invest more widely in the country as a whole makes many governments regard the presence of TNCs in their country as instrumental [4].

The increasing role of international corporations (TNCs) has had a particular impact on the deepening and modification of DIL. Thus, TNCs accelerated the

process of transition to intra-industry specialization. Within the framework of TNCs, an intra-company division of labor has developed, which includes the division of labor according to areas of activity (production, trade, finance, services). DIL is becoming global in content. The leading TNCs began to modify their specialization due to the transfer of mass production to developing countries. And finally, large TNCs have become monopolists in the intellectual property market and have begun to specialize in research activities.

Thus, the modern world economy is based on DIL. Today, no single country, even the most developed one, can produce the entire range of modern products equally efficiently, and there is no point in doing so. The international division of labor is directly involved in the development and strengthening of international economic relations, which is definitely a positive thing in this matter. By dividing the processes of production, thereby attracting the cooperation of different countries, the international division of labor contributes to obtaining economic benefits for its participants, which are provided at the expense of differences in costs for the production of goods.

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В статье раскрываются проблемы, возникающие в связи с развитием международного разделения труда (МРТ) в условиях глобализации. Авторы анализируют влияние процесса глобализации на использование МРТ. В статье описаны преимущества и перспективы развития МРТ в экономике, предоставлены различные формы МРТ и раскрыта их специфика.

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## **LE RÔLE DES MÉDIAS DANS LA VIE DE LA SOCIÉTÉ FRANÇAISE**

Le prestige international de la culture française est assuré par la diffusion d'œuvres dans des domaines aussi divers que la mode, le cinéma, la musique, le design, la littérature, les beaux-arts, le contenu audiovisuel et le journalisme. Ces aspects culturels se développent grâce au soutien des institutions françaises et de l'Alliance française.

La France a toujours été le berceau de la liberté d'expression des points de vue et des opinions des citoyens. C'est ici que de nombreuses révolutions mondiales ont commencé et trouvé un soutien. De nos jours, de nombreux journaux, magazines et stations de radio perpétuent cette tradition. Aujourd'hui, les médias ont une forte influence sur de nombreux domaines de la vie humaine. Ils sont capables de changer nos préférences électorales, de nous forcer à reconsidérer notre attitude aux certains sujets.

L'objet de cet article est d'analyser le rôle des médias dans la vie de la société française.

*France Médias Monde* et sa filiale Canal France International (CFI) jouent un rôle de premier plan dans la formation de l'opinion public en France. Ces médias sont le moteur de la promotion des valeurs démocratiques, de la lutte contre la désinformation, du pluralisme et de la liberté de la presse. Ils sont l'élément le plus important de la diplomatie française.

Le groupe France Médias Monde comprend : France 24, chaîne d'information 24h/24 en 3 langues, RFI radio internationale et Monte Carlo Doualiya, radio arabophone universaliste. Les trois stations émettent depuis Paris vers les 5 continents en 14 langues. Les journalistes des trois rédactions et un réseau unique de correspondants proposent aux auditeurs et téléspectateurs des journaux d'information ouverts sur le monde entier : journaux télévisés, reportages, émissions d'opinion et débats. La chaîne TV et les radios du line-up totalisent 24 millions de visiteurs par mois sur les nouveaux médias. France Médias Monde est l'un des actionnaires et partenaires de la chaîne généraliste francophone TV5MONDE [1, p. 15].

La chaîne *France 24*, créée en 2005, diffuse ses programmes depuis décembre 2006. Le président Jacques Chirac en est l'un des fondateurs. Aujourd'hui, cette chaîne publique diffuse en continu en quatre langues (français, anglais, arabe et espagnol) et est également disponible sur Internet.

Les émissions sont principalement des communiqués de presse, des reportages et des revues de presse. Programmes : L'actualité, Dans les hebdomadaires, Environnement des affaires, Météo, Santé, Mode, Culture et autres.

*Radio France Internationale (RFI)* est une radio d'information française qui diffuse dans le monde entier en français et en 13 autres langues sur les cinq continents.

La société a diffusé des programmes radio tels que RFI Monde, RFI Roumanie, RFI Musique, Rádio Europa Lisboa, RFI Afrique et autres. Sur Internet RFI a 15 sites de Radio France internationale en 15 langues (streaming, podcasts, actualités sous forme de texte). Les contenus de RFI sont disponibles sur les pages officielles des réseaux sociaux (Facebook, Twitter, etc.). Grâce à une équipe d'experts qui s'occupent de l'enseignement du français comme langue étrangère, RFI Savoirs propose une gamme de ressources pédagogiques, des séries éducatives bilingues en français pour la formation des enseignants. Le service entretient une collaboration régulière avec les spécialistes de l'apprentissage et de l'enseignement de TV5MONDE afin d'offrir une gamme complète de ressources audiovisuelles en français [2, p. 5].

Il existe une plateforme spéciale *TV5MONDE* qui permet aux francophones et francophiles du monde entier, via une interface unique, de découvrir les meilleurs programmes francophones. Partenaire privilégié du Ministère de l'Europe et des Affaires étrangères, TV5MONDE est la seule chaîne internationale francophone accessible à 354 millions de foyers dans 198 pays. C'est un outil unique de diffusion télévisuelle des cultures francophones et de vulgarisation de la langue française, présenté sur les cinq continents.

TV5MONDE c'est : 8 chaînes régionales à orientation généraliste et 2 chaînes thématiques ; audience hebdomadaire totale de 60 millions de téléspectateurs ; diffusion 24h/24 et 7j/7 de programmes exclusivement en français sous-titrés en 13 langues ; diffusion dans 88 pays membres de l'Organisation Internationale de la Francophonie ; diffusion par câble, satellite et IPTV. TV5MONDE promeut la francophonie sous tous ses aspects en développant des contenus culturels généralistes complémentaires aux contenus de France Médias Monde.

*Canal France International (CFI)* est un organisme de coopération audiovisuelle. Créé en 1989 en tant que filiale du groupe France Télévisions, CFI est financé par le ministère français des Affaires étrangères.

CFI propose quotidiennement des programmes gratuits en français aux télévisions des pays en développement d'Afrique, d'Europe centrale et orientale, du monde arabe, d'Asie et d'Océanie. Ainsi, environ six mille heures sont proposées annuellement à une centaine de chaînes dans plus de 90 pays.

CFI organise également des missions de collaboration - conseil, recherche, formation, appui à la production - afin d'accompagner la professionnalisation des chaînes TV partenaires. Ainsi, en facilitant le développement de la production locale, CFI contribue concrètement à la promotion de la diversité culturelle.

La presse française est présentée par des périodiques de masse : journaux et magazines. Le journal reste la principale source d'information après la télévision et la radio.

*L'Agence France Presse* est une agence de presse bien connue par ses publications de matériel d'actualité en format multimédia. Les thèmes abordés sont : relations internationales, politique, sports, grands événements culturels, santé, sciences et technologies modernes.

Parmi les journaux et les magazines les plus populaires en France on peut citer les suivants : *Le Monde* est un quotidien français de gauche libérale du soir tiré à 350 000 exemplaires ; *Le Figaro* est le plus ancien quotidien libéral-conservateur français avec un tirage de 318 000 exemplaires ; *Libération* est un quotidien français le plus récent des trois grands journaux nationaux avec un tirage de 67 000 exemplaires ; *La Tribune* est un quotidien financier et économique qui publie des chiffres boursiers et analyse l'état des marchés ; *L'Humanité* est le journal du Parti communiste français, fondé en 1904 par le socialiste Jean Jaurès. Elle écrit sur politique intérieure, conjoncture internationale, économie, questions sociales, culture, sport, médias, etc. ; *Le Dauphiné Libéré* est un quotidien qui publie les actualités internationales, nationales et régionales, politiques, économiques, sociales, culturelles ; *La Croix* est un quotidien chrétien du matin. Les rédacteurs en chef du journal le considèrent « ni religieux, ni confessionnel », insistant sur une vision humaniste générale des événements de la vie publique et politique ; *L'Express* est un magazine d'information et d'analyse politique, économique et socio-culturel en français, couvrant un large éventail de sujets divers, d'événements et de problèmes actuels de l'ensemble de la région francophone et européenne ; *Télérama* est un magazine culturel et de loisirs français dédié aux industries de la télévision, de la radio et du cinéma [3, p. 25].

Il est à noter que les médias sont le principal importateur d'informations actualisées. Les médias touchent et influencent des aspects de la vie tels que la politique, l'économie, la culture, la famille, les loisirs personnels et autres. Par conséquent, on appelle les médias « le quatrième pouvoir » ce qui reflète l'énorme influence des médias sur la société. Comme nous l'avons vu, les médias se composent de quatre composantes : la télévision, la radio, la presse écrite et Internet. Les médias audiovisuels et écrits français sont des outils au service de la Francophonie et des symboles de la défense du pluralisme et de la liberté de la presse.



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Статья посвящена рассмотрению роли средств массовой информации в жизни французского общества. Автор проводит анализ наиболее популярных радио- и телеканалов, ведущих вещание в настоящее время во Франции, а также самых известных французских журналов и газет и вопросов, освещаемых в них. Автор подчеркивает, что французские средства массовой информации являются главными поставщиками актуальной информации, а также средством популяризации идей франкофонии.

### к содержанию

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## **PROBLEMAS DE LAS ZONAS ECONÓMICAS LIBRES EN BELARÚS Y FORMAS DE RESOLVERLOS**

Las zonas económicas libres surgieron y empezaron a desarrollarse activamente en todo el mundo como una necesidad objetiva y un formato económico de amplia interrelación, integración y cooperación de la actividad de producción y gestión de países, territorios y unidades económicas separados en condiciones de aislamiento aduanero y económico de otras formaciones estatales. Muchos investigadores consideran con razón que las zonas económicas especiales son "islas" del futuro mercado mundial libre en las condiciones de la globalización. Las zonas económicas libres también desempeñan un papel importante en el desarrollo de la economía belarusa.

Actualmente hay 6 zonas económicas libres en Belarús: Brest, Gomel-Raton, Minsk, Vitebsk, Mogilev y Grodno-Invest.

En términos de número de residentes registrados, la mayor zona económica libre de Belarús es la Zona Económica Libre de Minsk. Además, la Zona Económica Libre de Minsk es la que tiene mayores ingresos anuales. Entre las zonas económicas francas regionales, la Zona Económica Libre de Gomel tiene

los mayores ingresos anuales, aunque es inferior a la Zona Económica Libre de Brest en cuanto al número de residentes. La zona económica franca de Brest tiene el beneficio neto más alto de todas las zonas económicas francas [1].

Todas las zonas económicas libres exportan una gran parte de su producción. La mayor proporción de exportaciones respecto a la producción industrial se da en la zona económica libre "Vitebsk". El saldo del comercio exterior de mercancías es positivo en todas las zonas económicas libres. El saldo del comercio exterior de servicios es negativo en todas las zonas económicas francas, excepto en la zona económica franca "Vitebsk".

La mayoría de los principales indicadores de rendimiento de los residentes de las zonas económicas libres de la República de Belarús crecieron en 2019-2022. Sin embargo, las inversiones en capital fijo de fuentes extranjeras en las zonas económicas libres de Belarús disminuyeron, las exportaciones de servicios de las zonas económicas libres disminuyeron y el saldo del comercio exterior de servicios siguió siendo negativo, con una caída significativa del indicador [1].

Hasta la fecha, las zonas económicas francas de la República de Belarús se han enfrentado a una serie de problemas, entre los que destacan un crecimiento lento y un bajo nivel de innovación.

Las principales razones del lento desarrollo de las zonas económicas francas son las siguientes: falta de cooperación entre los residentes de las zonas económicas francas, escasa actividad innovadora de los residentes, limitaciones sectoriales y de gestión e infraestructuras insuficientemente desarrolladas.

En Belarús el principio de ventanilla única sólo se ha aplicado en el Parque Industrial de la Gran Piedra. Los residentes del parque pueden realizar cualquier trámite y servicio administrativo, recibir asesoramiento competente de las autoridades de la administración pública, hacer propuestas a la administración del parque para agilizar los requisitos normativos y simplificar diversos trámites en el parque en el marco de la "Ventanilla Única"[2].

El clima de inversión depende de un entorno empresarial atractivo, que incluya buenas infraestructuras, mano de obra cualificada y servicios eficientes. La ubicación estratégica de las zonas francas regionales belarusas cerca de los principales nudos de infraestructuras y la proximidad a la mano de obra es muy importante para atraer a los inversores de alta tecnología a la zona.

La implementación de mecanismos de clúster junto con un impacto específico sobre los motores y las limitaciones del desarrollo son capaces de hacer que la actividad de las zonas sea más innovadora y de salir de la problemática situación actual. La práctica mundial ya ha confirmado el éxito de combinar zonas económicas especiales como centros de producción líderes de las regiones con clústeres de innovación. Tales ejemplos son los clústeres tecnológicos de Zhongguancun y Shenzhen, los clústeres de electrónica y biotecnología de Pudong, el clúster de optoelectrónica de Wuhan, el clúster

territorial y de producción innovadora de Kamsky en la República de Tatarstán, el clúster farmacéutico de Kaluga, etc.

Así pues, ¿qué contribuiría al desarrollo de las zonas económicas francas?

En primer lugar, la simplificación de los procedimientos administrativos para las empresas y las inversiones en las zonas regionales belarusas, lo que requerirá racionalizar los requisitos reglamentarios y utilizar el principio de "ventanilla única".

En segundo lugar, la introducción y el desarrollo de mecanismos de agrupación.

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В статье раскрываются особенности функционирования свободных экономических зон в Беларуси и связанные с ними существующие проблемы. Авторы показывают пути, способствующие развитию свободных экономических зон Беларуси и их совершенствованию.

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### LA LITTÉRATURE FRANÇAISE DE LA RENAISSANCE

La Renaissance française est associée à la Renaissance européenne, née en Italie au XIV-e siècle. Les origines de l'humanisme français sont en France même, bien que l'humanisme de l'Italie n'ait pu qu'avoir une certaine influence sur sa formation. Le début de la Renaissance française remonte au milieu

du XV-e siècle, du début de l'invasion française de l'Italie en 1494 sous le règne de Charles VIII jusqu'à la mort d'Henri IV en 1610. Le règne de François I-er (1515-1547) et de son fils Henri II (1547-1559) est considéré comme l'apogée de la Renaissance française.

La France de la Renaissance a été caractérisée par le début de l'absolutisme, la diffusion de l'humanisme et le développement de nouvelles méthodes dans le domaine de l'imprimerie, de l'architecture, de la peinture, de la sculpture, de la musique, des sciences, de la littérature populaire, ainsi que le développement de nouvelles règles d'étiquette et d'éloquence.

Cet article a pour but de révéler les particularités de la littérature française de l'époque de Renaissance et l'influence qu'elle a eu sur la littérature mondiale.

Depuis le XVI-e siècle, la cour royale de France est devenue l'une des plus brillantes cours d'Europe occidentale. Le roi François I-er, en raison de son talent poétique et de sa capacité à apprécier la capacité de manier la plume chez les autres, était appelé le « père des belles-lettres ». Sous l'influence des campagnes italiennes en France on a commencé à accorder une grande attention au patrimoine antique - les œuvres d'auteurs anciens, la sculpture antique, le latin classique. Dans la littérature française de la Renaissance, une grande influence de la culture italienne se fait sentir. François I-er a attiré de nombreux écrivains et artistes italiens célèbres, dont Léonard de Vinci, pour créer sa cour exemplaire.

Les écrivains de la Renaissance française se caractérisent par une expansion significative de leurs horizons, une vaste gamme d'intérêts mentaux et une approche réaliste de la réalité. On distingue trois étapes dans le développement de la littérature française de l'époque de la Renaissance : la précoce Renaissance avec la prédominance des idées humanistes et optimistes ; la haute Renaissance ; la fin de la Renaissance avec la manifestation de doutes et de déceptions, en raison de la scission politique et religieuse [1, p. 432].

Le début de la Renaissance, couvrant la première moitié du XVI-e siècle, est associé à la formation du mouvement humaniste. Des savants humanistes hors pair apparaissent : Belon compare pour la première fois les squelettes d'un homme et d'un oiseau ; Ambroise Paré est l'un des créateurs de la chirurgie scientifique basée sur l'expérience ; Henri Etienne est un philologue qui connaissait non seulement toutes les langues européennes, mais aussi un certain nombre de langues orientales. Les prémices d'une nouvelle vision humaniste du monde sont déjà visibles dans les œuvres de la littérature urbaine du milieu du XV-e siècle, à la fois anonymes et créées par des poètes célèbres. Parmi eux se trouve le très talentueux poète spirituel François Villon (1432-1463), dont les œuvres reflétaient la crise de la vision du monde médiévale et un élan conscient vers l'humanisme. Dans l'émergence de la nouvelle littérature, un rôle particulier a été joué par le cercle de la sœur de François I-er, Margherite de

Navarre, l'auteur d'un livre de 72 nouvelles « Heptameron » et du recueil poétique « Perles des princesses perlées » (1547). Ses œuvres poétiques reflètent la quête spirituelle de son époque. Son ami était le plus grand poète de cette période, Clément Marot (1496-1544), le fondateur de la nouvelle poésie française, le poète le plus talentueux de cette époque, qui a combiné les traditions des genres médiévaux du rondo, des ballades, des chansons et des genres anciens d'idylle, d'églages, d'épigrammes. Il a traduit en français les poèmes de Catulle, Virgile, Ovide. C'est lui qui a introduit le sonnet en libre usage, bien qu'il en ait manié très librement les règles strictes de versification. La première période est marquée par l'apparition d'une grandiose de François Rabelais (vers 1494-1553), le plus grand écrivain français de la Renaissance. Il a publié des ouvrages sur la jurisprudence, l'archéologie et d'autres disciplines et a écrit son célèbre roman Gargantua et Pantagruel. Rabelais a donné vie à l'idée idéale des humanistes sur « l'homme universel ».

Parmi les phénomènes notables qui témoignent du début de la période de haute Renaissance dans la littérature française, on peut citer l'école lyonnaise des poètes (Maurice Sève, Louise Labé, et d'autres).

La plus haute réalisation de la Haute Renaissance est l'œuvre de sept poètes, dirigés par Pierre Ronsard « Pléiades ». Selon leur position dans la société, les poètes étaient des intellectuels patriotes issus de la noblesse, soucieux du sort de la patrie et de sa culture pendant la période des guerres de religion et de la persécution des humanistes. Ils ont vu un moyen important d'unir le pays dans le renforcement de la langue littéraire nationale, dans la création d'œuvres pleines de pathétique patriotique. L'expression théorique de leurs aspirations fut rédigée par le manifeste littéraire de J. du Bellay « Protection et exaltation de la langue française » (1549), qui traitait non seulement des droits de la langue nationale française à être littéraire, mais aussi des genres littéraires, de l'importance de l'activité du poète [2, p. 245].

Les meilleurs exemples de poésie des « Pléiades » sont représentés par l'œuvre poétique de Pierre Ronsard. Il y développe un thème politique, où il agit en poète patriote, glorifie son pays et ses héros (« Hymne à la France »), prône le respect de la personnalité humaine dans l'État. Ronsard a beaucoup contribué au développement de la forme poétique, des moyens figuratifs et de la rime.

Etienne Jodel (1532-1573) était aussi un des sept poètes de « Pléiades », l'auteur de la première tragédie française de la Renaissance « Cléopâtre » (1552), suivie de la première comédie française « Eugène » (1552), puis de la deuxième tragédie « Didon » (vers 1558). Jodel puise ses sujets dans des sources antiques. Il applique pour la première fois en France la règle des « trois unités » (temps, lieu et action), utilise le vers alexandrin.

Dans la seconde moitié du XVI-e siècle, vers sa fin, la Renaissance française entre dans sa dernière période. Son caractère est fortement influencé par

les guerres de religion entre catholiques et huguenots. Le pathos religieux imprègne le poème du poète huguenot Guillaume du Batras (1552-1630) « La Semaine, ou la Création du monde » (1579). L'une des œuvres les plus remarquables de cette époque qui reflète la confrontation religieuse entre les catholiques et les huguenots est « Menippean Satire » (1594), une satire sur les catholiques radicaux dans le genre de pamphlet, qu'on appelle plus tard genre de la « ménippée » ou la « satire ménippée » [2, p. 251].

Les derniers grands humanistes de France pendant la crise de la Renaissance furent le poète Agrippa d'Aubigné (1552-1630) et le philosophe, essayiste Michel Montaigne (1533-1592). Dans ses « Poèmes tragiques » (1616) A. d'Aubigné exprime une profonde douleur pour la France, victime des guerres de religion. Les « Expériences » (1588) de M. Montaigne, qui ont eu un grand impact sur le développement ultérieur de la pensée philosophique et artistique avancée, ainsi que sur la dévotion à l'idéal humaniste, au droit humain, sont destinées à ébranler les autorités et les dogmes, ouvrant la voie à la connaissance expérimentale pour comprendre le nouveau.

Donc la Renaissance a fait une révolution importante dans la vie spirituelle, artistique, sociale et politique de la France et ensuite du reste de l'Europe occidentale. C'est notamment la culture de la Renaissance qui a placé la littérature au-dessus des autres activités humaines. La littérature de la Renaissance a pleinement reflété toutes les caractéristiques principales de la culture de son époque, son caractère séculier, l'aspiration à une personne humaine et ses sentiments.

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В статье раскрываются особенности французской литературы эпохи Возрождения. Автор анализирует каждый из трех периодов развития литературы во Франции в промежутке между XV и XVII веками, а также особенности творчества и идеи писателей и поэтов, творивших в это время. Автор приходит к выводу, что французская литература эпохи Возрождения своими прогрессивными и гуманистическими идеями оказала огромное влияние на развитие литературы западной Европы.

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## **ART IN ENGLISH LESSONS**

In the modern educational process school teachers and psychologists have been using the means of art for many years to solve the problems of development, education, training and psychological support of children. Art has limitless possibilities for the intellectual development of students. The use of illustrative visual aids, watching videos, listening to music, creating collages on various subjects, learning poems, rhymes, songs, performing various roles in dialogues and role-playing games – all this encourages students' interest in learning English.

The process of learning a foreign language contributes to the formation of creative independence, because within the framework of this subject there is an opportunity to use creative tasks and exercises that require students to work independently and teach them to use language material to express their thoughts in dialogic and monologue speech, writing.

The relevance of this work lies in the study of methods of developing creative skills in the process of teaching a foreign language.

*The purpose of the work* is art-methods of teaching a foreign language.

*The subject of this work* is the development of creative skills in the process of teaching a foreign language.

Artistic activities in English lessons are basically creative processes that lead to creative products, ideas and ideas in English – conceived and implemented by pupils. With regard to music, art plays anything play a minor role in primary school English lessons: for example, the children perform rhythmic chants compiled from textbook quotations. They listen to and sing English songs or clap main and secondary accents of words. Sometimes they translate entire song verses into rhythmic sounds with their hands and feet – and have fun with their creative activities. Music recordings have also found their way into the classroom, for example when dialogues or vocabulary are presented in combination with slow, soothing sounds.

The method of suggestopedia relies entirely on such musical presentations and calls them learning concerts. While the teacher introduces the new words or plays a dialogue with the hand puppet, a melody with a rhythm of about 60 beats per minute sounds in the background. This corresponds to the resting heart rate. The worn "Air" by J. S. Bach leads the list of suitable titles for musical

introductions of means of speech. Of course, more modern music is also possible, as long as it doesn't come across as too excited.

*Mime.*

Those who implement *Total Physical Response* (TPR), the non-verbal response to commands and requests, prompt the children to use their bodies. With movements, they show that they have understood what it is all about. TPR also appeals to creativity, an essential feature of artistic creation. This is shown by the many imaginative implementations that children come up with, for example to mimic and gesturally represent vocabulary or chunks. The creative play with words in combination with rhythms and melodies not only ensures a good mood, it also has an important learning effect. Through repeated singing and listening, through pantomime representation and modeling with the body, memory traces are laid and reinforced. Vocabulary and phrases are remembered better and are available more quickly.

*Paintings.*

The description of pictures succeeds already from the 3rd class. Didactic hidden objects or drawings are popular media for working with vocabulary. If we use paintings or suitable photos, the children come into explicit contact with art while working with linguistic means. Even if it is not yet about means of design or interpretation, the focus is also on this and thus initiates the first processes of perception – a good contribution to artistic-aesthetic education. Conversely, the children collect words from the vocabulary section of their English book that match a picture and stick or write them into it. Creative minds write a small text for this purpose.

*Picture Stories.*

Many teachers certainly think of the advantages of pictorial stories for the initiation of receptive skills. In fact, reading becomes easier because the content is additionally represented by visualizations. They make it easier for the students to better understand the texts in the individual speech bubbles and under the respective image sequences. The amount of text also remains manageable if part of the content is conveyed via drawings. Being the author of a comic helps to do this with speech bubbles that are already integrated into image sequences and are waiting to be enriched with texts.

*Poems*

The artistic brand essence of English lessons undoubtedly includes writing your own texts. You can't start early enough, because children will have to write creative texts more and more often later, according to the curricula. A good preparation with artistic potential is the handling of poetry formats. In primary school, the results are still short and concise, but still written with creative aspirations.

Art in English lessons can be a context, product or starting point for linguistic or creative activities. Children deal with art, deal with it and perform



something in an artistic setting. In a variety of ways, they learn that they can use their creative talents to learn English – and practice or repeat vocabulary and means of speech along the way.

*Conclusion.* One of the most difficult tasks in teaching younger students is the task of awakening their interest in learning the language. Only teacher's pedagogical skill and creative approach to the process learning will be able to make the process of cognition interesting for children, exciting and productive. Stimulation of intrinsic motivation in children: desire to learn more from activity, interest in what is being studied material, etc. n. All this can be achieved using art technologies

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В статье речь идет о том, как художественная деятельность может сочетаться с изучением английского языка в начальной школе. Представлено, как творческие процессы в области музыки, пантомимы, изобразительного искусства и поэзии могут привести к идеям и творческим продуктам на английском языке.

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### **RISKS AND DANGERS OF E-CIGARETTES AND VAPING**

The use of e-cigarettes or ‘vaping’ has become widespread, particularly among young people and smokers trying to quit. Many e-cigarette users believe these products are healthier than traditional tobacco products. And while the harms of conventional tobacco products have been extensively researched, the short- and long-term health effects of e-cigarettes are not well known.

This article aims to provide evidence-based knowledge to inform the young people about the possible risks for smokers related to the use of e-cigarettes.

The composition of vaping system liquids includes propylene glycol, glycerin, nicotine, diacetyl, aromatic additives, and when inhaling steam, heavy metal ions enter the body – tin, nickel and others. Many of these substances are dangerous and can have a detrimental effect on health. For example, propylene glycol can accumulate in the body, causing allergic reactions, or disruption of the liver and kidneys. With the thermal decomposition of propylene glycol and glycerin, the respiratory organs and the central nervous system are damaged [1].

Flavorings also cause allergic reactions up to the development of bronchial asthma. Aerosols of electronic cigarettes are dangerous with the content of metals, especially nickel and lead, which damage the nervous, respiratory, endocrine, digestive, cardiovascular and excretory systems.

The endocrine system is affected by pentabromodiphenyl esters, which are responsible for ensuring that the device does not heat up, since they disrupt the production of thyroid hormones that regulate the work of the heart and brain.

Flavorings and heavy metals have a carcinogenic effect on the endocrine glands – hormones with high biological activity that ensure the processes of growth, development, reproduction, adaptation, behavior.

Thickeners added in liquids for electronic cigarettes for the convenience of filling vaping devices can cause severe pneumonia and lung damage [1]. The flavoring agent diacetyl contained in liquids for electronic cigarettes causes a serious disease, which has been called “popcorn disease”. It manifests itself in the form of inflammation, scarring, narrowing of the bronchioles. Diacetyl is safe if consumed with food but can cause lung diseases if inhaled regularly. This disease got its name after it was discovered in employees of the popcorn manufacturing company, since substances similar in composition are added to popcorn. Workers who work in its production regularly inhale diacetyl, and they often suffer from lung diseases. “Electronic” smokers who inhale no less diacetyl than factory workers, are also at risk.

It was found that after heating, flavors can break down into dangerous and bronchitis-causing diacetyl, necrosis-provoking benzaldehyde and inflammation-causing cinnamon aldehyde [2].

Liquids with mint and mango flavors were tested to affect the organisms of laboratory mice. The animals were steamed from e-cigarettes three times a day for three months. It turned out that steam leads to inflammation in the area of the brain, which is responsible for motivation and reward processing. Such an effect can lead to the development of anxiety, depression and addictions [2].

There are other symptoms indicating that vaping negatively affects the body: headaches, dizziness, memory impairment, decreased concentration, emotional and other disorders such as irritability, aggression, depression, nausea, diarrhea, abdominal pain. The risk of heart attacks, strokes and oncological diseases

significantly increases. Thus, substances in “vapes” are harmful to health, and it is not clear how terrible the consequences of smoking can be in the long term.

Moreover, the presence of different flavors of electronic cigarettes carries another danger – even people who used to avoid cigarettes begin to smoke. Thus, smoking electronic cigarettes is not a harmless habit. E-cigarettes do not help to get rid of nicotine addiction, on the contrary, they contribute to the development of addiction in people who have not smoked before.

To sum up, nobody should be fooled by the alternative “harmless” smoking. Only a complete rejection of it will help to preserve the most precious thing a person has – health.

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В статье описаны риски и опасности для физического и психического здоровья человека, связанные с электронными сигаретами и вейпингом, популярными альтернативами обычным сигаретам.

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### **OZONLOCH: URSACHEN, FOLGEN UND AKTUELLE SITUATION**

Die Sauerstoff-Atmosphäre der Erde ist eine einzigartige Erscheinung unter den Planeten des Sonnensystems, diese Besonderheit ist eng mit Entstehung des Lebens auf unserem Planeten verbunden. Unsere Atmosphäre besteht aus zahlreichen Gasen, die für uns lebensnotwendig sind. Eines dieser Gase ist Ozon, eine dreiatomige Form des Sauerstoffs. 90 % des atmosphärischen Ozons

enthält die gleichnamige Ozonschicht – ein Teil der Stratosphäre, die die Erde in einer Höhe von etwa 14 000 bis etwa 35 000 m umgibt und diese vor einem Großteil der schädlichen ultravioletten Strahlung schützt. Die Ozonschicht ist jedoch sehr empfindlich. Wird sie beschädigt, ist von einem Ozonloch die Rede. Es führt dazu, dass die Sonnenstrahlung die Erdoberfläche in voller Stärke trifft. Ein ungehindertes Eindringen der UV-Strahlung würde ein Leben auf der Erde unmöglich machen.

Heute kennt jeder den Begriff Ozonloch, fast jeder macht sich Sorgen über diesen Begriff, denn es handelt sich um die Zukunft der ganzen Biosphäre der Erde, einschließlich des Menschen. Definieren können die wenigsten dieses bedrohliche Geschehen. In der vorliegenden Arbeit werden Ursachen für den Abbau der Ozonschicht und deren Folgen herausgefunden und mögliche Lösungswege für dieses Problem vorgeschlagen.

Unter Ozonloch versteht sich als ungewöhnlich starke, geografisch begrenzte Abnahme der Ozonschicht, die seit Ende der 1970er Jahre zuerst nur über der südlichen Polarregion und dann (1992) auch über der nördlichen Polarregion beobachtet wurde [1]. Der Begriff „Ozonloch“ ist etwas irreführend – denn es muss sich nicht unbedingt um ein richtiges Loch handeln. Laut dem Deutschen Institut für Luft und Raumfahrt spricht man bereits von einem Ozonloch, wenn die Ozonschicht ein Drittel dünner ist als normalerweise.

Bereits 1974 warnten die Wissenschaftler Marion José Molina und Frank Sherwood Rowland vor einer Reihe industriell hergestellter Fluorchlorkohlenwasserstoffen (FCKWs), die in der Lage sind, die stratosphärische Ozonschicht empfindlich zu schädigen. Für diese Entdeckung erhielten sie den Nobelpreis für Chemie (1995). Ernsthafte internationale Verhandlungen zur Frage der Emissionsbegrenzung wurden aber erst nach der schockierenden Entdeckung im Jahr 1985 aufgenommen, als ein Forscherteam um den Engländer Joseph Farman eine drastische und fortschreitende Abnahme der Ozonschicht von bis zu 60 % über der Antarktis dokumentierte. Dieses Phänomen wurde als Ozonloch bezeichnet. Das Ozonloch über der Antarktis erreichte in den 1980ern Ausdehnungen von bis zu 25 Millionen Quadratkilometern. Damit bedeckte es nicht nur die Antarktis, sondern auch Teile Australiens und Neuseelands.

Zum Schutz der Ozonschicht wurde 1987 das Montreal-Protokoll verabschiedet, ein internationales Abkommen, das 1989 in Kraft trat und mit dem sich die Unterzeichnerstaaten zu einer stufenweisen Reduzierung und schließlich zur vollständigen Abschaffung der Emission von ozonschädigenden Stoffen, verpflichten. Verstöße gegen diesen Vertrag gelten als Umweltkriminalität.

**Ursachen des Ozonabbaus:** Ozonlöcher entstehen regelmäßig im Spätwinter und Frühjahr über dem Süd- und Nordpol, doch auch über der Antarktis, Neuseeland und Australien verringert sich die Dicke der Schicht regelmäßig stark. Besonders über den Polen herrschen die idealen Bedingungen,

da Polarwirbel die Schadstoffe einfangen und bündeln. Dies passiert auch durch spezielle Wolkenbildungen, die „Stratospheric Clouds“. Damit ein Ozonloch entstehen kann, müssen also zwei Faktoren zusammentreffen: günstige klimatische Bedingungen und Substanzen, die Ozon angreifen. Zu solchen Substanzen gehören unter anderem durch den Menschen hergestellte und in die Atmosphäre eingebrachte, langlebige chlor- und bromhaltige Verbindungen, wie Fluorchlorkohlenwasserstoffe (FCKW) und Halon. Gefährlich für die Ozonschicht ist vor allem das Chlor in diesen Verbindungen. Für den Menschen grundsätzlich ungefährlich, entfaltet FCKW seine zerstörerische Wirkung erst beim Eintritt in die Atmosphäre. Hier steigt es in Höhen auf, in denen eine starke ultraviolette Strahlung herrscht. Diese zerschlägt das FCKW-Molekül und setzt das darin enthaltene Chlor frei, das wiederum bis zu 100 000 Ozon-Moleküle zerstören kann. Dieser Prozess kann sich bis zu 130 Jahre lang fortsetzen [2].

Die genannten Stoffe wurden bereits seit dem 19. Jh. Unter anderem als Kältemittel in verschiedenen Kältemaschinen verwendet. Sie sind praktisch, da sie weder brennbar noch giftig sind. Außerdem wurden FCKWs als Treibgase in Sprühdosen unterschiedlicher Art und als Treibmittel bei der Herstellung von Schaumstoffen verwendet. Ihren Gebrauch fanden FCKWs ebenfalls als Reinigungsmittel. Eine große Gefahr für den Ozonabbau stellt auch der Luftverkehr dar. Triebwerke der Flugzeuge und der Raketen stoßen Unmengen von Wasserdampf und ozonzerstörende Stickoxide in die Stratosphäre aus. Die Ozonlöcher sind also eine Folge der Industrialisierung.

Es ist gleichzeitig bekannt, dass die menschlichen Aktivitäten keine ausschließliche Ursache für die Entstehung des Ozonloches sind. Einige Pflanzen, wie z. B. Raps, produzieren Methylbromid, eine Verbindung, die zum Abbau von Ozon beiträgt. Außerdem werden bei den Vulkanausbrüchen größere Mengen von Halogenverbindungen freigesetzt, die ebenfalls die Ozonschicht schädigen können.

**Folgen des Ozonabbaus:** Die Abnahme der Ozonschicht hat negative Folgen – sowohl für den Menschen als auch für seine Umwelt, da mehr UV-Strahlung auf die Erdoberfläche gelangt. Diese Strahlung stellt für alle Lebewesen eine große Bedrohung dar: Unter dem Einfluss von UV-Einwirkung verschlechtert sich das Sehvermögen dramatisch, die Immunität wird schwach, was die Fähigkeit des Körpers, Infektionen und anderen Krankheiten zu widerstehen, verringert. Am häufigsten erleben Menschen allergische Prozesse, Krebserkrankungen, beschleunigtes Altern, schwere Hauterkrankungen, Neurosen u. a. In diesem Fall nimmt die Häufigkeit von Melanomen, das eine kritische Form von Hautkrebs ist, dramatisch zu, was ernsthaft auf die Dringlichkeit des Problems der Zerstörung der Ozonschicht in unserer Zeit hindeutet.

UV-Strahlung hat vielfältige Auswirkungen auf Ökosysteme. Insbesondere schadet sie Lebewesen, die knapp unter der Wasseroberfläche leben. Das hat wiederum Auswirkungen auf alle biologischen Kreisläufe, in die solche Spezies eingebunden sind. Starke UV-Strahlung schädigt Pflanzen und mindert damit Erträge in der Landwirtschaft.

3. Kontrovers wird das Problem der globalen Erwärmung diskutiert. Hier geht es auch um den Treibhauseffekt. Lange nahm man an, dass das Ozonloch und der Treibhauseffekt zwei unabhängige Phänomene sind, weil sie sich in unterschiedlichen Stockwerken der Atmosphäre abspielen. Doch seit kurzem weiß man, dass sie sich gegenseitig beeinflussen und über das Plankton als Verbindungsstück der Ursachen-Folgen-Kette zusammenhängen. Das erste Glied dieser Kette ist der Mensch, der ozonzerstörende FCKW in die Luft bläst. Das zweite Glied ist das Ozonloch, das Gefährliche UV-Strahlen durchlässt, die dann das Plankton schädigen. Dadurch nehmen die Einzeller weniger Kohlendioxid auf. Das führt wiederum dazu, dass die globale Oberflächentemperatur der Erde steigt, was am Ende auch wieder Folgen für den Menschen hat – die Kette schließt sich. Es ist klar, dass das Ozonloch die Zunahme des Treibhauseffekts verstärkt und dass der Treibhauseffekt für Erwärmung der Atmosphäre zuständig ist.

Die Protokolle zur Begrenzung der Schadstoffemissionen haben ihre Wirkung gezeigt: In den vergangenen Jahrzehnten hat sich die Ozonschicht teilweise wieder regeneriert. Da viele Prozesse, wie beispielsweise der Zusammenhang zwischen Klimawandel und Ozonabnahme, noch weitgehend unverstanden sind, ist es für die Wissenschaftler schwierig, zuverlässige Zukunftsprognosen zum Ozonabbau bzw. -aufbau abzugeben. Abschätzungen über die Geschwindigkeit, mit der sich das Ozonloch auf natürliche Weise wieder schließt, variieren um ein bis zwei Jahrzehnte. Die NASA schätzt, dass über der Antarktis erst 2068 der Zustand vor der menschlich bedingten Ausdünnung wiederhergestellt sein wird.

Trotz aller Erfolge bleiben einige Herausforderungen bestehen. Anzumerken ist allerdings, dass es immer noch viele Länder gibt, die die Vereinbarungen von Montreal bis heute nicht unterschrieben oder ratifiziert haben. In der Industrie entstehen weiterhin ozonschädigende Substanzen, die im Montrealer Protokoll oder der darauf aufbauenden EU-Verordnung noch nicht aufgeführt sind. Es handelt sich vor allem um kurzlebige Chemikalien, die dennoch die Stratosphäre erreichen können. Zudem existieren immer noch alte Kühlgeräte mit FCKW. Wenn diese nicht sachgerecht entsorgt werden, können die Gase austreten. Für bestimmte Verwendungszwecke sind ozonschädigende Substanzen weiterhin zugelassen. Es besteht jedoch immer die Gefahr, dass sie illegal zweckentfremdet werden.

Auch die Ersatzchemikalien für FCKW bereiten Probleme: Insbesondere teilfluorierte Kohlenwasserstoffe (HFKW) haben an vielen Orten FCKW ersetzt. Sie schädigen die Ozonschicht zwar nicht, wirken jedoch als starke Treibhausgase. 2016 haben die Vertragsstaaten deshalb das Montrealer Protokoll um die HFKW erweitert. Insbesondere die Industrienationen sollten den Einsatz von HFKW bis 2030 schrittweise stark reduzieren. Entwicklungsländer haben etwas mehr Zeit und sollen zum Teil von den Industrienationen unterstützt werden.

Obwohl die Ozon abbauenden Substanzen in der Atmosphäre weniger werden, gehen Wissenschaftler davon aus, dass die gegenwärtige Erholung der Ozonschicht von anderen Faktoren getrieben wird. Die internationalen Abkommen zum Schutz der Ozonschicht werden ihre Wirkung erst gegen Mitte oder Ende des Jahrhunderts entfalten, weil viele Ozon abbauende Substanzen sehr langlebig sind. Bis dahin bleibt die Ozonschicht generell anfällig und es können jederzeit wieder kritische Werte erreicht werden.

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В статье раскрывается понятие «озоновая дыра». Показаны причины и последствия возникновения озоновых дыр. Рассмотрены защитные меры для предотвращения разрушения и восстановления озонового слоя Земли.

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#### LOS AVANCES TECNOLÓGICOS Y BIOLÓGICOS DE LA MEDICINA DEL SIGLO XXI

La salud ha sido uno de los temas más importantes de la humanidad durante cientos de años, y a lo largo del tiempo la preocupación por una vida más digna y saludable y la búsqueda constante de la salud y la resistencia a muchas enfermedades, así como la búsqueda de tratamientos para nuevos virus, entre

otros, han llevado a científicos y médicos a lo largo de los siglos a los avances de la Medicina.

Hoy los trasplantes de órganos son rutinarios, y los titulares diarios sobre los misterios del ADN y el genoma humano prometen que los secretos de la vida están al alcance de los humanos. Llegar a este punto tomó miles de años y un paso a la vez.

Es evidente que el resultado de los cambios en la medicina de las últimas décadas es muy positivo.

La actual situación pandémica ha llamado la atención sobre las zoonosis (enfermedades transmitidas de animales a humanos), el progresivo aumento de la resistencia a los antibióticos, causado en parte por su mal uso y abuso, y los continuos peligros que patógenos como virus y bacterias pueden representar para la salud global.

Pero los retos son muchos y variados: enfermedades cardiovasculares y neurodegenerativas como el Alzheimer o el Parkinson, la diabetes o el cáncer son algunos de los principales desafíos a los que se enfrenta la humanidad, que lucha sin descanso por aumentar la duración y la calidad de su vida. No en vano, los antecedentes invitan al optimismo. A lo largo de los últimos 120 años se ha logrado prolongar la expectativa de vida media de hombres y mujeres en más de 40 años, y se han descubierto medicamentos y terapias que han revolucionado el abordaje terapéutico y, por ende, la calidad de vida de millones de seres humanos.

En esta rama de la ciencia los avances médicos son diversos y se clasifican de acuerdo a su tipología. Entre ellos podemos encontrarlos en la tecnología y los biológicos. Cuando hablamos de aspectos tecnológicos, nos referimos a uno de los avances de la Medicina más fundamentales para preservar la salud de las personas. Desde que existe la medicina la preocupación por encontrar una tecnología que permita erradicar fácilmente las enfermedades ha llevado al desarrollo de equipos que han simplificado muchos de los procesos médicos de este sector.

Entre los avances de tipo tecnológicos podemos mencionar:

- Equipos más avanzados para la detección de enfermedades y tratamientos mucho más efectivos.

- Nuevos y mejores medicamentos.

- Mejoramiento en equipos de ecografía, tomografía, entre otros.

Entre los avances más importantes en el campo biotécnico podemos mencionar:

- Obtención de hormonas como insulina, hormona del crecimiento y factores de coagulación.

- Obtención de vacunas recombinantes, como la de Hepatitis B, con menor riesgo potencial.



- Diagnóstico de enfermedades de origen genético, como enfermedades metabólicas [1].

Uno de los inventos más avanzados en medicina es considerado una prueba mínimamente invasiva que se realiza en una muestra de sangre para identificar células cancerosas tumorales o ADN de células tumorales que están circulando en la sangre. Puede ser útil para diagnosticar un cáncer en fase temprana y para planificar el tratamiento en función del tipo de tumor, determinar su eficacia y detectar una recaída. Es un procedimiento sencillo que no molesta al paciente y ahorra tiempo. Esta técnica aún no es definitiva en la detección precoz del cáncer, por lo que no sustituye a otros métodos de diagnóstico precoz, sino que los complementa.

Aunque los brazos robóticos se utilizan en el quirófano desde los años 80, no fue hasta la introducción del sistema de cirugía robótica de cuatro brazos Da Vinci, a principios del siglo XXI, cuando se ampliaron sus capacidades, convirtiéndose en uno de los mejores avances tecnológicos de la sanidad y permitiéndonos hablar de quirófanos inteligentes. Se utiliza ya en procedimientos neurológicos, ginecológicos, urológicos o cardiorrespiratorios, pero también en otros procesos quirúrgicos. Facilita que las intervenciones sean más cómodas y más precisas, especialmente las más complejas y de difícil acceso, superando las limitaciones de la cirugía laparoscópica.

En 2012 la Agencia Europea de Medicamentos aprueba la primera terapia genética de administración única para una enfermedad hereditaria. Glybera trata la deficiencia de lipoproteína lipasa, que hace que la grasa se acumule en la sangre, una rara enfermedad metabólica. Sin embargo, el alto coste del tratamiento (un millón de dólares, el fármaco más caro del mundo) y su baja demanda ha llevado a la compañía a no renovar la licencia de comercialización. A pesar de este precedente, la terapia génica, por la que un gen se introduce en las células del paciente para corregir la causa genética de una enfermedad, sigue siendo una de las promesas de la medicina por su capacidad de revertir patologías altamente debilitantes y hasta ahora incurables. Asimismo, en 2017 aprobó dos terapias pioneras que utilizan la inmunoterapia para reforzar el sistema inmunitario: las células sanas del propio paciente se modifican en el laboratorio para atacar a las células cancerosas y combatir algunos cánceres raros. Los expertos sugieren que, además de utilizarse en enfermedades raras y de baja prevalencia, serán útiles en el futuro para combatir patologías más comunes, como la diabetes o el Alzheimer [2].

Otro de los grandes avances de la medicina es la identificación y aislamiento de las células madre, las cuales son organismos capaces de originar otras células específicas. Esto ha permitido a los médicos utilizar las células madre para reparar ciertos tejidos enfermos y tratar con éxito enfermedades, como Lesiones

medulares, Lesiones cerebrales producidas por traumas, Enfermedades cardiovasculares, Trasplantes de órganos.

Este campo de investigación ha evolucionado de forma tan acelerada que, en la actualidad y gracias a las iniciativas de la Universidad John Hopkins, se están produciendo tejidos de órganos, como: pulmones, intestinos, vejiga o piel, además de prótesis óseas biológicas. Igualmente se ha avanzado en la utilización de las células madre para la realización de las terapias regenerativas en enfermedades cardíacas, pulmonares, hepáticas y reumáticas [3].

El próximo megaproyecto de la biología, según el Instituto Tecnológico de Massachussets (MIT), será construir el primer atlas celular o mapa de las 37,2 billones de células humanas. “Un esquema para capturar y examinar millones de células de forma individual utilizando las herramientas más potentes de la genómica moderna y la biología celular”, afirma el MIT. Un nuevo camino por explorar en el desarrollo de fármacos dirigidos a dianas específicas y una carrera a la que incluso se ha sumado el director general de Facebook, Mark Zuckerberg al aportar fondos en este campo de investigación [2].

Hoy en día nos movemos de una medicina reactiva o curativa a una medicina preventiva gracias a los grandes avances biotecnológicos y genéticos. Estos avances nos permiten contar con nuevas herramientas que facilitan la aplicación de una medicina cada vez más centrada en el paciente, teniendo en cuenta sus características específicas y orientada a prevenir las enfermedades para las que presenta más riesgo.

#### СПИСОК ИСПОЛЬЗОВАННОЙ ЛИТЕРАТУРЫ

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В статье рассматриваются различные достижения медицины XXI века. Также автор анализирует методы лечения и профилактики различных болезней, в особенности в условиях пандемии COVID-19.

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## **ENTSORGUNGSLOGISTIK: KONZEPT UND AUSWIRKUNG AUF DIE UMWELT**

Heutzutage kann die Präsenz der Logistik in allen Bereichen der menschlichen Tätigkeit beobachtet werden, in denen Waren hergestellt werden. Es ist jedoch nicht richtig, unter Logistik nur die Verteilung von Rohstoffen, Dienstleistungen, Produkten und Informationen zu verstehen, denn ein entscheidender und sehr interessanter Bereich der Logistik bleibt unbemerkt. Die Abfallwirtschaftslogistik: Das Konzept und die Auswirkungen auf die Umwelt sind das Ziel dieser Publikation.

In den letzten Jahren hat die Abfallentsorgung bei der Produktion von Waren und Dienstleistungen zunehmend an Bedeutung gewonnen. Dies ist auf folgende Faktoren zurückzuführen: steigende Entsorgungskosten aufgrund von Platzmangel auf Deponien und Akzeptanzproblemen bei der Abfallverbrennung, zunehmendes Umweltbewusstsein in der Öffentlichkeit und in Unternehmen [1]. Die Entsorgungslogistik ist ein funktionaler Bereich der Logistik, der sich mit der Lösung dieser Aufgaben beschäftigt. Die Entsorgungslogistik unterscheidet sich von anderen Logistikbereichen, insbesondere in Bezug auf die zu bearbeitenden Objekte, und ist gleichzeitig ihr Gegenstück. Es gibt zwei Arten von logistischen Ketten:

- direkte logistische Ketten sind die Güterbewegung von primären Rohstoffen, Produktions- und logistischen Ressourcen in der industriellen Produktion;

- umgekehrte logistische Ketten sind der Prozess des Warenverkehrs von sekundären materiellen Ressourcen.

Die Entsorgungslogistik befasst sich speziell mit umgekehrten Logistikketten. Die Aufgaben der Recyclinglogistik sind vielfältig. Sie umfassen die Abfallwirtschaft, die Abfallvermeidung und -verringerung, die Organisation eines eigenen Recyclingsystems und im Falle von Gefahrgütern die Führung eines Verwertungsnachweises. In einem Unternehmen sollte sich die Recyclinglogistik vor allem um Rückstände aus Produktions- und Arbeitsprozessen kümmern. Die Objekte der Entsorgungslogistik sind Abfälle, die in folgende Typen unterteilt werden können:

- Polymere, Glas, Textilmaterialien;
- metallische (Späne, Sägemehl);
- flüssige und feste Abfälle (Alkali, Erdölprodukte, Schrott);

- giftige;
- organische, anorganische Abfälle (landwirtschaftliche Produkte sind mineralische Rohstoffe);
- chemische;
- gasförmige (verschiedene Gase);
- umlaufende Abfälle.

Die Entsorgungslogistik, ähnlich der Materiallogistik, besteht aus drei Stufen, die auch als Wertwiederherstellungsschritte bezeichnet werden [3].

Der erste Schritt ist die Redistributionslogistik. Dabei handelt es sich um spezielle Retouren Bereiche im Lager, in denen die zurückgegebenen Waren bearbeitet und gelagert werden. Abhängig von der Entscheidung des Kunden und der Produktspezifikation wird entschieden, wie dieses Produkt behandelt werden soll.

Danach folgt die zweite Stufe, die so genannte Recyclinglogistik. Sobald eine Entscheidung über das Recyclingverfahren getroffen wurde, werden die gesammelten Rückstände dem Recycling zugeführt, um neue Materialien und Waren herzustellen, oder sie werden verbrannt, wobei Energie erzeugt wird.

Der dritte und letzte Schritt ist die Wiederverwendungslogistik. Die gelagerten Rückstände werden vollständig verteilt, und Materialien, die nicht recycelt werden können, werden auf Deponien entsorgt. Um die im Produktionsprozess anfallenden Abfälle zu reduzieren, wird der Entsorgungslogistik große Aufmerksamkeit gewidmet, da die Abfallentsorgung recht kostspielig ist. Durch die Integration der Recyclinglogistik können bereits in der Planungsphase zahlreiche Möglichkeiten zur Kosteneinsparung und -minimierung voll verwirklicht werden.

Beispielsweise gab Henry Ford, um die Kosten niedrig zu halten und weniger von Zulieferern abhängig zu sein, den Zulieferern Anweisungen über die Größe der Bretter für die Kisten, in denen die Teile geliefert wurden. Diese Bretter wurden dann für die Herstellung der Holzteile für die Autos verwendet. Das restliche Holz wurde zur Herstellung von Holzkohle verbrannt, die ebenfalls verkauft wurde [2]. Die Rückwärtslogistik ist wichtig, weil sie einen effizienten Warenfluss aufrechterhält. Der Prozess reduziert Kosten, schafft Wert, verringert das Risiko und vervollständigt den Produktlebenszyklus [4].

Die Abfallbeseitigung ist sehr teuer und daher die unattraktivste und teuerste Methode, um Produktionsrückstände zu beseitigen.

Daraus folgt, dass es im heutigen Produktionssektor wünschenswert ist, Abfälle zu minimieren oder wiederzuverwenden. Ursprünglich konzentrierte sich die Logistik der Abfallbewirtschaftung auf den kostengünstigsten Weg der Rückführung. Heute hat sich der Schwerpunkt jedoch auf eine Logistik verlagert, die nicht nur wirtschaftliche, sondern auch ökologische Faktoren berücksichtigen muss, die den Rücktransport von Waren und Abfällen in

Zukunft angesichts der globalen Umweltverträglichkeit von Produktion und Konsum ausreichend beeinflussen werden. Dabei handelt es sich um die Bereitstellung von Recyclingprozessen in Form von umgekehrten Lieferketten: Sammlung und Sortierung von Abfällen, deren Lieferung an Verteilungslager, Lieferung von Fertigprodukten aus Abfällen an das Vertriebsnetz usw.

Mit der Entwicklung der Wirtschaft werden neue Herausforderungen entstehen und die Entsorgungswirtschaft wird noch wichtiger werden. Daher sind Gesetzesänderungen erforderlich, um den Bereich reversible Logistik und Entsorgungslogistik zu entwickeln. Auf diese Weise werden diese Maßnahmen dazu beitragen, die Umweltsituation in bestimmten Bereichen des menschlichen Handelns zu verbessern.

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В статье автор продемонстрировал, что с экологической точки зрения логистика охватывает весь «жизненный цикл» продукта и что управление отходами приобретает все большее значение. Логистика отходов рассматривается как одна из сфер экологического маркетинга. В контексте рассмотрения логистики отходов автор анализирует обратную логистику и вводит новое понятие – логистика рециркуляции.

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## **AIR POLLUTION AS A FORM OF ENVIRONMENTAL POLLUTION**

The most significant global problem can be considered atmospheric pollution of the planet, i.e. air pollution. Moreover, the main danger of this problem is not only in the shortage of clean air but rather even in the direct impact of such pollution on global climate change. First of all, atmospheric air is the main and most important vital element of the space surrounding a person.

Air pollution problem is a form of pollution problem that leads to its physical, biological or chemical change. That's why it becomes unsuitable for the life of people, animals and plants. Air pollution can be visible or invisible. An imbalance caused by an increase or decrease in the percentage of these gases can be detrimental to survival.

The main global problems that humanity has already faced which increase the level of air pollution:

- reduction of the ozone layer, which ensures the existence of ecosystems on the planet;

- global warming – a direct result of the increased imbalance of gases in the atmosphere and the biggest threat and challenge that the modern world must overcome in order to survive [1]. As a result of the growing global consumption of fossil fuels the level of carbon dioxide in the atmosphere has been rising steadily since 1900, and the rate of growth is accelerating. It has been estimated that if carbon dioxide levels are not reduced the average global air temperature could rise another 4 °C (7.2 °F) by the end of the 21st century. This warming trend could lead to melting of the polar ice caps, rising sea levels and flooding of the world's coasts. Changes in precipitation patterns caused by global warming may have adverse effects on agriculture and forest ecosystems, higher temperatures and humidity may increase human and animal disease in some parts of the world. The implementation of international agreements on reducing greenhouse gas emissions is essential to protect global air quality and mitigate the effects of global warming [2].

Air pollution occurs in two ways:

- natural, when pollution is associated with natural processes and exists constantly. Natural pollutants include volcanoes, wildfires, sea salt fumes, space dust, animal emissions and other factors.

– anthropogenic, when atmospheric pollution is directly related and caused by human activity. Such sources of pollution include: transport (trains, ships, cars), metallurgy enterprises (emissions of solid particles, oxides and harmful substances – manganese, lead, during the smelting of non-ferrous or ferrous metals), power plants of various types (thermal, nuclear), emissions from the process of fuel combustion, both liquid and solid, waste dumps, including garbage and products of its processing and other substances that are formed during the combustion of fuel, livestock and other complexes, as well as substances used as pesticides to combat crop problems [3]. The consequences of this problem are extremely dire. Every day a person inhales 300-500 liters of oxygen making 12-16 breaths per minute. Oxygen is critical for all processes occurring in the body so its quality directly affects the state of health. According to WHO, human diseases resulting from air pollution kill 7 million people worldwide every year. Scientists say that it is the air that is the main source of harmful substances entering the body: when inhaled they penetrate more than with food, water, through the skin from the environment. Children are more affected by air pollution. The primary incidence among children is 4-5 times higher than in adults. Diseases associated with air pollution affect all organs.

Human diseases that occur most often due to air pollution are:

cardiac ischemia; stroke; chronic obstructive, pulmonary disease, respiratory infections of the respiratory tract, lung cancer, heart failure, asthma, cerebrovascular diseases [4].

A key measure to protect public health is the fight against air pollution which is the second most important risk factor for the development of non-communicable diseases. There are many examples of successful policy measures to reduce air pollution in industry:

– introduction of clean technologies that help reduce emissions into the atmosphere at industrial enterprises;

– improvement of municipal and agricultural waste disposal systems including capturing methane from waste disposal sites (for use as biogas);

– in the energy sector – ensuring access to affordable household energy sources for cooking, heating and lighting;

– in transport – transition to environmentally friendly methods of energy production; priority development of high-speed urban transport, walking and cycling in cities;

– switching to cleaner diesel engines for heavy duty vehicles, low emission vehicles and cleaner fuels including low - sulphur fuels;

– in urban planning – increasing the energy efficiency of buildings, greening and reducing the area of cities; in the power industry – greater use of low-emission fuels and non-combustion renewable energy sources (such as solar, wind or hydropower);

- combined heat and power generation and distributed energy generation (e.g. small scale power grids and rooftop solar panels);

- in municipal and agricultural waste management – strategies for waste reduction, waste segregation, recycling and reuse or recycling, as well as improved biological waste disposal methods such as anaerobic digestion of waste to produce biogas are feasible low-cost alternatives to open burning of solid waste, beyond unless incineration is unavoidable and strict emission control incineration technologies must be used;

- in health – moving health services to a low-carbon path can lead to more sustainable and cost-effective service delivery, as well as reduce environmental health risks for patients, health workers and the community [5].

Efforts are being made around the world to slow down the rise in air pollution in order to reduce global warming. Innovations are introduced, experiments are carried out aimed at alternative and non-traditional solutions to the problem. Air pollution is one of the biggest mirrors of human faults and it is necessary to overcome this problem in order to see the future.

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В статье раскрываются проблемы, связанные с загрязнением атмосферного воздуха, а также проанализированы последствия для организма человека, вызванные высоким содержанием вредных элементов. Описаны основные меры, предпринимаемые правительствами стран для решения данной проблемы.

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**PRIMARY SCHOOL CHILDREN'S SOCIAL-EMOTIONAL SKILLS**

Social-emotional skills and their development play an important role throughout a child's lifetime. In this article we aim to reveal the importance of social-emotional development of a child.

Various models explain the development of social competence. In terms of the ecological systems approach, competence is defined as a set of stage-sensitive organizational tasks that are immersed in the interaction of family, peers and social systems. For example, activities and social relationships that occur within a child's family or peer group influence competent outcomes.

External settings, such as schools or day care centers affect social competence. External environments indirectly influence the processes in the immediate environment of a child. Beliefs, values, customs embedded in cultural systems can also affect a child's microsystem. Thus, adaptation and competence depend on multiple factors in the developmental process.

Children begin to identify emotions very early. Around the age of four or five, children experience, identify and differentiate between anger, sadness, fear, happiness, shame, pride, guilt on the basis of facial expressions. After the age of six children change their affective vocabulary, mostly in terms of the number and variety of concepts defining emotions. They can perceive the diversity and complexity of emotional expressions and, most importantly, they are aware that their emotions give rise to certain causes that have consequences for their own behaviour and that of others. Emotions accompany everything that young school-age children do: play, learning activities, practical learning, artistic activities.

Social emotional development has many definitions. According to The Center on the Social Emotional Foundations for Early Learning (CSEFEL), social emotional development is the development that happens in children since birth through the age of five that allows a child to have trusting relationships with both adults and peers; to be able to express emotions in appropriate ways; and to become independent and comfortable to investigate their surroundings [1].

According to Ashdown and Bernard there are five core social emotional competencies: self-awareness, social awareness, self-management, relationship skills and responsible decision-making. They are vital to young children's welfare. Social emotional skills include self-confidence, goal setting, empathy, responsible decision-making, concentration, persistence, attentiveness, effective communication and problem-solving [2].

It has been found that in the classroom there are certain factors that can affect social-emotional development of primary school children: the academic pushdown; technology use; limited free time. These factors are the consequence of current trends.

Academic pushdown is the occurrence of early childhood classrooms focusing more on academic achievement than all developmental domains, including social-emotional development [3]. Such a focus on academics can have a detrimental effect on a child's development. Being more academically focused, with less free time, means less time to build relationships and explore. This leads to less time practicing social skills. Without time to do these things, a child's social emotional development will not reach its full potential.

Many teachers notice that this makes children feel inadequate, anxious and confused. Academic pushdown has not been proven to be effective in reaching higher academic achievement. According to the comparative study of the school curriculum in classes where direct teaching methods were used, almost half of the children needed special education due to social differences, while attending a play-oriented school has led to a significant decrease in the number of children in need of additional assistance due to social differences. Also children from play-based programs scored better on indicators such as social and emotional skills [3].

Early childhood programs need to provide environments that help students improve all developmental domains. Primary school teachers need to promote social and emotional skills in order for all other domains to be affected. This can be achieved by reading books and asking the children open-ended questions. Other ways to promote social-emotional development include providing specific positive reinforcement, modeling appropriate behavior, and providing cues, including visual and long term. Children also need time to play and interact with their peers throughout the day. Promoting cognitive, physical, social and emotional concepts and skills provides the best foundation for learning.

Young children are increasingly exposed to technology. Technology surrounds them from a young age. There are different opinions as to whether computer use is harmful or beneficial to a young child's development. Findings have suggested that technology can be harmful, while according to others it is not. Still technology is detrimental to a child's social emotional development since it limits peer and teacher interaction.

Another concern is that technology is used for entertainment purposes in the classroom, leading teachers to use other teaching methods less frequently. Technology is seen as a distraction, too abstract for young children who need concrete learning experiences. Studies have shown that when primary schoolchildren master technology, they are more involved in a parallel game,

rather than in a cooperative one [4]. This decreases the chance of children interacting and engaging in social experiences with one another.

More and more schools are changing their schedules to decrease unstructured recess time. As a result, children miss social opportunities. Children need unstructured, social time to promote and enhance social skills, such as communication, cooperation, sharing, turn taking, negotiating and problem solving. Other benefits of recess include increased learning, better classroom management, fostering social development, promoting physical well-being, cooperation, sharing, initiating, building relationships and communication skills. All these benefits are important for social and emotional development of a child.

Thus, social-emotional skills are essential for a primary school student to develop to be a successful adult. Social emotional competence includes goal setting, empathy, responsible decision-making, confidence, concentration, persistence, effective communication, and problem solving, among others.

Nowadays more early childhood classrooms are placing their focus on academic achievement rather than social emotional development. It is important to note that children are more likely to exhibit challenging behaviors if they do not have social emotional competency. Social emotional skills can and should be embedded into the classroom throughout the day. There are also social emotional learning programs available for classes primary schools. Many of these provide activities to intentionally teach social emotional skills.

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В статье показана роль социально-эмоциональных навыков для развития детей младшего школьного возраста. Также охарактеризовано влияние на развитие детей

таких факторов как академическое давление, использование технологий и ограниченность или нехватка свободного времени.

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### **ARTIFICIAL INTELLIGENCE: PRINCIPLES AND TYPES**

Artificial intelligence (AI) is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. In this article we aim to present a brief history of artificial intelligence, to describe the principles it is based on and its types, as well as to provide examples of its application.

People faced tasks that would take more than one generation to calculate long before the creation of the first silicon processors. A striking example is the four-color theorem, which was proved by K. Appel and V. Haken in 1976. The work of the computer imitated the work of a human. The concept of AI was also conceived as an imitation of the brain. However, the first attempts to create a prototype of the modern concept of AI date back to 1950 [1].

The tic-tac-toe game is familiar to everyone. At the very beginning one can play a zero-sum or win the game if he uses an algorithm. But to present this task to a computer, it is necessary to build a tree that consists of more than 255000 nodes. It is much more rational to follow a simple algorithm that is already known than to enter it into a computer.

A well-known game of chess provides a more complex example. According to approximate calculations made by the American mathematician K. Shannon, the game consists of about  $10^{120}$  non-repeating chess games. Analysts of the RAND Corporation A. Newell, J. Shaw and G. Simon came up with this idea in 1954. They were assisted by A. Turing and K. Shannon, as well as a group of Dutch psychologists. The NSS programme, that was written in 1957, did not live up to the expectations placed on it [1], but it made this task public, and thanks to this the Soviet chess program “Kaissa” won the World Championship amongst machines in 1974.

The first attempts to shift some of the work to the machine were quite primitive and worked on the simplest conditions or algorithms (if A then B, if C then D). It took a huge number of nodes to create an algorithm on a simple tic-tac-toe game, but it doesn't work with chess. In this case, it is necessary to

change the approach. It was demonstrated by the chess supercomputer Deep Blue II, which won the match against Garry Kasparov. To beat the world chess champion, the computer looked at the situation on the field and analyzed it several moves ahead. In order to view the possible outcome of events and to choose the most optimal move, an assessment was based on about 8000 different signs.

There are many definitions of AI. The simplest of them is systems that exhibit human behavior. In connection with this definition, AI systems are conditionally divided into two classes – strong (general) and weak (narrow). At the moment, there is no clear boundary between these classes, but it has been agreed upon that the system that has the following properties will be called strong [2]:

- Making decisions, using strategies, solving puzzles, and acting in conditions of uncertainty.
- Representation of knowledge including a general idea of reality.
- Planning.
- Training.
- Willpower.
- Communication in natural language.

All other systems are weak. Modern programmes have learnt to produce results based on available data. Thanks to the algorithms and methods that are embedded in the programme, the computer is able to independently draw “conclusions” that will be used by the computer in the future. This led to more and more ‘victories’ over people. Thanks to a large database of photos, the computer has learnt to recognise faces, and it does this more accurately than a human. The breakthrough happened in 2016, when Google’s AI system AlphaGo defeated Lee Sedol, the champion of the Chinese board game Go, in the first of a five-game challenge match.

Figure 1 shows the difference between the principles of operation of regular machine learning and deep machine learning. Deep machine learning has a more complex algorithm. It receives data in the first layer then processes and transmits it to the second layer. With this approach, AI can perform more complex tasks.

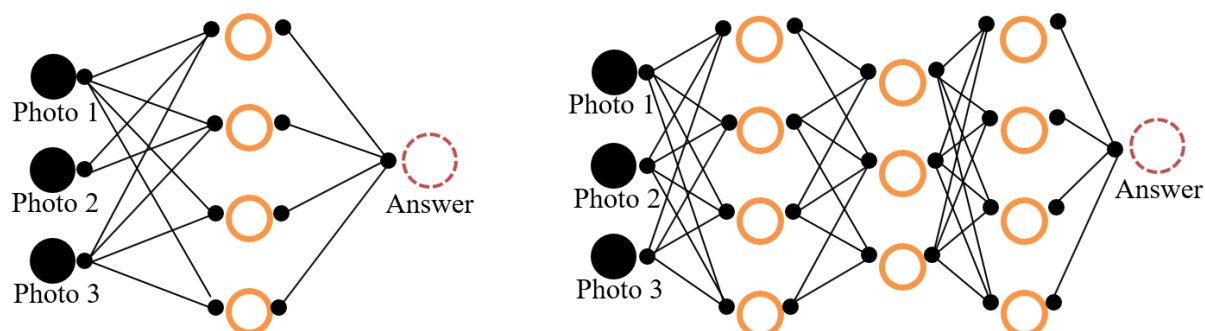


Fig. 1. – Difference between regular machine learning and deep machine learning.

Nowadays, neural networks are gradually becoming an integral part of people's lives. They are used in smartphones (for example voice assistants), and in space exploration. They are called neural networks because of their similarity to the neurons of the brain in the principle of operation. Some of the most famous examples of weak neural networks are: Midjourney – working with photos, ChatGPT – a chatbot with artificial intelligence, GitHub Copilot – an assistant for programmers.

AI is increasingly becoming part of everyday life and an area company across every industry are investing in. The following are the main developments at the moment:

- Deep learning.
- Synthesis and recognition of text and speech.
- Development of neuromorphic chips and computers based on them.
- The work on human brain scanning and modelling.
- Automation of production and movement.
- Development of a regulatory framework for the use of robots [1].

The concept of AI is only gaining momentum. Now we are working with representatives of weak neural networks. Already at this stage, there are a number of problems related to the unpredictability of AI, existential and social risks. For example, artificial intelligence affects human employment. With many industries looking to automate certain jobs using intelligent machinery, there is a concern that people would be pushed out of the workforce. One more common idea is that machines will become so highly developed that humans will not be able to keep up and they will take off on their own, redesigning themselves at an exponential rate. Perhaps very soon we will witness the first representative of a strong AI, then both new spaces for creativity and previously unknown problems will come into being.

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В статье изложена краткая история создания искусственного интеллекта, описаны основные принципы работы искусственного интеллекта (ИИ) и его виды, приведены примеры его использования.

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## VERMITTLUNG VON MEDIENKOMPETENZ AN SCHULEN

Elektronische Medien gewinnen in unserer Gesellschaft an immenser Bedeutung. Smartphone und Internet in der Hosentasche sind aus dem Alltag junger Menschen nicht mehr wegzudenken. Aus Erhebungen wissen wir: Praktisch alle jungen Menschen über zwölf Jahren verfügen über ein eigenes Smartphone. Ihre Medienwelt ist bunt und vielfältig wie nie zuvor: Tablets, Smart-TV, Smart-Watches, VR-Brillen... Sie verändern nicht nur die Mediennutzung, sondern automatisieren Abläufe und ermöglichen neue digitale Erlebnisse. Aber sie stellen auch neue Herausforderungen dar, fordern andere Kompetenzen. Die Fachleute sind der Ansicht, dass der kompetente und sichere Umgang mit diesen neuen Medien inzwischen zu den zentralen Kulturtechniken gehört und zu einer Grundkompetenz wie Lesen, Schreiben und Rechnen geworden ist. Gerade digitale Medienkompetenz bei Kindern und Jugendlichen zu fördern, ist daher ein zunehmend wichtiges Thema in Schule und Pädagogik. Das Ziel dieses Artikels ist es, den Begriff *Medienkompetenz* zu erläutern und die Zweckmäßigkeit der Einführung des Schulfaches *Medienkunde* auszuwerten.

Der Begriff der Medienkompetenz ist auf den Erziehungswissenschaftler und Hochschullehrer Dieter Baacke zurückzuführen, der die Bezeichnung bereits in den 1970er-Jahren in einer Veröffentlichung thematisiert hatte. Das Thema gewann jedoch erst im Zuge der Digitalisierung massiv an Bedeutung. Laut Baacke ist Medienkompetenz die Fähigkeit einer Person, Medien den eigenen Bedürfnissen und Zwecken entsprechend sinnvoll zu nutzen und verantwortungs-voll mit ihnen umzugehen [1]. Wir brauchen Medienkompetenz,

um fundiert zwischen verschiedenen Medien wählen zu können und da zu kommunizieren, um Inhalte und Informationen kritisch bewerten zu können, um das Potenzial des Internets uneingeschränkt risiko- und medienkompetent zu nutzen. Die Medienkompetenz ist somit eine Schlüsselqualifikation in der digitalen Welt.

Wegen der Schulpflicht und der vielen Stunden, die Kinder dort verbringen, ist die Schule eine wichtige Konstante, um Kinder und Jugendliche auf ihrem Weg zu verantwortungsvollem Medienhandeln zu begleiten und ihnen grundlegendes Wissen zu vermitteln. In der Schule sollte Raum für das Thema geschaffen werden. Die Schule hat heute die Aufgabe, die Schüler in digitale Medien einzuführen, ihnen neue Möglichkeiten und Wege zu eröffnen, ihnen zu zeigen, wie man diese eigenständig und sinnvoll nutzen kann und gleichzeitig eine kritische, analytische und reflexive Haltung gegenüber der neuen Medien und des eigenen Medienkonsums zu entwickeln. Informatik als Wahlpflichtfach alleine reicht aber nicht aus, da sie nur wenige Aspekte abdeckt, meist technische Anwendungsbereiche oder einfaches Programmieren. Diese Inhalte sind nützlich und wichtig, doch gesellschaftliches und politisches Hintergrundwissen zur Mediennutzung wird im Informatikunterricht nur selten oder unzureichend vermittelt. Deswegen fordern Experten, ein eigenes Schulfach „Medienkunde“ einzurichten, in dem von jeder Schülerin und jedem Schüler systematisch Medienkompetenz erworben wird.

Dieter Baacke untergliedert die Medienkompetenz in vier Dimensionen, um ein umfangreicheres Bild zu vermitteln: Medienkritik, Medienkunde, Mediennutzung, Mediengestaltung. Unter *Medienkritik* wird die Fähigkeit zur analytischen, ethischen und reflexiven Nutzung von Medien verstanden. Das kritische Hinterfragen des Wahrheitsgehalts und der Auseinandersetzung mit dem Inhalt der Meldung ist ein wichtiger Bestandteil der Medienkompetenz. Die Schülerinnen und Schüler lernen die Medienlandschaft zu analysieren und einer Beeinflussung durch Medien nachdenklich gegenüberzustehen.

So werden im Unterricht beispielsweise medial gestützte Werbungen analysiert und auf die spezifische Gestaltung zur Kundengewinnung eingegangen.

In der *Medienkunde* wird darauf Wert gelegt, dass die Kinder Wissen über heutige Medien erlangen. Das beinhaltet z. B. wie ein Zeitungsartikel entsteht oder ein Fernsehbeitrag aufbereitet wird. Manche großen Wochen- oder Tageszeitungen bieten den Schulen kostenlose „Lehrerpakete“ für praxisorientierte Unterrichtseinheiten.

Die *Mediennutzung* besitzt einen doppelten Charakter. Auf der einen Seite sollen die Schülerinnen und Schüler in der Lage sein, die Medien rezeptiv anzuwenden, d. h. sie sollen Programme nutzen können. Konkret bedeutet das, dass die Nutzung nicht zufällig erfolgt, sondern bewusst und gezielt stattfindet.



Auf der anderen Seite sollen die interaktiven Angebote auch genutzt werden. Hierzu zählen z. B. die Produktion eigener Podcasts oder Stop-Motion-Filme.

Bei der *Mediengestaltung* sollen die Jugendliche das Mediensystem innovativ und kreativ weiterentwickeln. Das heißt, dass die Schülerin oder der Schüler auch selbst in der Lage ist, neuen Inhalt oder eigene Medien zu produzieren. Hierzu zählen z. B. das Entwickeln neuer Kommunikationswege.

Angesichts der genannten Dimensionen der Medienkompetenz sollen im Schulfach *Medienkunde* folgende Kompetenzen erworben werden:

Informationen, die Grundlage für Erwerb und Anwendung von Wissen sind, zu erkennen und zu nutzen;

den Zugriff auf Informationsquellen sowie die Auswahl und Verwertung von Informationen sachgerecht, reflektiert und selbstbestimmt zu gestalten;

auf der Grundlage von Kenntnissen medialer Kommunikation und ihrer Regeln zu kommunizieren;

eigene Lern- und Arbeitsergebnisse sach-, situations-, funktions- und adressatengerecht zu präsentieren;

eigene Medienproduktionen auf der Grundlage des sachgerechten Einsatzes unterschiedlicher Medientechniken vorzunehmen;

auf der Grundlage gesicherter Kenntnisse medialer Zeichensysteme und der darauf basierenden Inhalt/Form/Struktur – Beziehungen unterschiedliche Medienangebote zu analysieren, zu erörtern und zu interpretieren;

die Rolle der Medien bei der Gestaltung des individuellen und gesellschaftlichen Lebens, für ihre die Wirklichkeit konstruierende Funktion und die Bedeutung für die Berufs- und Arbeitswelt zu verstehen und einzuschätzen [2].

Die Kinder müssen verstehen, wie Medien funktionieren und wieso Daten gesammelt, ausgewertet, manipuliert, verkauft und missbraucht werden, um den monetären Wert von Daten und den ethischen Wert von Privatsphäre zu erkennen. Damit trägt die Umsetzung des Kursplanes *Medienkunde* im Zusammenspiel mit dem generellen Medieneinsatz in Unterricht und Schule dazu bei, unsere Kinder und Jugendlichen bestmöglich auf Lehre, Studium und Beruf sowie ein lebenslanges Lernen vorzubereiten. Es muss betont werden, dass die Medienkompetenz stetig weiterentwickelt und auf neue Anforderungen angepasst werden muss.

Ohne Zweifel wurde in den zurückliegenden Jahren viel zur Förderung der Medienkompetenz unternommen – in der Politik, in der Wissenschaft und selbstverständlich auch in den Schulen. Medienkompetenz als eine Schlüsselqualifikation für das Leben in unserer Informations- und Kommunikationsgesellschaft gewinnt ständig an Bedeutung. Die Vermittlung von Medienkompetenz an Kinder und Jugendliche durch deren Lehrer muss ein zentrales Anliegen unserer Wissensgesellschaft sein, die sich durch die fortschreitende Digitalisierung, Ausdifferenzierung und Vernetzung der Medien weiter wandeln wird. Darin liegt ein bildungspolitischer Auftrag.

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Статья посвящена вопросам интеграции в школьную программу курса «Медиаобразование» с целью формирования у учащихся медиакомпетенции как ключевой компетенции личности в современном информационном обществе.

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**PAPEL Y PERSPECTIVAS DE LA PARTICIPACIÓN DE BELARÚS EN LA DIVISIÓN INTERNACIONAL DEL TRABAJO**

La división internacional del trabajo, es decir, la especialización de los distintos países en la fabricación de determinados productos que se intercambian entre ellos, constituye la base de la integración de las economías nacionales en una única economía mundial.

Durante muchas décadas, el lugar de la República de Belarús en la división internacional del trabajo se ha determinado por las peculiaridades de la estructura existente de la economía nacional, que se formó en la URSS, cuando la economía era un sistema cerrado, acompañado por el retraso tecnológico del complejo industrial, la falta de competencia, la concentración en las necesidades del mercado nacional, la producción de productos mayoritariamente no competitivos en los mercados mundiales.

En estas condiciones, la especialización de Belarús estaba determinada por su situación geográfica y se centraba en la integración a largo plazo de la economía de la república en un único complejo económico nacional, y en la producción y exportación de productos acabados [2, c. 54].

La entrada de la República de Belarús en el división internacional del trabajo se produce de acuerdo con las tendencias mundiales generales de su desarrollo. Así lo confirma la formación de la especialización internacional de la economía del país. Los datos estadísticos muestran que la economía bielorrusa participa en la división internacional del trabajo y ocupa un cierto "nicho" en la

economía mundial que representa el 0,15% de su territorio y el 0,11% de su población [1].

Las tendencias de la economía de la República de Belarús en la división internacional del trabajo muestran que, en primer lugar, ocupa una posición intermedia entre los estados con orientación a las materias primas y los países productores de productos acabados.

Por un lado, esto hace que la economía dependa del estado de la demanda y los precios en los mercados de materias primas y, por otro, promueve la cooperación en materia de inversiones, estimula la introducción de nuevas tecnologías, la producción de productos competitivos, etc., pero al mismo tiempo hace que la economía dependa de la demanda de sus exportaciones.

La integración de la economía bielorrusa en el sistema de relaciones económicas mundiales se desarrolla sobre la base de diversos mecanismos, entre ellos la integración de tipo tecnológico-recurso (predominio de los productos acabados en las exportaciones y de las materias primas en las importaciones) y la integración de tipo tecnológico (predominio de los productos acabados en las exportaciones e importaciones), que viene determinada por la estructura de materias primas de las exportaciones e importaciones, la formación de relaciones económicas exteriores entre los Estados socios.

Los datos anteriores sobre las tendencias de desarrollo del proceso de inclusión en las relaciones económicas mundiales, los indicadores de participación en la división internacional del trabajo indican la necesidad de seguir mejorando la especialización internacional en la República de Belarús.

Las principales áreas para mejorar la especialización internacional de la república incluyen:

- desarrollo de industrias y manufacturas orientadas a la exportación y de alta tecnología con ventajas competitivas, industrias capaces de orientarse a la exportación sobre la base de altas tecnologías; expansión de la exportación de bienes y servicios sobre su base;

- aumento de la capacidad de exportación de la industria manufacturera;

- aumento del grado de transformación y mejora de las materias primas exportadas;

- cambios en los destinos de las exportaciones para desarrollar nuevos mercados de exportación, incluida la diversificación de los mercados de materias primas y energía y los mercados de consumo de productos acabados, así como la retirada gradual de los mercados en los que Belarús no tiene ninguna ventaja competitiva;

- cambio de la estructura de las importaciones de bienes y servicios debido al desarrollo de la producción de bienes y servicios que sustituyan a las importaciones, que puedan ser competitivas, así como el paso a las importaciones de bienes cuya producción no es conveniente debido a las ventajas comparativas;

– intensificación de los procesos de transnacionalización, que permitirán la formación de un nuevo sistema industrial integrado por grandes FIG, ETN y alianzas estratégicas, diversificarán la producción y acelerarán la integración de la economía nacional en el sistema de la OEI;

– la formación de complejos de clusters capaces de convertirse en "puntos de referencia" de la especialización internacional en la fase nacional de entrada en la economía mundial;

– el potencial de exportación de servicios competitivos, incluidos la educación y la sanidad.

Proponemos las siguientes áreas prioritarias de participación en la división internacional del trabajo:

– intensificación de la cooperación con las asociaciones de integración de la Comunidad de Estados Independientes y la Unión Europea;

– intensificación de las relaciones económicas exteriores con los países del Sudeste Asiático (especialmente las economías en rápido crecimiento de China e India), Oriente Medio, África y América Latina;

– estímulo de la cooperación entre diversos sujetos de I+D (centros de investigación, universidades, empresas privadas), creación de infraestructuras pertinentes basadas en agrupaciones regionales y recursos locales.

De este modo, Belarús participa activamente en la división internacional del trabajo, en consonancia con las tendencias mundiales. Entre los principales ámbitos de mejora figuran el desarrollo de industrias orientadas a la exportación y la intensificación de los procesos de transnacionalización. Entre las áreas prioritarias propuestas se encuentran el fomento de los vínculos económicos exteriores con el Sudeste Asiático y la promoción de la cooperación entre las distintas instituciones de I+D.

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В статье раскрывается роль и место Республики Беларусь в Международном разделении труда, также описываются соответствующие проблемы и направления их совершенствования. Автор предлагает пути решения, способствующие наибольшей интеграции государства в систему мирохозяйственных связей.

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## **APPLICATION OF METHODS OF THE THEORY OF RELATIVISTIC WAVE EQUATIONS TO DESCRIBE THE SYMMETRIES OF TWO-DIMENSIONAL STRUCTURES**

In a number of publications devoted to the study of two-dimensional crystal structures such as graphene, it has been shown that electrons and holes in the conduction band in such structures can be compared with quasiparticles with spin  $S = 1/2$  and zero effective mass. In other words, there is a fundamental possibility of a theoretical description of graphene properties by well-developed methods of the theory of relativistic wave equations.

It is also known that in a space of dimension 3+1, particles with spin  $1/2$  and additional internal degrees of freedom can be described by means of a complete set of antisymmetric tensor fields obeying the Dirac-Kaehler equation. Taking into account these circumstances, it is important to investigate this equation for the possibility of a geometrized description based on quasiparticles in graphene. To do this, first of all, a comparative analysis of the internal symmetry of the Dirac-Kaehler equation and the system of two Dirac equations which is usually used to describe the lattice structure of graphene should be carried out. The present work is devoted to solving this problem.

The study is carried out using a method based on the preliminary reduction of the studied equations to a real form. This method was tested on a single Dirac equation in the 2+1 space. At the same time, new results were obtained – the established group of internal symmetry turned out to be wider than that which is usually considered in the works of other authors.

The application of this method to a system of two massless Dirac equations shows that the internal symmetry group of the lagrangian formulation of the theory is isomorphic to the 36-parametric group  $SO(5,4)$  with 20 real and 16 imaginary parameters, which, as in the case of one Dirac equation, is much wider than the group  $SU(2) \otimes SU(2)$  usually mapped to such a system.

In addition, the internal symmetry of the Lagrangian of the system of two Dirac equations with nonzero mass in the space 2+1 is investigated. It is obtained by excluding from consideration transformations that anticommute with the matrices  $\Gamma_\mu$  of the relativistic wave equation which is a matrix-differential form of writing this system.

Finally, the internal symmetry of the Dirac-Kahler field in a space of dimension 2+1 is studied in detail.

The tensor form of the DC equation in the 2+1 space can be obtained from the tensor form of this equation in the 3+1 space by excluding from the last of all quantities containing dimension  $x_3$ . As a result, we get 8-component system

$$\begin{aligned} \partial_k \psi_k + m\psi &= 0, \\ \partial_i \psi_{[ki]} + \partial_k \psi + m\psi_k &= 0, \\ -\partial_k \psi_i + \partial_i \psi_k + \partial_j \psi_{[kij]} + m\psi_{[ki]} &= 0, \\ \partial_k \psi_{[ij]} + \partial_j \psi_{[ki]} + \partial_i \psi_{[jk]} + m\psi_{[kij]} &= 0, \end{aligned} \quad (1)$$

This system can be written in the universal matrix form of the first-order relativistic wave equation:

$$\left( \Gamma_k^{(8)} \partial_k + m \right) \Psi^{(8)} = 0. \quad (2)$$

Taking the complex conjugation from equation (2) and considering the conjugate equation together with the original one, we obtain a system that can be represented in a similar (2) form:

$$(\Gamma_k \partial_k + m) \Psi = 0. \quad (3)$$

Here  $\Psi = (\Psi^{(8)}, \Psi^{(8)*})$  – 16- the component function is a column and for the matrices  $\Gamma_k$  there are expressions

$$\Gamma_0 = \gamma_0 \otimes \gamma_0, \Gamma_1 = \gamma_0 \otimes \gamma_1, \Gamma_2 = I_4 \otimes \gamma_2. \quad (4)$$

Turning to the representation in which the real and imaginary components of the wave function are separated, that is

$$\Psi = \left( \Psi_r^{(8)}, \Psi_i^{(8)} \right), \Psi_r^{(8)} = \frac{1}{\sqrt{2}} (\Psi^{(8)} + \Psi^{(8)*}), \Psi_i^{(8)} = \frac{1}{\sqrt{2}} (\Psi^{(8)} - \Psi^{(8)*}), \quad (5)$$

instead of (3), we obtain for the matrices  $\Gamma_K$  expressions that coincide with

$$\Gamma_0 = \gamma_5 \otimes \gamma_0, \Gamma_1 = \gamma_5 \otimes \gamma_1, \Gamma_2 = I_4 \otimes \gamma_2. \quad (6)$$

Lagrangian of equation (3)

$$L = -\bar{\Psi} (\Gamma_k \partial_k + m) \Psi = -\Psi^+ \eta (\Gamma_k \partial_k + m) \Psi \quad (7)$$

is equivalent to the Lagrangian of the original equation (2) when choosing a matrix of the bilinear form  $\eta$  in the representation (5) in the form

$$\eta = I_2 \otimes \eta^{(8)} = I_2 \otimes \sigma_3 \otimes \gamma_0 = -i\gamma_1 \gamma_2 \otimes \gamma_0. \quad (8)$$

The internal symmetry of the lagrangian of the DC equation in the 2+1 space is described by a 20-parametric continuous group whose generators satisfy permutation relations of the form  $[J_N, J_M] \sim J_K, [L_N, L_M] \sim J_K, [J_N, L_M] \sim L_K, (N, M, K = 1 \div 15)$ . This group is an extension of the 10-parameter group  $SO(3,2)$  asked generators  $J_1, J_3, J_4, J_5, J_6, J_8, J_9, J_{12}, J_{13}, J_{15}$  c with six real ( $\omega_1, \omega_4, \omega_6, \omega_9, \omega_{12}, \omega_{15}$ ) and four imaginary ( $\omega_3, \omega_5, \omega_8, \omega_{13}$ ) parameters.

Exactly the same symmetry takes place in the 2+1 space and for a system of two Dirac equations with a lagrangian  $L = L_1 - L_2$ .

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В статье рассматривается совпадение внутренней симметрии лагранжиана системы двух уравнений Дирака и уравнения Дирака – Кэлера в пространстве размерности 2+1, что дало основание предположить: уравнение Дирака – Кэлера может служить в качестве модели геометризованного (тензорного) описания дираковских частиц в двумерных кристаллических структурах, например, в графене. Показано, что установленная симметрия значительно шире тех, которые обычно анализируются.

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### **NACHHALTIGKEIT: MODERNE WELTWIRTSCHAFT**

Nachhaltigkeit liegt heute im Trend. Das Konzept der Nachhaltigkeit ist zwar modern, aber nicht jung und wird hauptsächlich auf den Schutz der Natur angewandt. Der Ausdruck „Nachhaltigkeit“ kommt ursprünglich aus der Forstwirtschaft. Vor ca. 300 Jahren hat Carl von Carlowitz gefordert, dass im Wald nur so viele Bäume gefällt werden sollen, wie wieder nachwachsen. Unter der gegenwärtigen Nachhaltigkeit ist Folgendes zu verstehen: Wir sollten nicht auf Kosten zukünftiger Generationen und auf Kosten anderer Regionen der Welt leben.

Das Ziel dieser Arbeit ist es, die Notwendigkeit des Einsatzes der Nachhaltigkeit zu erklären. Dabei stehen die folgenden Schwerpunkte im Mittelpunkt: Ökologie, Ökonomie und soziale Aspekte. Heute wird die

nachhaltige Entwicklung als allgemeines Konzept betrachtet. Das lässt sich mithilfe des Drei-Säulen-Modells erklären. Ökologie, Ökonomie und Soziales bilden die Grundlage des Modells und sollen immer in Verbindung miteinander angesehen werden [2].

Die ökologische Säule beinhaltet den weitverbreiteten Klimaschutz, den Ressourcenschutz oder auch die Artenvielfalt. Außerdem sollen Lebensmittel ökologisch angebaut werden. Das heißt, dass keine Pestizide mehr eingesetzt werden. Das Ziel ist es dabei immer einen nachhaltigen Zustand zu gewährleisten. In der optimalen Variante werden pro Jahr so viele Rohstoffeinheiten verbraucht, wie auf natürliche Weise wieder nachwachsen. Weitere wichtige Maßnahmen sind die drastische Reduktion von Abfällen sowie die Verwendung kompostierbarer oder wiederverwendbarer Materialien.

Auch mit den Ressourcen muss man sparsamer umgehen. Die Fahrzeuge brauchen Benzin, damit sie fahren können, oder Erdgas und Öl, damit die Heizung und die Industrie richtig funktionieren können. Diese Ressource wird jedoch irgendwann erschöpft sein. Schon jetzt gibt es einen Mangel an diesen wichtigen Ressourcen, sodass Konflikte immer häufiger auftreten. Aus diesem Grund arbeiten viele Wissenschaftler hart daran, um den Ersatz zu finden und die Umwelt zu schonen. So kann man beispielsweise umweltfreundlichere Fahrzeuge wie Elektroautos oder „grüne“ Energie wie erneuerbare Energiequellen nutzen.

Die nächste Säule bildet die Ökonomie, also die Wirtschaft. So kann man die Waren aus seiner Heimatregion im Supermarkt erwerben. Kartoffeln aus Ägypten oder Tomaten und Paprika aus der Türkei kommen mit dem Flugzeug zu uns und haben eine sehr lange Reise hinter sich. Dabei kommt es zu einer starken Schadstoffbelastung. Das Prinzip der Nachhaltigkeit in der Ökonomie sollte eine Art des Wirtschaftens implizieren, bei dem gleichzeitig an die heutigen Gewinne und an künftige Generationen gedacht wird.

Konkret geht es dabei um die Einsparung von Treibstoff, die Verringerung von Schadstoffemissionen und beispielsweise die Verwendung nachwachsender Rohstoffe für Transportbehälter, Pakete und Verpackungen sowie um Recycling und natürlich um die Bemühungen der Verkehrsunternehmen, die Effizienz der Transportwege zu verringern und zu optimieren.

Die dritte grundlegende Säule der nachhaltigen Entwicklung ist die soziale Komponente. Zu solchen Zielen gehören unter anderem die Gleichberechtigung im weiten Sinne, die Möglichkeit einer besseren Ausbildung, die Bekämpfung von Armut sowie Wohlstand für alle Menschen der Erde [1]. Neben wirtschaftlichen und politischen Zielen sind auch Veränderungen im individuellen Verhalten wichtig für eine nachhaltige Handlungsweise. Vor allem die Menschen in den Industrieländern müssen ihr Konsumverhalten einschränken. Nur so können sie zur Stabilität ihrer Lebensgrundlage und der



Lebensgrundlage künftiger Generationen beitragen. Nachhaltige Entwicklung bedeutet, dass die Umwelt gleichberechtigt gegenüber sozialen und wirtschaftlichen Gesichtspunkten ist. Sie soll vor allem in der Politik der Weltwirtschaft als Leitgedanke dienen, mit Ressourcen verantwortungsbewusst, sozial und vor allem umweltverträglich umzugehen.

Die oben aufgeführten Praxisbeispiele der Nachhaltigkeit zeigen, worauf man die Aufmerksamkeit schenken soll. Wirtschaftliche Leistungsfähigkeit, Schutz der natürlichen Ressourcen und soziale Verantwortung müssen Hand in Hand gehen, wenn die Entwicklung langfristig nachhaltig sein soll. Ein wichtiger und ein bedeutender Faktor für mehr Nachhaltigkeit ist die Wirtschaft.

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В статье объясняется сущность и содержание устойчивого развития и то, что оно означает в современной глобальной экономике. Авторы дают рекомендации о том, что необходимо сделать в долгосрочной перспективе для развития экономики, принимая во внимание такие важные аспекты, как защита окружающей среды и социальные вопросы.

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#### **CUSTOMER ORIENTATION IN THE HOTEL INDUSTRY**

At the present stage the hotel industry as a branch of the economy is developing quite rapidly and the hotel business as a whole increases the GDP of any country. The search for excellence goes on and continues to be a hot topic across the business world including hotels. Excellence means having a real desire to not only compete but to lead.

Customer orientation of a hotel enterprise is a tool for managing relationships with customers – consumers of hotel services aimed at obtaining sustainable profits in the long term and based on three criteria: key competence, target customers and equality of positions [1]. The popularity of this topic is due to the growing competition, the economy of oversupply, as well as the transition of the «seller's market» to the «buyer's market».

For hotel companies the client is the resulting goal of the work of all functional departments. People want politeness, product knowledge, help and enthusiasm from the company's employees. Quality service is the concentration of all resources and all employees of the company on meeting the needs of customers. The main objectives of the strategic customer orientation of the hotel company are: the formation of customer loyalty (a satisfied customer increases the frequency and volume of repeat orders); the creation of products with added consumer value; increasing the marginality of sales by selling products with added consumer value.

What is the benefit of customer orientation?

According to Deloitte, client-oriented companies are 60% more profitable than those that do not focus on customers. And according to Forbes statistics, 97% of consumers note the impact of quality service on business loyalty. Brands that provide customers with an excellent user experience earn 5.7 times more than competitors who lose by this indicator [3].

Profit is growing because customer orientation increases the number of loyal customers and reduces the outflow of customers; triggers the effect of "word of mouth" and this saves money on advertising; helps to reduce price competition and avoid dumping.

In client-oriented companies the philosophy of the approach is felt at every stage: from the convenient location of the buttons on the website to the quality of the packaging of the goods.

Let's analyse some examples of customer orientation.

1) Nordstrom and the return of other people's tires.

In 1975 a man bought winter tires in a tire repair shop but a few weeks later discovered a defect and decided to return them. When he drove up to the alleged workshop he found that it was closed, and in its place there was a Nordstrom store. The company sold shoes, fashionable clothes and household goods. Nevertheless, the man explained the situation to the seller and he accepted his tires and returned the money [3].

The return of an expensive product that cannot be resold looks absurd. But if we ignore a small financial blow in the long run the situation turned out to be beneficial. Half a century later people continue to tell this story and if you Google Nordstrom tires you will find about 3 million results. Now the seller's behavior looks wise, clearly according to the company's methodology in which there is only one rule: "Use common sense in any situation."

This story is the exception rather than the rule. Regular work in the negative will ruin the company but laying a small budget for such a whim for customers, you can really get a good PR effect. Especially if build a brand around a strong service. Nordstrom regularly receives one of the highest levels of consumer loyalty (NPS). According to this indicator the company even overtook Apple in 2018 [3].

2) Casper and a chatbot for people with insomnia.

Mattress manufacturer Casper has created a chatbot with which you can chat with a sleepless night. Casper's head of communications Lindsey Kaplan explains "We wanted to make a bot that makes 3 a.m. not so lonely." Insomnobot 3000 jokes and supports the favorite topics of people with insomnia: stress, coffee and TV shows. The bot is free but helps the company collect customer phone numbers to send promotional materials [2].

Casper is one of the few companies that has used a chatbot with measurable benefits in the form of a PR effect and collecting a database of warm contacts. To do this it is enough to spice up the care of the target audience with an actual trend

3) The Ritz-Carlton and the \$2,000 Problem.

The international hotel chain The Ritz-Carlton allows employees to spend up to \$2 thousand to solve any guest's problems without unnecessary questions.

For example, one of the customers forgot a charger at the hotel. He discovered the loss the next day but did not have time to call the hotel because he received a package. It was a small package with a note: "Mr. Julius, I wanted to make sure that you received the package. I'm sure you need it and, just in case, I've sent you an extra laptop charger" [4].

Such solutions give a competitive advantage and produce a good effect.

Identifying the factors affecting the consumer and the degree of their influence in the process of his "relationship" with the hotel will help to identify the main trends in improving the customer-oriented management process and to offer a set of necessary methods and tools for this.

Despite the general development trends and their determining factors characteristic of the hotel market each industry enterprise should determine specifically for itself ways to improve its interaction with customers.

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В работе освещается актуальная проблема повышения качества гостиничных услуг. В качестве одного из инструментов повышения функционального качества гостиничной услуги автором рассмотрен и проанализирован особый тип взаимоотношения с клиентами – клиентоориентированность. В статье обосновывается необходимость политики клиентоориентированности гостиничного предприятия, позволяющей получать устойчивую прибыль в долгосрочном периоде.

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### **FUNKTIONEN VON MASSEN MEDIEN IN DER POLITIK**

Grundlegend für die drei folgenden politischen Funktionen von Massenmedien ist die Herstellung von Öffentlichkeit. „Massenmedien schaffen Öffentlichkeit bzw. konstituieren einen öffentlichen Raum im politischen System“ [1]. Hiermit ist gemeint, dass es selten der Fall ist, dass Menschen eigenaktiv Erfahrungen in der Politik sammeln, so sind die Massenmedien meist der einzige Raum, in dem sich die Menschen zu politischen Themen informieren können, um sich anschließend eine eigene Meinung zum Themengebiet zu bilden. Die Informationsfunktion gilt als die erste politische Funktion der Massenmedien. Das Ziel besteht darin, dem oder der Staatsbürger/in die Möglichkeit zu bieten, ein kritisches Bewusstsein gegenüber dem öffentlichen Geschehen zu entwickeln. Jeder einzelne Bürger soll seine Interessenlage erkennen sowie die demokratische Verfassungsordnung begreifen. Weiter sollen die Medien dem Rezipienten ermöglichen ökonomische, ökologische, soziale beziehungsweise politische Zusammenhänge verstehen zu können. Die Personen sollen dazu befähigt werden, eigenständig und aktiv am politischen Prozess teilzunehmen, beispielsweise durch den Eintritt in eine Partei oder die Teilnahme an dem Wahlvorgang. An dieser Stelle wird erwähnt, dass eine hohe Anzahl unterschiedlicher Institutionen und Personen unter Beachtung verschiedener Aspekte darüber bestimmen, welche Informationen für das Publikum aufbereitet werden und welche nicht.

Die Meinungsbildungsfunktion stellt die zweite Funktion dar, welche eine freie und offene Argumentation für Mehrheiten und Minderheiten sicherstellen

soll, um gewinnbringend zu einer Meinungsbildung der Bürger/innen beizutragen. Damit ist gemeint, dass unabhängig von der Größe oder Mächtigkeit einer (politischen) Gruppe die Meinungen dieser chancengleich behandelt und dargestellt werden sollen, mit dem Ziel der Ermöglichung einer freien Meinungsbildung der Bevölkerung. Das Hauptanliegen dieser Funktion besteht in der Erörterung von Fragen des öffentlichen Interesses, welche in einer freien und offenen Diskussion stattfinden soll. Die beschriebene Auseinandersetzung stellt einen wichtigen Aspekt für demokratisches Handeln und Denken von Bürger/innen dar, da die Demokratie erst durch verschiedene Ansätze, Meinungen und Haltungen aufrechterhalten werden kann. Es folgt dem Verständnis der pragmatischen Maxime nach Charles Sanders Peirce, welche besagt, dass die Auffassung aller Wirkungen eines Objektes, welche von Subjekten geäußert werden, zur vollständigen Erschließung der Sache führt. Allerdings ist ein Diskurs bezüglich einer Problematik beziehungsweise der Sache nie abgeschlossen, da eine unendliche Anzahl an Subjekten an einem Diskurs zu einer Thematik teilnehmen kann. Es besteht deshalb über einen nicht abgrenzbaren Zeitraum die Möglichkeit, dass immer wieder neue Meinungen und Ansichten zur Lösungsfindung und Problemerkörterung hinzugetragen werden. Dieser Entwicklungsprozess sollte durch die Massenmedien dargestellt werden. Wichtig ist als Folge dessen, dass der Diskurs für jeden Menschen zugänglich ist und die Chance besteht, dass jede Person oder Gruppe zu jedem beliebigen Zeitpunkt seine Meinung und Ansicht äußern kann. Die Meinungsbildungsfunktion verfolgt, unter Beachtung der pragmatischen Maxime, das Ziel, dass jeder Mensch durch den Konsum von Massenmedien dazu befähigt sein soll, seine eigene politische Meinung zu bilden, um somit an einem Diskurs und der Lösungsfindung zu einem (politischen) Themengebiet teilhaben zu können [2].

Die Kontrollfunktion bildet die dritte politische Funktion von Massenmedien. Massenmedien erfüllen eine Kontrollfunktion, indem sie politische Akteure kontrollieren und gegebenenfalls kritisieren. Das Ziel dieser Funktion besteht darin, die rezipierenden Bürger/innen über politische Geschehnisse und Kontroversen aufzuklären. Die Ausbildung einer differenzierten Sichtweise kann durch die Hinterfragung von politischen Ereignissen und durch die Aufklärung von Missständen geschehen. Es lässt sich anmerken, dass die Medien jedoch über keine direkten Sanktionsmittel verfügen, falls sie einen politischen Missstand aufgedeckt haben.

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В статье речь идёт о функциях и целях средств массовой информации в политике. В качестве основных функций выступают следующие: информационная; функция, формирующая общественное сознание, и функция управления.

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### **ESTILO DE VIDA SALUDABLE**

Hoy en día, el estilo de vida saludable es un tema importante a escala mundial. Cuando una persona lleva un estilo de vida incorrecto, es poco probable que pueda mantener la salud. Es necesario cuidarla desde la infancia. Por eso los medios de comunicación promueven un estilo de vida saludable, lo que influye positivamente en la actitud de las personas hacia su propia salud.

Lo mejor desde la infancia es determinar un régimen diario y controlar la nutrición. El sueño es de gran importancia en la vida de una persona, por lo que es importante dormir lo suficiente y acostarse y despertarse por la mañana a la misma hora. En promedio, se necesita dormir 8 horas al día.

La salud de una persona depende de su forma de vivir. También depende de la genética, la ecología, la educación y el nivel del sistema de salud pública. Una persona es incapaz de influir en estos factores, pero ella misma es responsable de la forma de su vida. Solo una persona sana puede trabajar y alcanzar alturas profesionales, crear una familia y ser feliz en su vida personal, llevar una vida social plena, caminar con amigos, descansar. Un estilo de vida saludable es un antídoto para el envejecimiento prematuro del cuerpo y la mejor prevención de enfermedades.

Uno de los factores importantes que hacen el impacto en la salud es la nutrición adecuada. Los alimentos deben ser de calidad y la dieta debe ser equilibrada en proteínas, grasas y carbohidratos. Sin suficientes vitaminas y minerales, no será saludable. También es importante observar el régimen de comidas.

El siguiente componente de la forma correcta de vivir es la ausencia de malos hábitos. El alcohol, las drogas y el tabaco no benefician a nadie. Por el contrario, todo esto reduce drásticamente la esperanza de vida.

Seguir las reglas de la higiene personal es otro aspecto importante de la salud. Estas reglas simples no se las puede rechazar, porque las enfermedades a menudo infectan el cuerpo humano debido a las manos sucias o los alimentos mal lavados.

En el mundo moderno, especialmente en las grandes ciudades, el principal problema es el sedentarismo. Las personas de profesiones intelectuales generalmente tienen trabajos en los que uno tiene que estar sentado durante mucho tiempo frente a la pantalla del ordenador. Tal actividad causa muchos problemas relacionados con los ojos, el peso, el sistema musculoesquelético, etc. No en vano dicen: "El Movimiento es vida". Un estilo de vida saludable es imposible sin movimiento, deportes y actividad física. Pero para esto no es necesario torturarse en el gimnasio siete días a la semana, son suficientes 3 veces a la semana o al menos hacer la gimnasia matutina y caminar más, o incluso mejor combinar esto con juegos deportivos activos, por ejemplo, con baloncesto, voleibol, fútbol o bádminton. Y hacerlo preferiblemente al aire libre en buena compañía.

También es importante descansar cualitativamente y combinar el descanso y el trabajo.. También vale la pena señalar que la forma del descanso debe depender del carácter del trabajo. Por ejemplo, para las personas involucradas en el trabajo mental les conviene un descanso activo con mucho movimiento El sueño es una parte integral del descanso. Con la falta sistemática del sueño, una persona no podrá sentirse sana, ya que se cansa rápidamente.

Cabe señalar que, además de los componentes físicos de la salud, hay que señalar los factores mentales. La tensión nerviosa, la ansiedad, el agobio conducen a trastornos del sueño y la pérdida del apetito, y al final, a diversas enfermedades. Una persona debe aprender controlar sus emociones, organizar un descanso para el sistema nervioso. En esto le ayuda perfectamente la comunicación con la naturaleza y los animales, la música, la lectura de libros, aficiones, buenas relaciones con amigos, visitas a los teatros, películas, exposiciones del Arte. Todo esto contribuye mucho al modo sano de vivir ya que eleva el estado positivo del ánimo.

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В статье раскрываются проблемы, связанные с неправильным образом жизни. Авторы анализируют причины возникновения и пути решения данной проблемы.

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## **LAS RELACIONES ENTRE CHINA Y MÉXICO DURANTE EL PERIODO DE GOBIERNO DE FELIPE HINOJOS CALDERÓN**

El sucesor de W. Fox, F. Calderón, también confirmó en abril 2007 la continuidad de la política exterior del Estado, continuando con la línea de "estrechar las relaciones con China". En 2008, se llegó a un acuerdo sobre el establecimiento de un mecanismo de diálogo estratégico con el objetivo de fortalecer aún más la confianza y la cooperación entre los estados en temas bilaterales y multilaterales clave.

El gobierno de Fox consideró la globalización económica como una característica fundamental del mundo posbipolar y abandonó el intervencionismo gubernamental en los procesos económicos internacionales, inherente a sus antecesores.

En el período 2001-2006 México tiene 121 tratados comerciales. Uno de los resultados del Foro de Cooperación Económica Asia-Pacífico de 2002 en México es el reconocimiento de la prosperidad común y equitativa como uno de los objetivos finales de APEC (Asia-Pacific Economic Cooperation), en el que la liberalización del comercio y el aumento de la inversión juegan un papel central.

El gobierno de F. Calderón sostuvo una visión similar sobre la naturaleza de la economía mundial y condenó sistemáticamente las medidas proteccionistas que fomentan la práctica de la competencia desleal en el marco de los foros APEC 2007-2012. Ya en 2007, los líderes chinos y mexicanos en el foro APEC en Australia acordaron una posición común sobre el importante papel del foro en la promoción de la cooperación comercial y de inversión.

La cooperación entre Beijing y la Ciudad de México se ha fortalecido aún más gracias al intenso intercambio de visitas de alto nivel y el trabajo activo en organismos multilaterales a nivel regional y global, incluyendo la ONU, G20, APEC, etc., lo que permitió a las partes profundizar diálogo sobre muchos temas de la agenda mundial que requieren apoyo mutuo. Representan interés.

De acuerdo con los resultados del Foro de Cooperación Económica Asia-Pacífico, realizado en México en 2002, la prosperidad común y equitativa fue



reconocida como uno de los objetivos finales de APEC, con la liberalización del comercio y el aumento de la inversión jugando un papel central.

En los foros APEC 2007-2012 el gobierno de Calderón tuvo una visión similar de la economía mundial y denunció sistemáticamente las medidas proteccionistas que fomentaban la práctica de la competencia desleal. En 2007, los líderes de China y México discutieron una posición común sobre el importante papel del Foro en el desarrollo de la cooperación comercial y de inversión en el sitio del Foro APEC en Australia.

También se destaca el hecho de que México compitió entre 2007 y 2012. inició cuatro litigios en cuatro disputas comerciales de la OMC contra la República Popular China y actuó como tercero en varios otros casos. El cambio de liderazgo político en México ha abierto nuevas oportunidades para las relaciones entre México y China. Aún como candidato presidencial, E. Peña Nieto publicó un libro que refleja su visión política sobre el futuro del país “México. Gran Esperanza”, donde dijo que “la capacidad de México para posicionarse como líder en los países en desarrollo y su capacidad para dialogar con el mundo desarrollado dependerá en gran medida de sus relaciones bilaterales con China y Estados Unidos”.

Se trata de una estrategia para desarrollar la cooperación con Asia a través del rol activo de la Ciudad de México en APEC, lo que, en forma muy breve, permitió “fortalecer relaciones basadas en el diálogo político institucional y la expansión del comercio”. Sin embargo, la falta de herramientas o planes de acción específicos no logra captar la atención de los investigadores, ya que les permite hablar del carácter discursivo del perfil de la política exterior de la Ciudad de México en la región Asia-Pacífico en su conjunto.

La República Popular China se convirtió en la principal fuente de inversión extranjera directa en América Latina entre 2007 y 2008, y la parte mexicana logró firmar un acuerdo de promoción de inversiones y protección mutua con China que entró en vigencia en 2009. Sin embargo, no siguió ningún avance en la inversión, según datos oficiales, el volumen de inversión extranjera directa china en la economía mexicana en 2010 ascendió a sólo 45,2 millones de dólares. esto es alrededor del 0.2 de toda la inversión extranjera directa recibida por México en ese año. [1, c. 68]

Cabe mencionar que durante la presidencia de F. Calderón hubo cierto estancamiento en el desarrollo de las relaciones entre los dos talentos estatales. Por supuesto, hubo incidentes desagradables durante el trabajo de la administración anterior. Así, el investigador mexicano M.K. Rosas señala varios episodios absurdos: por ejemplo, J. Castañeda, quien se desempeñaba como titular de la Cancillería mexicana, no asistió a la cena de gala ofrecida por las autoridades chinas como parte de la visita [2, c. 101].

Pero no sólo el contexto comercial y económico determinó el clima de la interacción mexicano-china. En 2009, decenas de ciudadanos mexicanos fueron

aislados a la fuerza en China debido a la propagación del virus H1N1. La Secretaría de Relaciones Exteriores de México pidió que se levanten estas medidas discriminatorias contra los ciudadanos mexicanos e instó a los mexicanos a abstenerse de viajar a China y Hong Kong.

En 2011 se llevó a cabo la reunión entre el Dalai Lama y F. Calderón que, según el Ministerio de Relaciones Exteriores de China, “tuvo una fuerte influencia en los asuntos internos de China, ofendió los sentimientos del pueblo chino y perjudicó a Sino-México. Relaciones”. Anteriormente, en 2004, ya había una situación similar cuando China expresó su preocupación por la visita del Dalai Lama a México, pero el entonces presidente mexicano, W. Fox, rechazó una reunión intransigente.

La presidencia favorable a las relaciones bilaterales se hizo casi simultánea al cese al fuego: en diciembre de 2012 entraba en funcionamiento el mandato de E. Peña Nieto, y ya en marzo de 2013 Xi Jinping se mostraba preocupado por la presidencia de la República Popular China. El gobierno mexicano decidió que China sería el primer estado no hispano que visitaría E. Peña Nieto, quien hizo el papel del líder mexicano.

Tras la reunión de los jefes de los dos estados, por su parte, adoptaron un acuerdo integral que eleva su relación bilateral al nivel de "no partidismo integral estratégico", en el que acordaron intensificar el diálogo político sobre un encuentro bilateral, una agenda actual y global, desarrollo de lazos comerciales, económicos y culturales [3, c. 60] .

A finales de la década de 2000, México y China entraron en una nueva etapa de su relación que comenzó hace 45 años. Aunque México aún no está a la par con los países donde la inversión o los proyectos son de suma importancia para China, finalmente, la década de cooperación mexicano-China ha adquirido especial impulso. Siendo la segunda economía más grande del mundo, donde la opinión de la clase media, cada vez más exigente con los consumidores, cada vez más importante, China se ve obligada a expandir sus importaciones de países como México, Argentina y Brasil. Y poco a poco esto contrarresta el enorme desequilibrio comercial.

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В статье раскрываются особенности взаимодействия Китая и Мексики, причинно-следственные связи развития взаимоотношений на мировой арене в XXI веке. Автором была разобрана историография отношений двух стран и динамика развития сотрудничества. Также рассмотрены особенности расширения торгового и инвестиционного сотрудничества в рамках концепции свободного рынка с ключевыми региональными экономиками.

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### **THE MEANING AND SPECIFIC FEATURES OF MASS MEDIA IN TODAY'S WORLD**

We cannot imagine modern life without mass media. The role of the media is becoming more and more prominent decade after decade. With the development of technology, the need to learn about the world increases as the information space keeps expanding. Thus, the purpose of our research is to define the role of the mass media in the modern world, outlining their specific features preconditioned by the social and economic environment in which they function.

The most popular source of information is the printed version that includes newspapers, magazines and weeklies. One of the specific features of print media is their ability to provide a quick overview of the whole range of information. Thanks to this, you can form a general idea of the issue. Printed publications are easy to carry and use at any convenient time. On the other hand, press lacks immediacy because it takes time to print a newspaper or a magazine and then deliver them to the reader.

First newspapers appeared in ancient times, in the form of news bulletins. Since then, newspapers have constantly changed and have turned into a much more sophisticated medium than they used to be. In today's world you can find people who still use printed media, but the world is constantly changing, which calls for a more convenient information exchange platform.

After a while, radio came along and a new era of media development began. Television was considered a breakthrough in evolution, but only until the advent of the Internet. Today, television has entered the everyday life of almost every

family, although in the late 1970s and early 1980s, a television set was considered a luxury, and not everyone could afford one [2]. Thus, people have developed a need for a source of mass information to surround us at all times, wherever we are. From these sources people draw all kinds of knowledge about the world, which is always relevant and meaningful to society. Today, when the quality of information technology and its use increasingly determines the nature of society, the question of the relationship between society and the media, takes on particular importance.

The importance of the media in modern society is enormous. Thanks to the quality work of journalists and TV journalists, an objective picture of reality is formed, and we are talking not only about the central, but also about the regional media, where there are many perspectives and problematic issues.

Media has always played a major role in disseminating information. Rapid civilization is unthinkable without print, television and electronic media workers. Thanks to the promptness of each of them, the society is kept abreast of all developments, learns about the reforms and changes taking place in the world at first hand.

Society itself is an important actor that predetermines the main trends in journalism. Society constitutes a holistic system that evolves and modifies the modern world using different kinds of technology. The functions of knowledge integration performed by journalism are aimed at meeting the needs of society. Individual social structures, as actors, determine the functions of journalism, such as propaganda, agitation and organisation, through their needs for gaining and retaining power. Individuals determine the guidance, as well as moral and psychological satisfaction functions.

Journalists shape the very field in which we live and consume information: whether we listen to the weather forecast every day, or watch the news. The profession of a journalist is quite a demanding one, because one of the main tasks is communication, daily awareness of what is going on in the world. Keeping track of all the changes taking place in the world is quite a challenge. After all, journalists are evaluating these changes.

Modern research proposes a simple division of media functions:

- humanitarian functions – informing, educating, entertaining;
- ideological functions – shaping the mass public consciousness and/or to influencing certain population groups [1].

In the era of economic and socio-cultural globalisation, the systemic nature of the relationship between journalism and society is gradually becoming more complex. The use of online communications extends beyond everyday communication. The development of globalisation is based on technology, economics and the role of the media as well as further development of the media industry. Technology is becoming more sophisticated. The international environment is more open.

With the development of the Internet, the role of social media has gained prominence. Internet platforms are used not only as a means of transferring information, but also as a way to make money.

Social networking is part of business. Real estate agencies, travel agents and investment funds are heavily promoted on social networks. Current media technology is being developed through the Internet. Today it is hard to imagine the Internet and the media without advertising. Advertising is a social activity. The effect of advertising is increasing in all spheres of society: from economic to educational. The role of advertising in modern society is increasing, as it is used most often to solve acute problems. For example, social advertising, plays an important role in improving people's health. After all, solving this problem will also bring benefit to the environment.

In addition to the existing positive aspects, the media can have a negative impact. We would like to mention the safety of media usage as one of the main problems. Basically, the problem of safety arose with the emergence of the Internet and the development of social networks. There are many people who use the Internet platform and have fallen for various tricks of scammers, losing money in their bank account at the same time. Fraud as the most common problem warns people to be very careful before replying to unfamiliar numbers on social networks, or giving their bank card number. Another problem is media addiction. People sometimes don't notice how they spend all their time watching all kinds of programs, playing Internet games, and thereby become addicted.

Thus, the importance of the media in today's world is great. In a modern information society, the main role will belong to the system of mass communication, which is implemented with the help of computer technology and the Internet. The media is an integral part of modern society, having a huge impact on the formation of personal qualities. Thanks to this, a person gets a broader outlook and a holistic picture of the world. Above all, media is an opportunity for a person to meet his or her needs in various spheres of life. It forms the political and patriotic culture of the population. Besides, the influence of mass media depends on how respondents perceive it. The media helps us to be aware of the changes and gives us a chance to quickly react to negative situations and not to be indifferent.

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В статье рассматривается роль средств массовой информации в современном мире и их отличительные особенности, обусловленные социально-экономическими факторами современности. Автор анализирует положительное и отрицательное воздействие СМИ на мировоззрение и поведение человека, отмечая их важность как инструмента коммерческой деятельности, а также их гуманитарные и идеологические функции. Особое внимание уделяется проблеме взаимовлияния журналистики и общественности.

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### **MYTHOLOGICAL NOTIONS OF BELARUSIAN POLESIE INHABITANTS**

The Poleshuks are an ethnic group living in the south of Belarus, the north of Ukraine and in the south-west of Russia. This community has been known since the 19<sup>th</sup> century. The territory where the Poleshuks lived was surrounded by swamps and forests, so the Poleshuks were quite limited in communication with the rest of the world. The construction of the railway, the drainage of the swamps, the appearance of other nationalities in Polesie region led to the mixing of cultures, but the Poleshuks' identity and archaism have been preserved. A poleshuk always did everything in his own way. He preserved his views regardless of external changes. The Orthodoxy is widespread among the inhabitants of Polesie region [3], but people have not abandoned their old habits and traditions. The purpose of the article is to describe the spiritual life of the Poleshuks.

One of the components of spiritual life is mythological notions. Ethnographic research is the main source for collecting information. Collecting information researchers communicate with people who themselves were participants of many events. Then collected materials are compared to find out similar features. Sometimes researchers discover specific features that can be characteristic only for a certain area. One of the characteristic features of Polesie mythology is their belief in different spirits. One of such spirits is a domovoy. In the Slavic religious tradition a domovoy is the household spirit of a given kin. In Belarusian Polesie the domovoy character has different images depending on the region. In Western and Central Polesie, it is associated with a deceased person who walks at night and wants to come back home. Only in the western part of Polesie people intentionally get a domovoy for the purpose of enrichment. In the

eastern part of Gomel region the Poleshuks regard the domovoy as an exceptionally good creature. The image of the domovoy is presented as a man or an old man, an animal, an invisible being, sometimes it is a boy-spirit dressed in red clothes or a man in a hat and a uniform with golden buttons.

In a house the domovoy can both protect or harm the owners. It depends on their attitude and behavior towards him. If the domovoy is dissatisfied with something, he can make noise, knock and stomp at night. In the areas where a domovoy is believed to be a spirit, people consider that he lives only in those houses where there is an evil spirit.

Sometimes the domovoy was associated with an animal. In some places the term “domovoy” was used in relation to such animals as a grass snake or a weasel. Their responsibility was the welfare of livestock. Rarely, but the term “domovoy” was applied to such a character as a “flying dragon” whose function was to enrich its owner. He presented himself as an assistant, whom a person could personally grow from a chicken or a cock’s egg for his own purposes [1, p. 182-184]. In each part of Polesie the domovoy is presented differently. He can be a positive or a negative character.

Besides the domovoy character the Poleshuks’ mythology is full of many other spirits: a vodyanik, a forest spirit, a field spirit, a spirit of a deceased person. The most widespread of them is the spirit of the deceased. The attitude to this spirit of the deceased and its perception are different in different places. For a living person his appearance is a sign of something bad, so some people try to fulfill his wishes, while others use amulets and other practices, trying to fight (him) [2, p. 93]. Night dream is an important way for communication between the living and the dead. Through dreams the dead transmit their requests. The appearance of a dead man in a dream can indicate that his burial ceremony was badly organized. For example, it can mean that during the burial ceremony “the legs of a deceased man were not untied. In the underworld, it is difficult for him to walk because of the very long shirt in which he was buried or because of a thorn in his leg” [2, p. 112]. If the deceased lack something, they can inform about it through a dream. For example, a young girl usually asks her mother to give her slippers instead of shoes [2, p. 114]. There is an idea that a dead person can see the future, then the purpose of their appearance is positive: to warn against trouble, to suggest the right choice. The dead themselves don’t like to be pined for. Therefore, when the living pine for a dead person and come to church in order to try to see the recently deceased one for the last time, the dead can chase them, and in a short time the people who pine can themselves pass away [2, p. 121]. No matter how anyone perceives the arrival of the deceased in a dream, people try to stop such meetings and pacify the dead. It is necessary to give donations to the church, to distribute food to people and animals. There is a way to sprinkle graves and houses with flax, poppy seeds or

grain. In order for the deceased not to harm after leaving for another world, it is necessary to perform some rituals.

A special place in mythology is occupied by a mermaid or so-called “Slavic nymph”. The Poleshuks believe that the mermaid can be either a deceased person or a myth character. There is also a belief that a mermaid can only be seen in summer [2, p. 467]. There is a certain period of time when the mermaid appears – the Mermaid Week. This period lasts for a week beginning from the Monday after Trinity. In most cases mermaids are represented as girls with long hair, thin, with wreaths on their heads. This is the most well-established image of a mermaid, but there are other representations: the image of a child, a man, a terrible woman, a shadow of a man or a moving column of air [2, p. 472].

There are several versions of the origin of mermaids’ image. One of the most popular beliefs in Polesie is that mermaids are the souls of those who didn’t die natural death. Perhaps they are unbaptized children, girls who died in infancy, unmarried girls killed by lightning, those who died during Trinity Week, etc. [2, p. 475]. Mermaids are used to be associated with living in water, but it is the image of the Polesie mermaid that is characterized by the appearance in a grain, pea or flax field [2, p. 538]. The mermaid could appear out of the water and go into the grain field, but only during the Mermaid week. Thus they came out of the other world and a week later they went back [2, p. 541-542]. The attitude of a mermaid to a person depends on the person himself. Therefore, a mermaid can harm or take care of a person. If mermaids wanted to harm a person they could tickle him to death, scare, kidnap, chase or lead a person astray. The examples of positive behavior are when the mermaid teaches people moral songs, including prohibitions and instructions in everyday life [2, p. 581]. The image of mermaids still attracted people’s attention in the 70s and 90s of the 20th century. They tried to protect themselves from mermaids as representatives of any evil force. At the same time people tried to appease all mythological creatures in order to escape any trouble caused by an angry mythological creature.

Thus, we can make a conclusion that the Poleshuks had their own unique ideas of the afterlife. In Polesie people venerate and preserve their traditions to the present day. In the mythology of Belarusian Polesie there are a huge number of mythological characters. These characters are represented as a woman or a man, an animal or an invisible being. They can both harm a person and protect him and his home and household. Everything depends on how the person himself will behave in relation to a mythological creature. On the other hand, a man has developed a varied system of rituals and rules that give him the opportunity to coexist in peace with these mythological creatures.



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В статье описаны мифологические представления жителей Полесья, их верования и ритуалы. Особое внимание уделено роли и функциям таких мифологических персонажей как домовой, покойник и русалка.

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**IDEAS FOR TEACHING THE HOLOCAUST AT SCHOOL**

The topic of the Holocaust still remains relevant. People have destroyed and continue to destroy each other for religious, economic, ideological, racial, cultural, ethnic and other reasons, each time coming up with new reasons, summing up a variety of theories and building whole ideologies.

In the course of the Second World War, nearly six million Jews were murdered by the Nazis. This genocide is called the Holocaust. The word 'holocaust' comes from ancient Greek and means 'burnt offering'. Even before the Second World War, the word was sometimes used to describe the death of a large group of people, but since 1945, it has become almost synonymous with the murder of the European Jews during the Second World War.

There are those, however, who prefer to give a wider meaning to the term 'Holocaust', referring not only to the extermination of Jews, but also to many other groups including Gypsies, handicapped persons, as well as others killed by the Nazis [1].

The Holocaust is not just one of the chapters of world history. This is an unprecedented historical event of special significance. In recognition of its significance, the Holocaust is the historic event which is compulsory within the history curriculum in many countries.

In this article we aim to describe the approaches to teaching this topic in other countries, namely Israel and Germany, as well as to offer our own ideas on teaching the topic of the Holocaust.

Teachers have a huge arsenal of teaching techniques and methods to teach history [2]. However, teaching the Holocaust history is not an easy matter.

In Israel, first of all, they strive to show, reconstruct and make clear what preceded the Second World War. And they do it in order to show what we have lost. The teachers describe everyday life in hundreds of cities, villages and towns of eastern Europe, tell who those people were, where they came from, how they lived in everyday life. This allows students to understand what the roots, past, and origins of many current Israelis are. Dialogue turns out to be more effective: it is possible to get deeper into the idea of what a huge and rich world was destroyed, and what a small number of people survived. It is in this context that Israel's educational system is developing, open to contacts with other principles, teaching methods and focused on the exchange of opinions and teaching methods about the Holocaust throughout the world.

In Germany since high school, students have known from history textbooks about the atrocities of their ancestors, racism, anti-Semitism, the Holocaust, the totalitarian state, and its propaganda. Throughout their schooling, children are given several trips to various concentration camps, where they can see firsthand the remnants of Germany's dark past. The modern German program on World War II tells young people about the era of National Socialism in an authentic way: without being afraid of facts and without sparing children. Some students visit Auschwitz in Poland. There they are told in detail about the atrocities of the Nazis. Most of them are shocked. At the same time, not every ordinary German who lived in the 1930s and 40s is portrayed as a terrible person, because, as in any nation, there are good and bad people. However, it is emphasized that even good people were villains, because they did not try to stop the bad ones.

Teaching the Holocaust requires a high level of sensitivity and keen awareness of the complexity of the subject matter. Effective teaching about the Holocaust requires great skill, both at school and in extracurricular activities. Outside of formal lessons, students can hear the eyewitness testimony of Holocaust survivors, visit museums and memorials, watch documentaries and movies, read books.

The new generations should be guided to be able to identify the evil and unmask it through books and films. Most teenagers now do not like reading books, but that doesn't mean they can't be interested. There is a large list of films that teachers and students can watch and discuss together. It includes among others "Schindler's List", "The Pianist", "The Diary of Anne Frank", "Go and See", "The Zookeeper's Wife".

Teaching and learning about the Holocaust provides an essential opportunity to inspire critical thinking, societal awareness, and personal growth. Students

must learn about the past so as never to repeat it. The memory of those who died in the Holocaust and countless subsequent wars calls for an improved social order and a more humane and peaceful future for everyone. We need to target the hearts and minds of all, especially the new generation, and the teaching techniques described here can be useful.

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Статья посвящена теме преподавания Холокоста. Описаны подходы к преподаванию этой темы в других странах, а именно в Израиле и Германии, а также предложены идеи по преподаванию темы геноцида и Холокоста школьникам посредством фильмов.

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### ENTWALDUNG: EIN LOKALES UND WELTWEITES PROBLEM

Der Mensch hatte schon immer ein besonderes Verhältnis zum Wald. Jahrtausendlang diente er vor allem als Lieferant von Brennholz, Bauholz und Nahrung. Das Ökosystem eines Waldes ist mit seiner Vielfältigkeit an Arten, dem wirtschaftlichen Nutzen und Erholungswert ein wichtiger **Lebensraum** für den Menschen. Wälder erfüllen für die Natur selbst und auch für den Menschen eine Reihe wichtiger Funktionen. Aber heute, im Zeitalter der Industrialisierung und Globalisierung, greift der Mensch großflächig in dieses Ökosystem ein, oft ungewollt oder aus Unwissenheit, und verursacht dabei Schäden, die teilweise nicht mehr reparabel sind. Das Ziel des vorliegenden Artikels ist es, Ursachen für die Entwaldung (Zerstörung der Wälder vom Menschen) und deren Folgen herauszufinden und Lösungen für dieses Problem vorzuschlagen.

Tag für Tag schwinden Wälder weltweit. Das Ausmaß des Waldverlustes in der Welt ist heute alarmierend. Zwischen 1990 und 2020 gingen nach Angaben der Ernährungs- und Landwirtschaftsorganisation der Vereinten Nationen (FAO) 420 Millionen Hektar Wald durch Abholzung verloren – eine Fläche so groß wie die EU [1]. Diese Prozesse finden hauptsächlich in den drei großen Waldgebieten des Amazonas (Südamerika), des Kongo (Zentralafrika) und

Südostasiens statt. Aber auch in den Wäldern Kanadas, Skandinaviens, Russlands, Osteuropas stehen die Kettensägen nicht still. Dass immer mehr Wald verschwindet, belastet nicht nur die lokalen Ökosysteme. Waldrodung im großen Stil beschleunigt auch den Klimawandel. Der Waldverlust ist somit auch ein globales Problem. Zwar ist diese Herausforderung seit Jahren bekannt, aber die internationale politische Ebene hat es bisher nicht in ausreichendem Maße verfolgt, der Zerstörung wirksam Einhalt zu gebieten.

Unter Entwaldung (Waldzerstörung oder Abholzung) versteht man die Zerstörung von Wäldern, damit das Land für andere Zwecke genutzt werden kann. Dadurch gehen die meisten Lebensräume der ursprünglich dort lebenden Arten sowie die sozio-ökonomischen Funktionen des Waldes für den Menschen verloren. Waldzerstörung hat viele Ursachen, die oft zusammenwirken: Schaffung von Flächen für Landwirtschaft und Rinderweiden, neuer Platz als Nutzfläche für Plantagen, Gewinnung von Bodenschätzen aus den Waldböden, Bauprojekte für Großstaudämme, Herstellung von Konsumgütern.

Die großen Flächenverluste der heutigen Zeit gehen auf Landwirtschaft zurück, wobei 80 % auf die Weidelandnutzung für die Rindfleischerzeugung und Ackerlandnutzung für Palmöl und Sojabohnen entfallen. Außerdem werden mehr und mehr Flächen gerodet, um Ackerland für den Anbau von Zuckerrohr zu schaffen, das für die Herstellung von Agrartreibstoffen verwendet wird. Auch für den Kautschuk im Gummi vieler Autoreifen und für Kakao werden massiv tropische Regenwälder zerstört. Nach Angaben der FAO sind mindestens 50 % der weltweiten Entwaldung auf die industrielle Landwirtschaft zurückzuführen [1]. Der Wald wird oft nicht deshalb gerodet, weil es zu wenig Agrarflächen gibt, sondern, weil es die billigste Lösung ist. Oft stecken große Konzerne hinter dieser Anbauform – traurige Berühmtheit erlangten vor allem Palmöl und Soja.

Die Beweidung durch Vieh ist für 40 % der weltweiten Entwaldung verantwortlich [1]. Zudem werden durch die Massentierhaltung hohe Mengen an schädlichem Stickstoff produziert und Stickstoff sowie Gülle werden in der Landwirtschaft als Dünger eingesetzt. Stickstoff ist zwar ein wichtiger Nährstoff für alle Lebewesen, in zu hohen Mengen ist er jedoch schädlich und extrem belastend für die Umwelt.

Die Stadt- und Infrastrukturentwicklung, einschließlich des Baus und des Ausbaus von Straßen, ist mit einem Anteil von etwas mehr als sechs Prozent die drittgrößte Ursache der weltweiten Entwaldung. Sie ist jedoch die Hauptursache für die Entwaldung in Europa. Menschen nehmen immer mehr Lebensraum für den Städtebau ein und nehmen dabei weltweit oft nur wenig Rücksicht auf die vorherrschenden Wälder. Zusätzlich sorgen Infrastrukturprojekte, zu denen auch Staudämme und andere großflächige Eingriffe gehören, dafür, dass wertvoller Wald verschwindet. Infrastrukturprojekte können Wälder entweder unmittelbar vernichten, wenn bspw. Stauseen ganze Landstriche fluten, oder als Folge der

Erschließung, wenn Straßen in zuvor unberührte Naturwälder getrieben werden, was den Holzeinschlag ermöglicht und die Waldbrandgefahr erhöht.

Zu den weiteren schädlichen Aktivitäten des Menschen gehört der Raubbau an Holz, etwa für die Verwendung als Bau- oder Brennstoff, aber auch für die Produktion von Möbeln, Bodenbelägen, Papier und andere Produkte. In den Tropen wachsen viele sogenannte Edelhölzer, die teuer und begehrt bspw. in der Möbelindustrie sind. Für die Gewinnung von Edelhölzern werden nur selten einzelne Bäume geschlagen und abtransportiert. Es kommt eher zum Kahlschlag, einer großflächigen Entwaldung, bei der nur noch kahler Boden übrigbleibt. In holzproduzierenden Ländern wie Kamerun und Indonesien ist Schätzungen zufolge die Mehrheit des Holzeinschlags illegal. Die illegale Abholzung und den Handel mit gestohlenem Nutzholz haben internationale Gremien wie G8, EU, Interpol und das Umweltprogramm der Vereinten Nationen als Umweltkriminalität klassifiziert.

Noch ein Treiber der Entwaldung ist der Abbau von Bodenschätzen wie Gold oder auch Erdöl, weil viele Rohstoffe, die wir für unseren Lebensstil für unentbehrlich halten, lagern im Boden tropischer Regenwälder. Um an diese zu gelangen, müssen ebenfalls große Flächen gerodet werden, hinzu kommen Schneisen für Straßen und Maschinenparks. Nicht selten werden dabei ganze Regenwaldgebiete durch die verwendeten Chemikalien zur Aufbereitung der Rohstoffe verschmutzt und verseucht.

Die verschiedenen Gründe für Entwaldung können dabei nicht getrennt voneinander betrachtet werden, da sie sich oft beeinflussen, bzw. in Konkurrenz zu einander stehen und sind oft mit sozialen, politischen und wirtschaftlichen Gegebenheiten der jeweiligen Länder eng verbunden. Zum Beispiel in Lateinamerika treiben in erster Linie Rinderhaltung und kommerzielle Ackerwirtschaft die Zerstörung an. In Asien spielen zusätzlich Palmölplantagen eine entscheidende Rolle. In Indonesien sind der Holzeinschlag für die Zellstoff- und Papierindustrie das Hauptproblem. In Afrika sind es vor allem das Bevölkerungswachstum mit kleinbäuerlicher Landwirtschaft und die steigende Nachfrage nach Holz, die zu Walddegradierung und Entwaldung führen. Über alle Fronten hinweg gehören auch der Bergbau mit seiner Rohstoffgewinnung und der Ausbau der Infrastruktur zu den Hauptverursachern der Entwaldung [2].

Die Vernichtung der Tropenwälder hat tiefgreifende Folgen. Dazu gehören Veränderungen des regionalen wie des globalen Klimas, Verminderung der Artenvielfalt, Zerstörung des weltumspannenden Wasserkreislaufs sowie Verlust von wertvollem Boden. Aber auch die sozialen und ökonomischen Folgen sind erheblich: Zum Beispiel die Zerstörung der Lebensräume traditioneller Stammesvölker führt immerwieder zur Umsiedlung, Vertreibung oder gar Ausrottung ganzer Stämme. Hinzu kommt die Verbreitung von Zivilisationskrankheiten, der Verlust kultureller Identität und wirtschaftlicher

Unabhängigkeit, darüber hinaus das Verschwinden der sozial und ökologisch angepassten Nutzungsweisen, Anbautechniken und Heilmethoden.

Es lässt sich erkennen, dass die Entwaldung gravierende negative Folgen nach sich zieht, während sie doch meistens simple, wirtschaftliche Motive bedient. Entsprechend der Vielschichtigkeit der Ursachen ist auch eine Lösung der Problematik nur auf vielen Ebenen möglich. Landwirtschaft oder die Gewinnung von Rohstoffen vollständig einzustellen, dürfte sich als unmöglich erweisen, insbesondere eingedenk der oftmals vorherrschenden Armut. Das Ziel sollte daher eher sein, die Nutzung nachhaltiger zu gestalten. Im Bergbau hieße das, möglichst geringe Schäden zu verursachen und Abwässer konsequent zu filtern. Industrielle Landwirtschaft sollte nicht als Monokultur und ohne Einsatz von Pestiziden sowie mit reduzierter Düngung stattfinden. Für die Subsistenzwirtschaft zur reinen Eigenversorgung sowie für Kleinbauern ist oftmals die nachhaltige Form der Agroforstkultur geeignet, bei der nur wenig gerodet wird. Je nach Gebiet kann extensive Tierhaltung oder durch Quoten streng geregelte Jagd auf nicht gefährdete Arten eingesetzt werden. Sanfter Tourismus und der Verkauf damit zusammenhängender Dienstleistungen oder Produkte können eine alternative Einnahmequelle darstellen [3].

Viele der Bedrohungen für den tropischen Regenwald lassen sich auch durch kleine Änderungen in unserem Alltagsverhalten mindern. Machen Sie sich bewusst, welche Auswirkungen auch Ihr Konsum in Ihrem Heimatland auf die Regenwälder der Erde hat. Eine Spende für Regenwaldschutz-Projekte vor Ort hilft dabei, der lokalen Bevölkerung Alternativen zu bieten und so gleichzeitig Armut zu verringern sowie langfristigen Regenwaldschutz zu gewährleisten. Insbesondere durch Veränderungen unseres Alltags können aber auch wir helfen den Regenwald zu retten: Papier mehrfach verwenden und Recyclingpapier nutzen – das spart Bäume; durch verantwortungsbewussten Umgang mit Heizung, Licht & Co Energie sparen, regional und saisonal einkaufen – das spart CO<sub>2</sub>; keinen Biodiesel tanken – das spart Palmöl und Soja; Verpackungsmüll und Wegwerfprodukte vermeiden – das spart Ressourcen aus dem Regenwald, wie z. B. Aluminium; Plastiktüten ersetzen und Stoffbeutel nutzen – das spart Erdöl usw.

Zusammenfassend kann man sagen, dass wir heute mehr integrierte Lösungen brauchen, die von verschiedenen Interessensgruppen getragen werden. Und wir müssen unterschiedliche Ansätze wie Schutz- und Schongebiete, entwaldungsfreie Lieferkettengesetze und Lösungen zum Klimaschutz kombinieren. Gleichzeitig ist klar, dass wir die Art und Weise, wie Lebensmittel produziert und konsumiert werden, grundlegend verändern und uns sofort an die planetaren Grenzen anpassen müssen. Alles andere wird harte Konsequenzen haben.

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Статья посвящена проблемным вопросам вырубке лесов. Автор рассматривает причины, приводящие к уничтожению лесных насаждений человеком, и последствия обезлесения для окружающей среды. Также предлагаются возможные пути решения данной проблемы.

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### **THE IN VITRO METHOD POTENTIAL FOR GROWING CONIFER SEEDLINGS IN REFORESTATION**

Forests are an important renewable resource that is in demand in industry and helps maintain the ecological balance of territories. The problem of deforestation is important for all countries of the world, because it is a long and costly process. In order to speed it up without compromising the quality of the products received, the method of growing pine and spruce seedlings in vitro is used. This method involves growing biomaterial from seeds in a test tube, which will reduce the area allocated for the cultivation of planting material, compared with classical reforestation, will give the opportunity to automate the growing process, work throughout the year and will accelerate the growth of the sample [2].

The importance of the topic for the Orel region is great, because since 1790 until today, the forest area has been reduced from 50% to 9 % [4]. In this regard, the region became a participant in the regional project “Forest conservation” of

the national project “Ecology” [1]. Assumption: growing pine and spruce seedlings *in vitro* is more effective than growing in soil culture. The study will allow us to study the environmental risks associated with the problem of deforestation and, if the assumption is confirmed, will make solving of this problem more convenient, as well as provide an opportunity to automate the growing process and carry out work throughout the year.

The aim of the work is to evaluate the possibilities and effectiveness of seed propagation of scots pine and scots spruce *in vitro* for growing planting material for the purpose of reforestation.

Tasks:

1. To study the problem of deforestation and ways to solve it.
2. To study the method of growing pine and spruce seedlings *in vitro* and evaluate its importance for reforestation.
3. Compare the possibilities of two methods of growing pine and spruce seedlings: *in vitro* and *in vivo*.
4. To evaluate the possibilities of the method of growing pine and spruce seedlings *in vitro* for reforestation.

The practical significance of the work is that the method used will help to improve the productivity of reforestation. The originality of the work consists in the adaptation of the method of clonal micropropagation for the propagation of coniferous seeds on a nutrient medium *in vitro*.

Study dates: November 2019 – January 2020. Seeds of scots pine and scots spruce, having previously sterilized, were planted in test tubes on the Murashige-Skuga medium [2] and in a soil mixture for conifers in plastic cups of 30 pieces of each variant.

Results. In the soil culture, the first shoots appeared in the pine already on the 5th day and the shoots of the spruce – on the 8th day, which is much faster than according to the literature. The germination of pine seeds in soil culture is higher than that of spruce: 67% vs. 47%. The growth of pine seedlings in the first 2 weeks significantly outpaced the growth of spruce seedlings. But at 3-4 weeks, spruce seedlings almost caught up with pine seedlings in growth. Thus, pine showed the best results in soil culture. Perhaps this is due to the unpretentiousness of pine to the conditions of germination and growth compared to spruce.

On the nutrient medium *in vitro*, the first shoots appeared in pine on the 15th day, and the shoots of spruce did not appear for 4 weeks. The germination of pine seeds on nutrient *in vitro* is very high: 84%, although the seeds did not germinate for a long time. Perhaps the stress from the sterilization of seeds affected. After a period of adaptation, pine seeds quickly began to grow. Of these, 76% of the germinated seeds have been preserved and are developing normally. Pine showed the best results on the nutrient medium *in vitro*. The absence of spruce seedlings may be explained by the composition of the selected nutrient medium, which turned out to be unfavorable for the germination of



spruce seeds. In addition, colonies of bacteria were detected in two test tubes, which indicate an infection of the environment.



Picture 1 –*Pine seedlings in vitro*

Conclusions: comparing the results of these methods of growing pine and spruce seedlings (in vitro and in vivo), it was found that growing pine seedlings on a nutrient medium in vitro turned out to be quite effective in quantitative and qualitative indicators compared with growing in soil culture. The share of germinated seeds is 17% more. The proportion of surviving seedlings is 36% higher. Slightly, but still more than the average length of seedlings (2.2 mm). Growing pine in vitro opens up new opportunities for growing planting material for the purpose of reforestation. Many factors affect the germination of seeds and the quality of plant seedlings. Pine showed the best results on the nutrient medium, and spruce in the soil culture. Perhaps, when selecting another nutrient mixture, spruce when grown in vitro will give a better result. This will allow future research.

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В статье рассматривается использование метода *in vitro* как решение проблемы облесения на примере Орловской области. Были выращены проростки сосны обыкновенной и ели обыкновенной из семян на питательной среде Мурасиге-Скуга, а также проведен анализ их всхожести.

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### **VIDA SALUDABLE COMO UN VALOR**

Vamos a considerar un estilo de vida saludable como un valor. Echemos un vistazo a algunos de los aspectos más importantes como nutrición, deportes, rechazo a los malos hábitos y otros.

La salud es un valor humano básico. Al mismo tiempo, la salud humana se considera un indicador de la calidad de vida. Hoy existe una relación inversa entre estos conceptos: la salud de una persona depende en un 50% de su modo de vida.

En las metodologías modernas, la definición de "salud" se entiende como un proceso dinámico determinado por las características de la interacción humana con el medio ambiente: el entorno social y natural. Por lo tanto, el estudio de las actitudes de las personas hacia su salud está directamente relacionado con la percepción de un estilo de vida saludable.

En los últimos años, la expresión «estilo de vida saludable» se ha incorporado profundamente en nuestro léxico. La promoción de estilos de vida saludables se ha convertido en un tema popular en muchos programas de televisión, programas de radio, debates entre grupos sociales individuales y entre científicos: médicos, sociólogos, psicólogos, etc.

Un estilo de vida saludable es un modo de vida orientado a la prevención de enfermedades y la promoción de la salud. Cubre todas las esferas de la existencia humana, del alimento a la emoción. Un estilo de vida saludable es un estilo de vida dirigido a un cambio completo de los hábitos previos relacionados con la comida, la actividad física y la recreación.

En nuestro artículo vamos a analizar algunos aspectos indispensables de la vida sana.

En primer lugar, la buena salud exige una gestión sistemática del tiempo.

Un régimen racional de trabajo y descanso implica una alternancia razonable de períodos de tensión física y mental con períodos de relajación total. En otras palabras: es importante dormir lo suficiente (entre 7 y 8 horas para un adulto), así como tener un descanso adecuado los fines de semana.

El trabajo o estudio extenuante, la necesidad de concentrarse conducen a una acumulación de fatiga y nos obligan a hacer una pausa y descansar. El cuerpo nos manda señales de agotamiento y estrés, obligándonos a hacer una pausa para recuperarnos de las tensiones. Por ello, es fundamental introducir períodos de descanso que, además de que además de otorgar beneficios a la salud física y mental, nos permitan reanudar el trabajo con mayor motivación y desempeño.

**El descanso laboral**, que se constituye como un derecho para los trabajadores, se contempla mediante el tiempo libre, la limitación de la jornada laboral, los dominicales y festivos y las vacaciones anuales. Un sueño de calidad, un descanso de 15 minutos cada dos horas, dos días libres a la semana y al menos dos vacaciones al año son la clave de unas vacaciones satisfactorias para casi todo el mundo. Los beneficios de tomarse un descanso son muchos, pero los siguientes han sido destacados por la investigación científica:

- Permite la recuperación de energías;
- Reduce el estrés y la ansiedad;
- Disminuye la fatiga;
- Mejora la calidad del sueño;
- Mejora los niveles de desempeño;
- Evita problemas de salud [3].

Sin duda alguna, la base de una vida saludable es también la alimentación saludable.

La nutrición saludable es un concepto muy amplio (se escriben extensos trabajos científicos al respecto), pero los principios básicos de un enfoque racional de la alimentación son:

- La restricción significativa de la proteína animal (se recomienda comer principalmente las clases dietéticas de carne – carne de pollo, carne de conejo);
- Inclusión en el menú de mayores cantidades de productos vegetales;
- Exclusión de la dieta diaria carbohidratos «rápidos» - dulces, pasteles, refrescos, comida rápida, patatas fritas;
- Cambiar a una comida dividida (una comida pequeña cada vez);
- Exclusión de la cena tardía;
- Comer solo alimentos frescos;
- Régimen óptimo de consumo;

- Optimización de la cantidad de alimentos - debe corresponder al costo de la energía;

- Excluir el alcohol, restringir el café y el té fuertes.

Los alimentos deben ser exclusivamente naturales y contener todos los macroelementos y microelementos necesarios, vitaminas. Es deseable que el régimen individual sea preparado por el dietista.

Por lástima el progreso tecnológico por un lado ha aumentado el nivel de vida y la calidad de vida pero por otra parte el uso excesivo de los ordenadores ha conducido a un estilo de vida sedentario. Sabemos que fumar y consumir alcohol en exceso hace mal, pero lo cierto es que permanecer mucho tiempo inactivo es un factor de riesgo para la salud tan importante y tan perjudicial como fumar. Así lo afirman los científicos que han estudiado el impacto del sedentarismo en la salud «La baja capacidad física representa un mayor riesgo de muerte que la presión arterial alta o el colesterol alto», señaló el autor principal del estudio de la Universidad de Gotemburgo, Per Ladenvall. Según la Organización Mundial de la Salud (OMS) el «estilo de vida sedentario» aumenta las chances de muerte entre un 20% y un 30% [1].

Pero los mismos científicos que advierten sobre los efectos graves del sedentarismo también recalcan lo sencillo que es evitar este daño. «Con solo caminar a paso rápido de 15 a 30 minutos al día podemos mejorar significativamente nuestra salud», resaltó la experta de Harvard la doctora I-Min Lee. La sabia promoción de estilos de vida saludables necesariamente incluye apartados sobre la actividad física. La gente se está moviendo cada vez menos a pie: ahora puede pedir y recibir bienes y productos sin salir de casa.

Los principiantes de un estilo de vida saludable deben recibir ejercicio al menos 30 minutos al día: la actividad motora es uno de los principales factores que influyen en la salud humana. Qué tipo de actividad física - todo el mundo decide, según su edad, temperamento y habilidades.

Las Posibilidades de actividad motora podrían ser:

- Clases en el gimnasio;
- Deportes como caminar o correr;
- Clases en la piscina;
- Andar en bicicleta;
- La gimnasia en casa;
- Yoga [2].

También es cierto que no hace falta apuntarse a un gimnasio, convertirse en un atleta o practicar cualquier otro deporte para acabar con el sedentarismo. Lo principal es mantenerse en movimiento durante dos horas y media cada semana, es decir, 150 minutos. Montar en bicicleta en lugar de conducir un coche, o bajarse antes del transporte público, y caminar unas manzanas cada día son también formas fáciles de cumplir el requisito de actividad semanal.

En la lucha por la salud es importante la acción conjunta del Estado y la sociedad en su conjunto, así como del individuo. En Belarús desde hace varios años está prohibido fumar en todos los lugares públicos así como está prohibida la publicidad de productos de tabaco. Se cree la imagen de personas exitosas, a la moda, que están en buena forma. Se ha puesto de moda andar en bicicleta, scooter, pasar activamente el tiempo libre, practicar deporte en gimnasios. Se promueve activamente el consumo de agua limpia.

Buenos hábitos son importantes para tener una vida saludable, pero muchos de nosotros no sabemos su real significado.

En este artículo hemos tratado de demostrar que cuidando de la salud:

- mejorarás tu salud y estado de ánimo;
- reducirás las posibilidades de contraer enfermedades y obtendrás una mejor salud;
- Tu estado físico será mejor;
- Fortalecerás tus articulaciones y huesos
- Desarrollarás mejor tu cerebro
- Sentirás más joven.

Y no es el deseo de cada persona en este mundo? – ¡Ser jóvenes y sentirse jóvenes!

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Статья посвящена теме здорового образа жизни. Феномен здорового образа жизни рассматривается как деятельность, направленная на улучшение физического состояния человека посредством соблюдения некоторых правил. В статье рассматриваются основные аспекты, такие как питание, спорт, работа и отдых, меры, принимаемые в Республике Беларусь для поддержания здорового образа жизни. Актуальность здорового образа жизни обусловлена тем, что в настоящее время молодые люди пропагандируют и вводят новые тренды, посвященные активному и здоровому образу жизни.

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## **MADAGASCAR EN EL SISTEMA DE RELACIONES INTERNACIONALES EN LOS SS. XVI-XVIII**

Por su ubicación geoestratégica excepcional y la especificidad regional, Madagascar es considerado como un socio muy prometedor para Bielorrusia en África de tener en cuenta el interés creciente de Minsk hacia el desarrollo de las relaciones fructíferas con los países africanos. Sin embargo, el conocimiento de la historia y la situación internacional en la que se halla el estado es la clave para establecer la cooperación mutuamente beneficiosa entre nosotros. Así pues, el objetivo de esta investigación es revelar los rasgos más destacables de la coyuntura internacional en los ss. XVI – XVIII que afectaron a Madagascar.

En retrospectiva histórica, la posición geoestratégica de Madagascar en el suroeste del Océano Índico garantizó su inclusión en el sistema de relaciones internacionales aún antes del establecimiento del sistema de Westfalia, ya en el transcurso de la Era de los Descubrimientos. En el s. XVI – princ. s. XVII la isla atrajo la atención de exploradores portugueses, holandeses, ingleses y franceses. Hasta mediados del s. XVII, intentaron sin éxito establecer sus propias colonias allí, pero la resistencia local impidió la viabilidad extensible de cualquier asentamiento [1]. Aun así, la isla sirvió de punto intermedio y de base de aprovisionamiento en el camino hacia la India para los comerciantes y marinos europeos que podían intercambiar alimentos con los pueblos indígenas.

La principal lucha por el dominio sobre Madagascar tuvo lugar entre Inglaterra y Francia en los años 40 del s. XVII. Como resultado de la confrontación ganó Francia que gracias a los esfuerzos de Prony logró establecer la primera colonia *permanente* en el puerto de Fort-Dauphin (actualmente Tôlanaro) en 1642. Al mismo tiempo, los colonos británicos en 1645–1646 intentaron sin éxito apoderarse del fuerte en la bahía de San Agustín que había sido establecido por los franceses ya en 1602. Sin embargo, el fuerte pronto fue reconquistado [2, p. xxvii].

En 1648, Étienne de Flacourt (1648–1655<sup>1</sup>) sucedió a Prony al frente de la colonia de Fort-Dauphin. El nuevo responsable se hizo famoso por sus

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<sup>1</sup> Los años de gobernanza se ponen según historiador ruso Kérov (1990) [1] quien afirma que de Flacourt no pudo partir hacia Francia en 1653 debido al mal tiempo y no abandonó la isla hasta 1655. Allen (2005) [2, p. 110] indica que, tras regresar a Francia en 1653, de Flacourt no volvió a visitar Madagascar.

encarnizados enfrentamientos con la población local, especialmente entre 1650 y 1653. Después de que de Flacourt se marchase a Francia, Fort-Dauphin se deterioró rápidamente, mientras que la masacre de la guarnición francesa a manos de la población local en 1674 obligó a los europeos a abandonar el fuerte. Aquel hecho, de todos modos, no impidió que los monarcas franceses a partir de Luis III confirmaran regularmente (en 1642, 1643, 1686, 1719, 1720, 1725 y 1731) sus derechos formales sobre la isla mediante la publicación de numerosos edictos y decretos [1, 3].

A lo largo del s. XVIII Francia siguió intentando colonizar Madagascar pero sin éxito. Uno de los intentos fallidos estuvo relacionado con la figura que jugó un rol de importancia en la confederación de Bar de 1768 que tuvo lugar en la Mancomunidad Polaco-Lituana (también conocida como la República de las Dos Naciones) y debidamente se considera uno de los eventos clave en la historia de Bielorrusia. Fue el famoso aventurero y viajero Móric Beňovský o Benyovszky.

Tras su captura por las tropas rusas después de aquella pugna, a Beňovský le confinaron a Kamchatka donde se rebeló y escapó a Francia a través de Île de France (actualmente Mauricio). Según una versión, a principios tenía planes de colonizar la isla de Formosa (actualmente Taiwán), pero en París consideraron que la colonización de Madagascar era más prometedora [4]. Según otra versión, desde el comienzo tenía Madagascar muy claro en su mente y buscó deliberadamente colonizarlo [1].

Al asegurarse el apoyo del gobierno francés, regresó a Île de France en otoño de 1773 y a principios de 1774 avanzó hacia la costa oriental de Madagascar, donde estableció dos asentamientos, Port Choiseul y Port Louis, al norte de la actual ciudad de Toamasina, en la desembocadura del río Antanambalana. Sin embargo, tropezó con la resistencia dura por parte de la población local aunque enviaba los informes en los que hablaba de la fundación de varios asentamientos nuevos y del establecimiento de una estrecha alianza con los nativos. Como demostraron investigaciones posteriores (conducidas más precisamente en 1773 y 1776), toda la información proporcionada fue una mentira total. Siguiendo las órdenes, Beňovský se marchó a París en noviembre de 1776 [4], pero un mes antes de su marcha se había difundido el rumor de que él era nieto del último rey de la influyente familia Ramini, lo que llevó a los jefes tribales del norte y del este de la isla a declararle ampansakabe (rey) el 10 de octubre de 1776 [7, c. 61–62].

Tenía suerte de evitar ser castigado en París después de que, en 1781, Beňovský se fue a Baltimore (EE. UU.). Allí se acercó a una rica casa comercial y, tras ganarse su apoyo y encontrar simpatizantes en Inglaterra, consiguió reunir dinero suficiente para una nueva expedición a Madagascar a bordo de la nave “Intrepid” a fin de establecer el comercio y apoderarse de esclavos [2, pp. 34–35]. En 1785 desembarcó en la zona de la bahía de Antongil con un equipo de

voluntarios y, en alianza con la población local, robó y expulsó a la guarnición francesa autoproclamándose imperador de Madagascar. No obstante, en 1786 llegó a Madagascar un destacamento de 60 soldados procedentes de las islas Mascareñas y en una escaramuza con ellos Beňovský recibió un disparo en el pecho y murió [1; 2, pp. 34–35].

Como resultado del fallo francés en la colonización de Madagascar, a fin. s. XVIII – princ. s. XIX gran parte de la isla se unió y consolidó sobre la base del Reino de Imerina. Tras varias décadas de la guerra civil, en 1783 Andrianampoinimerina (1787-1810) llegó al poder en Imerina Avarandrano<sup>2</sup> (Ambohimanga<sup>3</sup>) y, al darse por terminada la pugna interna, en 1787 se aseguró el trono una vez por todas [2, pp. 14–15]. Casi de inmediato se inició la unificación de los reinos fragmentados de Merina, que se completó en 1806. Un acontecimiento clave en este proceso fue la toma del reino de Analamanga en 1793, cuyo centro pasaría más tarde a llamarse Antananarivo y adquiriría el estatus de la segunda capital. Al mismo tiempo, a fin. s. XVIII comenzó el proceso de anexión de los territorios de otros grupos étnicos [2, p. xxvii].

A modo de conclusión, cabe destacar que la coyuntura internacional en los ss. XVI – XVIII que se iba formando en torno a Madagascar, por un lado, garantizó la inclusión de la isla en el sistema de relaciones internacionales debido a las encarnizadas luchas entre las principales potencias coloniales (especialmente Francia e Inglaterra). Por otro lado, la resistencia dura por parte de la población local, unida al clima difícil y al terreno poco familiar para los europeos no adaptados, aseguró el fracaso de los intentos de colonización de Madagascar y permitió a la población local formar un estado coherente que pudo maniobrar con éxito entre los intereses de las potencias coloniales ya en el s. XIX sin dejar de tener su propia identificación e independencia. No obstante, es de suponer que aquella huella histórica de un proceso de colonización incompleto, pero ya iniciado fuese muy probablemente una poderosa motivación para los franceses que aún consiguieron colonizar la isla a fin. s. XIX, pese a la fuerte resistencia diplomática y armada de los malgaches.

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<sup>2</sup> Imerina Avarandrano, o Merina del Norte, es uno de los cuatro reinos Merina que se formaron tras el colapso del estado de Andriamasinavalona (1675–1710).

<sup>3</sup> Ambohimanga es el nombre del asentamiento que estuvo situado en la cima de una colina al noreste de Antananarivo y que sirvió del centro de Imerina Avarandrano. En cierta historiografía el nombre del asentamiento se utiliza para referirse al reino como tal.



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В рамках статьи раскрываются ключевые аспекты положения Мадагаскара на международной арене в XVI – XVIII вв. Знание данных исторических событий, по мнению автора, является важным шагом на пути построения отношений взаимного доверия и сотрудничества между Республикой Беларусь и Мадагаскаром. Автор приходит к выводу, что несмотря на ожесточенную борьбу за остров, давление «извне» способствовало формированию первого обще-малагасийского государства в к. XVIII – нач. XIX вв.

#### к содержанию

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## MÖGLICHE ANWENDUNGEN VON BIOMARKERN

### *Einleitung*

Derzeit sind Biomarker ein gängiges Werkzeug in der klinischen Grundlagen- und angewandten Forschung und werden erfolgreich in der klinischen Praxis eingesetzt. Der Einsatz einzelner Biomarker, die sorgfältig annotiert wurden und deren Kompetenz wiederholt bestätigt wurde, ist durchaus

gerechtfertigt und angemessen. In vielen Fällen müssen Biomarker jedoch weiter validiert und verfeinert werden. Dieser Artikel gibt einen Überblick über den aktuellen Status von Biomarkern als klinische und diagnostische Hilfsmittel. Dabei wird ein besonderes Augenmerk auf ihre Anwendungsrichtungen und Merkmale gerichtet.

Nach der neuesten FDA-Definition ist ein Biomarker fast jeder quantitative Indikator, der die Wechselwirkung zwischen einem biologischen System und einer potenziellen Gefahr widerspiegelt, die chemisch, physikalisch oder biologisch sein kann. Eine Reihe von Subtypen von Biomarkern wurde entsprechend ihren mutmaßlichen Anwendungsbereichen definiert. Wichtig ist, dass ein Biomarker mehrere Kriterien für verschiedene Verwendungen erfüllen kann, aber es ist wichtig, Beweise für jede Definition zu entwickeln. Obwohl sich Definitionen überschneiden können, weisen sie daher auch klare Merkmale auf, die bestimmte Verwendungen spezifizieren.

Nach ihrer Funktion werden Biomarker in folgende Gruppen unterteilt: diagnostische Biomarker, Monitoring-Biomarker, pharmakodynamische/Response-Biomarker, prädiktive Biomarker, prognostische Biomarker, Biomarker für Sicherheit, Anfälligkeits-/Risiko-Biomarker.

#### *Diagnostische Biomarker*

Ein diagnostischer Biomarker weist das Vorhandensein einer Krankheit oder eines Zustands von Interesse vor oder identifiziert eine Person mit einem Subtyp der Krankheit. Solche Biomarker können nicht nur eine Krankheit identifizieren, sondern auch die Klassifizierung der Krankheit neu definieren. Zum Beispiel bewegt sich der Nachweis von Krebs schnell in Richtung einer molekularen und bildgebenden Klassifizierung und nicht zu einem weitgehend organbasierten Klassifikationsschema.

#### *Überwachende Biomarker*

Wenn ein Biomarker seriell gemessen werden kann, um den Status einer Krankheit oder eines medizinischen Zustands auf Anzeichen einer Exposition gegenüber einem medizinischen Produkt oder Umweltmittel zu beurteilen oder um eine Wirkung eines medizinischen Produkts oder biologischen Erregers zu erkennen, handelt es sich um einen überwachenden Biomarker. Die Überwachung ist ein breites Konzept, so dass es Überschneidungen mit anderen Kategorien von Biomarkern gibt.

Zum Beispiel Zielmessungen für Hämoglobin (Hb)A1C, Blutdruck, und LDL-Cholesterin bleiben umstritten, obwohl diese zu unseren am besten untersuchten und akzeptierten Biomarkern gehören. Ebenso fehlt uns oft eine ausreichende empirische Bestätigung des hilfreichsten Intervalls zwischen den Messungen oder der Dauer des klinischen Verlaufs, in dem Messungen durchgeführt werden sollten. Viele Biomarker, die routinemäßig in der klinischen Praxis verwendet werden, haben sehr ungenaue Betriebsmerkmale, so

dass sie in einer klinischen “Gestalt” zusammen mit dem Ausdruck “klinisches Urteilsvermögen ist erforderlich” verwendet werden. Dennoch sind die Besonderheiten der klinischen Parameter, die in ein gutes klinisches Urteil gehen sollten, nicht spezifiziert.

#### *Pharmakodynamische/Reaktions-Biomarker*

Wenn sich der Spiegel eines Biomarkers als Reaktion auf die Exposition gegenüber einem Medizinprodukt oder einem Umweltreduzenten ändert, kann es als pharmakodynamischer/Reaktionsbiomarker bezeichnet werden. Wenn man Bluthochdruck oder Diabetes behandelt und bei einer Therapie keine Senkung des Blutdrucks oder der Glukose auftritt, gibt es guten Grund, diese Intervention zu meiden und eine andere zu verfolgen. Ein besonderer Umstand sind Phase-1-Studien an normalen Individuen. Es wäre unerwartet, wenn ein krankheitsbedingter Biomarker eine große Veränderung (z. B. Blutdruck) bei Personen mit normalen Ausgangswerten zeigt. Unter diesen Umständen liegt der Schwerpunkt auf der Entwicklung vorläufiger Beweise dafür, dass das Medikament bei Personen mit der Zielkrankheit sicher verwendet werden kann.

#### *Prädiktive Biomarker*

Ein prädiktiver Biomarker wird durch die Feststellung definiert, dass das Vorhandensein oder die Veränderung des Biomarkers vorhersagt, dass eine Person oder eine Gruppe von Personen mit größerer Wahrscheinlichkeit eine günstige oder ungünstige Wirkung durch die Exposition gegenüber einem Medizinprodukt oder einem Umweltmittel erfahren wird. Der Nachweis, dass ein Biomarker für diesen Zweck nützlich ist, erfordert einen strengen Ansatz für klinische Studien.

#### *Prognostische Biomarker*

Ein prognostischer Biomarker wird verwendet, um die Wahrscheinlichkeit eines klinischen Ereignisses, eines Krankheitsrezidivs oder der Krankheitsprogression bei Patienten mit einer Krankheit oder einem medizinischen Zustand von Interesse zu identifizieren. In klinischen Studien werden prognostische Biomarker routinemäßig verwendet, um Studieneintritts- und Ausschlusskriterien festzulegen, um Populationen mit höherem Risiko zu identifizieren.

#### *Sicherheitsbiomarker*

Ein Sicherheitsbiomarker wird vor oder nach einer Exposition gegenüber einem medizinischen Eingriff oder Umwelteinwirkungsmittel gemessen, um die Wahrscheinlichkeit, das Vorhandensein oder das Ausmaß einer Toxizität als unerwünschtes Ereignis anzuzeigen. Für viele Therapien ist die Überwachung auf hepatische, renale oder kardiovaskuläre Toxizität entscheidend, um sicherzustellen, dass eine bestimmte Therapie sicher aufrechterhalten werden kann.

#### *Anfälligkeits-/Risiko-Biomarker*

Ein Biomarker, der auf das Potenzial für die Entwicklung einer Krankheit oder eines medizinischen Zustands bei einer Person hinweist, die derzeit keine klinisch offensichtliche Krankheit oder den medizinischen Zustand hat, wird als Anfälligkeits-/Risiko-Biomarker eingestuft.

#### *Abschluss*

Biomarker spielen eine entscheidende Rolle bei der Verbesserung des Arzneimittelentwicklungsprozesses sowie in der größeren biomedizinischen Forschung. Das Verständnis der Beziehung zwischen messbaren biologischen Prozessen und klinischen Ergebnissen ist von entscheidender Bedeutung, um unser Arsenal an Behandlungsmitteln für alle Krankheiten zu erweitern und unser Verständnis der normalen, gesunden Physiologie zu vertiefen.

Die Anwendung von Biomarker-Definitionen würde eine beträchtliche Disziplin erfordern, selbst wenn die wichtigsten wissenschaftlichen Bereiche statisch wären. Wir erleben jedoch derzeit enorme Entwicklungen in der Systembiologie. Gleichzeitig verändert der kontinuierliche Fortschritt in unserer Fähigkeit, massive Mengen an Informationen zu speichern, zu sammeln und zu berechnen, unser Verständnis sowohl der Biologie als auch der klinischen Ergebnisse grundlegend. Zusammengenommen läuten diese Entwicklungen eine Zeit explosiven Wachstums und rascher Veränderungen auf dem Gebiet der Biomarker voraus, die zusammen mit einer Blütezeit in den Bereichen klinische Pharmakologie und Toxikologie auftreten wird.

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В статье рассматриваются определения биомаркеров, установленные Управлением по санитарному надзору за качеством пищевых продуктов и медикаментов США и Национальными институтами здравоохранения с помощью их совместного ресурса Biomarkers, EndpointS и других инструментов (BEST), а также проблемы и потенциальные преимущества прогностической токсикологии и системной фармакологии, основанные на использовании биомаркеров.

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## **DEVELOPMENT OF AN ENERGY EFFICIENT TURBO WIND TURBINE GENERATOR BASED ON THE MAGNUS EFFECT**

The supply of organic fuels on our planet (oil, gas, coal) is quickly dwindling. Experts calculate that at current production rates coal will last 400–500 years, and oil and gas a maximum of 100 years. In addition, the ravaging of the Earth's bowels and the burning of fossil fuels is crippling our planet and worsening the environment. Therefore, mankind is forced to develop unconventional, i.e. renewable and environmentally friendly energy sources [7]. Currently, there is a growing interest in autonomous automated wind turbines that can meet the electricity needs of manufacturing and household consumers [6, 3]. The most favorable conditions for wind power development are in coastal regions, where the average annual wind speed is about 7 m/s. In Russia these areas include the coasts of the Pacific and Arctic oceans. On the continental part, wind power installations are not practically used. For example, the Baikal region is rich in coal, hydropower, oil and gas resources. Therefore, the establishment of wind power stations here can only be viable if economic efficiency is ensured. From this it follows that there is a need to increase the utilization rate of wind power stations, so that their efficiency can be comparable to that of heat power stations, which include nuclear power plants.

Vertical wind turbines are not a radical solution, even though they are driven by winds with much lower speeds. However, vertical wind turbines only reach their rated capacity at wind speeds of 11–12 m/s [4].

In this research work the technical characteristics of the developed wind turbine based on the Magnus effect have been experimentally investigated and compared with those of similar vertical wind turbines.

A prototype wind turbine based on the Magnus effect was designed and developed, the operation of which was provided by three batteries with a nominal voltage of 12 volts. The wind flow in the range of 1 to 7 m/s was generated with a powerful fan to control the wind flow speed, and was aligned with a 3 m long box at the ends of which the wind generator and fan were located. Wind velocity was measured with the digital anemometer MEGEON 11003. The current and voltage values were measured with the digital multimeter DT-832. On the basis of these data the curve of dependence of electric power on wind velocity was plotted. The minimum wind speed at which

the wind wheel started to rotate (starting speed) was also determined. Then, using a simplified formula (1), the wind energy utilisation factor was calculated [5]:

$$E = \frac{N \cdot 2080}{V^3 \cdot D^2}, \quad (1)$$

Where  $N$  is the electrical power at the generator clamps, W;

$D$  – wind wheel diameter, m;

$V$  – wind speed, m/s.

To plot the electrical power curve for wind speed, five reference points were selected with wind speed values of 0, 2, 4, 5, 7. The developed wind turbine reaches power (400W) at about 7 m/s. The starting speed in this case has a value of approximately 1.5 m/s. The curve of electrical power dependence on wind speed is shown in Figure 1.

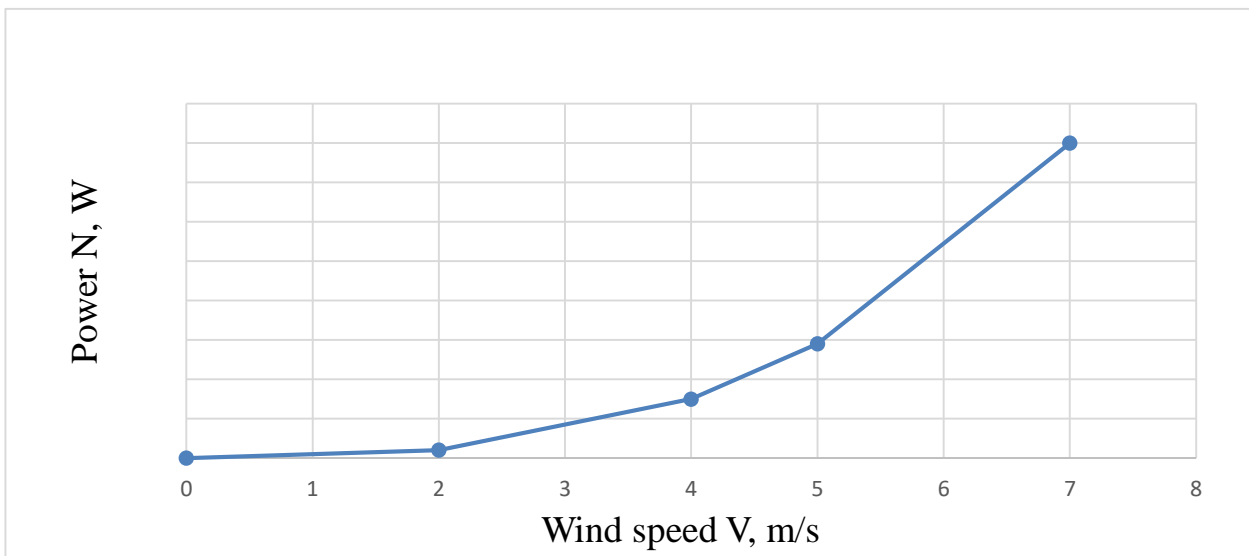


Figure 1. Dependence of electrical power at generator clamps on wind speed.

The technical characteristics obtained during the test were compared with those of similar vertical-axis wind turbines of the following types: spiral wind turbine, helical rotor, Savonius and Darié combined wind turbine. In order to make a reliable comparative analysis, three models of the same rated power (400W) were selected. The main technical characteristics of the wind turbines used for the research are given in Table 1 [1, 2].

Table 1. The main technical characteristics of the wind turbines

Model	Wind energy utilization factor	Starting wind speed (m/s)	Nominal wind speed (m/s)
YASHEL Technologies SV400 spiral wind turbine generator	0.35	1.3	11
ROSVETRO FX-	0.4	2	12

400 helical rotor by MD TECH			
Savonius and Darje WKV-400_12/24 combination wind turbine from the manufacturer Southern Wind	0.38	2	12
Prototype wind power generator based on the Magnus effect	0.42	1.5	7

A comparative analysis shows that a wind turbine based on the Magnus effect has a high wind energy utilization factor and achieves a power output of 400 W at a much lower wind speed than its counterparts. It can be concluded that this design can successfully compete with heat and hydroelectric power stations in regions where this was not possible before because of low wind speeds.

The information from this research can contribute to the development of wind power in areas with a low wind resource and, as a consequence, reduce the price of electricity tariffs.

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В статье рассматриваются преимущества ветроэнергетических установок, основанных на эффекте Магнуса перед ветроустановками других типов в условиях ограниченности ветрового ресурса. Был сконструирован прототип ветроэнергетической установки в масштабе 1:10, затем проведён эксперимент в лабораторных условиях при скорости ветра в диапазоне от 1 до 7 м/с. В ходе эксперимента были измерены основные технические характеристики прототипа, а затем произведено их сравнение с характеристиками аналогичных разработок.

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### **GAME-BASED APPROACH TO TAEKWONDO TEACHING**

There are various forms of martial arts practiced throughout the world, each with its own philosophy and style. Taekwondo is a popular Korean martial art and the most commonly practiced one in Russia.

The game-based approach is one of the most effective methods in teaching Taekwondo. Games play an important role in the development of children and have recently been widely used in the training process in various sports. It involves incorporating a technical component into well-known games (relay races, tag games and so on).

The purpose of the article is to analyze the sphere of application of game-based approach to Taekwondo teaching.

This method can be applied to any age group. In pre-school and primary school training, this is a good way to add fun and excitement to Taekwondo classes. This allows the Taekwondo technique to be explained in a more comprehensible way. Most complex elements can be broken down into several simple steps. Children can play and practice, since it is a well-known fact that a person perceives and remembers information better if it is presented several times in different forms. The method can be used at the end of a training session, as the game allows participants to relax and improve their mood.

There are special games that develop specific skills: speed, strength, agility, accuracy, coordination. They are used to avoid monotony in the training process.



This is the main advantage of the game method. People should practice different kicks many times to get them right. The process may be boring for children. Play and competition can help solve the problem.

It is also possible to use the game-based approach during the recovery period of secondary school athletes who are tired of long preparations for competitions and numerous contests. Play can help them reduce stress.

Team building games give athletes confidence in their abilities before the contests and practice skills and combinations for the athletes participating in team competitions.

To sum up, conventional martial arts teaching process is quite simple. To do something well, you have to repeat it a thousand times. Nowadays, there have been visible changes in teaching style. With the development of teaching methods, as well as the widespread introduction of the game-based approach, the training period has shortened. It used to take decades to become a champion and a martial arts master but today five - seven years is enough. Athletes still need to repeat a technique a thousand times, but now classes have become much more interesting and therefore more effective. Nevertheless, it should be emphasized that the game-based approach is not opposed to classical teaching - they should intertwine and form a coherent educational whole.

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В статье рассматриваются особенности применения игровых методов обучения спортсменов разных возрастных групп на занятиях по таэквондо. Обосновывается их необходимость и влияние на уровень интенсивности учебно-тренировочного занятия. Автор указывает на то, что игровой подход должен не исключать, а дополнять классические приемы обучения.

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## **LA COOPERACIÓN INTERNACIONAL DE ARGENTINA CON LOS PAÍSES DE LA REGIÓN EN EL EJEMPLO DEL MERCOSUR DURANTE EL GOBIERNO DE N. KIRCHNER Y C. KIRCHNER**

En el siglo XXI, las relaciones internacionales en América del Sur se desarrollan en un paradigma de regionalización, que se manifiesta en la aparición en el continente de una multitud de agrupaciones interestatales e interétnicas que están interrelacionadas no sólo geográficamente, sino también funcionalmente. Al mismo tiempo las relaciones regionales están influidas directa o indirectamente por las tendencias de fragmentación y polarización que son el resultado de la heterogeneidad política de América Latina, establecida como el resultado del próximo ciclo electoral. Por lo tanto, la integración subcontinental fue una forma de resolver estos problemas. El objetivo de este artículo es examinar los detalles de la cooperación de Argentina con los países de la región en el marco de la organización MERCOSUR durante el gobierno del partido «El Frente para la Victoria» (mandatos de N. y C. Kirchner (2003-2015)).

Hablando de una retrospectiva histórica, la actividad del MERCOSUR comenzó con la firma del acuerdo entre Argentina y Brasil en 1985, lo que sentó las bases diplomáticas para la creación de la organización. Argentina, Brasil, Paraguay y Uruguay fueron las partes originales en el tratado de 1991. El acuerdo, que entró en vigor en 1995, se centró en reducir las barreras comerciales entre los Estados miembros y fortalecer la democratización del régimen. A lo largo de los años tanto la asociación como sus objetivos y principios se han transformado y evolucionado, y la propia organización se ha convertido en la Unión económica y comercial más influyente de los países en desarrollo.

En general, hablando del vector de cooperación de la República Argentina, es importante entender que la posición del país con respecto a la integración regional no ha sido coherente. Los gobiernos cambiaban a menudo y, como resultado, los regímenes de gobierno se cambiaban, lo que afectó las prioridades de la política exterior. Sin embargo, desde el gobierno de Nestor Kirchner (2003-2007), la cooperación regional, incluida la cooperación con el MERCOSUR, siguió siendo una prioridad. De hecho, esto es bastante obvio y lógico, porque la proporción de países que forman parte de esta asociación

representa más de 75% del PIB total de la región [2]. Sin embargo, hay una serie de otras razones para esto:

1) durante los mandatos de N. y C. Kirchner, hubo un deterioro significativo en las relaciones con los Estados Unidos debido a la discrepancia en los enfoques a la cooperación;

2) diferencias profundas con las instituciones crediticias internacionales a principios del siglo XXI debido a la situación de crisis dentro de la República Argentina;

3) la crisis energética ha afectado la elección de socios regionales, los principales de los cuales, además de Brasil tradicional, fueron Venezuela y Bolivia que son ricos en recursos.

¿Por qué es relevante el estudio del vector de cooperación de Argentina con el MERCOSUR durante el gobierno de N. y C. Kirchner? Es importante comprender que especialmente durante aquel período se formularon las prioridades nuevas para el MERCOSUR que correspondían más a los objetivos de la política exterior del país tanto en aquel momento como en el presente.

Así, el gobierno de N. Kirchner consideró al MERCOSUR como un trampolín para fortalecer la posición de Argentina en América Latina, teniendo en cuenta que también había un reclamo de liderazgo en el bloque. Cabe señalar que en la época de Kirchner, el concepto del MERCOSUR como una asociación puramente comercial sufrió un cambio: la necesidad de responder a los desafíos nuevos introdujo una parte importante del componente político, que se manifestó en la aprobación de la membresía de Venezuela en el bloque y en un cambio sustancial en la agenda.

También vale la pena señalar que durante los mandatos de N. y C. Kirchner, la política regional de Argentina en el marco del MERCOSUR siguió la política del proteccionismo. Por ejemplo, fue Argentina la que se opuso al acuerdo de libre comercio entre el MERCOSUR y la UE [3], ya que consideró que las condiciones propuestas por la UE eran desacreditadoras para los países de la región. Por lo tanto, esta posición de Argentina contribuyó al crecimiento de su autoridad en el continente.

Es importante mencionar un factor que no sólo fortalece el respeto mutuo entre los países de la región, sino también, en general, estabiliza las relaciones entre los países, no sólo dentro de la organización, sino en todo el continente. Así, durante su gobierno, C. Kirchner elogió regularmente las leyes aprobadas durante la creación del MERCOSUR, que preveían la exclusión de la Unión de los países cuyos gobiernos habían llegado al poder por métodos antidemocráticos o habían sido disueltos.

También hay que mencionar que la imagen positiva de la República Argentina en la región se ve favorecida por su posición categórica en el tema de las perspectivas de esta organización. Así, Cristina Fernández de Kirchner dijo

en la Cumbre de jefes de estados del MERCOSUR en Brasil que los líderes de la organización no permanecerían inactivos ante los intentos de desestabilizar a los pueblos de América del Sur. También destacó la importancia de la integración en América del Sur y señaló que los pronosticadores del fracaso del MERCOSUR estaban equivocados.

En 2009, Argentina firmó el acuerdo de ciudadanía del MERCOSUR [1], que eliminó los requisitos de pasaportes y visas para cruzar las fronteras sudamericanas. Sin duda, esto ha tenido un efecto positivo en el enriquecimiento cultural de los países, el intercambio de experiencias, tecnologías, mano de obra y, en general, en su cooperación en esferas diferentes.

En el marco de este artículo también cabe destacar los logros concretos de Argentina en el fortalecimiento de los vínculos con determinados países de la región gracias al MERCOSUR.

Inicialmente, hay que prestar atención a las relaciones entre dos países líderes de la región: Argentina y Brasil. Así, en 2003, con la llegada de N. Kirchner al poder, los países decidieron crear un Parlamento del MERCOSUR y un Tribunal Permanente para resolver disputas y conflictos. Esto amplió el alcance de la organización y cambió cada vez más la naturaleza de la interacción entre dos países de la lucha por el liderazgo a una competencia saludable.

También entre el fortalecimiento de los lazos regionales de Argentina, cabe destacar la cooperación con Venezuela. La aceptación de este último en el MERCOSUR, que tuvo lugar en 2012 con la mediación activa de la parte Argentina, fue un gran beneficio para Argentina. Además, esto ocurrió durante la presidencia de la República Argentina en esta organización. Venezuela en aquel momento era el séptimo mercado para las exportaciones argentinas y uno de los principales socios políticos de Argentina. La entrada del país en el bloque ayudó a proporcionar beneficios a la parte Argentina en la compra de energía.

De lo anterior se deduce que el MERCOSUR, durante los gobiernos de Néstor Kirchner y Cristina Kirchner, se convirtió en una parte central de la política regional de Argentina. Así en esa organización Argentina vio en aquel momento tanto las prioridades económicas necesarias para salir de una grave crisis, como las prioridades políticas, ya que la participación activa y el liderazgo en el MERCOSUR permitieron construir una red más estrecha de relaciones con los países de la región, lo que a su vez contribuyó a aumentar la credibilidad del país en América Latina.

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В статье анализируется трансформация роли Аргентины в качестве ключевого игрока в осуществлении региональных связей в рамках МЕРКОСУР в 2003–2015 гг. Особое внимание уделяется освещению приоритетов региональной политики Аргентинской Республики, а также усилиям, предпринимаемым аргентинским руководством в целях укрепления связей не только внутри организации, но и в регионе в целом.

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### **THE PROBLEM OF USING NATURAL RESOURCES IN THE REPUBLIC OF BELARUS**

Owing to modern scientific and technological potential, natural resources are heavily used in people's business activities. In connection therewith, extensive measures focused on prevention from their depletion are needed.

The purpose of our study is to analyze the natural resource use in the Republic of Belarus and to consider the issues of legal regulation in this area.

Over the last few decades, the necessary legal and regulatory framework related to environmental protection and environmental safety has been created in the country. The laws on Environmental Protection, on Wastes, on Protection and Use of Animal Life, on Protection of Atmospheric Air, on Natural Resources Use Tax, etc., as well as the Subsoil Code, the Forestry Code, the Water Code, the Land Code have been adopted. In this respect, the core objective of such regulatory legal acts is to ensure rational use of natural resources in the Republic of Belarus.

It should be noted that land, water, mineral, forest and atmospheric resources are the major components of the country's natural potential. "Natural

resources make an important part of the country's national wealth and are the source of wealth and services generation" [3, p. 4].

Water resources are used most effectively in the country. Water sources quality assessment shows that approximately 60% of Belarus's water bodies are moderately polluted and only 10% fall into polluted ones. Besides, water availability per capita is much higher than in the neighbouring countries [3, p. 4]. That is why the current objective in this area is to provide improvement of polluted river stretches. Moreover, "best modes of prevention from wastewater generation and purification technologies must be applied" [1, p. 92].

Forest resources play a big part in sustainable development of the country. Valuable wood species such as the oak, birch, pine, fir, alder, aspen, etc. grow in the forests of Belarus. The forest fulfils soil-, climate- and water conservation functions, and serves for sanitary-and-hygienic and recreational purposes. Pollution, deforestation and forest fires continue to be major concerns in spite of implementation of various measures to protect forest territories.

Atmospheric air as a natural resource is exposed to pollution by emission sources of power industry, production sector, transport, as well as to global climate change and ozone layer depletion. Nevertheless, a trend towards air improvement and predominance of fewer pollutants has been observed in the regions of Belarus in recent years.

As for land resources of the Republic of Belarus, there is a deterioration of land condition. Soil erosion, extraction of mineral resources, aftermath of the accident at the Chernobyl Nuclear Power Plant are listed among the reasons [2, p. 55].

Thus, the solution to rational use of the country's natural resources is one of the conditions of sustainable development of the Republic of Belarus. The necessary regulatory and legal framework for regulation of this issue is available in the country.

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Главными составляющими природного потенциала Республики Беларусь являются земельные, водные, минеральные, лесные, атмосферные ресурсы. Решение проблемы по их рациональному использованию играет важную роль, поскольку является одним

из условий обеспечения устойчивого экономического развития страны в целом. Имеющаяся в Республике Беларусь нормативно-правовая база, касающаяся данной сферы, направлена на ее эффективное регулирование.

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### **SLOGAN AS A KEY ELEMENT OF THE ADVERTISING TEXT**

Today, advertising plays an important role in the modern life of every person. It is quite difficult to imagine television, the Internet and our everyday life without advertising. Every day we see or hear advertisements, we look for information that is interesting or necessary to us in a variety of advertisements.

A slogan is one of the most important components of a modern advertising text. Currently, the scope of the slogan is growing rapidly, penetrating into radio, television, newspapers, outdoor advertising and wherever there is advertising. A slogan is a short phrase or motto that reflects the unique quality of the product, service, and direction of the company's activities, often in a direct, allegorical or abstract form. Along with the company name and trademark the slogan shows the main advertising concept, namely the particular sense of a company. The main purpose of the slogan is to create an emotional image in the audience. The brighter the slogan, the stronger the first impression it will make and its promotion will be more effective. They should be written in a readable, original and interesting way so as not to alienate the target audience.

The authors of slogans use linguistic, stylistic and syntactic means to influence consumers effectively. Stylistic means include neologisms, tropes and figures such as comparison, metaphor, metonymy, personification, epithets, hyperbole, allegory, antithesis, gradation, anaphora, parcel, etc.

The advertising text usually uses a syntactic structure that is easy to understand and remember. Therefore, simple sentences are often found in advertising texts, rarely complicated by isolation. But it is impossible to do without homogeneous terms when listing the properties and qualities of a product. Complex sentences are used in advertising and have a lighter structure. It is best to build sentences in an affirmative and motivational form.

The grammatical category of the words also has a significant impact on the perception of the text. For example, abstract and concrete nouns; verbs that carry information for the seller or manufacturer about the actions that the buyer should

take. Moreover, verbs have a greater motivating force than nominal parts of speech.

The mechanism of slogans includes three main stages. The first stage is perception. In this case, perception is the attention that is drawn to the slogan. It is not the perception of all people that is important, but the perception of the target audience to which the advertising message is directed. The next stage is memorization. Slogans should not only form a certain image in the consumer's mind once, but also fix it in memory. The most effective way is repetition, that is, the consumer should see and hear the slogan as often as possible. And involvement, which is aimed at understanding that the slogan is aimed specifically at them. However, the slogan itself is a phrase, an ordinary sentence consisting of ordinary words.

Advertisers claim that the slogan is a small work of art [2]. It is born in a burst of inspiration, like poetry. "It is easier to compose ten sonnets than a good advertisement," noted the English writer Aldous Huxley [1].

Thus, a slogan is an advertising motto that characterizes a product and its manufacturer. The slogan can be easily remembered and changed, but remain recognizable. When creating slogans, artistic techniques, knowledge of human psychology, national culture are used to increase the attractiveness of the product, ensure recognition and enhance the emotional impact of advertising.

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В статье дается определение ключевому элементу рекламного текста «слогану». Выявляются лингвистические, стилистические и синтаксические средства, которые оказывают влияние на потребителя. Рассматриваются механизмы работы слогана на сознание человека. Автор делает вывод о том, что реклама является политической и культурной частью общества, и благодаря слогану она остается в памяти и дает представление о рекламируемом товаре или услуге.

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## **TURISMO EXTREMO EN ESPAÑA**

El turismo extremo es una combinación de actividades al aire libre y deportes con aventuras peligrosas que permite al turista experimentar sus posibilidades, superar los miedos y descansar de manera efectiva. Si desea combinar sus vacaciones habituales en la playa con numerosas actividades al aire libre y aventuras extremas, España es la opción ideal.

El objetivo de este artículo es considerar a España como un país que ofrece la posibilidad de realizar turismo extremo en su territorio.

España es un país ideal para aquellos que disfrutan de actividades activas, emociones vívidas e impresiones inesperadas: el país puede sorprender con una increíble variedad de paisajes: desde costas infinitas hasta hermosos picos de montaña. Su clima templado juega un papel importante. Le permite realizar un viaje activo en cualquier época del año. Aquí puede activar la fantasía y elegir la aventura más emocionante de la sangre de una variedad de actividades deportivas extremas, un evento de salida o una excursión corta pero curiosa. El turismo extremo en España traerá emociones, nuevas experiencias y disfrute de la belleza de los rincones increíbles del país. Los tipos más interesantes de tales vacaciones son barranquismo, buceo, rafting y paracaidismo. Consideremos cada uno de ellos con más detalle.

Aquellos que anhelan la adrenalina y están listos para largos descensos y ascensos, estarán interesados en probar el barranquismo, que le ofrece cruzar ríos sin el uso de instalaciones flotantes. Bajar la cuerda por las laderas escarpadas, nadar, saltar al agua también es parte de este tipo de turismo extremo. La provincia de Cádiz está considerada como uno de los mejores lugares para experimentar el barranquismo en España. El barranquismo es también el tipo de turismo extremo más popular en la provincia de cuenca debido a la gran cantidad de Gargantas, formaciones rocosas extrañas y ríos de montaña. En cuenca hay cañones de diferentes niveles de dificultad, pero con paisajes invariablemente hermosos. Los más famosos son Ventana del Diablo, Poyatos y Estrecho de Gollizno.

Al viajar por España, no debemos olvidarnos de su mundo submarino, que sorprende por su riqueza y diversidad. Uno de los mejores lugares para bucear son las numerosas islas La isla de Lanzarote es un destino popular para los buceadores. La aventura submarina dará un encuentro con especies curiosas de vida Marina que sorprenderán por el Tamaño, la forma y el color. También la ubicación afortunada de Mallorca en el Mediterráneo, las aguas cristalinas y las numerosas calas hacen de esta isla un lugar maravilloso para aquellos que buscan la oportunidad de disfrutar

del buceo y explorar el fondo del mar. En la isla hay más de 50 empresas que le ayudarán a organizar todo tipo de actividades acuáticas y enseñarán los conceptos básicos del buceo submarino y el buceo profundo.

El rafting es un rafting en un río de montaña en un barco inflable. Esto atraer a a aquellos que quieran divertirse con amigos y aprender a actuar en equipo. El rating en los rios de montana es popular como una forma de turismo active en Cataluna, y mas especificamente en su provincia de Lérida. El lugar favorito de los rafters en esta zona es el río Noguera Pallaresa: aquí hay agua rápida y no hay curvas de riesgo ni obstáculos. También se puede practicar rafting en el parque olímpico Segre y en la zona natural del río Garona. Rafting en Cataluña le dará la oportunidad de sentir, además de las emociones tormentosas, la extraordinaria belleza de la naturaleza de este territorio.

Madrid y sus alrededores son un gran lugar para aquellos que quieren experimentar una caída libre con un paracaídas a sus espaldas. Hay numerosos centros donde se puede tomar un curso de entrenamiento de paracaidistas, elegir un instructor para saltar juntos y recibir capacitación. Los más famosos de ellos son Skydive Madrid, Skydive Lillo en la ciudad de Toledo. En estos lugares se pueden encontrar tanto profesionales de todo el mundo que han hecho del paracaidismo el trabajo de sus vidas, como novatos que están dispuestos a aprender a manejar su cuerpo en una caída libre. El paracaidismo se puede realizar solo después de un entrenamiento especial, junto con un instructor, en pareja con otro paracaidista o un grupo de amigos.

Por lo tanto, España ofrece a los turistas muchos tipos de recreación extrema activa en tierra, agua y aire. Este tipo de turismo continúa desarrollándose, porque cada día un número cada vez mayor de personas muestran interés en este tipo de vacaciones. Las personas de todas las edades y preferencias podrán encontrar el tipo de actividad no convencional que más les convenga y obtener toda la gama de emociones que desean en España.

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В статье рассматривается состояние и развитие туристической инфраструктуры экстремального туризма в Испании.

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## **HOTEL DISCOUNT STRATEGIES**

Hotels use pricing as a key strategic lever to manage revenue. Despite the importance of understanding, pricing is the least understood of the marketing variables. Determining how much consumers should be charged is not simple in terms of predictions of demand and consumers' reactions. Charging too much chases away potential consumers, but charging too little can leave a company without enough revenue to maintain proper operation. Moreover, pricing mistakes can harm firms much more heavily in a downturn than in an upturn. Therefore, to cope efficiently with an economic downturn, pricing becomes a difficult, complicated decision for hotel managers. Yet a variety of pricing structures allows firms to use discounted rates that will stimulate demand for inventory that would otherwise remain unsold [4].

In the retail industry firms commonly use discounts as sales promotions. Marketers constantly identify different types of discounts to attract potential consumers. Since the economic downturn has heavily affected tourism, hotels often cut prices, trying to create the best cash flow possible in the short term. R. Drozdenko, R. and Jensen, M. suggested that 8 consumers have become more price-sensitive. Consumers are driven by lower rates and select the lower priced hotel, all things being equal, and their buying habits tend to respond accordingly to the increase and decrease in price. Yet, hotels should cautiously manipulate rates because in the long term potential negative effects may harm the hotel's profitability and image, while many would feel that a survival is more important than a profitability or brand image [1].

Moreover, firms should understand the law of supply and demand, which is an economic model used to determine prices in a market. The relationship between supply and demand is explained to some extent by several early economists, who noted: "If desire for good increases while its availability decreases, its price rises. On the other hand, if availability of the good increases and the desire for it decreases, the price comes down". The law of supply and demand concludes that the demand for a product or service will increase when prices fall. In addition, before offering price cuts, hotels should recognize whether their lodging demand is price elastic or inelastic. According to C. Enz if a certain percentage price cut brings not only greater demand but also revenue, then the demand is called elastic. If lodging demand is price elastic then as prices decrease, revenue will also increase. Conversely, if lodging demand is

price inelastic, a particular percentage price discount will bring lesser than that percentage increase in demand. Therefore, when lodging demand is inelastic, price cuts will generate less revenue than before, so lodging profits will suffer even more [2].

In reality, hotels have taken different actions to attract consumers into their properties. Among various pricing strategies, most companies use comparatively simple strategies to determine prices. Uniform pricing lets companies have a fixed price over time, regardless of the changes in the environment and in the inventory level, while competitive pricing allows companies to adjust their prices to competitors' prices. Cost-plus pricing is based on calculating the cost of goods or service and then adding profit [3].

Traditionally, uniform prices would be set in the summer and be applied for the next entire year in a hotel, for example, hotels set a price in August or September for the following year. Uniform pricing requires hotels to commit to prices upfront, so those hotels may not have the ability to react to individual consumers. Thus, uniform pricing has been evaluated as unrealistic since the hospitality business today is so dynamic that it needs to adjust to changes. Drozdenko R. and Jensen M. advocated that if a company fixes discounts, the products commercialized under a discounted price may be perceived as low quality. On the other hand, consumers might prefer the simplicity of a known fixed price that is not subject to any changes. Some hotels choose uniform pricing through distribution channels to avoid potential consumer confusion caused by price changes [1].

Among different pricing strategies, both companies and consumers seem to favor dynamic pricing. Dynamic pricing refers to making price changes in response to marketplace demand that can be implemented in several different ways. Hotels with strong marketing tools and more funds have an ability to predict economic conditions and consumers' behaviour; they implement dynamic pricing in which hotels charge different prices to different segments of consumers [3].

The largest concern with dynamic pricing is whether consumers accept dynamic pricing as being fair. Consumers' perspectives of the fairness of dynamic pricing depend on the amount of information disclosed to consumers.

Kimes S. suggested that a consumer may view a situation as unfair when he or she pays more for a similar service and cannot perceive a difference in the service. If consumers perceive dynamic pricing as unfair, the increased revenues resulting from dynamic pricing may only be short term.

From a consumer's perspective, dynamic pricing enables a consumer to make a choice over the price, so he or she can receive special benefits from accepting restrictions or making reservations in advance. Moreover, A. Sahay noted that consumers are more likely to accept dynamic pricing when they are

more involved in the pricing process. Their participation represents an acceptance of the practice. By getting the consumers involved in the pricing process, firms are able to create an acceptance of dynamic pricing in the consumer's perspective. This finding advocates that consumers enjoy the participation and involvement of the pricing process, so they would respond more to a dynamic pricing than a simple pricing since dynamic pricing requires consumers to be more involved in the pricing processes. Consumers' reactions towards two different types of pricing, dynamic and uniform pricing, may vary according to the level of involvement in obtaining a discount.

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В статье рассматриваются проблемы низкого спроса на туристический продукт, возникающие в гостиницах в периоды спада в индустрии. Автор анализирует стратегии – динамичное и единое ценообразование, используемые для выхода из кризиса, а также описывает преимущества и недостатки данных стратегий и реакции потребителей на результаты их проведения.

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#### **INTERNETMARKETING: ARTEN VON INTERNETMARKETING**

In diesem Artikel werden die gängigsten Arten des Internetmarketings vorgestellt. Internetmarketing ist eine Reihe von Instrumenten, die für das klassische Marketing typisch sind und an das Internet angepasst wurden. Online Marketing oder Web-Marketing sind Synonyme für Internetmarketing.

Die Vorteile des Internets werden dafür genutzt, um mit Internet-Strategien und Werkzeugen aus dem Internet die anvisierte Zielgruppe zu erreichen und Neukunden zu gewinnen. Heutzutage hat das Internetmarketing eine Zukunft, da es eine globale Wirkung hat [2].

Es gibt eine Vielzahl von Methoden, Internetmarketing zu betreiben. Um deren Beliebtheit und Wirksamkeit zu beurteilen, wurde eine Umfrage unter Studierenden durchgeführt und die bekanntesten Arten des Internetmarketings ermittelt:

1. Kontextbezogene Werbung. Wenn der Internetnutzer von einer Website zur anderen wechselt, wird er von zahlreichen Werbeangeboten zum Kauf dieses oder jenes Produkts belästigt. Die kontextbezogene Werbung berücksichtigt die Suchmaschinenanfragen des Nutzers und bietet ihm dann das Produkt an, für das er sich zuvor interessiert hat.

2. SMM (Social Media Marketing) ist auf die Arbeit in sozialen Netzwerken ausgerichtet. Hier bieten sich dem Spezialisten große Möglichkeiten für Kreativität. SMM ist für fast jeden geeignet: vom Startup bis hin zu großen Marken, bei denen es nicht mehr darum geht, den Umsatz zu steigern, sondern ein loyales Publikum in Form von Kunden zu gewinnen und zu halten.

3. SEO-Optimierung (Suchmaschinenoptimierung). Die klassische SEO basiert auf den Suchanfragen der Nutzer. Yandex- oder Google-Bots suchen nach Websites mit den relevantesten Inhalten für eine Suchanfrage. Und um an die Spitze zu gelangen, reicht es nicht aus, die Seite mit Schlüsselwörtern zu füllen, der Nutzer muss sich auf der Seite mit Inhalten für die Suchanfrage wiederfinden. Ein weiterer Faktor, der sich auf die Suchmaschinenoptimierung auswirkt, sind die Verhaltenseigenschaften der Besucher. Mit anderen Worten: Optimierte Inhalte sollten die Nutzer ansprechen und sie dazu bewegen, länger auf der Seite zu bleiben, auf Links zu klicken, zu kommentieren und aktiv zu sein [1].

Warum ist Internetmarketing heutzutage ein effektiver Mechanismus zur Förderung von Produkten und Dienstleistungen?

- Informiertheit. Der Verbraucher erhält die notwendigen Informationen über Produkte. Mit digitalen Werbemaßnahmen kann man die Zielgruppe unabhängig von Ort und Zeit von dem Produkt oder der Dienstleistung überzeugen.

- Hohe Effizienz im Vergleich zur traditionellen Werbung. Herkömmliche Werbung in den Medien und auf Plakatwänden ist zu teuer und zahlt sich oft nicht aus. Die Förderung von Waren im Internet funktioniert nach einem anderen Prinzip: Der Internetbenutzer findet solche Werbung selbständig.

- Große Reichweite des Zielpublikums. Die Zahl der Verbraucher eines Produkts im Internet ist unbegrenzt. Dies liegt daran, dass es möglich ist, von jedem Ort der Welt aus Waren und Dienstleistungen zu bestellen.

– Kontaktaufnahme. Online-Kanäle ermöglichen eine direkte Kommunikation und Feedback. Das macht die Kontaktaufnahme wesentlich wahrscheinlicher und erhöht die Nähe zur Marke.

Das Online-Marketing boomt, und es ist kein Ende in Sicht. Internetmarketing ist für viele Vermarkter zum Rettungsanker in Krisenzeiten geworden.

Die Struktur des Internet-Marketing-Marktes entwickelt sich heute aktiv weiter. Die Erstellung von Websites ist leichter zugänglich geworden. Wo früher für die Entwicklung einer Unternehmenswebsite in der Regel Fachleute herangezogen wurden und die Kosten für das Projekt eine beträchtliche finanzielle Investition erforderten, gibt es heute Website-Entwicklungskits, die den Prozess der Erstellung von Websites vereinfacht haben, so dass sich kleine und mittlere Unternehmen häufig an solche Dienste wenden. Damit eine Website erfolgreich ist, müssen die Vermarkter vor allem über alle aktuellen Entwicklungen auf dem schnell wachsenden Internet-Marketing-Markt auf dem Laufenden bleiben.

Die obigen Beispiele zeigen deutlich, dass das Internet längst nicht mehr nur ein Ort zum Senden und Empfangen von Informationen ist, sondern ein riesiger Marktplatz mit allen dazugehörigen Faktoren. Der Online-Verkauf ermöglicht es, so nah wie möglich dem Ziel zu kommen und erfolgreich zu sein.

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В статье представлены наиболее распространенные виды интернет-маркетинга. Автор дает обзор механизмов интернет-маркетинга, используемых сегодня для эффективного продвижения товаров и услуг.

**к содержанию**

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## **L'INFLUENCE DE LA HAIE SUR LE MICROCLIMAT DE LA VILLE**

Le travail présenté est consacré à l'étude du paysage, du climat et de l'architecture modifiés ou créés par des haies. L'actualité de ce travail ne laisse aucun doute – cette forme d'aménagement du paysage est très populaire de nos jours dans le monde entier. Cette recherche a pour but de traiter le sujet de la haie dans les espaces publics. L'objet de l'étude de la recherche sont des parcs, des jardins urbains, des avenues et des éléments de l'architecture et de l'environnement modifiés ou créés avec les haies. L'objectif principal de cette étude est l'analyse de l'impact des plantes dans les haies sur l'air et la température dans les villes. Les résultats ainsi obtenus sont formulés : toutes sortes des haies sont très répandues aujourd'hui, elles ont l'influence partitif mais positif sur le microclimat d'une ville, des plantes et des autres éléments typiques ont été proposés pour les créer.

L'environnement est un concept objectif corrélatif d'une conception mécaniste du vivant, retenons simplement cette idée que l'environnement environne et qu'en ce sens il est extérieur. Dans l'usage, ce mot renvoie à la nature. Schématiquement, le design de l'environnement est orienté objectivement; autrement dit, pour changer l'environnement, il suffit de le modifier.

C'est vrai qu'aujourd'hui le citoyen manque de la nature dans son environnement habituel ou il y a beaucoup de voitures, de bruit et de grattes-ciels gris qui cachent le soleil et la joie de la communication avec la nature des couleurs vivantes et brillantes. En plus, s'exprimant au forum économique de l'Est, qui a eu lieu à Vladivostok en 2021, la représentante de l'organisation mondiale de la santé auprès de l'ONU, Mme Vuinovich a déclaré que la pollution atmosphérique est devenue le cinquième facteur de réduction de l'espérance et de la qualité de vie, ainsi que le tabagisme, la consommation d'alcool, le mode de vie sédentaire et une alimentation inadéquate.

De nos jours le problème de la création d'espaces verts et de zones d'activités de plein air dans les villes est aigu. Une façon d'améliorer la qualité de l'air dans les villes est la création des haies qui sont très répandues en Europe, et sont en train d'arriver en Russie. Il n'y en a pas beaucoup dans les



villes russes, mais ce type d'aménagement du paysage se trouve souvent dans des propriétés privées.

Dans les environnements routiers ouverts, cependant, des plantes ligneuses peuvent être mises en œuvre pour former une barrière continue. On croit, que de telles barrières peuvent améliorer la qualité de l'air côté piéton, mais il faut tenir dûment compte des paramètres critiques, y compris la hauteur, l'épaisseur et la porosité de la barrière [1]. Par exemple, des barrières végétales hautement poreuses (à faible densité) peuvent réduire la vitesse du vent lorsqu'il pénètre dans les interstices, ce qui peut entraîner une accumulation de polluants sous le vent. Outre la prise en compte de l'environnement de plantation, une sélection efficace des plantes pour l'atténuation de la pollution atmosphérique nécessite une compréhension de l'équilibre entre les aspects bénéfiques et néfastes de la végétation au niveau des espèces. Cependant, on ne doit pas oublier un certain degré de production de dioxyde de carbone par les plantes, ce qui entraîne également une augmentation de la pollution de l'air. En effet, l'impact négatif sur la qualité de l'air associé à de telles émissions peut contrecarrer, voire l'emporter sur toute réduction de la pollution envisagée.

Les principaux mécanismes par lesquels la végétation peut être considérée comme améliorant la qualité de l'air sont ceux concernant la dispersion et le dépôt. La dispersion implique le transport et la dilution des polluants à partir de la source de pollution. Le dépôt décrit le processus par lequel les polluants sont déposés sur des surfaces solides, réduisant ainsi les concentrations atmosphériques ambiantes. Alors que la végétation peut être considérée comme un filtre passif pour les polluants de l'air ambiant. La capacité de la végétation à le faire est relativement élevée compte tenu de sa grande superficie. Cependant, la capacité potentielle d'une espèce à déposer des polluants est déterminée par la qualité et l'ensemble de ses traits individuels [2].

En raison de l'importance des feuilles dans les dépôts de polluants, la durée pendant laquelle une plante peut avoir le plus d'influence sur les dépôts est déterminée par la longévité de son feuillage qui décrit la durée pendant laquelle une plante reste dans la feuille. Les espèces à feuilles persistantes sont donc préférables aux espèces à feuilles caduques. Cependant, les espèces à feuilles persistantes peuvent être plus sensibles à certains facteurs de stress que les espèces à feuilles caduques, avec des implications potentielles pour la fourniture de services écosystémiques durables [4].

En générale, les barrières végétales larges, hautes et à faible porosité réduisent les concentrations de polluants sous le vent. Les influences individuelles de ces paramètres (hauteur, largeur et porosité), cependant, sont relatives non seulement les unes aux autres mais à des facteurs externes. De nombreuses expériences ont montré que les espèces à feuilles plus petites ont tendance à être plus efficaces que les espèces à feuilles plus grandes [3].

L'étude a révélé que les aiguilles de *Juniperus chinensis* étaient les feuilles les plus efficaces, bien qu'elles soient sans poils foliaires ni surfaces rugueuses, suivies des espèces à petites feuilles. Cette constatation est corroborée par les résultats d'études similaires, qui ont également révélé que les espèces de conifères offrent généralement des vitesses de dépôt plus élevées que les espèces à feuilles larges. On a découvert que *Pinus nigra* et *Cupressocyparis leylandii* étaient la première et la deuxième (respectivement) espèces les plus efficaces sous des vitesses de vent de 3 m/s [1]. Les espèces à feuilles caduques le plus actives sont *Liquidambar styraciflua*, *Ginkgo biloba*, *Populus nigra*, *Quercus* var.

Pour faire conclusion, on voudrait dire que dans les environnements routiers ouverts, des barrières de végétation devraient être mises en place sur le bord immédiat de la route, avec une hauteur minimale d'environ 2 m et plus. Lorsque l'espace le permet, des combinaisons de végétation de faible et de haute altitude devraient être mises en œuvre. Les feuilles petites, rigides et complexes ont tendance à être plus efficaces que les feuilles plus grandes, moins rigides et moins complexes. Les haies les plus actives et les plus adaptées au climat et aux conditions environnementales réduisent la concentration de dioxyde de carbone dans l'air, la pollution par la poussière et les particules fines et, à long terme, réduisent la température de l'air dans la ville.

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В работе анализируются последствия использования живой изгороди для улучшения экологической обстановки в крупных мегаполисах. Рассматриваются основные виды деревьев и кустарников, подходящие для выращивания подобных живых заграждений. Автор приходит к выводу, что хвойные растения и растения с

мелкой, более плотной листвой являются наиболее подходящими для создания живых изгородей вдоль дорог.

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### **EXCESSIVE PROMOTION OF A HEALTHY LIFESTYLE AND ITS CONSEQUENCES**

“Health outweighs all the other blessings of life so much that a truly healthy beggar is happier than a sick king” [1, p. 125].

The purpose of this work is to prove the importance of promoting a healthy lifestyle, taking into account the maintenance of not only physical, but also psychological health, emphasizing the possible negative impact of this propaganda.

A variety of factors affect human health, but the most important aspect of maintaining a normal life is following a healthy lifestyle. A healthy lifestyle is a lifestyle that is aimed at maintaining health, preventing diseases and generally strengthening the body [2, p. 155]. This improves the quality of life, labor activity and, in general, affects all spheres of human life.

The problem of a healthy lifestyle has worried mankind throughout its history. At the same time, not only the health of an individual is important, but also the health of society as a whole. Therefore, to solve this problem, a large role is given to the promotion of a healthy lifestyle. Today, in the age of information technology, spreading the ideas of a healthy lifestyle is not difficult. Also, the methods of oral and visual (conversations, conferences, installations), printed (distribution among the population of articles, leaflets on a healthy lifestyle) propaganda do not lose their relevance. The accessibility of physical culture classes for all segments of the population is becoming more and more possible, educational events are being held.

People of all ages should adhere to a healthy lifestyle. But the foundations for instilling these skills are laid precisely in childhood and adolescence. Therefore, the promotion of a healthy lifestyle is focused mainly on young people. An important role is played by educational institutions, which are educational and cultural centers, teach and educate young people in the skills of a healthy lifestyle, increase the labor potential of society as a whole. Internet resources have become the main source of information for young people, so it is obvious that social networks and online communities are increasingly focused

on promoting a healthy lifestyle. In this regard, there is a positive trend in the desire of people to become healthy, which will not only strengthen the physical, but also affect the psychological state of a person.

Modern society makes more and more demands on a person in terms of appearance and lifestyle. Young people often want to prove their ability to socially succeed, for which they try to take socially approved actions. The body is increasingly coming to the fore as an image of the “correct” ideal sports figure imposed by the mass media. Indeed, in the opinion of many, “on display, this image demonstrates its form and speaks about the lifestyle of the individual, including diet, a healthy mind, self-discipline and the will to act” [3, p. 15]. These ideas are increasingly promoted among young people but, unfortunately, it often leads to not at all positive consequences, namely, to a healthy lifestyle obsession. This is a condition in which a person strives to constantly train, experiences an irresistible craving for many hours of physical activity, proper nutrition and other components of a healthy lifestyle. This dependence is based on endorphins, which are produced in the process of playing sports. Endorphins are chemical compounds whose mechanism is similar to morphine-like substances.

There is a type of conduct disorder associated with excessive fixation on the rules of a healthy diet – orthorexia. Orthorexic differs from the usual adherent of a healthy lifestyle by striving for extremes, severe restrictions on food. They bring the idea of proper nutrition to the point of absurdity, which, on the contrary, leads to deterioration in physical as well as psychological health.

The causes of these disorders may be the presence in a person of other addictions, neurotic and somatoform disorders, for example, obsessive-compulsive, anxiety-depressive, panic disorders. There is also such a variety of hypochondria as dysmorphia. A person suffering from this disease is overly concerned with the features and defects of his body, which can lead to orthorexia and other diseases. After all, a person with one eating disorder is prone to others, such as bulimia and anorexia.

Healthy lifestyle obsession leads to increased anxiety associated with an obsessive fear of eating more fats or sweets, skipping a workout, retreating from the regimen. A person is disgusted both with “harmful” products and phenomena, and with people who do not observe a healthy lifestyle, he feels a sense of his superiority over others and strives to impose his ideas on relatives and friends. A healthy lifestyle becomes a priority among other areas of a person’s life, his social circle is limited, and the addict becomes less productive at work and other hobbies. As a result, a person gets a wide variety of health problems, and he also loses the ability to objectively assess his physical and psychological state. Such a patient feels constant fatigue and lethargy, suffers from headaches and heart pain, dizziness.

From all of the above, we can conclude that there is a great danger of excessive and unhealthy promotion of a healthy lifestyle and the importance of preventing any type of addiction. Everything useful should be in moderation, all information should be checked for accuracy. A truly healthy life is not only about exercise, dieting and restrictions, it should also include a variety of everyday pleasures, communication with friends and loved ones, hobbies, and, very importantly, relaxation. Indeed, in the phrase “healthy lifestyle” the main word is health.

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В статье показаны разные стороны такого феномена, как популяризация здорового образа жизни и его влияния на жизнедеятельность человека. Особое внимание автор уделяет такому понятию, как ЗОЖ-одержжимость и сопутствующим ему психическим заболеваниям. Автор приходит к выводу, что во всех, даже самых полезных вещах, человеку необходимо соблюдать умеренность.

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### INFRAESTRUCTURA TURÍSTICA DE LA REGIÓN DE VITEBSK

El desarrollo del turismo en la República de Belarús se debe al rico Patrimonio cultural e histórico, la naturaleza, pero también el desarrollo efectivo de esta esfera no se puede imaginar sin una infraestructura extensa, que incluye hoteles, sanatorios y centros de salud, objetos culturales, históricos e instalaciones deportivas [1].

La infraestructura turística de la región de Vitebsk se puede presentar de acuerdo con sus tipos especialmente importantes, porque la región es la base para el desarrollo de las áreas más populares del turismo.

#### Turismo de salud

La ventaja de los sanatorios de la región en comparación con otras áreas y países es la relación calidad – precio, la presencia de empleados altamente calificados y una buena base médica. Muchos centros de salud de la región ofrecen una amplia gama de servicios de salud respiratoria, digestiva, cardiovascular y nerviosa, así como servicios de cosmetología y tratamientos de SPA. Todas las empresas de alojamiento de complejos de sanatorio y bienestar están ubicadas en las zonas ecológicamente limpias, rodeadas de densos bosques y lagos [2].

Los complejos están equipados con Fuentes de agua mineral, que se puede comparar con las aguas de centros turísticos muy famosos, tales como Truskavets o Druskininkai. Aquí también se usan baños de radón, barro sapropelevye de los propios depósitos de RB, así como bloques de sal en speleolechnitsa, donde los turistas mejoran su salud, como el tratamiento en cuevas de sal.

En la etapa actual, en la región de Vitebsk funcionan 109 sanatorios y centros de salud (de los cuales 9 son sanatorios, 31 centros de recreación, un centro de rehabilitación infantil y otros tipos de complejos de salud). Los sanatorios "Lettsy", "Plisa", "Borovoe", "Forest Lakes", "Naftan", "Rosinka" y otros son especialmente populares.

#### Turismo ecológico

La infraestructura turística para el ecoturismo es todo lo que pertenece a la naturaleza. En la actualidad, en el territorio de la región se encuentran "Reserva de la Biosfera de Berezinsky", "Parque nacional de los lagos de Braslav", así como reservas y monumentos de importancia republicana y local [2]. En áreas especialmente protegidas, los turistas ofrecen servicios tales como caminatas por senderos ecuestres y ecológicos, caza de fotos, etc.

En el territorio del parque Nacional hay empresas de alojamiento (es decir, centros recreativos), de cuales son importantes "Zolovo", "Leoshki", "Losvido", "Dryvyaty", etc. Todos ellos incluyen casas de vacaciones, complejos con piscinas y sauna, monumentos de arquitectura y arqueología, museos.

#### Turismo deportivo

La región cuenta con más de 4000 instalaciones deportivas: gimnasios y canchas, piscinas, pistas de esquí, campos de tiro, etc. En las ciudades como Vitebsk, Novopolotsk hay centros deportivos y de entretenimiento, palacios de hielo, donde se celebran partidos de hockey y patinaje artístico, y en el tiempo libre aquí se realiza patinaje masivo [3].

Uno de los principales complejos es el "Complejo deportivo central de Vitebsk". Incluye dos campos de fútbol, una sala especial para practicar boxeo y

un núcleo de atletismo con equipos modernos. En la antigua ciudad de Polotsk, se abrió el "Centro regional de la reserva olímpica de deportes de remo de Vitebsk", equipado con el equipo deportivo necesario e incluido en el sistema el hotel "Parus". En todas las ciudades y centros de distrito hay estadios deportivos y complejos, así como oficinas de alquiler de equipos necesarios para realizar un descanso memorable al aire libre.

El análisis de este trabajo muestra claramente que la región de Vitebsk tiene un rico potencial para el desarrollo del turismo. Incluye varios recursos turísticos, que incluyen la presencia de paisajes, áreas naturales especialmente protegidas, una base de tratamiento; y recursos naturales: diversidad de ríos y lagos, rica flora y fauna, utilizando los cuales se crean productos turísticos para atraer turistas locales y extranjeros.

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В статье представлен анализ туристической инфраструктуры Витебской области.

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#### **NUTZUNG „GRÜNER TECHNOLOGIEN“ IM TRANSPORTBEREICH ALS EINER DER MÖGLICHKEITEN ZUR REDUZIERUNG DER NEGATIVEN AUSWIRKUNGEN DES TRANSPORTS AUF DIE UMWELT**

**Einführung.** Der Klimawandel ist ein zentraler Trend, der die globale Wirtschaftsentwicklung des kommenden Jahrzehnts bestimmt. Langfristige Strategien für die Entwicklung von Ländern werden auf der Grundlage von

Ideen über eine menschenwürdige Umwelt, Umweltfreundlichkeit und Sicherheit aufgebaut. Dabei spielt die Verkehrsinfrastruktur eine wichtige Rolle. Verkehr ist ein fester Bestandteil unseres Lebens. Es ermöglicht uns, große Entfernungen zu überwinden, erleichtert das Dasein und die Lebenstätigkeit der Menschen. Der Verkehr ist aber auch eine der Hauptquellen der Umweltverschmutzung. Daher müssen die im Rahmen der Umsetzung des Konzepts der grünen Logistik durchgeführten Aktivitäten den Bereich des Transports betreffen. Mit fossilen Brennstoffen betriebene Verkehrsmittel schaden nicht nur der Natur, sondern auch der menschlichen Gesundheit. Die schädlichen Emissionen, die sie produzieren, tragen zur globalen Erwärmung bei und verursachen beim Menschen verschiedene Atemwegs- und neurologische Erkrankungen. Der Großteil der Emissionen stammt von Autos (11,9 %), danach folgen Flugzeuge (1,9 %), Schiffe (1,7 %) und Züge (0,4 %). Die Reduzierung von Verkehrsemissionen ist ein wichtiger Bestandteil im Kampf gegen den Klimawandel.

**Ziel.** Ziel dieses Artikels ist es, die Auswirkungen der derzeit beliebtesten Verkehrsmittel auf die Umwelt zu analysieren, sowie Optionen und Methoden zur Lösung des Problems der Umweltverschmutzung durch den Verkehr durch den Einsatz "grüner Technologien" in Betracht zu ziehen.

**Hauptteil.** Der Straßenverkehr ist einer der umweltschädlichsten Verkehrsträger. In Belarus geben Kraftfahrzeuge jährlich eine große Menge an Karzinogenen in die Atmosphäre ab: 7.000 Tonnen Benzol, 7.500 Tonnen Formaldehyd und 3.000 Tonnen Blei. Im Allgemeinen übersteigt die Gesamtmenge der jährlich von Autos emittierten Schadstoffe 8 Millionen Tonnen. In Bezug auf Umweltschäden führen Kraftfahrzeuge bei allen Arten von negativen Auswirkungen: Luftverschmutzung - 95%, Auswirkungen auf das Klima - 68%. Von 10 Millionen Tonnen schädlicher Emissionen sind 89 % Emissionen von Straßenverkehrs- und Straßenbauunternehmen. Neben den Gasemissionen wirkt sich auch der Reifen- und Fahrbahnverschleiß auf die Umweltbelastung aus. Um die Schäden durch Autos zu verringern, müssen alternative Verkehrsmittel wie Fahrräder, Elektroautos und Fußgängerzonen entwickelt werden. Es ist auch notwendig, die Anzahl der Autos auf den Straßen durch die Entwicklung umweltfreundlicher elektrischer öffentlicher Verkehrsmittel zu reduzieren. Ein gutes Beispiel für die Einführung umweltfreundlicher öffentlicher Verkehrsmittel kann die Gesellschaft GP „Minsktrans“ sein, die sich mit dem Betrieb des Verkehrs im städtischen Umfeld beschäftigt. Derzeit gibt es in der Stadt Minsk etwa 93 Elektrobusse [1].

Der Schienenverkehr ist eine der effizientesten und wirtschaftlichsten Möglichkeiten, Güter und Personen zu befördern. Trotz der geringeren Auswirkungen hat es jedoch auch erhebliche Auswirkungen auf die Umwelt. Neben den Emissionen von Brennstoffverbrennungsprodukten werden beim Transport und Umladen von Waggons etwa 3,3 Millionen Tonnen Erz,



0,15 Millionen Tonnen Salze und 0,36 Millionen Tonnen Mineraldünger in die Umwelt freigesetzt. Mehr als 17 % der genutzten Länge von Eisenbahnstrecken weisen einen erheblichen Verschmutzungsgrad mit staubiger Ladung auf. Ölprodukte gehen aus den Kesselwagen auf dem Weg und zwischen den Gleisen während des Transports aufgrund von Undichtigkeiten der Ventile und Ablassvorrichtungen der Tanks sowie der Dichtigkeit der Luken verloren. Sie sickern durch die Bodenhorizonte und verschmutzen das Grundwasser. Es gibt jedoch Möglichkeiten, die negativen Auswirkungen des Schienenverkehrs auf die Umwelt zu verringern. Beispielsweise wurden in den letzten Jahren umweltfreundlichere und energieeffizientere Technologien im Schienenverkehr eingesetzt. Ein Beispiel für einen umweltfreundlicheren und energieeffizienteren Einsatz von Technologie ist das Unternehmen "BZHD", das zusammen mit der "China State Railway Group" aktiv eigene elektrische Lokomotiven und Züge mit verbesserter Energieeffizienz entwickelt. Dadurch konnte der Anteil an grüner Energierückgewinnung gesteigert werden. Beim Bremsen arbeiten Lokomotiven und elektrische Züge selbst als Kraftwerke und speisen Strom ins Netz ein. In den letzten sechs Jahren ist diese grüne Energie um 29 % gewachsen und erreichte 2022 2,6 Milliarden kWh.

Der Wasserverkehr transportiert 90 % aller weltweit verkauften Waren. Aber trotz einer so großen Rolle in der Weltwirtschaft hat der Wassertransport ziemlich starke Auswirkungen auf die Umwelt. Eine der größten negativen Auswirkungen des Wassertransports auf die Umwelt ist die Verschmutzung der Wasserressourcen. Die von Öl, Ölprodukten, Abfällen und anderen Schadstoffen während des Betriebs von Schiffen sowie Leckagen von Ölpipelines und anderen mit dem Transport von Öl verbundenen Verkehrsmitteln ins Wasser gelangenden Emissionen führen zu einer Verschmutzung der Wasserressourcen, was wiederum zu einer Störung von Ökosystemen, einer Bedrohung der menschlichen Gesundheit und der Tiere sowie zum vollständigen Aussterben vieler Tier- und Pflanzenarten führen kann. Um das Problem der Verschmutzung der Wasserressourcen und der Erhaltung der biologischen Vielfalt zu lösen, müssen Maßnahmen ergriffen werden, um die schädlichen Auswirkungen des Wassertransports auf die Umwelt zu verringern. Zunächst müssen neue Technologien eingeführt und bestehende verbessert werden, um die Emissionen von Schadstoffen und Abfällen ins Wasser zu reduzieren. Eine wichtige Rolle für die Umwelt kann die Umstellung von Flussschiffen auf Erdgas als Kraftstoff spielen, wodurch die Emissionen um 30 % gesenkt werden können. Die "St. Petersburg Electrotechnical Company" löst das Problem der Umstellung russischer Schiffe von Kraftstoff auf Flüssigerdgas. Ein markantes Beispiel für diese Arbeit ist die erfolgreiche Modernisierung des Neva-6-Motorschiffs, das zuvor nur mit Dieselkraftstoff betrieben wurde [2]. Die positiven Erfahrungen der "St. Petersburger Electrotechnical Company" können

unserer Meinung nach erfolgreich auf dem Territorium der Republik Belarus angewandt werden.

Der Luftverkehr ist ein wichtiges und bequemes Transportmittel für Millionen von Menschen in der ganzen Welt. Der Luftverkehr befördert jährlich 2,2 Milliarden Menschen. Weltweit durchgeführte Studien haben gezeigt, dass der Luftverkehr nur 2 % der gesamten anthropogenen CO<sub>2</sub>-Emissionen in die Atmosphäre ausmacht. Absolut betrachtet sieht dieser Anteil jedoch bedrohlich aus – im Jahre 2010 belief sich die Menge der CO<sub>2</sub>-Emissionen in die Atmosphäre auf 628 Millionen Tonnen. Bei einem jährlichen Luftverkehrswachstum von 4–5 % könnte sich diese Zahl bis 2030 verdoppeln, wenn nichts unternommen wird. Auch der Ausstoß von Feinstaub, auch Aerosole genannt, kann zu Luftverschmutzung und Atemwegserkrankungen führen. Um die schädlichen Auswirkungen des Luftverkehrs auf die Umwelt zu verringern, werden ein massiver Umstieg auf Flugbiokraftstoffe und Wasserstoff, die Einführung von Quoten und Emissionskompensationsmechanismen, der Übergang zu einem Flugsicherungssystem mit einer großen Anzahl von Direktflügen helfen. Es ist auch notwendig, sich auf neue Entwicklungen führender nationaler und weltweiter Hersteller zu konzentrieren, die eigene Luftflotte ständig zu modernisieren und effizientere und umweltfreundlichere Flugzeuge der neuen Generation einzubeziehen, die den Kraftstoffverbrauch senken [3].

Als Maßnahmen zur Verringerung der negativen Auswirkungen von Fahrzeugen auf die Umwelt können wir Folgendes anbieten:

1. Reduzierung von gasförmigen Emissionen, Abfall, Lärm und Vibrationen. Dazu ist es notwendig, Behandlungseinrichtungen am Fahrzeug selbst zu verwenden, Schalldämpfer und Schwingungsisolatoren zu installieren.

2. Festlegung von Umweltstandards für den Verschmutzungsgrad, die Durchfahrt schwerer Fahrzeuge durch Siedlungen auf gesetzgebender Ebene.

3. Optimierung der Transportwege.

4. Reduzierung der Zwischenstationen für Umschlag und Lagerung von Gütern.

5. Die Verbesserung der Fahrbahn ermöglicht es, die optimale Bewegungsweise zu beobachten.

6. Pflanzen von Bäumen und Sträuchern entlang von Straßen mit einer Breite von bis zu 25 Metern.

7. Nutzung von erneuerbaren Wind- und Solarenergiegeräten, Tierabwehrsystemen.

8. Optimierung des Streckennetzes und Einsatz neuer Pilottechniken zur Reduzierung des Schadstoffausstoßes von Flugzeugtriebwerken sowie zur Reduzierung des Lärmpegels.

9. Verwendung von Umweltkennzahlen bei der Lieferantenauswahl.

10. Ständige Überwachung der Folgen der Auswirkungen des Transports auf die Umwelt.

**Zusammenfassung.** Aus dem Vorstehenden können wir schließen, dass fast alle Transportarten negative Auswirkungen auf die Umwelt haben: Sie zerstören Ökosysteme und verursachen verschiedene Gesundheitsprobleme für Menschen und Tiere. Um diese Probleme zu lösen, ist es notwendig, "grüne" Technologien in allen Verkehrsträgern einzuführen und anzuwenden, was zu einer Verringerung der negativen Auswirkungen von Fahrzeugen auf die Umwelt führen wird.

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В статье раскрывается негативное влияние основных видов транспортных средств на окружающую среду. Предлагаются методы борьбы с загрязнением окружающей среды для каждого вида транспорта. Рассматривается положительный опыт применения «зеленых технологий» на практике и предлагается концепция использования данных технологий в логистической транспортной сфере.

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### LA POLLUTION DES OCÉANS DE LA PLANÈTE

La pollution de l'océan représente 70,8 % de la surface de la Terre. Si vous regardez une image de notre planète de l'espace, vous verrez qu'elle a une teinte bleuâtre pour la plupart, car les océans couvrent les 3/4 de sa surface. Par convention, les océans sont répartis entre les continents arctique, indien, pacifique et atlantique. L'océan façonne le climat de la planète : les courants apportent le froid ou la chaleur, et l'eau qui s'évapore à la surface

de l'océan forme les nuages. En ce qui concerne l'humanité dans son ensemble, plus de 100 millions de personnes vivent sur le littoral, leur vie étant liée d'une manière ou d'une autre à la mer.

Le but de ce travail est d'étudier le problème de la pollution de l'océan.

Cependant, chaque année, la pollution des océans devient un problème de plus en plus important. Chaque année, plus de 10 millions de tonnes de déchets plastiques se retrouvent dans les océans du monde entier au cours de leur voyage. Le plastique met plus de 100 ans à se décomposer et, grâce aux courants marins, il forme d'énormes îles. Par la suite, une réaction naturelle se produit avec ces îles : elles pourrissent, libèrent des composants toxiques et, par conséquent, empoisonnent tout ce qui vit autour d'elles.

La plus grande accumulation de débris se trouve dans l'océan Pacifique. Les scientifiques estiment la taille de la plaque de débris à 1,5 million de kilomètres carrés. Malheureusement, il ne s'agit que d'une fraction. La plupart des déchets se désintègrent en minuscules particules qui s'accumulent dans les sédiments côtiers et marins. Même au point le plus profond de la terre, la fosse des Mariannes, on trouve déjà des déchets, du mercure et des poissons empoisonnés par des toxines.

La pandémie ne fait qu'aggraver la situation. Les chercheurs prévoient que la quantité de plastique dans les océans du monde pourrait atteindre 600 millions de tonnes d'ici 2040. Tout cela parce que les gens ont augmenté leur consommation de produits en plastique pendant la pandémie.

Le pétrole et ses produits dérivés sont une source majeure de pollution, non seulement dans les océans, mais aussi dans la nature. Ce liquide se retrouve dans l'eau à la suite de catastrophes ou de naufrages, mais même les bateaux ordinaires déversent souvent plusieurs litres « d'or noir » dans l'eau. Le pétrole empoisonne littéralement l'eau et les organismes qui y vivent. Les poissons et les oiseaux meurent, l'échange thermique de l'eau est perturbé, ce qui entraîne des changements de température dans le climat, car les courants sont responsables de ces changements. Malheureusement, les conséquences environnementales de la pollution pétrolière sont très problématiques car elles modifient le climat, détruisent les habitats naturels de nombreuses espèces et s'accumulent dans la biomasse que les gens consomment. Le pétrole fait partie de ces produits qui mettent longtemps à se décomposer, mais qui se répandent à grande vitesse à la surface des masses d'eau. En formant une sorte de film, les déchets pétroliers empêchent l'air et la lumière du soleil de pénétrer dans l'eau, de sorte que les poissons et les mammifères vivant dans les eaux peu profondes souffrent d'un manque d'air et meurent.

La pollution des océans par les métaux lourds est devenue un problème particulièrement aigu dans le contexte d'activités anthropogéniques actives.

Le groupe des métaux lourds dont la densité est supérieure à 4,5 g/cm<sup>3</sup> comprend plus de 30 éléments du système périodique. Ces métaux (mercure, plomb, cadmium, zinc, cuivre, arsenic) sont des polluants courants et hautement toxiques. Ils sont largement utilisés dans diverses industries, c'est pourquoi, malgré les mesures de traitement, la teneur en métaux lourds et en leurs composés dans les eaux usées industrielles est assez élevée. De grandes quantités de ces composés pénètrent dans l'océan par l'intermédiaire de l'atmosphère. Le mercure, le plomb et le cadmium sont les plus dangereux pour les biocénoses marines, car ils conservent leur toxicité indéfiniment. Par exemple, les composés contenant du mercure (en particulier le méthylmercure), les poisons les plus puissants agissant sur le système nerveux, constituent une menace pour la vie de tous les êtres vivants. Dans les années 1950 et 1960, une intoxication massive a été signalée dans la région de la baie de Minomata au Japon, faisant des dizaines de milliers de victimes après avoir consommé du poisson contaminé. La cause de la contamination était une entreprise qui rejetait du mercure dans l'eau de la baie [3, c. 102].

Jusqu'à 2 millions de tonnes de plomb, 20 000 tonnes de cadmium et 10 000 tonnes de mercure pénètrent chaque année dans les océans de la planète. Les eaux côtières et les mers intérieures présentent les niveaux de pollution les plus élevés. L'atmosphère joue également un rôle important dans la pollution des océans. Par exemple, jusqu'à 30 % du mercure et 50 % du plomb qui pénètrent dans les océans chaque année sont transportés par les courants atmosphériques. Une fois dans l'eau de mer, les métaux lourds se concentrent principalement dans le film de surface, dans les sédiments de fond et dans le biote, alors qu'ils ne restent dans l'eau elle-même qu'en concentrations relativement faibles. La pellicule de surface, qui s'étend généralement sur une profondeur de 50 à 500 µm, est particulièrement importante. C'est dans cette zone que se déroulent tous les processus d'échange de masse entre l'eau et l'atmosphère.

La plupart des eaux usées aboutissent dans les océans du monde entier par l'intermédiaire des rivières. Au départ, cela n'avait pas beaucoup d'impact en raison de la taille de l'océan. Mais il est vite devenu évident que, à condition que les eaux usées ne soient pas pré-filtrées, elles ne doivent pas être rejetées dans l'océan. Car, si les eaux usées ne sont pas pré-filtrées, elles commencent à provoquer le développement de maladies infectieuses. Elles commencent à provoquer le développement de pathologies et l'empoisonnement des créatures marines.

Quelles sont les conséquences de la pollution des océans ? Les hydrocarbures déversés dans l'océan peuvent pénétrer dans les branchies des poissons et les plumes des oiseaux marins, les empêchant de se déplacer correctement, de voler ou de nourrir leurs petits.

L'exposition à long terme de la flore et de la faune marines à des substances nocives peut provoquer des cancers, des troubles de la reproduction, des changements de comportement, voire la mort.

Le cycle des récifs coralliens est perturbé. Un déversement d'hydrocarbures à la surface de l'eau empêche la lumière du soleil d'atteindre les plantes marines et affecte la photosynthèse. L'irritation de la peau et des yeux, ainsi que les problèmes pulmonaires et hépatiques, affectent négativement la vie marine sur de longues périodes [2, c. 54].

La teneur en oxygène de l'eau est réduite. La plupart des débris qui pénètrent dans l'eau de mer ne se décomposent pas et restent dans l'eau pendant des années. La pollution des océans par le plastique et d'autres déchets entraîne l'absorption d'oxygène, ce qui réduit la teneur en oxygène de l'eau. De ce fait, les chances de survie des animaux marins tels que les baleines, les tortues, les requins, les dauphins et les pingouins sont également réduites.

Le système de reproduction des animaux marins est perturbé. Les déchets industriels et agricoles contiennent divers produits chimiques toxiques considérés comme dangereux pour la vie marine. Les produits chimiques provenant des pesticides peuvent s'accumuler dans les tissus adipeux des animaux, ce qui entraîne une perturbation de leur système de reproduction. Il y a des impacts négatifs sur la chaîne alimentaire. Les produits chimiques utilisés dans l'industrie et l'agriculture sont rejetés dans les rivières et, de là, dans les océans. Ils ne se dissolvent pas et coulent au fond de l'eau. Les petits animaux absorbent ces substances et sont ensuite mangés par des animaux plus grands, ce qui affecte l'ensemble de la chaîne alimentaire [1, c. 84].

Enfin, le problème de la pollution des océans en question affecte la santé humaine. Les créatures marines finissent sur la table et sont mangées par les gens, ce qui affecte leur santé. En effet, les toxines de ces animaux contaminés se déposent dans les tissus humains et peuvent provoquer des cancers, des malformations congénitales ou des problèmes de santé à long terme.

Il est clair que les effets de la pollution de l'eau de mer sont catastrophiques pour les écosystèmes et la planète dans son ensemble. Pour éviter une nouvelle catastrophe, les pays ont commencé à se préoccuper activement de la protection des océans. Ainsi, dès 1954, des conférences internationales ont été organisées, dont la tâche principale était d'élaborer des actions concertées pour protéger l'environnement marin. En outre, des moyens de résoudre le problème de la pollution des océans ont été mis au point : limitation des rejets de substances toxiques dans l'océan, promotion d'un comportement respectueux de l'environnement auprès de la population, construction d'usines de recyclage des déchets, amendes et sanctions en cas

de rejet de substances nocives et assistance rapide en cas d'accident à bord des navires et des bateaux-citernes.

Il est donc clair que la pollution des océans est le problème environnemental le plus important de notre siècle, et que la solution exige que la communauté mondiale unisse ses efforts. En outre, les règles et réglementations environnementales prescrites doivent être appliquées de manière stricte et rigoureuse.

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В статье рассматривается проблема загрязнения мирового океана. Автор подчеркивает, что мировой океан находится в зоне риска из-за антропогенного загрязнения и его защита должна стать приоритетной целью всего человечества. Раскрываются причины негативного воздействия на природу и пути решения данной проблемы.

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### **THE PROBLEM OF ENVIROMENTAL POLLUTION: HOW TO SOLVE IT?**

At the end of the XIX century scientific and technological progress began which posed a lot of problems for mankind concerning the relationship between man and the environment.

In the twentieth century there was a fourfold increase in population and an 18-fold increase in world output. Since the 70s under the influence of man such environmental changes as Earth's climate change; pollution of the air basin; destruction of the ozone layer; depletion of fresh water reserves and pollution of the waters of the world ocean; land pollution, destruction of soil cover; depletion of biological diversity, etc. have affected all countries of the world, i.e. have become worldwide and irreversible.

One of the global problems of time related both to the environmental safety and environmental crisis is pollution. Global pollution violates the natural physicochemical and biological indicators of the biosphere which are found everywhere on the surface of our planet.

Serious work on the problem of environmental pollution began in 1972 when the first international conference on the human environment under the motto “Think globally, act locally” was held by the United Nations in Stockholm. The next important event in this area was the Earth Summit in Rio de Janeiro in 1992 where the risks of biodiversity loss were discussed [3].

As a solution to the problems associated with environmental pollution scientists from different countries offered inventions of practical significance.

At the University of Mechanical Engineering and Technology of Peru they have proposed an extraordinary way to solve the problem of air pollution. A billboard was built that is capable of purifying daily up to 100,000 cubic meters of air which is comparable to the “work” of 1200 trees. The purification technology is based on basic thermodynamic principles: air enters the structure where it combines with water under a certain pressure and temperature. Thus bacteria, dust and microbes are retained by water like a filter and the purified air is released into the environment. The first cleaning shield was installed in the capital of Peru [3].

Researchers from the University of Manchester have discovered bacteria that can solve problems with radioactive waste. The results of the research state that these microorganisms are able to survive in extreme conditions of radioactive waste disposal sites. Such waste is stored in concreted sarcophagi underground. After reacting with concrete groundwater can form a stable alkaline environment and when chemical reactions occur, the result could be radioactive isotopes entering groundwater and the food chain.

A key participant in the dissolution of isotopes is isosacharic acid (ISA). Its activity should neutralize extremophile microorganisms. The goal of the research in this area is to find an effective way to stabilize radioactive waste, as well as to improve the safety of landfills [1].

Nowadays, many types of plastic are recycled and reused, but most plastic items settle in landfills. Chemists from the University of Colorado were able to synthesize a substance called polygammabutyrolacton, which can take various forms and after use can be “reset” to the original state of the monomer [1]. It is chemically equivalent to commercial P4HB bioplastics but much cheaper because is produced using bacteria making the material quite expensive.

The company “The Ocean Cleanup Boyan Slat” presented a plan for water purification: with the help of the ocean current the garbage will itself float into floating barriers (booms) and then enter the storage tank. Water and plastic will pass through a funnel throughout the entire radius of the garbage patch. The



floating system will be cleaned by ships that will deliver the garbage collected from the tanks to the shore for recycling. A full-scale operation will begin in 2024 [2].

Thus, we can conclude: the problem of pollution of various aspects of the planet remains relevant to this day. Many countries of the world are pursuing a policy to eliminate the results of harmful interactions between man and the environment but for visible results it takes a long period of time and the coordinated work of a lot of people and states. It is only then possible to save our planet.

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В статье раскрываются глобальные экологические проблемы и современные методы их решения. Описываются научные открытия, способствующие очистке воздуха в атмосфере и воды от пластикового мусора в мировом океане.

### к содержанию

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### PSYCHOLOGICAL AND PEDAGOGICAL SCIENCES: INNOVATIVE APPROACHES AND RESEARCH DIRECTIONS

There is a whole range of different fields in modern psychological and pedagogical research. They differ in their subject matter as well as in the means of teaching. These branches influence on the productivity and effectiveness of research. When the education and development of personality traits become a priority, any pedagogical research should have a psychological character.

The implementation of research work seems to be an important means of finding effective ways of teaching and upbringing. Pedagogical research is very diverse and multifunctional. However, almost all studies related to the functioning and development of the educational process are of a complex

psychological and pedagogical and sometimes socio-psychological and pedagogical nature. In other words, if the research is accompanied by the use of psychological knowledge and methods, there is a search for personality-oriented psychological and innovative approaches [1 p.120].

Psychological and pedagogical research, as a rule, is carried out within the real process of education and upbringing. In this regard a very careful and balanced approach to innovations is needed. At the same time the desire to protect students from unjustified risk in every possible way is a priority. Even if we are ready to take some risks in educational activities, the principle “Do no harm!” in pedagogy should be followed.

Psychological and pedagogical research may include a number of stages:

- initial definition of the problem and the purpose of the study;
- theoretical analysis of available information in modern theory and in the history of science;
- organization of experimental research;
- selection of research methods;
- development of scientific and methodological recommendations;
- conducting research and processing the results;
- application of research results in practice.

The research method, no matter how wonderful it may seem to us, can be considered for studying only one side of the pedagogical process. When a researcher forms a program, they must use a variety of methods for an accurate result [3 p.79].

When conducting psychological and pedagogical research, essence and phenomenon, cause and effect, content and form are taken into consideration as a special methodological function. These categories play an important role for a teacher. This function gives them an opportunity to decide difficult tasks in the education and training of future specialists deeply and quickly [2 p.61].

Since the task of personal development has taken a central place among other problems, any innovations in the educational field should have a psychological and pedagogical orientation. Healthy mental and physical development of the individual, the possibility of creative growth, the formation of values and motivation, intuition, moral guidelines must be in the first place. Thus, the study should include monitoring the impact of external and internal factors on the pedagogical process.

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В статье поднимаются вопросы, связанные с психолого-педагогическими исследованиями. Авторы отмечают их разноплановость и многофункциональность. Выделяют отрасли, которые оказывают значительное влияние на продуктивность и результативность исследований. Рассматриваются этапы исследований и категории диалектики, а также основы подготовки инновационной деятельности.

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### **“HOMAN” GROUP AND NEWSPAPER**

Public movements and political parties are an integral part of the political system of a modern democratic state. Belarus is a democratic state with a multi-party system. So, it is essential to know the ways and the grounds for the emergence of the first political parties in Belarus. The aim of this article is to determine the role of the “Homan” group and the “Homan” newspaper in the development of the Belarusian national movement.

In the 1860s in the Russian Empire a revolutionary movement “Narodniks” appeared. In Belarus the representatives of the Narodniks were the “Homan” group. The “Homan” group appeared thanks to the initiative of A. Marchanka and Ch. Ratner, who was an editor of the “Homan” newspaper. The members of the group were M. Statskevich, V. Krupski, A. Ratner and S. Nyastyushka-Buynitski, as well as Safronov [4]. In Belarus the “Homan” group proposed a project for the national state structure of the country. They advocated the creation of an autonomous region within Russia [1]. As a part of its activity the “Homan” group started publishing a newspaper of the same name. The “Homan” newspaper was illegal but it was of a great interest for modern researchers.

In the period of the USSR there were several attempts to explore that print edition. S. Sambuk and M. Lasinsky were the first to study the “Homan”

newspaper. S. Alexandrovich studied the police reports and published texts and revealed the names of publishers. I. Lutskevich wrote a whole series of works where he underlined exceptional importance of the “Homan” newspaper. Until 1926-1927, A. Lutskevich and Vs. Ignatovsky believed that the “Homan” newspaper was published in Minsk in the Belarusian language. The first-hand acquaintance with the text took place only when L. Vasilevsky handed over copies of the “Homan” newspaper to the Belarusian Museum of Ivan Lutskevich in Vilnius.

The full title of the newspaper was “Homan. Belarusian Revolutionary Review”. The second issue of the newspaper is similar to a school notebook measuring 17.5 by 21.5 centimetres, printed on a hectograph with purple ink, and has 38 pages of text. The publication date of the second issue is November 15, 1884. In the foreword it is said that about a year has passed since the first issue was published, so it gives us reason to believe that the “Homan” newspaper was founded either at the end of 1883 or at the beginning of 1884. The Belarusian historian A. Lutskevich considered the latter date is more plausible. His argument is that Shabeky’s “Chronicle” provides a very accurate bibliography of revolutionary literature, and there is no mentioning of the “Homan” newspaper before 1883. This newspaper was only mentioned in the Chronicle in 1884, and only one issue was named. It seems to the researcher that the first issue should have been published in January or February 1884, since the editorial staff consisted of students of higher educational institutions who could use their spare time to prepare the material during the winter holidays [3].

As for the publication places of the newspaper, they were withheld for the sake of secrecy. According to one theory, the “Homan” newspaper was published either in Moscow or in St. Petersburg. Based on the testimony of Adam Bogdanovich, the father of the poet Maxim Bogdanovich, the Minsk Group did not create the “Homan” newspaper. A. Bogdanovich expressed the opinion that the “Homan” newspaper was published in Moscow directly by Belarusian students. He substantiated his assumption by saying that “from there (Moscow) we received both hectographed and lithographed literature. A. Sitsinsky, now deceased, and other Minsk students brought it. And earlier it was brought by Gakhovich [6, p. 124].”

Since the newspaper was illegal at the time of its publication, even then there were attempts to find a place of publication. This is confirmed by statement No. 2 of the “Homan” newspaper from the Editorial Board: “We are told that the “famous” Professor M. Koyalovich of Theological Academy, in a fit of “Belarusian patriotism,” is trying to take on the rather delicate role of a detective; he is extremely interested in the place of publication of the “Homan” newspaper and the make-up of its editorial board. We advise those who have personal relations with him to be more careful” [3, p. 199]. From this note, the

following conclusion can be drawn: since the members of the editorial board, as confirmed by the passage, could have had personal contact with M. Koyalovich, it can be assumed that the “Homan” newspaper was published at the place where Professor M. Koyalovich lived. In 1884, M. Koyalovich lived and taught at St. Petersburg Theological Academy.

Some Belarusian intellectuals were aware of the existence of the “Homan” newspaper but they had never seen a copy of it. They believed that the newspaper was published in the Belarusian language. This was confirmed by A. Bodanovich: “I remember that the articles were written in good Belarusian language in the spirit of the Narodniks – in the spirit of “Land and Freedom” (“Zemlya i Volya”) but with a nationalist undertone. I can’t describe the content in more detail” [6, p. 124].

But A. Bogdanovich and everyone who supported the opinion that the newspaper had been published in Belarusian were wrong. The copy, that is located in the Belarusian museum, is written in Russian, except for the title, which is written in the Belarusian language. It is clear that the newspaper was intended for the Belarusian intellectuals, who used Russian or Polish in their civil and private life. Only at the beginning of the 1900s this tendency of Belarusian intellectuals would change in favour of the Belarusian language [3]. Thus, the “Homan” newspaper is a Russian-language publication of the Belarusian Narodniks, the first issue of which was published in St. Petersburg in 1884.

In the first issue of the newspaper, Belarusian Narodniks published a plan for the creation of a Belarusian revolutionary party. Along with this, the newspaper presented the idea of creating a federation of free Slavic peoples after the overthrow of the autocracy. “Among the ideas proposed by the Narodniks, the chief place is occupied by the principle of regional independence, as the basis for the future free federal political system, which should take the place of modern absolutism” – was reported in the article of the editorial office of the newspaper “Homan” [5, p. 60].

A characteristic feature of the “Homan” group was giving priority to the pursuit of national goals. “The great and sacred task of the Belarusian intellectuals was to stir up the mighty forces of their people, to direct their halted development to give them the opportunity to show their national genius ...” [5, p.108] – was noted in the first issue of the “Homan” newspaper. Based on its own ideas about the progressiveness of national movements, the “Homan” group determined the main features of the nation and, on this basis, proved the existence of an independent Belarusian nation. In program documents, the Narodniks argued that the Belarusian people had a language, culture, history, their territory and particular national traits that were reflected in the way of life. They added that Belarusian territory was an independent economic region.

Proceeding from this, the Narodniks asserted that the process of formation of the Belarusian nation took place on the territory of the Belarusian-Lithuanian provinces [5, p. 109-114]. The newspaper's authors also stressed that due to the impenetrability of the swamps and forests of Belarus, the Belarusian people retained the purest features of the Slavic tribe, and the Belarusian language retained most of the features of the Old Slavic speech [2].

In the second issue of the "Homan" newspaper for 1884, Belarusian Narodniks called for a fight to resolve the Belarusian issue. Formulating the program of revolutionary action, the newspaper stated: "...we are Belarusians, therefore, we must fight in the name of the local interests of the Belarusian people and the federal autonomy of the country; we are revolutionaries because, sharing the 'Narodnaya Volya's' program of struggle, we consider it necessary to take part in this struggle; we are socialists because our main goal is the economic recovery of the country on the basis of scientific socialism. Here are the main provisions of the program, which could clearly define the individual goals and immediate practical activities of the Belarusians" [5, p. 120]. This passage testifies to the determination of the Belarusian Narodniks to fight until Belarus takes "an honourable place among other Russian federations on the basis of free agreement with them" [5, p. 121]. It was planned to create a separate printing house to publish the second issue of the newspaper. There were also intentions to publish the newspaper in three languages – Belarusian, Russian and Polish. But the government prevented these plans from being put into action: 32 copies of the "Homan" newspaper and a hectograph were found in Ch. Ratner's St. Petersburg's apartment [5].

In conclusion, we can say that despite the fact that "Homan" group and newspaper did not receive wide publicity, their ideas testified to the appearance of a new generation of Belarusian intellectuals, who were able to declare: "We are Belarusians." The Belarusian students who were part of the group tried to give theoretical grounding to the existence of a distinct Belarusian nation, demanded the social and national liberation of the Belarusian people, the achievement of which was associated with the formation of a federation of free and equal autonomous regions. Their ideas became a sort of manifesto and found new expression at the beginning of the 20<sup>th</sup> century.

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В статье рассматривается роль народнической группы «Гомон» и её печатного издания – газеты «Гомон» – в развитии белорусской государственности. В статье затрагивается вопрос нахождения, датировки и языка издания народников. Особое внимание автор обращает на содержание двух номеров данной газеты, в которых предложена программа государственного устройства.

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### THE PROBLEM OF ALCOHOLISM AMONG TEENAGERS

Alcoholism is often thought to be an adult issue. Despite this, teenage alcoholism is a very real and common problem. Alcohol is the most commonly abused substance globally. According to the World Health Organization, 3 million people die every year from alcohol consumption worldwide, of which 320,000 are young people aged 15 to 29 years [1]. In this article we aim to study the problem of teenage alcoholism, namely the negative impact of alcohol on the health of a teenager, as well as the ways of its prevention.

Teenage alcoholism is a serious addiction that has formed to alcoholic beverages in a person who has not reached the age of maturity, when the psyche

is less resistant to the manifestation of dependence on ethyl alcohol. 90% of teenagers take their first drink at the age of 15–16, but there are often cases of the first use at 12 and 13 years. Alcohol abuse that began in adolescence in 18–20% of cases by the age of 18 leads to the formation of alcoholism [2].

The reasons can be both biological and psychosocial. But still, the social setting plays a very important role. Scientists have proved that a person living in an unfavorable environment, namely in a family with drinking parents, often grows up and leads an immoral lifestyle.

Adolescence is the age of violent manifestations of emotions, conflicts with family, friends, with oneself, when someone else's opinion and status are important. A child contacts a bad company to seem somehow older or better.

As children mature, it is natural for them to assert their independence, seek new challenges, and engage in risky behavior. Underage drinking is one such behavior that attracts many adolescents. They may want to try alcohol but often do not fully recognize its effects on their health and behavior. Other reasons youth drink alcohol include peer pressure, increased independence, or the desire for it, stress. In addition, many youths have easy access to alcohol. Moreover, alcohol is advertised everywhere.

Scientists found that childhood alcoholism can also occur for a physiological reason, as a result of alcohol dependence developed in the womb. Children who were exposed to low levels of alcohol in-utero at any time during their mother's pregnancy experience both psychological and emotional problems (including anxiety, depression and being withdrawn) and behavioural problems (including poor attention and being impulsive) [3].

The use of drinks containing alcohol affects the cognitive abilities of the child: it inhibits mental abilities and weakens self-control. Alcohol abuse also leads to a change in the personality of a teenager, the development of a psycho-organic syndrome or general mental helplessness. They may become more irritable, aggressive or anxious and withdraw from friends and family. Alcohol abuse interferes with school performance and leads to poor grades, absenteeism, and discipline problems [4].

Alcohol affects social activity. Adolescents who abuse alcohol are more likely to engage in risky behaviors such as drunk driving, unprotected sex, lying, curfew violations, verbal or physical abuse towards others. Alcohol abuse can also lead to family conflicts and problems such as domestic violence. Alcohol abuse can lead to crime.

Alcohol addictions leads to physical and physiological changes in children: weight loss, pallor, deterioration of the gastrointestinal tract, deterioration of the cardiovascular, reproductive, and other systems. Without the necessary medical treatment, it will be almost impossible for them to return to a normal life.



The course of teenage alcoholism has its own characteristics: The earlier a child starts drinking alcohol, the more pronounced are its negative effects on the nervous and endocrine systems, because of their immaturity and vulnerability. The child quickly develops dependence on the mental and physical level. The stages of teenage alcoholism are compressed. “Delirium tremens” and other psychoses quickly join the clinic of child alcoholism. The child develops lesions of internal organs faster, the personality degrades faster. A teenager is more difficult to treat due to reduced responsibility and lack of motivational anchors for sobriety.

It is well-known that it is better to prevent a disease than to cure it. This is justified both from the psychological, medical, economic and even social aspects. Prevention measures can be divided into the following groups: primary and secondary. Prevention of alcoholism among schoolchildren in most cases refers to the primary ones. About 2–5% of adolescents fall under secondary prevention, of those who have already tried alcohol and who like it. In some cases, after the treatment of alcoholism, tertiary prevention is used to form a stable remission.

Preventive measures are carried out in various children’s organizations: schools, boarding schools, universities, colleges, camps. By initiating a healthy lifestyle, the priority of a useful pastime, opposite of drunkenness and laziness, can be formed. Teachers and social workers have a huge arsenal of forms and methods to form a healthy lifestyle priority among teenagers: lectures, films, trainings on the formation of the right behavior, resistance to stress, the ability to say “no”, etc.

Still, family prevention plays a dominant role in children and adolescents. Parents have a huge impact, negatively or positively, on a young person’s view of alcohol. Having open, honest communication can play a huge role preventing underage alcoholism. Parents can talk with their children about the dangers of drinking at a young age. Making sure alcohol is not easily accessible can also help to avoid alcohol problems in teens. Most importantly, playing an active role in child’s life by knowing their friends, participating in healthy and fun family activities, and having conversations about life in general can limit the risk for teenage alcoholism.

Thus, preventing underage drinking is a complex challenge, still it is worth undertaking for the sake of people’ future.

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Статья посвящена проблеме алкоголизма среди подростков. Показано негативное влияние алкоголя на формирующийся организм и дальнейшие последствия алкоголизма. Предложены пути предупреждения детского алкоголизма, а именно его профилактика в школе и семье.

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#### **ROBOTER IN DER MEDIZIN ALS EIN UNVERZICHTBARER ASSISTENT**

Die zweite Hälfte des zwanzigsten Jahrhunderts war eine Zeit intensiver Entwicklung in allen Bereichen der Wissenschaft, Technologie, Elektronik und Robotik. Die Medizin hat sich zu einem der wichtigsten Vektoren für die Einführung von Robotik und künstlicher Intelligenz entwickelt. Das Hauptziel der Entwicklung der Medizinrobotik besteht darin, eine hohe Genauigkeit und Qualität der Pflege zu gewährleisten, die Effizienz der Behandlung zu steigern und die Risiken für die menschliche Gesundheit zu verringern. In diesem Artikel werden wir uns daher mit dem Einsatz von Robotern und automatisierten Systemen in verschiedenen Bereichen der Medizin befassen.

Der erste Einsatz von Robotern in der Medizin erfolgte im Jahre 1985, als ein chirurgischer Roboterarm bei der Durchführung einer Biopsie in der Neurochirurgie half. Fünfzehn Jahre später erschien das erste vollständig von der FDA zugelassene System (bekannt als da Vinci Surgical System) für die laparoskopische Chirurgie. Dieses System ermöglichte es Chirurgen, chirurgische Eingriffe indirekt über eine Konsole zu beobachten. Wenig später

erhielten die Chirurgen einen neuen PROBOT-Manipulator, und 1992 erschien das RoboDoc-System, das in der Orthopädie bei der Gelenkprothese verwendet wurde.

Tatsächlich ist dies aber längst Realität, und zwar nicht erst seit gestern. Die Fähigkeiten von Robotern in der Medizin werden immer besser. Dabei kommen hochkomplexe Maschinen gerade bei schwierigen und riskanten Operationen zum Einsatz, dann wenn jede falsche Bewegung mit dem Skalpell dazu führen kann, dass der Patient nach dem Eingriff nicht mehr richtig sprechen oder Gliedmaßen nicht mehr bewegen kann [1].

Vorteile der Robotik im Gesundheitswesen: Roboter verbessert die Qualität der Patientenversorgung, die Effizienz der klinischen Arbeit und bietet eine sichere Umgebung für Patienten und medizinisches Personal.

Medizinische Roboter führen eine individualisierte und häufige Überwachung des Zustandes von Patienten mit chronischen Krankheiten und intelligente Therapie durch.

Wartungsroboter optimieren Routineaufgaben, reduzieren die körperliche Belastung des Personals und sorgen für konsistentere Arbeitsabläufe. Diese Roboter können Inventar-Aufzeichnungen führen, bei Bedarf zeitnahe Bestellungen von Verbrauchsmaterialien, Geräten und Medikamenten vornehmen. Mobile Reinigungs- und Desinfektionsroboter ermöglichen eine schnelle Behandlung und Vorbereitung von Krankenzimmern für neue Patienten.

Reinigungs- und Desinfektionsroboter begrenzen das Risiko von pathogenen Mikroorganismen und reduzieren das Risiko von Infektionskrankheiten im Krankenhaus. Es gibt verschiedene Arten von medizinischen Robotern, die sich durch ihre Funktionalität und Konstruktion sowie ihren Anwendungsbereich für verschiedene Bereiche der Medizin auszeichnen:

1) Roboterchirurgen und -systeme werden für komplexe chirurgische Operationen verwendet. Es handelt sich dabei um ferngesteuerte Instrumente, die dem Chirurgen Präzision und zusätzliche mechanische Kraft verleihen, die Ermüdung des Chirurgen verringern und das Risiko von Hepatitis, HIV und anderen Krankheiten reduzieren.

2) Robotersimulatoren sind entwickelt, um die Fähigkeiten der Entscheidungsfindung und praktische medizinische Interventionen in der Behandlung von Pathologien zu trainieren.

3) Exoskelette helfen, die körperliche Kraft zu erhöhen und den Bewegungsapparat wiederherzustellen

4) Roboterprothesen-Implantate, die fehlende Gliedmaßen ersetzen, können von menschlichen Nervenenden gesteuert werden.

5) Roboter-Assistenten sind eine Alternative zu Sanitätern, Krankenschwestern und Pflegekräfte und andere medizinische Personal. Sie können den Patienten pflegen und betreuen, bei der Rehabilitation helfen, die

ständige Kommunikation mit dem behandelnden Arzt sicherstellen und den Patienten transportieren.

6) Nanoroboter wirken auf der molekularen Ebene im menschlichen Körper. Sie sollen Krebs diagnostizieren und behandeln, Blutgefäße analysieren und beschädigte Zellen reparieren, die DNA-Struktur analysieren, DNA-Anpassungen vornehmen und Bakterien und Viren vernichten [2].

Obwohl sich der Einsatz von Robotern in der Medizin weiterentwickelt, gibt es Hindernisse für die Einführung dieser Technologien.

1) Geldausgaben: Eines der großen Hindernisse, mit denen viele Roboterhersteller konfrontiert sind, sind die Kosten für die Maschinen.

2) Regulierung und Verantwortung: Robotergeräte für den menschlichen Einsatz müssen zugelassen werden – ein Prozess, der langwierige und kostspielige Tests erfordert.

3) Haftungsfragen. Je mehr autonome Roboter werden, desto akuter werden die Fragen nach den Folgen von Fehlern.

4) Ungeprüfte Technologie: Der Mangel an Daten kann die weitere Implementierung erschweren.

5) Ethische Bedenken: Es bestehen Zweifel an der Angemessenheit der Technologie der Telepräsenz.

Wie aus den obigen Ausführungen hervorgeht, hat die Robotik eine vielversprechende Zukunft im Gesundheitswesen. Dies wird helfen, menschliche Fehler zu reduzieren, die Genesungszeit und den Krankenhausaufenthalt zu verkürzen und letztlich die Lebensqualität der Patienten zu verbessern. Es besteht die Hoffnung und die Überzeugung, dass sich die Robotik in der Medizin in Zukunft parallel zu den Fortschritten in den Bereichen maschinelles Lernen, Datenanalyse, Computer Vision und andere Technologien weiterentwickeln wird, um Aufgaben autonom, effizient und präzise zu erledigen.

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В статье представлены наиболее важные области применения роботов или роботизированных систем в медицине. Авторы объясняют необходимость использования роботов и их преимущества в современной медицине.

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## **THE ROLE OF FOREIGN DIRECT INVESTMENT IN STIMULATING ECONOMIC GROWTH AND DEVELOPMENT**

According to the International Monetary Fund (IMF), foreign direct investment (FDI) refers to investments whose objective is to obtain control and significant influence over the management of a firm [3]. The role of FDI in economic growth and development is a subject of numerous debates among scholars and policymakers. While some argue that FDI has a positive impact on economic growth and development, others claim that it can have negative consequences.

The aim of this article is to examine the role of FDI in stimulating economic growth and development. The article provides a review of relevant literature on the topic, as well as an analysis of the impact of FDI on key economic indicators such as gross domestic product (GDP), employment, and trade.

The impact of FDI on economic growth and development is a complex issue that is actively researched and discussed in scientific literature. The most common argument in favor of FDI is that it promotes economic growth by providing access to new technologies, capital, and managerial skills. FDI can also lead to increased competition which can stimulate innovation in local markets. Another potential advantage of FDI is the expansion of employment opportunities. When a foreign company invests in a local company, it often leads to the creation of new jobs, especially in sectors where there may be a shortage of skilled labor [1]. This can have a positive impact on both the regional economy and the living standards of its residents.

FDI can result in increased international trade. By investing in a local company, a foreign company can gain access to new markets and consumers which can increase exports and imports through the use of concentrated growth strategies. This can be particularly useful for developing countries which may not have access to the same level of trading opportunities as more developed countries.

Despite the aforementioned advantages, FDI can have a negative impact on economic growth and development. One problem is that FDI can lead to a loss of economic sovereignty as local companies become more dependent on foreign companies for capital and technology [2]. There can be a situation where local companies are unable to compete with foreign companies, which will result in a decline in economic growth. Modern technologies and the digital revolution are

becoming a reason for automation of production which requires more skilled workers and can lead to job losses for less skilled workers. This increases unemployment and social tension. Therefore, it is important to consider the downside when making decisions about the implementation of new technologies and automation.

Another potential problem is that FDI can lead to a “race to the bottom” in terms of labor standards and environmental protection. In some cases, foreign companies may be more willing to exploit workers or use environmentally harmful methods to increase profits. This can have a negative impact on local communities and the economy as a whole.

In conclusion, the role of FDI in stimulating economic growth and development is complex and multifaceted. While the potential advantages of FDI undoubtedly exist, there are also disadvantages that are necessary to be taken into account as well. Ultimately, the impact of FDI will depend on a multitude of factors, including the specific context of investment and the policies implemented to regulate it. Thus, FDI can be a powerful tool for stimulating economic growth and development.

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В статье авторы рассматривают роль прямых иностранных инвестиций (ПИИ) в стимулировании экономического роста и развития. Авторы обсуждают различные факторы, которые влияют на воздействие ПИИ на экономику, такие как уровень экономического развития, тип инвестиций, регулирующая среда и инфраструктура.

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## **GROWTH REGULATING ACTIVITY OF BRASSINOSTEROIDS**

By the beginning of the 1970s, it became known that along with well-known phytohormones, plants contain substances of an unidentified chemical nature that have a regulatory effect. Then the attempts to isolate them in their pure form and determine the chemical structure were unsuccessful due to the extremely low content in plants. For example, Japanese scientists isolated and partially characterized active components from the extract of fresh leaves from the plant *Disyllum racemosum*, which had a growth-stimulating effect superior to indolylacetic acid. The low concentration of these compounds in the test material and their small amount obtained as a result of the purification process did not make it possible to identify them.

It was found that brassinosteroids are a class of plant polyhydroxysteroids, which have been recognized as a new type of phytohormones that play an essential role in plant development. The term “brassinolide”, which gave the name to the entire class of phytohormones, comes from the specific name of rapeseed *Brassica napus* L.

Brassinosteroids are characteristic compounds for the entire plant kingdom. They have been found in pollen, anthers, seeds, leaves, stems, roots and flowers of plants. Young tissues contain higher concentrations of these phytohormones than mature tissues. As a rule, pollen and immature seeds are a particularly rich source of brassinosteroids, while their concentration in vegetative tissues is very low compared to other plant hormones. In all studies, brassinosteroids are active at extremely low concentrations ( $10^{-6} - 10^{-12}$  M) [1].

In general, brassinosteroids have a significant potential as a means of increasing the biomass of agricultural crops, increasing resistance to adverse environmental factors, and increasing the crop productivity.

The peculiarity of most steroids is their rather low content in natural objects, which significantly complicates, and sometimes makes it impossible to isolate them for practical purposes. Therefore, chemical synthesis is the obvious solution to this problem. Steroid compounds are often characterized by a rather complex chemical structure with a large number of functional groups and stereocenters, which significantly complicates the task of chemical synthesis.

The practical needs for steroid compounds constantly require the improvement of existing synthesis methods, as well as the development of new ones.

In the Republic of Belarus, scientists of the Laboratory of Steroid Chemistry of the Institute of Bioorganic Chemistry of the National Academy of Sciences of Belarus are engaged in the development of methods for the synthesis of brassinosteroids.

The use of brassinosteroids contributes to the manifestation of such physiological effects that increase the intensity of processes that lead to an increase in plant biomass, but also have a stimulating effect on processes that ensure plant stability under stress conditions caused, for example, by salinization, contamination with heavy metals, infection with phytopathogens. Since brassinosteroids are natural compounds, they do not harm plants and the environment. Due to the hormonal action at the cellular level, brassinosteroids increase plant productivity, increase yield and improve the quality of agricultural products, especially under unfavourable environmental conditions.

Currently, the search for new conjugated forms of brassinosteroids is of great interest, since brassinosteroids can be isolated not only in free form, but also in the form of glycosides, as well as conjugates with higher fatty and mineral acids. Steroids conjugated with various compounds are a depot from which an active hormone is released under the action of intracellular enzymes. Chemically modified representatives of brassinosteroids were obtained, for example, conjugates with indolylacetic acid. Such conjugates exhibit significant biological activity. For example, tetraindolyl acetate of 24-epicastasterone affects morphometric and biochemical parameters of Timothy under laboratory conditions. The effect of tetraindolyl acetate of 24-epicastasterone on the germination energy, seed germination, root and shoot length, the mass of shoots of Timothy, as well as the content of the main photosynthetic pigments and protein was studied. An increase in the growth parameters of Timothy was recorded with a simultaneous increase both in the mass of shoots and the content of photosynthetic pigments and protein [2].

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В статье дана краткая характеристика фитогормонов класса brassinостероидов. Описана биологическая активность новосинтезированных конъюгатов



брасиностероидов, полученных в лаборатории химии стероидов Института биоорганической химии НАН Беларуси.

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### **ORGANIZATION OF INDEPENDENT WORK OF SCHOOLCHILDREN IN A FOREIGN LANGUAGE AT THE SECONDARY STAGE OF EDUCATION**

Inculcating in schoolchildren the skills of independent work (in particular, in a foreign language) is an urgent task of the school in today's conditions of rapid accumulation and updating of information. Though it is impossible to teach a person for their entire life, it is important to cultivate their interest in accumulation of knowledge, teach them the methods of independent learning. Under independent work in modern didactics we understand a variety of individual and collective activities of schoolchildren carried out by them in classrooms or at home (library, computer lab, language lab, etc.) to perform various tasks under the methodological guidance of a teacher, but without his or her direct involvement. We consider independent work as a specific form of learning activity of schoolchildren [1, с. 15].

It is necessary to notice that the independent work of the schoolchild is a consequence of their correctly organized educational activity at the lesson. Accordingly, organized and managed by the teacher, the schoolchild's academic work should act as a certain appropriated program of his or her independent activity in mastering a foreign language. This means for the teacher a clear awareness not only of his or her plan of educational activities, but also conscious formation as a certain scheme of language acquisition in the course of solving new educational tasks. For the schoolchildren independent work should be realized as an intrinsically motivated activity. It presupposes performance of a number of actions: awareness of the purpose of his or her activity, acceptance of the task, giving it personal meaning, self-organization in distribution of educational activities in time, self-control in the process of performance. In solving the problems of forming the ability of schoolchildren to work independently there is a problem of purposeful teaching schoolchildren the content of this work. Such training should include the formation of methods of modeling the learning activity itself, awareness and consistent development of rational ways of working with the learning material. In connection with

everything said above, it is advisable to raise the question of the need to develop a special program for teaching schoolchildren independent work in a foreign language.

Analysis of methodical literature on this problem, as well as practical observations, suggest that the work to create prerequisites for the involvement schoolchildren in systematic work on a foreign language will be effective if a number of conditions are met. The teacher should make sure that the schoolchildren are aware that the main thing in learning a foreign language – it is to be able to understand the material in listening, reading text, be able to use it in their own statements, and this is achieved only by daily repetition. It is important that the schoolchildren understand the need for systematic independent work in a foreign language and are convinced that only by working in this way, they will be able to master the subject within the limits that are specified by the school program. Visual aids, such as a well-designed foreign language room with a variety of aids, reading books, tape recordings and so on, can facilitate the process.

The schoolchild must understand that in order to pronounce words correctly, they must learn to pronounce them as the teacher or the speaker does; in order to read correctly, they must relate what is written to how it sounds; the oral mastery of words will help them pronounce words correctly. To do this, schoolchildren must firmly know the rules of reading letter combinations, be able to hear the word internally, recognize it, relate it to the meaning and thus understand. To write correctly, they must get used not to copying letter by letter from the board or the book, but try to remember the word or combination of words.

It is also necessary to develop the ability to ask questions. It is relevant to develop the skill to navigate in a textbook, knowing what, where and how it is located in a book for reading, and understanding for what purpose certain tasks are performed. The older schoolchildren get, the more important the ability to use vocabulary and a grammar guide becomes. To support and develop interest in learning the subject, it is important to use positive emotional impact on the student, and to motivate learning, teachers can widely use a variety of forms of extracurricular work.

One of the means to form skills of independent work in a foreign language are handouts for schoolchildren. Based on the analysis of methodical literature on the problem, reflection of personal experience we have developed methodical recommendations that can be categorized as memo-instructions. Here are a few of them:

*Preparing an oral report:*

1. Determine what you want and can say on the topic in a foreign language. Relate the idea of the statement to your abilities.

2. Think of the right speech patterns, words, word combinations to convey the intent of the message.

3. Refer to a text or exercise that reflects this or a related topic in order to use the material for your message.

4. Select the appropriate speech samples, making the necessary lexical substitutions or extensions.

5. Make an outline of your message, write it down.

6. Read your message according to the plan.

*Work with new vocabulary:*

1. Clarify the translation of each word by referring to the English-Russian dictionary.

2. Read all the words carefully and group them by the type of stressed syllable.

3. Divide the words into subgroups based on the stressed vowel.

4. Identify and try to remember the differences between the words in one subgroup.

5. Read again, trying to remember the letter composition of the word.

6. Write the word from memory.

7. Check the correctness of spelling: compare what is written with what is written in the textbook.

8. Trace how the word is used in a sentence.

9. Make several sentences with new words.

To sum up, the conditions mentioned above are necessary prerequisites for the organization of systematic daily work of schoolchildren in a foreign language, which guarantees a true motivation, genuine, internal (rather than external, often purely formal) activity of the student. By forming a methodology of independent activity, we mean such a system of methods and techniques of interdependent actions of the teacher and students, which is organically, inherent in all stages of learning a foreign language. This principle makes the learning process deeply personal.

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Статья посвящена проблеме организации самостоятельной работы учащихся на уроках иностранного языка в школе. Автор рассматривает принципы и условия организации управляемой самостоятельной работы учащихся под руководством учителя. В статье представлены памятки-руководства, способствующие формированию у учащихся навыков самоорганизации в учебном процессе.

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## **ADOLESCENT IDIOPATHIC SCOLIOSIS**

The spine is the basis of the skeleton which performs two important functions in the human body. The first function is musculoskeletal. The second one is protective. The spine protects the spinal cord from mechanical damage. Numerous nerve endings are suitable for it which are responsible for the work of all organs in the human body. Thus each vertebra is responsible for the work of a particular organ. If the functions of the spine are impaired it becomes difficult to conduct a nerve impulse to tissues and cells in different parts of the body. Over time it is in these areas of the body that various diseases will develop. One of the diseases of the spine is scoliosis. Scoliosis is a severe, progressive disease of the spinal column, characterized by arcuate curvature in the frontal plane and rounding of the vertebrae around the vertical axis.

*The purpose* of this article is to study the causes of scoliosis on children and factors affecting the development of scoliosis.

Schoolchildren are one of the main affected groups by scoliosis due to their environment which causes them to adopt inappropriate postures from school furniture, long permanence of sitting posture, excess weight and asymmetrical backpack support and from their daily life habits adopted within and out of that environment. Regarding their daily habits there is an increasing use of cell phones, video games and desktop computers which can increasingly encourage sedentary behaviour in childhood. Sedentary behaviour is associated with several diseases, including cardiovascular disorders, hypertension, diabetes and musculoskeletal disorders. In turn, the latter may be associated with undesirable postures in students in addition to causing discomfort. The period of rapid growth in adolescents, also called the “growth spurt phase”, contributes to the presence of postural changes occurring in childhood and adolescence, especially scoliosis. The prevalence of scoliosis in schoolchildren varies around 22 % and there is a tendency for the postural problem to worsen in adolescence and adulthood. As a consequence, it can result in spinal diseases and future low back pain which are today configured as a public health problem with increasing treatment costs [3].

Various theories of the occurrence of scoliosis are identified:

Biomechanical theories. Somerville E. W. first described thoracic idiopathic scoliosis as a combination of lordosis, axial rotation lateral flexion and suggested that lordosis occurs due to impaired growth of the posterior elements

of the spinal segment. Roaf R. further described this theory in 1966 and suggested that the fundamental problem in scoliosis is the relative elongation of the anterior components of the spine compared to the posterior structures. Such a situation with rigidity of the anterior musculoskeletal wall leads to lateral deviation of the spine and the development of scoliosis [2].

Environmental factors. Goldberg C. J. suggested that scoliosis is caused by environmental stress causing developmental instability. Environmental factors can include hormones, diet, alcohol, smoking, viruses, drugs, toxins and physical activity. Hawes M. C. and O'Brien J. P. noted that scoliosis occurs in children in response to psychological stress, trauma, back injury, surgery, cancer treatment (radiation and chemotherapy), infections, tumors and birth trauma [1].

The evolutionary theory of scoliosis. It has been suggested that scoliosis has an evolutionary basis and may be the result of selection for upright posture in humans. Examination of a large sample of monkey skeletons revealed no cases of scoliosis in chimpanzees or gorillas and Lowe T. G. concluded that "natural scoliosis in vertebrates occurs almost exclusively in humans" [1].

Many authors studying the causes of scoliosis have come to the conclusion that there are no exact and reliable causes of scoliosis. There are only factors that contribute to the occurrence of scoliosis.

Thus, we can say that today even with modern diverse technologies scoliosis still remains unknown. Some authors put forward various theories and their own model of scoliosis but there are no common reasons. Every year new factors that affect the development and progression of scoliosis appear and are revealed.

There exists different approach for treatment of scoliosis: Schroth method, Milwaukee brace, Boston brace, Scientific exercise approach, etc. But the best prevention of scoliosis is an active lifestyle with the right daily routine.

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В статье дается характеристика современной проблеме – сколиоз, анализируются этиологические теории сколиоза: биомеханическая, теория факторов окружающей среды, эволюционная теория сколиоза и др. Раскрываются факторы, влияющие на развитие и прогрессирование сколиоза у школьников.

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**EN CUERPO SANO – MENTE SANA**

La salud es un patrimonio invaluable no solo para cada persona, sino para toda la sociedad. Cada uno de nosotros tiene un deseo inherente de ser fuerte y saludable, mantener la movilidad, el vigor, la energía y alcanzar la longevidad el mayor tiempo posible. Este es el principal valor de la vida.

El problema de un estilo de vida saludable en nuestro tiempo es uno de los más difíciles y urgentes. Después de todo, el principal patrimonio de cualquier estado son sus ciudadanos. Para que un estado pueda existir normalmente y desarrollarse de manera estable, necesita una población sana y activa.

"En un cuerpo sano hay una mente sana". Todos hemos escuchado esta frase más de una vez. Esta simple frase tiene un significado profundo. Un estilo de vida saludable es un requisito previo para el desarrollo de diferentes aspectos de la vida humana, a saber, corporal y espiritual.

¿Qué es "la salud"? Usando la definición científica, este es el funcionamiento normal del cuerpo humano, todos sus órganos juntos y por separado. [2, c. 128] La salud humana es el valor más importante de la vida humana. No se puede comprarla con ningún dinero, se debe protegerla, desarrollar, mejorar y fortalecer. En pocas palabras, SALUD = VIDA. ¿Qué elegirá una persona normal, vida o muerte? Por supuesto, la vida. Pero no todos entienden que no solo es necesario tomar una decisión, sino también confirmarla con sus acciones.

El "estilo de vida" —son las acciones de una persona, su comportamiento, actitud hacia sí mismo y hacia los demás. En pocas palabras, lo que una persona hace todos los días. Si una persona se trata con cuidado a sí misma y a los demás, trata de prolongar su vida, preservar su salud, traer el mayor beneficio posible a la sociedad, entonces podemos decir que su estilo de vida es saludable.

En consecuencia, un estilo de vida saludable de una persona está dirigido a la superación física y espiritual del individuo, a su contribución positiva a la vida social.

Si hacemos la pregunta "¿Qué es un estilo de vida saludable?", entonces obtendremos un número ilimitado de respuestas. El deporte regular, dicen algunos. El rechazo al consumo de drogas, tabaco y alcohol, argumentarán otros. Comer sano, responderán terceros. Todos tienen toda la razón. Pero hay que entender que todo esto es sólo un lado del problema. Es una situación paradójica. Muchas personas participan activamente en los deportes, pero al

mismo tiempo usan alimentos poco saludables, tabaco y alcohol, motivándolo por el hecho de que uno no interfiere con el otro.

Por lo general, cuando se trata de un estilo de vida saludable, todos lo apoyan incondicionalmente. Es cierto, solo en palabras. ¿Por qué sucede esto?

Los adultos se refieren a una mayor carga de trabajo en el trabajo y en la vida personal. ¡Pero un estilo de vida saludable es necesario solo para que una persona pueda superar las dificultades de la vida sin estrés y enfermedades!

Los jóvenes tienen mucho más tiempo libre. Entonces, ¿por qué los jóvenes, en lugar de practicar deportes, prefieren sentarse frente a la computadora, consumir alcohol, etc.?

En mi opinión, esto tiene varias razones. En primer lugar, el tiempo libre de los jóvenes es desorganizado. Ahora no hay un sistema de organizaciones de masas que pueda canalizar la energía de los jóvenes en una dirección útil. En segundo lugar, el tipo de descanso de una persona depende directamente de su desarrollo intelectual. Cuanto más evolucionada esté espiritualmente una persona, más probable es que elija el estilo de vida saludable. En tercer lugar, hasta la fecha, los jóvenes tienen poco ejemplo positivo a seguir. Esto no se debe al hecho de que los jóvenes no quieren imitar a los héroes sanos y espiritualmente evolucionados. El problema radica en los medios de comunicación que imponen a los jóvenes héroes negativos (representantes del crimen y personalidades antisociales).

Pues, hemos identificado los principales obstáculos para promover un estilo de vida saludable. ¿Cómo resolver estos problemas? Muchos dirán que el estado debe hacerlo. Pero la cuestión de un estilo de vida saludable es asunto de cada persona, y no de un estado abstracto.

La educación inicial, la noción de lo que es bueno y lo que es malo, la persona lo recibe en la familia. Es la familia la que determina en gran medida quién será el niño en el futuro, incluido el estilo de vida que elegirá. Resulta que el tema de un estilo de vida saludable está estrechamente relacionado con el problema de la familia. Nadie discutirá que en una familia sana física y mentalmente los niños estarán sanos. Si una persona comienza su vida en un ambiente poco saludable, entonces elegirá un estilo de vida poco saludable.

Tanto el estado como la familia pueden influir en el comportamiento de una persona, en sus opciones para el estilo de vida. Pero la última palabra siempre la tiene la misma persona. Solo cada uno puede elegir lo que necesita: un estilo de vida poco saludable, es decir, autodestrucción, o una vida plena y feliz en paz consigo mismo y con sus seres queridos.

Cuando una persona se da cuenta de que su felicidad no depende del estado, de la familia o de los extraños, sino está plenamente en sus propias manos,- solo entonces se puede decir que esta persona lleva un estilo de vida saludable. La Organización Mundial de la Salud dice que “la salud es un estado de completo

bienestar físico, mental y social”. En este artículo he intentado mostrar esta estrecha relación.

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В статье раскрываются сложившиеся подходы к пониманию здорового образа жизни. В статье феномен здорового образа жизни представлен как специфическая форма целесообразной активности человека – деятельность, направленная на сохранение, укрепление и улучшение его здоровья. Рассматривается, как через СМИ происходит популяризация здорового образа жизни среди молодежи.

### к содержанию

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### **THE IMPACT OF COVID-19 ON TOURISM IN THE WORLD AND BELARUS**

2019 was marked by the detection of a new disease COVID-19. The arrival of COVID-19 originates from December 2019. The first cases of infection were detected in Wuhan, China. Already on January 30, 2020, the World Health Organization recognized the outbreak of the COVID virus as a very serious problem for the population. With the advent of COVID and the introduction of a general epidemic and self-isolation by the countries of the world, modern tourism has undergone considerable changes, as well as the sphere has lost a large amount of funds and a considerable number of jobs.

COVID-19 has become the biggest problem in history for the tourism industry. By the end of 2020, according to approximate estimates, international tourism has lost about \$ 1 trillion and more than 110 million jobs. Huge losses were suffered by the island states, which had attracted about 25% of tourists.



This affected the economy of these countries, the authorities raised the prices of food, products, taxes, etc. Having suspended the spread of the COVID virus, the island countries gradually began to open their borders to foreign tourists, but their flow was still 80% less than before the pandemic time [1].

With the advent of COVID-19 in Belarus, the rules for visiting various establishments, such as cafes, restaurants, various shopping centers, and others, were immediately tightened. This has had a very negative impact, both on tourism and on the economy of the country. Tourists practically did not come to Belarus, people did not visit any establishments, and, respectively, losses only grew.

The Belarusian tourism market was in a very unstable situation. There was no state support, a rapid drop in sales volumes, serious financial costs and real threats of bankruptcy of a significant part of the tourism business testified to the poor situation of the tourism market in Belarus.

Tour operators and travel agents were in a particularly difficult situation. When states restricted entry and exit from their territories, many tours to various countries were sold out for more than a month in advance. People who went on vacation on pre-purchased vouchers were able to return to their countries without any problems and without restrictions.

The number of guests in various entertainment establishments has decreased. At first, customers massively refused to hold group events: weddings, corporate parties, family holidays and etc. A little bit later, in the summer, these formats began to return.

Despite various circumstances, travel in Belarus received a strong incentive to develop, both before and after the onset of COVID, new tourist programs were developed (about 15) [2].

In late summer and early autumn, excellent routes appeared in Orsha, Gantsevichi, Baranovichi, and are in great demand. Compatriots have a need to know and discover Belarus.

Also the organization of infrastructure continued in the industry, in particular, many museums, sanatoriums, hotels began to introduce elements of a barrier-free environment. Braille inscriptions appeared on many objects. Interesting and unusual author's programs were also offered.

Agrotourism, on the contrary, benefited from the pandemic. It, like various spa complexes, natural trails, has received serious development. In the conditions of the pandemic, local initiatives have proved to be in demand (everything related to outdoor recreation).

Historical and cultural tourism has suffered relatively small losses. The population of the country only at the beginning of the epidemic refrained from various trips, excursions, visits to any institutions. When the outbreak began to fade, the growth of cases stopped, only then people began to visit other cities.

Hunting tourism has not felt any difficulties due to the epidemic. Our citizens also chose hunting and fishing with great enthusiasm and without any difficulties. With the exception, the number of visiting tourists from neighboring countries (Ukraine, Poland, and Russia) has decreased.

Eco-tourism has become a problem for residents from neighboring countries, but it has also remained accessible to the indigenous people of Belarus. People also visited places where everything remained intact untouched by man.

Sports tourism has faced many problems. People who joined this type of tourism on the territory of our country from abroad had great difficulties when leaving their country for Belarus. This type of tourism remained available only to residents of Belarus, who were still free to travel around the country and visit various places.

Thus, we can conclude that COVID-19 has brought a considerable number of problems. The economy, small and medium-sized businesses were hit, many enterprises stopped their work. As for tourism, the impact of COVID-19 on it is enormous, but it is not possible to fully assess it. Undoubtedly, our country has felt all the negative aspects that the global epidemic entails. But considering the pandemic from the other hand, we can say that this partially affected the development of some technologies and amenities for tourists. For example, the Airbnb service was created, which allowed people to remotely choose a hotel, an apartment, or any other accommodation in the country and city where a person went on vacation or travelled. The leaders of the countries gained experience based on the pandemic, and this gave them the basis for thinking about how and what to do in subsequent similar cases, how to preserve the economy, maintain the flow of tourists, and so on. But it becomes obvious that for a long time Belarus will fully restore and establish various tourism sectors after the consequences of COVID-19.

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В статье раскрывается влияние пандемии COVID-19 на современный туризм. Автор описывает, какие проблемы для туризма оказала пандемия и ее последствия.

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## **DESARROLLO HOTELERO EN EL TERRITORIO DE ESPAÑA**

Uno de los sectores más importantes de la industria turística es la hostelería. La industria hotelera se especializa en proporcionar uno de los servicios turísticos más importantes (junto con el transporte): los servicios de alojamiento. En algunos casos, la hostelería también incluye la prestación de servicios de alimentación. Por lo tanto, los modernos servicios hoteleros aparecen en forma de un paquete integral de servicios para turistas. La industria hotelera es una industria de servicios en desarrollo dinámico que genera ganancias multimillonarias a escala de las economías nacionales de muchos Estados.

El objetivo de este trabajo es estudiar el mercado de la hostelería en España.

El desarrollo de la hostelería en España contribuirá a un mayor movimiento de personas, es un elemento de las políticas sociales del estado.

Para evaluar los resultados de la actividad de la empresa hotelera utilizan indicadores cuantitativos y cualitativos. Los indicadores cuantitativos incluyen: el número total de hoteles; la capacidad única de los hoteles; el número total de visitantes atendidos por hoteles durante un período determinado de tiempo (por ejemplo, un año); los ingresos generados por el funcionamiento de la industria hotelera; los gastos relacionados con el funcionamiento de los hoteles; y las ganancias. Un indicador cualitativo importante es la tasa de utilización de la capacidad, que caracteriza el uso de la industria hotelera de la región durante un cierto período de operación [1].

El excelente desarrollo de la infraestructura turística de España es, sin duda, una de las principales ventajas de este país.

En España hay una gran variedad de tipos de vivienda, que difieren entre sí en el nivel de precios, la ubicación y la calidad de los servicios prestados. Estos son: hoteles, paradores, casas de huéspedes, apartamentos – hoteles, apartamentos, campings y Resorts.

Los hoteles en España tienen categorías según los estándares internacionales, las categorías están marcadas por el número de estrellas de 1\* a 5\*. El número de hoteles de categoría 5\* en el país es pequeño, y las opciones de alojamiento más populares son los hoteles 2\* y 3\*, que están muy cerca en términos de servicios. Los servicios de los establecimientos hoteleros siguen siendo los más utilizados por los propios españoles, aunque la brecha se reduce cada año [1].

España tiene alrededor de 9,5 millones de lugares para turistas, de los cuales 1,2 millones se encuentran en más de 16,8 mil hoteles. El fondo total de alojamiento de España es de alrededor de 200 mil establecimientos hoteleros, que ofrecen más de 2,7 millones de plazas. Más de la mitad de los residentes en hoteles españoles son españoles, y dos tercios de todas las pernoctaciones son realizadas por extranjeros.

Las empresas hoteleras de tres estrellas (más del 70%) y las de cuatro estrellas (65%) son las más demandadas [2].

El orgullo de la industria hotelera en España son los Paradores, edificios históricos convertidos en hoteles. La cadena estatal de Paradores, creada en 1926, incluye 90 hoteles en todo el país, la mayoría de ellos ubicados en edificios – monumentos arquitectónicos: castillos, palacios y mansiones antiguas. En muchos hoteles de esta cadena hay museos, exposiciones, galerías.

En la actualidad, España ocupa una posición de liderazgo en Europa, trabajando en esta dirección. El concepto de Paradores se considera no solo como un motivo efectivo para atraer turistas, sino también como una forma efectiva de recaudar fondos para la conservación del Patrimonio nacional. Todo el proceso está bajo control estatal. Alemania ocupa el segundo lugar en la creación de tales hoteles en Europa, donde el grupo Schlosshotel, según datos de 2002, incluía alrededor de 30 hoteles.

La cadena Paradores también incluye algunos restaurantes. Por ejemplo, a los turistas les gusta visitar Alcalá de Henares, un Restaurante madrileño ubicado en un antiguo edificio del siglo XVI [2].

En el territorio de España hay balnearios ("spa" – balnearios), muy adecuados para la relajación y el tratamiento. En los balnearios, los hoteles de categoría 2\* o 3\* son los más comunes, por supuesto, hay hoteles de nivel superior. Naturalmente, la mayoría de los hoteles "spa" están equipados con pabellones de baño y todo tipo de Salas para tratamientos de bienestar.

Todo el país está cubierto por una red de hoteles. Desde los más modestos hasta los más lujosos, en todas partes los huéspedes de España esperan una actitud atenta y un Servicio de calidad, correspondiente a la categoría del hotel.

En las zonas turísticas predomina el tipo urbano de hoteles, ubicados generalmente en la zona urbana, cerca de la playa y rodeados por una red de tiendas, bares, restaurantes, discotecas y otras instalaciones de entretenimiento. En la España continental, los hoteles se encuentran en cada ciudad y pueblo. Hay hoteles fuera de los asentamientos e incluso en los bordes de las carreteras.

Modernos y confortables, equipados con todo tipo de comodidades y servicios, los hoteles españoles cumplen perfectamente con el principio de "precio-calidad".

El alojamiento más caro e interesante ofrece hoteles de la red estatal "Paradores". El rico Patrimonio histórico y monumental de España ha permitido

abrir castillos, palacios, monasterios o edificios especialmente contruidos para este propósito, convertidos en hoteles. Todos ellos son valiosos monumentos históricos y artísticos de la arquitectura y la arquitectura, o están contruidos en los rincones más pintorescos de la naturaleza.

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В статье речь идет о развитии туристической индустрии в Испании, одним из важнейших секторов которой является гостиничное хозяйство. Гостиничное хозяйство – это динамично развивающаяся отрасль сферы обслуживания, приносящая огромные прибыли в масштабах национальной экономики испанского государства.

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#### **TOURISMUS ALS EIN WICHTIGER FAKTOR FÜR DEN WIRTSCHAFTLICHEN FORTSCHRITT EINES LANDES**

Der Tourismus hat einen starken Einfluss auf die Wirtschaft fast aller Bereiche des materiellen und geistigen Lebens der Gesellschaft. Keine andere Branche bietet so ungeahnte Möglichkeiten und Potenziale wie der Tourismus. Der Markt scheint keine Grenzen zu haben. Trotzdem hat eine markenorientierte Vorgehensweise in der Tourismusbranche vergleichsweise spät begonnen.

Aus wirtschaftlicher Sicht besteht die Besonderheit des Tourismus darin, dass er eine neue Form der Konsumnachfrage erweckt. Diese Nachfrage betrifft nicht ein Produkt, sondern einen ganzen Komplex von Waren und Dienstleistungen; sie wird zur Masse, erfasst weite Teile der Bevölkerung. Die Befriedigung jeglicher Nachfrage erfordert die Produktion von Gütern und die Erbringung von Dienstleistungen. Es sei auch betont werden, dass Tourismus sowohl industrielle als auch soziale Rolle spielt. Davon, wie die körperliche und

geistige Stärke eines Menschen wiederhergestellt wird, hängen seine Produktionsergebnisse ab.

Der Tourismus ist einer der bedeutendsten Wirtschaftszweige und eine der bedeutendsten Wachstumsbranchen weltweit. Der World Travel & Tourism Council (WTTC) beziffert in seinem Jahresbericht den gesamtwirtschaftlichen Produktionswert der Tourismuswirtschaft auf 5.391 Milliarden US-Dollar und damit auf 10,4 Prozent des Welt-Bruttoinlandproduktes. Gleichzeitig sind 231 Millionen Beschäftigte vom Tourismus abhängig, das entspricht 8,3 Prozent aller Beschäftigungsverhältnisse weltweit. Das heißt, mehr als jedes zwölfte Arbeitseinkommen wird mit Einnahmen aus wirtschaftlichen Aktivitäten des Tourismus bezahlt [3, S. 14].

Betrachtet man die Tourismuswirtschaft der Europäischen Union als Einheit, ist sie mit 35 Prozent weltweitem Marktanteil der größte touristische Einzelmarkt. Die europäische Tourismusindustrie (im engsten Sinne) erwirtschaftet mit etwa zwei Millionen Unternehmen über vier Prozent des Bruttoinlandsprodukts (BIP) der Gemeinschaft und beschäftigt mit etwa acht Millionen Angestellten rund vier Prozent aller Arbeitskräfte. Dies bedeutet, dass die Tourismusindustrie erheblich größer ist als die Automobilindustrie, die etwa drei Prozent zum europäischen BIP beisteuert. Berücksichtigt man noch die Verknüpfung mit anderen Sektoren, liegt der geschätzte Anteil des Tourismus am europäischen BIP bei rund elf Prozent und sein Anteil an der Beschäftigung bei mehr als zwölf Prozent.

Der WTTC geht von einem jährlichen durchschnittlichen Wachstum in Höhe von 4,3 Prozent. Diese Wachstumsraten liegen über den erwarteten Wachstumsraten der Gesamtwirtschaft. Auch im weltweiten Sektorenvergleich wächst die Reisebranche überdurchschnittlich. Als Gesamtreisemarkt zählen alle Anbieter, Nachfrager und Produkte, die mit dem Reiseverkehr in Zusammenhang stehen. Die Wachstumsraten in Europa und Amerika sind geringer als in Asien, Afrika oder im Mittleren Osten. Fernreisen wiederum weisen höhere Wachstumsraten auf als Reisen in Nachbarländer. Am stärksten wächst die Tourismuswirtschaft in Schwellenländern wie China, Montenegro oder Venezuela. Auch die arabischen Staaten verzeichnen zweistellige Wachstumsraten. Der WTTC schätzt, dass sich die Wachstumsentwicklung insbesondere in den Schwellenländern fortsetzen wird [3, S. 15].

In keinem Land der Welt wird mehr Geld für Reisen ausgegeben als in den USA. Der Anteil an Reisen innerhalb der USA ist dabei vergleichsweise hoch. Amerikaner machen am liebsten Urlaub im eigenen Land, das dank seiner Ausdehnung die verschiedensten Landschaften und Klimazonen bietet. Dadurch liegen die USA mit ihren Auslandsreiseausgaben hinter dem geografisch gesehen kleinen Deutschland leicht zurück.

Neben Deutschland und den USA bilden Japan, England und Frankreich die Top Five der grenzüberschreitenden Reiseausgaben, dicht gefolgt von China mit einem derzeitigen Wachstum seiner Reiseausgaben von jährlich zehn Prozent. Es ist nur noch eine Frage der Zeit, bis China England oder auch Deutschland bei den Reiseausgaben überholt. Ob die neuen großen chinesischen Tourismusströme eher im eigenen Land bleiben, innerasiatisch ausgerichtet sein werden oder über die Kontinentalgrenzen dringen, lässt sich noch nicht genau absehen. Jedoch bemerken die etablierten Reiseveranstalter in Europa schon jetzt, dass Touristen aus China oder Russland zunehmend Hotelkapazitäten an Orten belegen, an denen noch vor wenigen Jahren europäische Touristen das Bild bestimmten. Viele Tourismusmanager sind sich einig, dass diese neuen Tourismusaktivitäten insbesondere Asiens, aber auch Russlands und anderer Schwellenländer den Fremdenverkehr in den nächsten Jahren stark verändern werden.

Bis vor kurzem stammten die meisten international Reisenden aus westlichen Kulturkreisen: USA, Großbritannien, Deutschland, Frankreich, Italien, Kanada. Das Reiseverhalten arabischer, asiatischer oder russischer Touristen ist anders als das der Westeuropäer. Dies stellt Teile der Tourismusindustrie vor neue Herausforderungen [1, S. 17–18].

Auf immer neuen Routen, vor allem im Nah- und Mittelstreckenbereich, werden ständig neue Destinationen erschlossen und so auch die Nachfrage angekurbelt. Terror, Seuchen oder andere Sicherheitsaspekte wirken sich auch auf die einzelnen Tourismusströme aus, jedoch nur auf die Richtung und nicht auf das Gesamtvolumen.

Umweltkatastrophen wie der Tsunami in Südostasien, Seuchen wie SARS und Vogelgrippe sowie Terroranschläge haben das Reisevolumen der Deutschen entgegen anderer Befürchtungen nicht nachhaltig verringert. Sicherlich haben diese Vorkommnisse Entscheidungen über Reiseziele beeinflusst, jedoch reagieren die Deutschen nicht mehr so panisch wie in früheren Jahren. Noch vor einigen Jahren galt es als Regel, dass ein Reiseziel zwei bis drei Jahre benötigt, um einen Terroranschlag oder eine Naturkatastrophe zu verarbeiten und wieder ähnliche Besucherzahlen wie vor dem Vorfall zu verzeichnen. Mittlerweile sind diese Zyklen kürzer geworden. Touristen haben gelernt, mit gewissen Risiken umzugehen. Ein Hauptgrund ist, dass sich Risiken durch Terror in der heutigen Zeit kaum noch regional beschränken lassen. Terror wird ohnehin allorts ausgerufen und verliert durch die inflationäre Verwertung in den Medien an Abschreckungspotenzial [1, S. 20].

Die wirtschaftlichen Auswirkungen der Covid-19-Pandemie haben die Tourismusbranche erschüttert. Allein das Gastgewerbe verbuchte im Jahr 2020 nach Schätzungen des Statistischen Bundesamts einen Umsatzeinbruch von fast 39 Prozent. In der Reisewirtschaft fiel der Einbruch mit gut 71 Prozent sogar

noch drastischer aus. Aber nach den beiden harten Coronajahren 2020 und 2021 ging es 2022 im Tourismus wieder aufwärts. Umsätze und Gästezahlen blieben jedoch nach wie vor unter dem Vorkrisenniveau, viele Bereiche waren in den ersten Monaten des Jahres noch von Coronabeschränkungen betroffen. Im Sommer 2022 wurden hingegen teilweise wieder Vorcoronazahlen erreicht, gerade auch im innerdeutschen Tourismus. Nach einer ermutigenden Entwicklung seit dem Abklingen der Pandemie ist die Tourismuswirtschaft in Europa nun durch explodierende Energiekosten, stark steigende Lebensmittelpreise und die allgemeinen Auswirkungen der hohen Inflation auf das Reise- und Freizeitverhalten vor besondere Herausforderungen gestellt. Hinzu kommt die schwierige Arbeits- und Fachkräftesituation im Hotel- und Gastgewerbe [2].

Es gilt nun, die Strukturen auch nach der Covid-19-Pandemie weiter zu erhalten und fortzuentwickeln sowie die Resilienz und damit auch die Wettbewerbsfähigkeit der Branche zu stärken. Die Zukunftsthemen des Tourismus müssen dabei klar in den Blick genommen werden: Die Branche muss sich klimaneutral, nachhaltig und digital zukunftsfähig aufstellen.

Der bedeutende Einfluss des Tourismus auf die Bildung des Bruttosozialprodukts des Landes, auf die Verringerung der Arbeitslosigkeit und die Bilanz der Devisenzahlungen führt dazu, dass die Tourismuswirtschaft bei der Planung der Entwicklung der Wirtschaft des Landes als Ganzes berücksichtigt wird. Die touristische Entwicklung ist auf Dauer schwer planbar und vorhersehbar, da zu viele Einflussfaktoren darauf einwirken. Aber es kann so organisiert werden, dass es sich schnell an verschiedene Veränderungen in Wirtschaft, Politik, Bedürfnissen usw. anpassen kann. In diesem Fall wird der Tourismus ein wichtiger Faktor für den wirtschaftlichen Fortschritt des Landes sein.

Es sollte beachtet werden, dass es notwendig ist, die Tourismusbranche zu planen und zu kontrollieren, um den Tourismus in den Prozess der Entwicklung der Wirtschaft des Landes einzubeziehen. Zunächst ist es notwendig, die Höhe der Ressourcen für seine Entwicklung, die Grenzen für die Entwicklung des Tourismus, die negativen Folgen der Unterauslastung oder Überschreitung der Grenzen auf der Grundlage der Erfahrungen der Vorjahre und anderer Länder zu bestimmen. So kann der Tourismus aktiv auf die Wirtschaft des Landes, in dem er sich entwickelt, auf seine wirtschaftlichen, sozialen und humanitären Grundlagen einwirken.

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В данной статье туризм рассматривается как сфера хозяйственной деятельности, которая имеет огромное значение и ряд характерных особенностей. Подчеркивается, что туризм – очень многогранно развитая отрасль хозяйства, являющаяся одной из главных составляющих дохода в некоторых странах, влияющая на развитие их экономики и мирового сотрудничества.

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### **ASSESSMENT OF HISTORICAL AND CULTURAL HERITAGE VALUES (ON THE EXAMPLE OF BEREZOVSKY DISTRICT)**

An important role in the implementation of the tourist and recreational potential and sustainable development of territories is played by objects of historical and cultural heritage.

In the last decades of the 20th century the term “heritage” was characterised by expansion and semantic transfer resulting in a generalisation of the use of this word frequently used in the place of another such as monument and cultural property. Cultural heritage includes the sites, things and practices a society regards as old, important and worthy of conservation. It is currently the subject of increasing popular and scholarly attention worldwide and its conceptual scope is expanding.

All peoples make their contribution to the culture of the world. That’s why it’s important to respect and safeguard all cultural heritage sites through national laws and international treaties. Trafficking of artifacts and cultural objects, pillaging of archaeological sites and destruction of historical buildings and monuments cause irreparable damage to the cultural heritage of any country. UNESCO (United Nations Educational, Scientific and Cultural Organization) has adopted international conventions on the protection of cultural heritage to

foster intercultural understanding while stressing the importance of international cooperation [1].

Article 1 of the Code of the Republic of Belarus on Culture gives the following definitions: “Cultural value – material objects created (transformed) by a person or closely related to his activities and intangible manifestations of human creativity that have historical, artistic, scientific or other significance”. “Historical and cultural value – a cultural value that has outstanding spiritual, artistic and (or) documentary merits and which is endowed with the status of historical and cultural value” [2].

At the beginning of 2017 5.5 thousand objects were included into the State List of Historical and Cultural Properties of the Republic of Belarus, of which 5352 are tangible immovable historical and cultural values, 89 are tangible movable historical and cultural values and 111 are intangible historical and cultural values [3].

Material historical and cultural values are divided into the following categories:

- category “0” – historical and cultural values of global importance and included or proposed for inclusion in the List of World Cultural and Natural Heritage;

- category “1” – historical and cultural values of international importance;

- category “2” – historical and cultural values of national importance;

- category “3” – historical and cultural values that are important for a particular region of the Republic of Belarus.

- without category – material cultural values that are part of the complex, ensemble, set, collection of material historical and cultural values but which have not been separately given the status of historical and cultural value.

Intangible cultural values include customs and rituals, traditions, folklore (oral folk art), the Belarusian language (oral and written), other languages, naming traditions and traditional forms of addressing people, the content of heraldic objects, own geographical names (toponyms) and products folk art crafts as well as other intangible manifestations of human creativity [2].

Intangible historical and cultural values are divided into the following categories:

- category “A” – complete authenticity and accuracy of which are unconditional and unchanging;

- category “B” – historical and cultural values that are fully or partially restored (fixed) on secondary material or can objectively change over time.

Categories are assigned:

Category “3” is assigned by local executive bodies of the regional level; other categories – by the Ministry of Culture. The assignment of categories to historical and cultural values is carried out on the basis of decisions of the

regional (Minsk City) Councils on the issues of historical and cultural heritage or on the need to classify historical and cultural values into certain categories.

“STATE LIST OF HISTORICAL AND CULTURAL VALUES OF THE REPUBLIC OF BELARUS” – is the main document of the state accounting historical and cultural values of the Republic of Belarus and is registered in the State Register of Information Resources [4].

The history of the districts left behind a lot of objects which are divided into categories according to the classification adopted in Belarus. Let's show this on the example of the Berezovsky district.

Berezovsky district is an administrative unit in the central part of the Brest region of Belarus. The administrative centre is the city of Bereza. The first settlements on the territory of the Berezovsky district date back to the 4th - 3rd millennium BC.

There is a legend connected with the appearance of this place. According to it a blind old man washed his eyes with healing water from a spring and miraculously recovered his sight. The first thing he saw was a birch. The old man placed a cross on that healing place. Kazimierz Lew Sapieha, Deputy Chancellor of the Great Duchy of Lithuania built Holy Cross Roman Catholic Church instead of the wooden cross on that healing place and in the mid-17th century he also built the Order of Cartesians Monastery under the guidance of Italian architectures [5].

There are historical and cultural values in the Berezovsky district: category “2” (three in total: the monastery of the Carthusian monastery, fragments of the manor and park complex in the village of Peski, the Church of the Holy Virgin Mary in the village of Signevichi); category “3” (total twenty-four); “no category” (four in total); category “B” (total nine); category “A” (only two: the technology of making a bird-amulet; the tradition of making dried fish on straw in the oven and dishes from it).

Places, documents, traditions – everything that is protected by law remains in the memory of people and is one of the most important conditions for preserving the historical past of our country.

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В статье «Оценка ценностей историко-культурного наследия» раскрываются понятия «историко-культурное наследие» и «историко-культурная ценность», принятые в Республике Беларусь. В статье дана классификация историко-культурных ценностей Республики Беларусь, а также приводится пример объектов по данной классификации на примере Берёзовского района.

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### **ESPERANTO AS THE MOST SUCCESSFUL ARTIFICIAL INTERNATIONAL LANGUAGE**

Speaking French or Italian language today does not surprise anyone, but there are very few people who are fluent in the international language called Esperanto. There are about two million Esperanto speakers all over the world. The aim of this article is to present the creator of the Esperanto language, investigate the state of the language today, tell about the places where it is spoken and why it has failed to unite the intellectuals around the world.

Esperanto was developed by L. L. Zamenhof, in full Ludwik Lejzer Zamenhof, who was born December 15, 1859, in Bialystok, then it was part of the Russian Empire, the area of racial and national conflict. Now this town is located on the territory of Poland. L. L. Zamenhof was Polish physician and oculist. He wanted to promote tolerance, mainly through the development of an international language that people of different nations could speak. The word Esperanto itself means “one who hopes” [1]. In 1887 L. L. Zamenhof published the first expository Esperanto textbook “*Lingvo Internacia*” under the pseudonym Doktoro Esperanto and sent the copies of his textbook to the intellectuals and the scientific community. Many adherents of the idea of a universal language supported L. L. Zamenhof. At first Esperanto was used on the territory of the Russian Empire. Then in 1905 after the first international

Esperanto congress at Boulogne, France and successive annual congresses in various European cities Esperanto could be heard and read in many countries in Europe as well as in Canada, Mexico, Algeria and New Zealand. Most often, Esperanto was used in personal correspondence and at meetings. Texts in Esperanto were published only by especially active Esperantists. Esperanto gathered a lot of enthusiasts who even wanted to establish a special state in Europe for the speakers of Esperanto with the name Amikeho. However, during the wars of the twentieth century, the Esperantists suffered huge losses, and the idea was never realized.

Esperanto is not directly associated with any state or nationality. This language is quite easy to learn because it has a simple grammar, only 16 fundamental rules and no exceptions. This phenomenon can be observed in many artificial languages, because their creators initially planned to make them easy to learn. The Esperanto vocabulary is largely borrowed from English, German and other Romance languages. In Esperanto words are read as they are written. The stress is always on the penultimate syllable. There are 28 letters in the alphabet. Five of them have a superscript.

It is difficult to say how many people speak Esperanto today. The site *Ethnologue.com* estimates the number of Esperanto speakers at 101,000 all over the world. For 1000 people Esperanto is the first language [2]. Usually these are children from international marriages, where Esperanto serves as the language of intra-family communication. According to an American Esperantist Sidney Culbert the number of Esperanto speakers is about 2 million people, but this adherent, however, did not disclose the method of obtaining the data. Markus Sikoshek believes that this number is exaggerated. In his opinion, if there were about a million Esperanto speakers in the world, then in his city, Cologne, there should be at least 180 Esperanto speakers. However, Sikoshek found only 30 Esperanto speakers in that city, and an equally small number of Esperanto speakers in other major cities. He also noted that only 20,000 people around the world are members of various Esperanto organizations. Most Esperanto speakers live in the European Union, where most Esperanto events take place. Outside of Europe, there is an active Esperanto movement in Brazil, Vietnam, Iran, China, the USA, Japan and some other countries. There are practically no Esperantists in Arab countries and in Thailand. Since the 1990s, there has been a steady increase in the number of Esperanto speakers in Africa. Hundreds of Esperantists have appeared in Nepal, the Philippines, Indonesia, Mongolia and other Asian countries. According to the 2010 All-Russian Population Census, 992 people speak Esperanto in Russia. The World Esperanto Association has the largest number of individual members in Brazil, Germany, France, Japan and the USA. Many Esperantists choose not to register with local or international Esperanto organizations, making it difficult to estimate the total number of speakers.

Hundreds of new translated and original books in Esperanto are published each year. Esperanto publishing houses exist in Russia, the Czech Republic, Italy, the USA, Belgium, the Netherlands and other countries. In Russia 2 publishing houses specialize in publishing literature in and about Esperanto, and literature is periodically published by non-specialized publishing houses. There is Internet TV in Esperanto. In some cases, it is continuous broadcasting, in others – a series of videos that the user can select and watch. The Esperanto group regularly uploads new videos on *YouTube*. Since the 1950s, feature films and documentaries in Esperanto have appeared, as well as Esperanto subtitles for many films in national languages. Many songs are created in Esperanto, there are musical groups that sing in Esperanto. Since 1990, the Vinilkosmo company has been releasing musical albums in Esperanto in a variety of styles. The online project Vikio-kantaro had over 1,000 lyrics in early 2010 and continued to grow. Dozens of video clips of Esperanto performers have been filmed. There are some computer programs specifically written for Esperanto speakers. Many well-known programs have versions in Esperanto – the *OpenOffice.org* office application, the *Mozilla Firefox* browser, the *SeaMonkey* software package, and others. The popular search engine Google also has an Esperanto version that allows you to search for information in both Esperanto and other languages. In 2012 Esperanto became the 64th language supported by Google Translate. Since August 2012, the Esperanto keyboard has been available for Android phones. Since July 25, 2016, Esperanto has been supported in *Yandex.Translate*.

Esperanto was not the first artificial language, but it was and remains the most successful in terms of its introduction into world culture. In just a few years millions of active users appeared and the language began to take on a life of its own. It seemed that Zamenhof's dream would come true very soon: Esperanto would become a bridge between peoples and cultures. But instead of developing, as it happens with some popular natural languages, every year Esperanto is losing its ground. Despite the fact that Esperanto is a good start for learning the Romance branch of languages, that there is a formed community with strong support, logically verified, easy-to-learn grammar, no company will accept Esperanto. This language is for a hobby not for work. And the time spent on learning Esperanto can be spent on English, French or Spanish.

The conclusion can be made that although Esperanto is useful to learn in order to get used to the grammatical laws of any European language and start considering yourself a polyglot, its disadvantage is that it will always be only an intermediary language. Esperanto is unlikely to become an internationally recognized language even if we take into consideration its simplicity.

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В статье рассматривается искусственный язык эсперанто, его возникновение, распространение в разных странах. Внимание уделено создателю эсперанто Л. Заменхову. Акцент сделан на том, что искусственные языки, несмотря на свою простоту, не становятся языками международного общения, а теряют свою популярность и используются лишь в приватной коммуникации.

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## **THE SIGNIFICANCE AND FEATURES OF MASS MEDIA IN THE MODERN WORLD**

The mass media play a significant role in the life of every person as well as human society as a whole.

The purpose of the article is to reveal the distinctive features of the mass media today and show the possibilities of their influence on modern human society, on the formation of public opinion.

Mass media include various means of mass communication: newspapers, magazines and other printed publications, television, radio, cinema and so on. The activity of mass media has become possible thanks to people having access to the virtual world.

Modern society is unthinkable without such an important institution of communication as mass media. The condition for the existence of society as a whole is to maintain a stable exchange of information between groups of people. Mass communication means perform a variety of functions – education and socialization, advertising, entertainment, scientific and cultural enlightenment, and much more. However, their main function is to influence the broad social strata and create public opinion on different issues through the content of the transmitted information.

Therefore today the media is characterized primarily as a means of “public opinion forming” and “entertaining”, but not “informing”, as it was originally. They have ceased to be unidirectional communication, because there is a mechanism of so-called feedback, when the audience can directly influence the form of information presentation and express their point of view [1, p. 42].

Due to the fact that the feedback mechanism began to actively develop, that is, the audience got the opportunity to express their opinion, the nature of the media ceased to be unidirectional. The mass media is part of the broadest sphere of mass communication.

As a result of the rapid development of technology in the media, it is becoming increasingly difficult for governments to control information, especially in connection with the development of satellite and cable communications. Thus in the mass media very often appears a sort of information that the government of a state would like to hide from their population, but due to modern technologies it is practically impossible to do. Nowadays, if something happens, it instantly gets into the media and everyone who finds this information will know about it.

The main features of the media are that they are widely distributed, generally accessible, oriented to different parts of the population, as well as able to exert ideological, political, economic and organizational influence on human opinion and behavior. The main motto of mass media is “bitter truth is better than sweet lies”, but not everyone wants to experience this bitter truth themselves, although this is the only way to feel the taste of life. Not everyone is ready to hear the truth about this or that sphere of life of their country, so there is false information in the media in which a person believes easier than in truthful information that he does not like and perceives as a lie. It’s easier for someone to believe a lie than the truth.

At the same time, many consumers of information do not understand the significance of the media’s choice of a particular social or political position. They often become objects of influence, manipulation, and as a result, a picture of the world, that is beneficial to the media or to those people who control them, is formed in their minds.

It is believed that young people are the most active part of society, which sets the general tone for social development. But, in our opinion, young people are a social group that is very much influenced by the mass media. If we talk about the nature of the influence of the media on young people, then we can distinguish two types of impact. The fact is that the media can produce both positive and negative effects on young people. It turns out that the media influence young people in the same way as any other segment of the population, but there is a slight difference, when some information affects young people, they begin to promote it and share it with their surroundings, this way such information becomes more and more popular, even though it is false [2].



In conclusion, it should be emphasized that today the media have both advantages and disadvantages. They not only keep us up to date with the latest events and the latest achievements of mankind in various fields of knowledge, but sometimes have a negative impact on our lives, creating a wrong idea about the world and the processes that take place in it, leading human society away from solving pressing problems, inflaming aggression in people and hatred towards each other.

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В статье раскрывается значение и особенности средств массовой информации в современном мире. Автор анализирует отличительные черты, развитие и влияние средств массовой информации на общественную и политическую жизнь, на формирование общественного мнения на современном этапе. Автор делает вывод, что средства массовой информации имеют как преимущества, так и недостатки, т. к. могут нести как полезную и развивающую информацию, так и заведомо ложную, разжигающую в людях вражду и ненависть друг к другу.

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### TECHNOLOGY DEVELOPMENT AND THE FUTURE OF HUMANITY

Life in our society is rushing at an accelerated pace. Technically perfect household appliances, smart homes – all this improves everyday life and frees up a lot of time, which is lacking for a modern person. Over the past two and a half centuries, the world has gone through three industrial revolutions. Every industrial revolution has changed the world.

The first, beginning in the XVIII century in Great Britain, led to the appearance of factories. Following this, heavy manual labour was almost universally replaced by machine labour. Steam engines appeared, and with them

trains, which revealed previously unknown speeds of movement to people and changed the idea of distance [1].

The second Industrial Revolution was even faster. It gave mankind the telegraph, the automobile and new areas of production that no one could have imagined before: the electric power industry and the petrochemical industry.

The third revolution began in the 1960s and was largely dictated by the need to restore, and at the same time rebuild the world after the bloody Second World War. New industries have emerged, the world has entered the era of atomic energy and space exploration. The development of these areas required complex calculations, which eventually led to the emergence of personal computers.

The prerequisites for the fourth industrial revolution were born already in the 1990s. Therefore, back in the middle of the decade in Japan, augmented reality began to be used for quality control at an assembly line of cars. However, several decades were left before the full implementation of these technologies started.

The fourth industrial revolution is just beginning, but its first fruits are already visible. Modern technologies are present in all spheres and become the basis of any business. The largest corporations are gradually transforming into IT companies in order to effectively solve the problems of the new time.

The technologies of the future are what our grandchildren and great-grandchildren will be content with. The world is not standing still, everything is changing, and this is in the order of things. A modern person in his childhood could not even think that 20 years later he would be holding a smartphone in his hands, in which everything is: from a “bank” to a “cinema”. In addition to smart phones, we are surrounded by equally smart homes, cities, as well as augmented and virtual reality.

A smart home is a system of home devices connected to each other and performing actions on a person's command or even without his participation, according to a schedule or a signal from a sensor. Some smart homes are controlled via apps and voice through smart speakers, others – using separate devices. The tasks can also be different: to increase comfort, save time or ensure safety.

A smart city is an innovative city that uses digital technologies to improve the standard of living, the efficiency of activities and the provision of services in the city, as well as competitiveness while meeting the needs of present and future generations in economic, social, cultural and environmental aspects.

Augmented Reality (AR) is when computer capabilities are used to expand and complement the physical world with graphic objects, 3D animation, and sounds. The computer superimposes additional layers with virtual objects on the image of the surrounding space on the screen of various devices in real time [2].

Virtual reality (VR) is a computer simulation of a certain space into which, through the effect on the receptors (vision, hearing, smell, tactile sensations), the

user is immersed. The user's guide to virtual reality is VR devices, the key of which are a helmet, as well as various motion sensors and controllers.

The turnover of electronic money is also growing all over the world, while real sales do not have such trends. It is possible that soon they will suffer the same fate as the money of past eras made of precious metals. There are many electronic currencies in the world.

The improvement of life without the development of technology is impossible. Today we have the opportunity to manage our accounts and pay for services from a distance without visiting a bank. We can spend much less time on laundry, cleaning and everyday life. To the grown-up generation, in a few years our life will seem antediluvian, since their way of life can be perfect and aesthetic.

We can imagine our future, we can imagine it, invent it. We can try to start realizing our dreams now, with the help of resources, connections and opportunities. We hope that the future is much better than today, and it will definitely be like this if we are doing something important right now.

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В статье рассматриваются проблемы современных технологических открытий и их влияние на жизнь человека.

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#### **PARTICIPACIÓN DE LOS BIELORRUSOS EN LA GUERRA CIVIL DE ESPAÑA 1936 – 1939**

El problema del comienzo de la guerra para la República Española fue la traición de casi todo el ejército. Solo quedaron a su disposición algunas unidades

militares, fuerzas policiales y ciudadanos solidarios. Por lo tanto, el gobierno tenía una gran necesidad de asistencia extranjera, incluidos militares calificados [2, p. 71].

Pero debido a la popularidad de las ideas del anarquismo y el comunismo, cuyos adherentes capturaron y mantuvieron el noreste del país, por lo que no mantuvieron la unidad dentro de la república. Francia, Gran Bretaña y sus aliados se negaron a ayudar a España por considerar que su régimen era proestalinista. A tal efecto, el 9 de septiembre, la Sociedad de Naciones creó el “Comité de No Intervención en Asuntos Españoles” [1, p. 339].

Sin embargo, Alemania no estaba obligada por la Sociedad de Naciones, ya que se retiró en 1933. Y Hitler vio a España como un campo de pruebas para las nuevas armas del Reich. Italia y Portugal también ayudaron a los rebeldes, promoviendo sus intereses en estos territorios [1, p. 351].

En respuesta a esta ayuda, el 22 de octubre de 1936, el Ministro de Guerra de la República Española, Francisco Largo Caballero, autorizó la formación de brigadas internacionales, de las que al menos 7 estaban formadas por ciudadanos soviéticos. Durante los 32 meses que duró el conflicto, más de 5 mil ciudadanos soviéticos pasaron por el “infierno español”, de los cuales 59 personas recibieron el título de Héroe de la Unión Soviética. Las pérdidas oficiales del ejército soviético ascendieron a 189 personas (cada sexta persona) [3, p. 13].

Los bielorrusos y otros ciudadanos fueron enviados desde la URSS para ayudar al Frente Popular de acuerdo con el plan de la Operación X el 14 de septiembre de 1936, y dado que el Distrito Militar de Bielorrusia (en adelante, el BVO) era uno de los mejor preparados, hizo una parte significativa del contingente soviético [4, c. 1].

El BVO envió 70 especialistas militares a las tropas de tanques. El 29 de octubre de 1936, una brigada formada por tanqueros militares soviéticos, compuesta por 15 tripulantes, atacó la agrupación de tanques de los "Frankistas" que avanzaba hacia Madrid. En esta batalla se destacó la tripulación del teniente Nikolai Silitsky, nativo de Minsk. Bajo su mando también estaban Pavel Kupriyanov e Ivan Lobach, nativos de la región de Polotsk. Liquidaron una batería de cañones de montaña, se abrieron paso detrás de las líneas enemigas, atacando reservas y suministros [4, p. 4].

El segundo grupo de tanqueros fue entregado al país el 6 de diciembre de 1936. El contingente estaba comandado por Dmitry Pavlov, el futuro comandante del Frente Occidental, bajo el distintivo de llamada "Pablo". De sus subordinados en febrero de 1937, se formó la 1ª brigada blindada, que demostró su valentía en la operación Haram, actuando hábilmente junto con la brigada internacional Dombrovsky. Y solo gracias a sus acciones, los rebeldes no pudieron cruzar el río y acercarse a Madrid. Los bielorrusos murieron en esta operación, cumpliendo con su deber internacional: Georgy Skleznev de Gomel, Konstantin Chernenko de Cherikov, Pyotr Korsunov de Orsha [3, p. 48].

La brigada luchó en muchas batallas, pero en septiembre de 1937 fue devuelta a la BSSR. Sin embargo, algunos combatientes se quedaron y se unieron al destacamento del Distrito Militar de Moscú, bajo el mando de Kondratiev. Estos héroes fueron: Vadim Sapronenko de Gorodok, región de Vitebsk; Justin Deshchenya de Kalyuga, región de Mogilev; Semyon Tikhonchuk de Krivchi, región de Gomel; Adam Tatur de Lopukhov, región de Minsk; Gorev Vladimir Efimovich de Velizh, región de Vitebsk; Kovrov Fyodor Kuzmich de Mogilev; Valentin Petrovich Drozd de Buda-Koshelevo, cerca de Mogilev; Kuzma Maksimovich Kachanov de Telyaki, región de Minsk; Vasily Alexandrovich Yushkevich, de etnia bielorrusa originario de Vilna; también Kirill Prokofievich Orlovsky, de Bobruisk, partidario detrás de las líneas enemigas, fue oponente durante mucho tiempo de otro bielorruso: Stanislav Bulak-Balakhovich [3, p. 129].

En abril de 1937, llegaron refuerzos en forma de la 83.<sup>a</sup> Brigada de Cazas, que incluía a dos bielorrusos, Nikifor Glushenkov y Mikhail Gurin, ambos de Mogilev. En agosto de 1937, llega la brigada de combate 142 de Bobruisk, que incluía a Platon Smolyakov, quien realizó 98 incursiones durante la guerra, Andrei Mikulovich e Ivan Turchin, todos de la región de Grodno. En mayo de 1938, Sergey Ivanovich Gritsevets, nativo de la región de Baranovichi, fue enviado a España. Posteriormente, se convirtió en el primer dos veces Héroe de la Unión Soviética. Y también Timofei Malashkevich de Orsha, Zakhar Skutov de la región de Vitebsk, Stepaen Shevchenko de la región de Mogilev y Stepan Pisakov de Vitebsk [3, p. 136].

Pero entre los bielorrusos hubo quienes lucharon por los "franquistas". El más famoso de ellos fue Stanislav Nikodimovich Bulak-Balakhovich. Casi un personaje legendario bajo mala luz, fueron los asesores de Francisco Franco en actividades de sabotaje [5, p. 137].

De hecho, fueron muchos más los bielorrusos que defendieron a España del establecimiento del régimen fascista. Pero desafortunadamente, eran muy pocos y las guerras no se deciden solo por números. Tras la victoria de los nacionalistas en la operación de Teruel, el curso de la guerra era inevitable. Madrid está sitiada, pero no rota, caerá recién el 28 de marzo de 1939. En la Batalla del Ebro de 1938, la República sufriría una aplastante derrota, la conquista de Cataluña era cuestión de tiempo. Después de que Francia y Gran Bretaña anunciaran su apoyo a los nacionalistas el 8 de marzo de 1939, la URSS comenzó a retirar sus tropas. Y los restos de las tropas de la República abandonaron el territorio de España a fines de febrero, cruzando los Pirineos [2, p. 129].

El resultado de la guerra fue la dictadura de 36 años de Francisco Franco. Las pérdidas ascendieron a 450 mil personas en ambos lados. Después de la guerra, comenzaron las represiones masivas y la huida de los partidarios de la República, el país perdió cerca de 1,5 millones de personas muertas y huidas. "Pero esta guerra le dejó claro a la Unión Soviética que en una confrontación

directa con Alemania, no podría resistir”. - esto fue escrito en 1939 por otro nativo de Bielorrusia, teniente general, participante en la Guerra Civil Española - Stepan Ivanovich Lyubarsky [2, p. 130].

Y la URSS aprendió la lección, y el 22 de junio de 1941 tuvo tiempo de prepararse, y el 3.er Reich se encontró con un desaire que no sería posible sin la experiencia de España.

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Статья посвящена Гражданской войне в Испании и участию в данном конфликте белорусов. Описывается ход войны, а также роль, количество и итог действия интернациональных бригад помощи Испанской Республике.

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#### ELEKTROSCHROTT RECYCLING IN DEUTSCHLAND

Die Deutschen sehen sich selbst als Weltmeister im Recyceln, und in den meisten Ländern werden sie auch genauso wahrgenommen. Ein genauer Blick

zeigt: So gut funktioniert das gar nicht. Ein Grund für die irri- ge Annahme ist immer noch, dass zwar theoretisch viel recycelt werden kann, praktisch aber am Anfang eine sinnvolle Mülltrennung erfolgen muss. Während bei Altglas und Papier um die 80 % des anfallenden Abfalls in Deutschland nicht nur korrekt vorsortiert, sondern auch tatsächlich recycelt werden, sieht es bei Elektroschrott Recycling ganz anders aus. Nicht einmal 45 % des Elektroschrotts wird korrekt gesammelt, ein Großteil wird illegal entsorgt oder exportiert. Dazu kommt, dass nicht mal ein Prozent der gesammelten Altgeräte für eine erneute Verwendung aufbereitet wird [1]. Damit ist Deutschland meilenweit von der EU-weit vorgeschriebenen Sammelquote von 65 % entfernt. Das Ziel des vorliegenden Beitrags ist es, die aktuelle Situation mit der Elektroschrottsorgung in Deutschland zu analysieren, Strategien und Maßnahmen der EU und der BRD für sachgerechtes und umweltfreundliches Recycling zu untersuchen.

Als Elektroschrott oder Elektronikschrott (also: Elektro(nik)schrott, oder E-Schrott) werden all jene Geräte bezeichnet, welche strom- oder batterie- betrieben sind und nun ausgedient haben. Elektro(nik)schrott kann in sieben Kategorien eingeordnet werden: Wärmeüberträger (Kühlschränke, Klimageräte, Entfeuchter, ölgefüllte Radiatoren usw.); Bildschirme, Monitore und Geräte, die Bildschirme mit einer Oberfläche von mehr als 100 cm<sup>2</sup> enthalten; Lampen; Großgeräte > 50 cm (Waschmaschinen, Wäschetrockner, Geschirrspüler, Elektroherde, Kopiergeräte usw.); Kleingeräte < 50 cm (Staubsauger, Mikro- wellengeräte, Toaster, Bügeleisen usw.); kleine IT- und Telekommunikations- geräte (Mobiltelefone, Taschenrechner, PCs, Drucker, Telefone usw.); Photovoltaikmodule [2]. Zum Elektro(nik)schrott gehören auch Produkte mit fest verbauten elektrischen oder elektronischen Bestandteilen. Dazu zählen Schuhe mit beleuchteter Sohle, Rucksäcke mit fest vernähter Beleuchtung, Badezimmerschränke mit fest eingebautem beleuchteten Spiegel, ein elektrisch verstellbarer Fernsehsessel u. a.

Wenn ein Gerät in der Elektroschrottsammlung landet, können große Mengen wertvoller und knapper werdender Metalle wiedergewonnen werden. Edelmetalle und Kupfer können zwar beliebig oft wieder in den Kreislauf eingespeist und erneut verbaut werden, ohne Qualitätsverluste zu verzeichnen. Das Recycling von Elektroaltgeräten beschränkt sich bislang auf Massenmetalle wie Eisen, Stahl, Kupfer, Aluminium und Edelmetalle, die leicht rückgewinnbar sind. Seltene Erden, Tantal, Gallium und Indium haben globale Recyclingraten von unter einem Prozent. Diese Metalle sind häufig nur in geringen absoluten Mengen pro Gerät enthalten, ergeben aber für den gesamten Abfallstrom hohe Gesamtfrachten. Dass sie dabei komplex verbaut werden, macht ein Recycling aufwändig.

Das Recycling von „smarten“ Textilien oder Möbel ist erheblich erschwert, da auf diesem Wege sonst für E-Schrott unübliche Materialzusammensetzungen

in die Rücknahmesysteme gelangen. Diese Materialzusammensetzungen erfordern neue Verfahren und Behandlungsmethoden und teilweise ein aufwendiges händisches nachträgliches Trennen der Komponenten.

Außer wertvollen Materialien, die als sekundäre Rohstoffe zurückgewonnen werden können, enthält Elektro(nik)schrott auch eine Vielzahl Schwermetalle wie Blei, Arsen, Cadmium und Quecksilber, Halogenverbindungen, FCKWs, Flammschutzmittel und weitere potenziell schädliche Stoffe, die sachgerecht entsorgt werden sollten. Sie können die menschliche Gesundheit und Umwelt gefährden: Beispielsweise Dioxine sind krebserregend, fruchtschädigend, sehr langlebig und reichern sich in fetthaltigen Nahrungsmitteln (Fleisch, Milch) an. Das gilt ganz besonders, wenn Altgeräte als Gebrauchsgüter oder illegal nach Asien oder Afrika exportiert werden. Dort gefährden täglich Menschen, auch Kinder, ihre Gesundheit, um mit primitiven Mitteln die Rohstoffe (z. B. Kupfer aus PVC-Kabeln) aus dem Elektroschrott wieder nutzbar zu machen. Zudem verseuchen die vielen Schadstoffe Böden und Luft.

Der Umgang mit Elektro(nik)schrott wird innerhalb der EU gemäß der Elektro- und Elektronik-Altgeräte-Richtlinie (WEEE-Richtlinie) geregelt, deren Umsetzung in Deutschland mithilfe des Elektro- und Elektronikgerätegesetzes (ElektroG) umgesetzt wird.

Generell gibt es zwei Möglichkeiten Elektroschrott loszuwerden. Die weitläufigste und einfachste Methode ist es, die kaputten Geräte einfach bei einer der zahlreichen Rücknahme- und Entsorgungsstellen der Gemeinden und Städte abzuliefern. Dort werden die abgegebenen Altgeräte von Unternehmen aufgekauft, die sich auf das Zerlegen und Trennen der Materialien spezialisiert haben. Anschließend können die gewonnenen Rohmaterialien gereinigt und wieder an produzierende Unternehmen verkauft werden. Die Abgabe der Geräte ist natürlich per Gesetz kostenfrei. Eigentlich gibt es somit keine Ausreden für die korrekte Entsorgung seines Elektro(nik)schrottes.

Die zweite Möglichkeit des Elektroschrott Recyclings ist, die ausgedienten elektrischen Geräte im Fachhandel abzugeben. Die Elektrogroßmärkte und auch die kleineren Fachgeschäfte nehmen die Geräte an und sorgen für die Weiterleitung an verwertende Betriebe. Hierbei ist allerdings zu beachten, dass die Händler das Altgerät nur eintauschen, d. h. ein Händler wird das kaputte Elektrogerät nur dann annehmen ohne Extrakosten, wenn der Konsument im Gegenzug ein neues Gerät gleichwertiger Art bei dem jeweiligen Händler kauft.

Altbatterien stellen hierbei einen besonderen Fall dar. Seit 2008 sind Händler, die Batterien zum Kauf anbieten, gesetzlich verpflichtet in ihren Geschäften Sammelboxen aufzustellen, wo Konsumenten aufgebrauchte Batterien unentgeltlich und ohne Gegenleistung hinbringen können.

Sinnvoll ist es auch, Elektroaltgeräte zur Wiederverwendung zu verkaufen. Die müssen gegebenenfalls zuvor repariert werden, können aber als Second-



Hand-Geräte ein neues Leben bekommen. Nur wenn das nicht möglich ist, beispielsweise weil aufgrund fehlender Ersatzteile eine Reparatur nicht mehr durchgeführt werden kann, sollte das Gerät recycelt oder zerlegt werden.

Generell ist jede Form von Elektroschrott Recycling eine gute Sache. Denn wenn Rohstoffe wieder genutzt werden können, ist das nachhaltiger und umweltfreundlicher als die Neugewinnung. Technologien zur Rückgewinnung stehen bereits zur Verfügung. Statt Materialverlust muss ein qualitativ hochwertiges Recycling auf der Tagesordnung stehen.

Die EU versucht die Sammelquote für Elektrogeräte in den einzelnen EU-Ländern auf mindestens 65 % zu bringen. Wenn Konsumenten ihre Altgeräte endlich geschlossen als die gesellschaftlich wertvolle sekundäre Rohstoffe ansehen, die sie sind, und folglich anfangen, den Elektroschrott gewissenhaft und auf die richtige Weise zu entsorgen, dann ist dieses Ziel absolut machbar.

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В статье раскрывается понятие «электронный лом». Проведен анализ состояния комплексной переработки и утилизации отходов электро-технического и электронного оборудования на территории ФРГ. Рассмотрены действующие нормативные документы. Описана схема сбора и обращения с электронным ломом.

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#### **CYBERSECURITY**

Cybersecurity is the protection of internet-connected systems such as hardware, software and data from cyberthreats. The practice is used by individuals and enterprises to protect against unauthorized access to data centers and other computerized systems.

A strong cyber security strategy can provide a good security posture against malicious attacks designed to access, alter, delete, destroy or extort an organization's or user's systems and sensitive data. Cybersecurity is also

instrumental in preventing attacks that aim to disable or disrupt a system's or device's operations.

Why is cyber security important? With an increasing number of users, devices and programmes in the modern enterprise, combined with the increased deluge of data – much of which is sensitive or confidential – the importance of cybersecurity continues to grow. The growing volume and sophistication of cyber attackers and attack techniques compound the problem even further.

The cyber security field can be broken down into several different sections, the coordination of which within the organization is crucial to the success of a cybersecurity program. These sections include the following: Application security, Information or data security, Network security, Disaster recovery/business continuity planning, Operational security. [1].

Maintaining cyber security in a constantly evolving threat landscape is a challenge for all organizations. Traditional reactive approaches, in which resources were put toward protecting systems against the biggest known threats, while lesser known threats were undefended, is no longer a sufficient tactic. To keep up with changing security risks, a more proactive and adaptive approach is necessary. Several key cybersecurity advisory organizations offer guidance. For example, the National Institute of Standards and Technology (NIST) recommends adopting continuous monitoring and real-time assessments as part of a risk assessment framework to defend against known and unknown threats.

The benefits of implementing and maintaining cyber security practices include:

- Business protection against cyber-attacks and data breaches.

- Protection for data and networks.

- Prevention of unauthorized user access.

- Improved recovery time after a breach.

- Protection for end users and endpoint devices.

- Business continuity.

Improved confidence in the company's reputation and trust for developers, partners, customers, stakeholders and employees.

In cyber security, there are different types of threats. Keeping up with new technologies, security trends and threat intelligence is a challenging task. It is necessary in order to protect information and other assets from cyberthreats, which take many forms. Types of cyber threats include:

**Malware** is a form of malicious software in which any file or program can be used to harm a computer user. Different types of malware include worms, viruses, Trojans and spyware.

**Ransomware** is another type of malware that involves an attacker locking the victim's computer system files – typically through encryption – and demanding a payment to decrypt and unlock them.

**Social engineering** is an attack that relies on human interaction. It tricks users into breaking security procedures to gain sensitive information that is typically protected.

**Phishing** is a form of social engineering where fraudulent email or text messages that resemble those from reputable or known sources are sent. Often random attacks, the intent of these messages is to steal sensitive data, such as credit card or login information.

**Spear phishing** is a type of phishing that has an intended target user, organization or business.

**Insider threats** are security breaches or losses caused by humans – for example, employees, contractors or customers. Insider threats can be malicious or negligent in nature.

**Distributed denial-of-service (DDoS) attacks** are those in which multiple systems disrupt the traffic of a targeted system, such as a server, website or other network resource. By flooding the target with messages, connection requests or packets, the attackers can slow the system or crash it, preventing legitimate traffic from using it.

**Advanced persistent threats (APTs)** are prolonged targeted attacks in which an attacker infiltrates a network and remains undetected for long periods of time with the aim to steal data.

**Man-in-the-middle (MitM) attacks** are eavesdropping attacks that involve an attacker intercepting and relaying messages between two parties who believe they are communicating with each other.

Other common attacks include botnets, drive-by-download attacks, exploit kits, malvertising, vishing, credentialstuffing attacks, cross-site scripting (XSS) attacks, SQL injection attacks, business email compromise (BEC) and zero-day exploits.

### **What are the career opportunities in cyber security?**

As the cyber threat landscape continues to grow and new threats emerge – such as IoT threats – individuals are needed with cyber security awareness and hardware and software skills.

IT professionals and other computer specialists are needed in security roles, such as:

**Chief information security officer (CISO)** is the individual who implements the security program across the organization and oversees the IT security department's operations.

**Chief security officer (CSO)** is the executive responsible for the physical and/or cyber security of a company.

**Security engineers** protect company assets from threats with a focus on quality control within the IT infrastructure.

**Security architects** are responsible for planning, analyzing, designing, testing, maintaining and supporting an enterprise's critical infrastructure.

**Security analysts** have several responsibilities that include planning security measures and controls, protecting digital files, and conducting both internal and external security audits.

**Penetration testers** are ethical hackers who test the security of systems, networks and applications, seeking vulnerabilities that could be exploited by malicious actors.

**Threat hunters** are threat analysts who aim to uncover vulnerabilities and attacks and mitigate them before they compromise a business. [2].

Other cyber security careers include security consultants, data protection officer, cloud security architects, security operations manager (SOC) managers and analysts, security investigators, cryptographers and security administrators.

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Рассматривается проблема активной цифровизации, которая неизбежно влечёт за собой и рост преступлений в киберпространстве, поэтому серьёзное отношение к информационной защите необходимо всем без исключения. Ответственное отношение к личным данным, внимательность и осторожность помогут избежать многих неприятностей.

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### TIPOS POPULARES DE TURISMO EN BIELORRUSIA Y ESPAÑA: SIMILITUDES Y DIFERENCIAS

En la actualidad, el turismo es uno de los sectores más grandes y rentables de la economía mundial. En muchos países es la principal fuente de beneficios. El turismo proporciona empleo a la población y contribuye al desarrollo socioeconómico del país, ya que influye en sectores económicos como el transporte, las comunicaciones, la construcción y la agricultura.

Hay varios tipos de turismo: bienestar, excursiones, informativo, ecológico, deportivo, de negocios, de eventos, de aventura, extremo, religioso. Uno de los principales factores que determinan el desarrollo de ciertos tipos de turismo en un territorio determinado es la ubicación geográfica del país.

El objetivo de este trabajo es estudiar y comparar las direcciones prioritarias del desarrollo del turismo en Bielorrusia y España, debido a la ubicación y la cultura de estos países.

Belarús ocupa una posición central y no tiene salida al mar. En su territorio predomina el relieve llano. Belarús se encuentra entre los diez países más boscosos de Europa. Los bosques ocupan el 40,1% de su territorio. Alrededor del 30% del territorio es tierra pantanosa. Los recursos naturales contribuyen al desarrollo del turismo ecológico y médico. Los amantes del turismo ecológico deben visitar los parques nacionales únicos de Bielorrusia: "narochansky", "pripyatsky", "Braslav Lakes", "Belovezhskaya Pushcha", la reserva de la Biosfera de berezinsky, así como las reservas "nalibokskaya Pushcha", "Blue Lakes". En Belarús el turismo de salud se desarrolla a un nivel bastante alto. Los sanatorios de Belarús se encuentran en las orillas de los ríos, lagos y embalses, con enormes zonas boscosas, lo que crea condiciones aún más favorables para el descanso. Este tipo de turismo es popular entre los turistas extranjeros y los residentes de su país que vienen a buscar servicios de otras ciudades.

Cada país es único y único. Cada estado tiene sus propias tradiciones y cultura, lo que también trata de atraer turistas. En Belarús, el turismo histórico-cultural es uno de los principales tipos de turismo. Combina excursiones informativas con visitas a lugares históricos, arquitectónicos, naturales y culturales.

Los lugares de interés emblemáticos de Belarús son fortalezas y castillos, conjuntos de palacios y parques y fincas ancestrales, templos y monasterios, antiguas estructuras de ingeniería, museos y pueblos etnográficos, lugares de nacimiento de artistas famosos, escritores y científicos. La historia original, impregnada de los eventos difíciles de los últimos años, será contada por Mirsky, Nesvizhsky, Lida, Golshansky, Kossovsky Castle y muchos otros [1].

Los museos etnográficos al aire libre "dudutki", "Sula", hablan sobre las tradiciones y la vida del pueblo Bielorruso. Aquí puedes escuchar Canciones folclóricas y dominar las danzas bielorrusas, observar el trabajo de los maestros y hacer recuerdos bielorrusos, probar platos y bebidas de la cocina nacional [3].

A lo largo del año en diferentes partes de Belarús se celebran interesantes festivales y fiestas para todos los gustos: folclóricos, nacionales, musicales, teatrales, rock, folclóricos, juveniles y otros. Los festivales más inusuales son "Grullas y grullas", "Motalskia prismaki", "La llamada de polesya", "Viva Braslav", "Bazar eslavo", "Listopad" y otros [5].

Por lo tanto, los tipos más populares de turismo en Bielorrusia son ecológicos, de bienestar y culturales y educativos.

España se encuentra en el suroeste de Europa. Las costas de España están bañadas al Norte y al oeste por las aguas del Atlántico, y al sur y al este por el mar Mediterráneo. Puede relajarse en la costa de España durante todo el año: en verano, en las islas Baleares y en invierno, en las Canarias. Los inviernos son suaves y húmedos, mientras que los veranos son templados y cálidos [2].

La tradición del carnaval en España es considerada una de las más coloridas y encantadoras del mundo. El pico de la temporada de carnaval cae en FEBRAL-Mart. Los carnavales se celebran tanto en ciudades grandes como pequeñas. Santa Cruz de Tenerife en las islas Canarias, Andalucía en Cádiz y Extremadura en Badajoz son las fiestas españolas más famosas y bulliciosas que atraen a un gran número de turistas. Los residentes locales participan en desfiles de carnaval disfrazados al ritmo de los tambores y la música a todo volumen [4].

España es un país con siglos de historia. Aquí se conservan monumentos de diferentes épocas. Las ciudades son el centro del turismo cultural y educativo en España. Aquí hay lugares famosos de la antigüedad, edificios arquitectónicos de diferentes estilos, magníficas obras maestras del arte. El interés por el Patrimonio cultural de las ciudades atrae a millones de turistas aquí.

Por lo tanto, la posición geográfica de España, su rica historia, brillantes tradiciones carnalescas y excelente cocina nacional han determinado las direcciones prioritarias para el desarrollo de la industria turística. El turismo de vacaciones, carnaval y cultural y educativo es el más popular en este país. España ocupa el segundo lugar en el ranking de los países más visitados del mundo.

Por lo tanto, es posible ver características comunes y distintivas en la industria turística de los dos países. El turismo cultural y educativo es popular en Bielorrusia y España. El turismo de vacaciones se desarrolla a un alto nivel en España gracias al clima del país, mientras que la posición geográfica de Bielorrusia contribuye a un mayor desarrollo del turismo ecológico y de salud. El turismo de eventos es el más común en España, atrayendo a turistas de diferentes países con inusuales tradiciones de carnaval. En Bielorrusia, el turismo de eventos está representado por festivales y fiestas nacionales.

Ambos países son únicos en su naturaleza, pueblo, tradiciones, cultura. En cada uno de ellos hay algo que puede interesar al turista.

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В статье сравниваются наиболее развитые виды туризма в Беларуси и Испании, раскрываются причины сходства и различия приоритетных направлений туристической индустрии двух стран. Одним из наиболее важных факторов, определяющих различие в развитии данной отрасли Беларуси и Испании, является географическое положение.

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### **THE IMPORTANCE OF EFL TEACHER TRAINING IN MODERN EDUCATION**

At present, English has become the most important and vivid means of global communication that can ensure rapid progress and development in all spheres of life. It is the most wide-spread language commonly used among different nations and individuals worldwide for cultural and educational exchange. Moreover, the use of English as an international language is growing because it is the only medium for communication in many countries. In addition, the use of the English language has intensified not only at the level of local but also global education [3, p. 87]. That's why training would-be English teachers is an important area in higher education. No doubt, speaking skills of teachers are crucial for the effectiveness of teaching English.

Today, English has multipurpose social and educational services. It is used as medium of instruction in a large number of universities in the national and international world. Now, it has realized by all countries the necessity of providing education to its citizens in English [2, p. 14]. Every modern country demands their governors, representatives, officials or professionals to draw their students and learners' attention to the language, which will be helpful both in improving the standard of one's living and directly or indirectly help to enhance the country's economy. If education is received in this medium, it will allow an individual to develop more professionally and will invite chances of gaining success for respecting the country in the fields of economy, politics, science, technology, arts and medicine [1].

The dominance of English in international academic publications has also increased during the last few decades. The vast majority of indexed science journals, including those previously published in other languages, have shifted to English from French, German, Spanish and Russian to acquire a broader international authorship and readership, and to reach higher impact (number of citations). English language journals have increased the proportion of authors from non-Anglo countries, although proportionally their communities are underrepresented, while non-English language journals have become mostly national or regional in scope [2, p. 26].

The significance of providing education in English side by side with their natives is realized nowadays at the level of higher education in many countries around the world. Hence, serious steps have been taken to improve the quality of instruction in English at the administrative, academic, and research levels. In order to prove the English language's international power, it goes beyond its tertiary. Many English language proficiency, training and degree programs are managed not only inside but also abroad for internationalization of higher education to keep it up to date [1].

The educational system in the 21<sup>st</sup> century has faced many changes in last ten years. It's connected with the growing popularity of the EFL teacher in modern education. In 2019, it is estimated that English is spoken by 1.5 billion people around the world. That's very close to 20% of all the people on Earth. While that's an impressive statistic, it's not one that typically surprises people. You don't have to be a scholar, or somebody particularly interested in linguistics, to know the huge hole that English plays globally [4, p. 259].

Teacher education programs are an important alternative to raise standards in the teaching of English as a Foreign Language (EFL). However, there are few studies that have explored the roles of teacher educators in this setting [5]. It is important to diachronically analyze the recurrent flaws in student teachers' speaking performance at university oral exams conducted in 2009 and 2022 respectively.

Thus, the English language has become the most common and dominant language spoken and used both at the national and international levels. It has been playing a major role in many sectors, and higher education in particular is the area where English is most needed. It has also become a medium of instruction at universities in a large number of countries, a basic means of second language learning / teaching, an accessing source of modern knowledge and scientific research, and a means of global communication and earn living.

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Автор рассматривает английский язык как средство глобального общения, как способ предотвращения изоляции от внешнего мира. Использование иностранного языка служит незаменимым помощником при получении международного образования. Поэтому нельзя исключать его важную роль в контексте современных педагогических тенденций на уровне высшего образования.

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#### **ANÁLISIS DEL COMERCIO DE BIENES INTRACOMUNITARIO DE LA COMUNIDAD ANDINA**

El desarrollo constante del potencial de exportación es parte integrante de la política económica de país. En respuesta a la necesidad de garantizar la circulación permanente y segura de mercancías de una región a otra, los países conciertan un acuerdo de cooperación económica que puede conducir finalmente a la creación de una nueva comunidad internacional. Sobre la base de lo anterior, el estudio se centra en el comercio interno de la Comunidad Andina. La Comunidad Andina es una integración internacional latinoamericana, ubicada a lo largo de cordillera de los Andes. La comunidad está integrada por Bolivia, Colombia, Ecuador y Perú y trabaja por el mejoramiento de la calidad de vida de los ciudadanos de los países miembros. Objetivos de la comunidad son: promover el desarrollo equilibrado de los países miembros en la cooperación

económica y social, acelerar el crecimiento y empleo productivo, fortalecer la solidaridad subregional, disminuir la vulnerabilidad externa y mejorar la posición de los países miembros [1].

El análisis de las exportaciones dentro de la asociación de integración afectará a cada uno de sus cuatro países miembros, excluidos los miembros asociados y observadores. Antes de estudiar los resultados económicos externos de estos países, es necesario evaluar el nivel de su desarrollo económico a través del análisis del PIB.

Tabla 1. – PIB real de la Comunidad Andina en 2019 – 2021, 2015 – base, mil millones. de dólares

País	Año				
	2017	2018	2019	2020	2021
Bolivia	35,85	37,36	38,19	34,86	36,98
Colombia	303,68	311,47	321,39	298,74	330,64
Ecuador	100,4	101,69	101,7	93,78	97,75
Perú	202,28	210,31	215,02	191,47	217,03

Nota: basado en la fuente [2].

Las estadísticas del PIB de la Comunidad Andina abarcan el período 2017-2021 que tiene en cuenta la crisis económica de 2020. Llevando a cabo análisis en este rango, es posible determinar la capacidad del país para salir de la situación crítica para la economía.

La tabla muestra lo siguiente:

– En 2020 el PIB de Bolivia disminuyó en 3.33 mil millones de dólares. Esta disminución no pudo ser compensada en 2021, por detrás del resultado de 2019 por 1.21 mil millones de dólares.

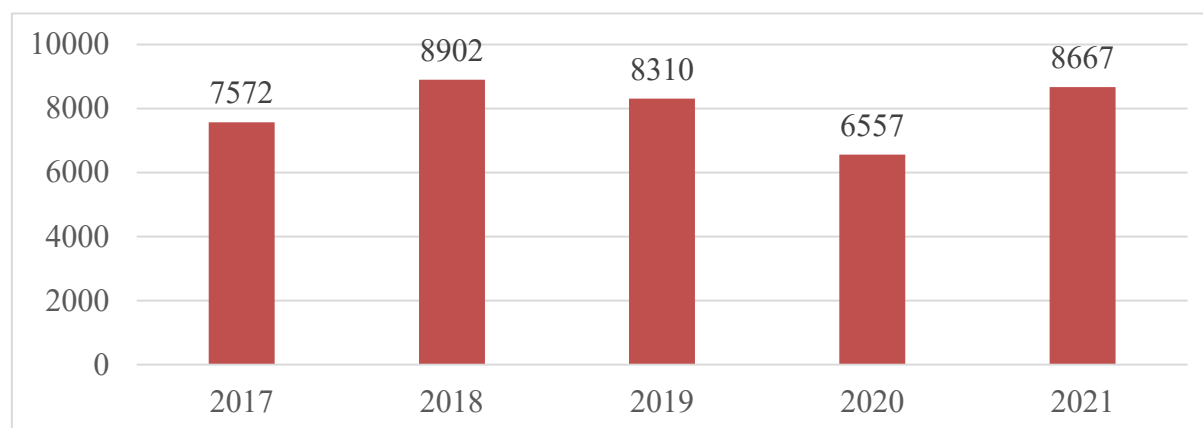
– Colombia experimentó una disminución del PIB del 7,6% en 2020 en comparación con el año anterior. Sin embargo, fue capaz de compensar la significativa disminución y aumento de volumen en un 2,8% respecto al resultado de 2019.

– En 2020, Ecuador perdió más del 8% de su PIB. La economía del país en 2021 no logró compensar plenamente este descenso, quedando a la zaga del 3,8% de 2019.

– La disminución del PIB en el Perú en 2020 fue de alrededor del 11%. El resultado de 2021 muestra que el país fue capaz de superar con éxito la crisis y aumentar el volumen del PIB en más de 2 mil millones de dólares.

Las observaciones sugieren que las economías de Perú y Colombia son más resistentes a la crisis y por lo tanto tienen la capacidad de competir en el mercado externo. El análisis de los valores del PIB ofrece una visión general del nivel de desarrollo de las economías en cuestión.

Uno de los procesos más vitales para cualquier economía es el comercio exterior. Los países de la Comunidad Andina participan activamente en actividades económicas en el marco de la integración, ya que, ante todo, la



Comunidad se creó con el fin de lograr el desarrollo económico de las regiones.

Dibujo 1 – Evolución de las exportaciones intracomunitarias, 2012 - 2021 (Millones de dólares)

La figura muestra una comparación del comercio interno de bienes total de la Comunidad Andina entre 2017 y 2021. Durante el período de cinco años, el mayor valor comercial se logró en 2018. Fue de más de 8.900 millones de dólares. A su vez, el valor más bajo fue en la crisis de 2020. Sin embargo, la comunidad logró aumentar el volumen de las relaciones comerciales en 2021, y superar el valor de la pre-crisis 2019 en 367 millones de dólares.

Tabla 2 – Evolución de las exportaciones de la comunidad andina según país miembro, 2017 – 2021 (Millones de dólares).

País	Año				
	2017	2018	2019	2020	2021
Bolivia	718	994	953	1032	1669
Colombia	2694	3160	3235	2430	2967
Ecuador	2085	2485	1844	1238	1507
Perú	2075	2264	2278	1857	2524

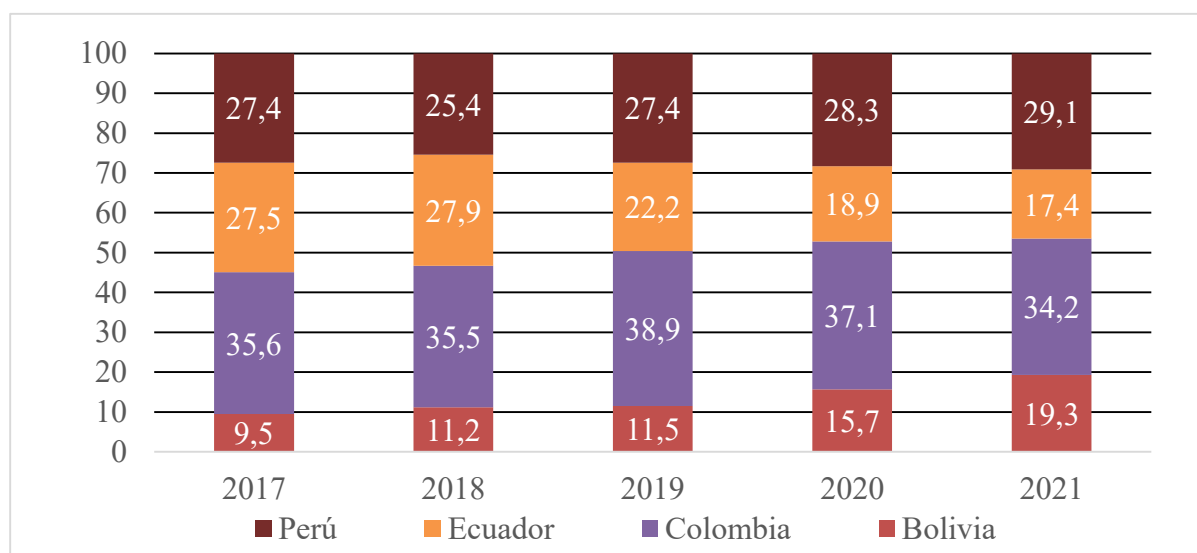
Nota: basado en la fuente [3].

Durante el período que se examina, Bolivia aumentó sus exportaciones a la Comunidad Andina. A pesar de la crisis económica, en 2020 el volumen de las exportaciones siguió creciendo. Las exportaciones totales en 2021 ascendieron a 1.6 mil millones de dólares. En 2017, el volumen fue de 718 millones de dólares.

Colombia experimentó un crecimiento armonioso en las exportaciones a la comunidad, pero en 2020 cayó un 24% en comparación con 2019. El país no pudo volver a su nivel anterior en 2021.

En el caso de Ecuador, la situación es similar a la de Colombia, pero las exportaciones a la comunidad disminuyeron marcadamente ya en 2019, con una disminución del 25% a partir de 2018.

A su vez, Perú, al igual que otros países comunitarios, también sufrió pérdidas por la crisis económica. En 2021, Perú fue capaz de aumentar el volumen de las exportaciones en un 9% en comparación con el año antes de la crisis 2019



Dibujo 2 – Participación porcentual de las exportaciones de bienes intracomunitarios, 2017 – 2021.

El histograma muestra el porcentaje de las exportaciones totales de los países dentro de la comunidad para el período 2017-2021. Los datos muestran que Bolivia ha aumentado constantemente su participación en las exportaciones de bienes totales durante el período que se examina. El mayor crecimiento se produjo en 2020, alcanzando el 15,7% en comparación con el 11,5% en 2019.

La participación de Colombia en las exportaciones totales se mantuvo relativamente estable durante el período que se examina. El valor más alto fue del 38,9% en 2019. El valor más bajo fue del 34,2% en 2021.

Durante el período que se examina, la participación de Ecuador en el volumen total de las exportaciones de bienes ha disminuido constantemente, pasando del 27,5% en 2017 al 17,4% en 2021.

En el caso del Perú, su participación en las exportaciones intracomunitarias totales fue relativamente estable. También en la crisis de 2020, el país aumentó su participación en un 0,9% en comparación con el año anterior. Alcanzó el valor más alto en 2021 – 29,1%.

Las observaciones sugieren que Perú y Colombia son las economías más sostenibles de la Comunidad Andina. Estas regiones tienen el PIB más grande de los países en consideración y representan alrededor del 30-35% de las exportaciones de bienes totales dentro de la comunidad, lo que indica su buena actividad económica y capacidad para entregar los bienes necesarios a las regiones vecinas, como Ecuador y Bolivia.

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В статье приводится анализ внутренней торговли товарами стран-членов Андского сообщества на протяжении пятилетнего периода на основе статистических данных, представленных в открытом доступе. Следствием анализа является определение наиболее экономически сильных стран сообщества и их сравнение с менее развитыми соседями.

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#### **JEANNE D'ARC - LA FEMME QUI A CHANGÉ LE COURS DE L'HISTOIRE**

Moyen Âge, mœurs rudes, cruauté, mort et sang. Dans l'article, nous examinerons une période spécifique de l'histoire de la France - la guerre de Cent

Ans. Cette étape de l'histoire de la France a eu certaines conséquences non seulement économiques, mais aussi politiques et idéologiques. La guerre a contribué à la croissance de la conscience nationale française. Malgré d'énormes pertes humaines et économiques, les Français ont parvenu à expulser les Britanniques des territoires qu'ils occupaient et à reprendre ses territoires sous le contrôle français.

Le but de l'article n'est pas seulement de décrire la guerre de Cent Ans, mais plutôt d'étudier l'une des personnalités clés à cette période historique - Jeanne d'Arc, l'héroïne nationale de la France, l'un des commandants des troupes françaises pendant la Guerre de Cent Ans.

En France, à cette époque, la guerre de Cent Ans, qui a commencé en 1337 et qui durait déjà plus de quatre-vingts ans, se poursuivait. La population française était complètement épuisée par les raids incessants de l'armée anglaise. Les gens attendaient un miracle et racontaient la prophétie du magicien Merlin tirée de la légende du roi Arthur : « La Vierge de Lorraine viendra sauver la France ». Jeanne, apparemment, a également entendu cette légende et a décidé d'agir.

Jeanne d'Arc est née vers 1412 dans le village de Domremy dans le nord-est de la France, dans une famille de riches paysans Jacques d'Arc et Isabelle de Vuton, surnommée la Romaine, après avoir fait un pèlerinage à Rome. Non loin de la maison de la jeune fille, il y avait un vieux hêtre, qui s'appelait « l'arbre aux fées ». Quand Jeanne avait 13 ans, assise sous cet arbre, elle entendait souvent des voix des saints, qui ont raconté à la fille son destin: lever le siège d'Orléans, introniser l'héritier français et chasser les envahisseurs anglais du pays. En 1428, elle se rend chez le capitaine Robert de Baudricourt et lui demande de dire à l'héritier du trône, Charles, qu'il vaut mieux ne pas se battre avant le printemps suivant, car les voix le lui ont dit. Jeanne a été ridiculisée. Mais la fille persistante n'a pas lâché prise et plusieurs fois, elle venait voir le capitaine avec la même demande. Finalement, il a accepté d'envoyer la fille à l'héritier et lui a même donné des vêtements pour hommes afin de ne pas attirer l'attention des soldats.

Début mars 1429, Jeanne arrive à la résidence de Charles. Lui, ayant entendu parler du devin, a décidé d'organiser un test pour elle : il a mis une autre personne sur le trône, et il a changé de vêtements et s'est perdu dans la foule de courtisans. Jeanne a désigné facilement Charles et l'a informé qu'elle avait été envoyée par le Ciel pour libérer le pays de la domination anglaise. Charles a été surpris non seulement par ses prédictions et son courage, mais aussi par ses talents de cavalier, ainsi que par sa parfaite maîtrise des armes. Cependant, l'héritier hésitait. Il nomma deux commissions : la première procéda à un interrogatoire pour absence de liens avec le diable, et l'autre confirma la virginité de Jeanne. La question de la virginité était fondamentale, puisque

selon les croyances religieuses, seule la Vierge pouvait mener à bien la mission qui lui était assignée, sauver la patrie. Au Moyen Âge, le culte de la Vierge militante était populaire en Europe : la Vierge était perçue comme la patronne des guerriers, les menant à la victoire.

En même temps, Charles a envoyé des messagers dans le pays de la jeune fille. Et seulement quand il s'est assuré qu'il n'y avait pas un seul retrait sur sa réputation, l'héritier a décidé de nommer Jeanne le commandant en chef des armées françaises. La nouvelle que les troupes étaient dirigées par un messenger de Dieu provoqua un extraordinaire soulèvement moral dans les troupes françaises. Le 29 avril 1429, Jeanne pénètre dans Orléans avec un petit détachement, et moins d'un mois plus tard, les Britanniques sont contraints de lever le siège de la ville. Cet événement est devenu un moment clé de la guerre de Cent Ans, et Jeanne est depuis surnommée la « Pucelle d'Orléans ».

En juin de la même année, la soi-disant « campagne sans effusion de sang » commence en direction de Reims : ville après ville ouvre les portes à l'armée française, et le 17 juillet, dans la cathédrale de Reims, en présence de Jeanne, l'héritier est monté sur le trône et est devenu le roi Charles VII. Cet événement a provoqué un nouvel élan d'esprit national dans le pays. Jeanne pressait Charles de lancer une attaque sur Paris, mais le roi hésitait. En conséquence, l'armée française n'a avancé qu'en septembre, la bataille a échoué et la jeune fille elle-même a été blessée.

Après la tentative ratée de prendre d'assaut Paris, elle n'était plus autorisée à commander des forces importantes de l'armée française. En avril 1430, Jeanne d'Arc a réussi à rassembler un détachement de volontaires, dont le nombre ne dépassait pas cinq cents personnes. Elle s'est rendue dans la ville de Compiègne, alors assiégée par les Bourguignons - représentants du parti français, devenu allié des Britanniques pendant la guerre de Cent Ans. Le 23 mai, Jeanne commence l'attaque, mais, que ce soit à cause de la trahison ou pour d'autres raisons, la bataille est perdue et elle-même est faite prisonnière par les Bourguignons.

Charles VII, ayant appris la capture de la jeune fille, n'a fait rien pour la sauver. L'Angleterre voulait vraiment obtenir Jeanne afin de l'amener à la cour de l'église, et en conséquence, elle a été remise aux Britanniques pour une grosse somme d'argent. Au cours du procès, il s'avéra que blâmer la Pucelle d'Orléans n'était pas une chose aisée. Elle a courageusement répondu aux questions, réfutant toutes les accusations d'hérésie. Le tribunal n'a pas réussi à lui arracher des aveux même sous la menace de la torture, alors ils ont décidé de se concentrer sur le fait de porter des vêtements d'homme et de ne pas respecter l'autorité de l'Église.

Au cours du procès, Jeanne a juré que ses mains n'étaient pas tachées de sang: dans l'armée française elle n'était qu'un stratège et chef militaire. Malheureusement, comme beaucoup de ses contemporains, la jeune fille était analphabète, et cela a joué un triste rôle. On fait Jeanne lire un papier et le signer, et ensuite on l'a remplacé discrètement par un autre document dans lequel elle plaide coupable. Le 30 mai 1431, pour hérésie, apostasie et idolâtrie, Jeanne d'Arc, âgée de vingt ans, est publiquement brûlée sur la place du Vieux Marché à Rouen.

22 ans plus tard, la guerre de Cent Ans prend fin et bientôt la mère de Jeanne agit comme plaignante au conseil pour la réhabilitation de sa fille. Charles VII a ordonné de rassembler tous les documents, une enquête a été ouverte, à la suite de laquelle les juges ont conclu à l'unanimité que des violations flagrantes de la loi avaient été commises lors du procès sur la jeune fille. Les juges ont lu le verdict, qui stipulait que tous les chefs d'accusation contre la Pucelle d'Orléans étaient réfutés par les témoignages - elle était complètement acquittée. Charles VII a accordé à sa famille la noblesse héréditaire et a également libéré tout le village de Domremy, où elle est née, des impôts, et les habitants ne les ont pas payés jusqu'à la Grande Révolution française, qui a commencé en 1789.

La biographie de Jeanne d'Arc est entourée de nombreuses légendes - sa courte vie était si inhabituelle et brillante. Les ennemis avaient peur de cette fille comme du feu, et ses compagnons d'armes disaient qu'elle combattait et dirigeait l'armée comme si elle était un capitaine ayant passé 20 ou 30 ans à la guerre. En fait, sa carrière militaire n'a duré qu'un an. Jeanne aimait sa patrie jusqu'à l'oubli de soi, était la personnification du patriotisme, la Vierge avec la couronne d'un martyr et avec une épée à la main.

En 1909, le pape Pie X proclama Jeanne bienheureuse et le 16 mai 1920, le pape Benoît XV la canonisa comme sainte. Aujourd'hui, presque toutes les églises catholiques de France possèdent une statue de Sainte Jeanne d'Arc. À Orléans, en l'honneur de la levée du siège le 8 mai 1429, cette journée est encore célébrée comme la principale fête de la ville. Et le 30 mai, la France célèbre le Jour de souvenir de Jeanne d'Arc – l'héroïne nationale du pays. Cette fille était une figure tout à fait extraordinaire, mais elle est restée une humble chrétienne et croyait sincèrement qu'elle était née pour la seule mission - sauver la France. Et c'est ainsi qu'elle a pu changer radicalement le cours de la guerre de Cent Ans en faveur de la France. Étant à la tête des forces armées françaises, elle a réussi à leur inspirer la confiance en victoire de la France.

En conclusion, il faut dire que Jeanne d'Arc peut être qualifiée de véritable phénomène dans l'histoire du Moyen Âge et, probablement, dans l'histoire de n'importe quelle période. Une personnalité absolument unique, dont les analogies sont très difficiles à trouver. Dans l'historiographie, Jeanne d'Arc



est parfois comparée à Jésus-Christ. Tout d'abord, cette comparaison vient du fait que, comme sur Jésus-Christ, un grand nombre de textes ont été écrits sur Jeanne d'Arc. Il s'agit des sources historiques et des ouvrages scientifiques consacrés à Jeanne d'Arc.

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В статье раскрывается личность Жанны д'Арк, как человека, который изменил историю своей страны, а тем самым и историю всего мира. Автор рассматривает биографию данной исторической личности, а так же анализирует ее вклад в историю Франции. Автор подчеркивает, что некоторые историки сравнивают Жанну д'Арк с Иисусом Христом по той причине, что ни одной исторической личности не посвящено столько исторических текстов и научных произведений.

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#### **HYDROGEN IS AN ALTERNATIVE ENERGY SOURCE**

The search for an alternative energy source is an actual problem for Belarus as our country imports 85% of energy resources from abroad. Traditional energy sources such as oil, gas and coal are exhaustible which damages the environment. Solar and wind energy are already developing in our country. Hydrogen can be an alternative to hydrocarbons.

At first glance hydrogen is the ideal fuel. It is the most prevalent element in the Universe. On the other hand when it is burned water is formed and a large amount of energy is released without emitting harmful gases.

The efficiency of hydrogen fuel cells is 60%. Let's compare: the best internal combustion engines are 35-40%, solar power plants – 15-20%, wind farms – up to 40% but they are highly dependent on the weather. As one can see the hydrogen energy is an attractive source of energy. However there exist a number of problems that prevent its mass application.

Hydrogen is abundant in our environment. It's stored in water ( $H_2O$ ), hydrocarbons (such as methane  $CH_4$ ) and other organic substances. The challenge of using hydrogen as a fuel is extracting it from these compounds [1]. But all the existing methods are either very expensive or ineffective. Currently the most effective method is the steam reforming – combination of high-temperature steam with natural gas for extracting hydrogen with a content of 55-75%. But this method requires huge expensive equipments.

Storing hydrogen is a serious problem. Because volume of hydrogen's energy content is low it requires high pressures, low temperatures or special chemical processes. Overcoming this problem is important for light-duty vehicles as they often have limited size and weight capacity for fuel storage.

In 2021 «Atmosfair» (a German non-profit organization) inaugurated the first project for the production of synthetic fuels using hydrogen produced from renewable energy sources which included an offtake agreement for 25,000 litres of synthetic kerosene annually with the airline «Lufthansa» [2].

In the United Kingdom the company «Essar» is investing GBP 45 million in its Stanlow refinery to install in 2023 a first-of-a-kind furnace able to operate with pure hydrogen.

The project «Vareennes» in Canada will be producing 125 million litres of biofuel. There are similar biofuel upgrade projects from Total Energies in France and Repsol in Spain.

The leader in the use of hydrogen thermal power plants is Japan. About 300,000 home power plants had been installed by the end of 2018. The Japanese receive subsidies for installing them in their homes. In Namie a solar-powered hydrogen plant can produce enough gas to power 560 fuel cell vehicles a day.

A hydrogen train has been made in Germany and there is also a network of hydrogen filling stations for cars. Hybrid cars are gaining popularity in the countries of the European Union. They are powered by electricity and hydrogen.

In 2022 the launch of the world's first pure hydrogen gas turbine was announced. The project was implemented by the Norwegian University of Stavanger in cooperation with the German Aerospace Center. This gas turbine produces heat and electricity.

Global hydrogen demand increased by 5% in 2021, reflecting recovery of economy in traditional applications from the pandemic-related curtailments.

In 2002 a laboratory of hydrogen energy as a part of the Institute of Warm Mass Transfer was created under the leadership of Sergei Filatov in Belarus. According to the scientific secretary of the department of physical and technical sciences NAS of Belarus V. Gaiko, the creation of a hydrogen engine requires an expensive equipment that is not available in the country. The expert doubts that hydrogen will become widespread in Belarus in the coming years [3].

Thus, hydrogen has many favourable attributes: an overall storage capacity, efficiency, renewability, massive distribution, high conversion, zero emissions, versatility. It can be used to heat homes and offices, to produce electricity, to fuel ships and planes and as a fuel for vehicles. Hydrogen is regarded as the most environmentally friendly and promising energy source of the 21st century.

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В статье анализируется проблема энергетического кризиса, связанного с истощаемостью энергетических ресурсов. Автор раскрывает значение водорода в энергетических системах будущего.

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#### **DEVELOPMENT OF ZOOGEOGRAPHY**

Zoogeography as a science in the strict sense of the word is the brainchild of the XIX century. Its formation and development is due to the accumulation of facts primarily in the field of biology and geography. A prominent biologist and zoogeographer M. A. Menzbir was the first (1882) to propose to distinguish 4 stages of the development of zoogeography, reflecting the attitude of scientists to questions of the origin and development of the organic world on the Earth. Menzbir distinguished periods related to: 1) with blind faith in the truth of the biblical dogma about the creation of the world, 2) with the dominance of the theory of catastrophes, 3) with the rejection of the theory of catastrophes and the spread of the principle of actualism, 4) with the victory of the Darwinian doctrine of evolution.

American biogeographers distinguish three periods in the history of zoogeography. The first of them is connected with the works of K. Linnaeus who laid the foundations of animal taxonomy. The length of the period is almost a century. It is characterized by descriptions of the distribution of various groups of the animal kingdom on the Earth. The first attempts at zoning, i.e. the allocation of zoogeographic areas, also belonged to the same period. The second period began with the appearance of the evolutionary doctrine of Ch. Darwin. At that time, zoogeographers, continuing to study and describe the geographical distribution of animals, were already trying to explain the occurrence of characteristic combinations of species (faunas), based on evolutionary theory. The third period, which began in the XX century and continues at the present time, is characterized primarily by the “ecologization” of zoogeography, i.e. the study of the habitat of animals and taking into account the interactions between the organism and the environment. The influence of genetic principles proposed by G. Mendel on biogeography belongs to the same period.

Clarification of the history of zoogeography and its periodization belongs to A. G. Voronov (1963) and G. V. Naumov (1969), who adhered to Menzbir’s point of view. But first let’s turn to the prehistory of zoogeography. In the writings of Aristotle (384-322 BC), who described about 500 species of animals, statements about slow changes in the geographical environment, the raising of certain land areas while lowering others, an analogy with which can be found in modern views on the age-old fluctuations of the Earth’s surface and related climatic changes, are of great interest. The development of geography associated with the names of Eratosthenes (275-194 BC) and especially Strabo (63-20 BC) required the description of animals and plants that characterize a certain area of the Earth’s surface. The era of the Roman Empire has left us a multi-volume work of Pliny the Elder (23-79 AD) “Natural History”, two volumes of which are devoted to living organisms. Basically, it was information gleaned from the works of Aristotle, with the addition of fantastic news about non-existent organisms. The establishment of the dominance of the Christian Church and the fall of the Roman Empire in the 5th century A.D. led to the decline of the sciences and the oblivion of the legacy of ancient scientists. In the East, the Arabs, having borrowed a lot of knowledge from the ancient civilization they had ruined and becoming its successors, made their own observations into science. Of great interest are the works of the Tajik scientist Abu-Ali Ibn-Sina (980-1037) who collected in his “Canon” almost all the natural science knowledge of that time and, among other things, gave a lot of valuable information about the animals of Central Asia.

During the Renaissance (XIII-XVI centuries), a cultural revolution took place in all areas of people’s lives and activities, which was greatly facilitated by the desire of a number of countries to expand markets. The Italian Marco Polo,

who traveled to the Mongolian Khanate through the territory of modern Central Asia, left a lot of reliable information about the nature and animals of Asia.

It is also necessary to mention the Russian explorers whom we owe the first knowledge about the wildlife of Siberia. The first information about the fauna of Lake Baikal, in particular about the seal, was delivered by Vasily Vlashev, and Savva Esipov who gave a whole list of Siberian animals which included deer, elk, goat, fox, sable, wolverine, beaver, etc. Walrus rookeries were found in the north-east of Siberia. In 1665, Yuri Seliverstov described the migration of chum salmon in the Anadyr River, noting that the chum salmon coming from the sea to spawn dies in the upper reaches of the river. Vladimir Atlasov linked the nutrition of sable, fox and otter with the abundance of chum salmon in the rivers. Yuri Krizhanich, who spent 15 years in Siberia (1661-1676), wrote “The History of Siberia” in which he characterized its three zones (“three climates”) – tundra, taiga, steppe describing the climate, vegetation and fauna of each of them. It was the first biogeographic work on Siberia.

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Статья посвящена зоогеографии – науке, возникшей в результате накопления знаний в таких областях, как зоология и география. Автор анализирует основные периоды развития науки, а также вклад в нее отечественных и зарубежных ученых.

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#### **HOW MUSIC AFFECTS PEOPLE**

Music has accompanied people’s lives for a long time. Even primitive people used to believe that sounds magically connect the forces of heaven and earth, can summon rain and also heal. Music can cause joy and sadness, soothe and excite, open the most secret corners of a person, look into the soul and allow people to open it. Music often conveys shades of feelings and experiences that

are difficult to express in words. At the same time the musical language is understandable to everyone.

The goal of the article is to study the influence of music on a person.

It is a scientifically proven fact that music can strengthen the immune system, improve metabolism and, as a result, the recovery processes are more active.

Special attention is often paid to the impact of classical music in general and the music of great classical geniuses on living organisms. Many experts consider the music of Wolfgang Amadeus Mozart to be a phenomenon, called the “Mozart Effect”. After the experiment scientists found the music of W. Mozart to increase people’s mental ability [1].

Music scientists have proven that ethnic (folk) music lifts the mood and has a positive effect on the emotional state but rap, on the contrary, can cause a bad mood and emotional decline, pop music also negatively affects mindfulness and memory due to the monotony of the rhythm.

Blues has a beneficial effect on emotions, calms, reduces irritability. Jazz is considered music that has a rather negative impact as it breaks the inner harmony. Reggae increases emotional tone, does not cause aggression and bitterness and is considered good mood music

Modern club (electronic) music reduces the ability to learn, negatively affects intelligence and in some cases it increases irritability and tension.

Rock music can lead to “rhythmic toxicosis” and it is the cause of the release of stress hormones.

It is also worth noting, that not only musical genres can influence a person, but also musical instruments. They can affect completely different parts of the human body. For example, percussion instruments can normalize the liver, wind instruments have a good effect on the respiratory system and on the circulatory system, strings can have a positive effect on the cardiovascular system.

Alongside the influence of instruments and different genres of music a person can also be influenced by different sounds. Scientists have found that sounds emanating with different frequency and in a certain key can kill pathogenic microbes. During the plague disaster in Europe people rang the bells to cope with it without ceasing and it really helped. Today it is reliably known that the activity of microbes in the human body drops by 40% after listening to church music or bell ringing for a long time.

Moreover, music helps not to lose your hearing by the age of seventy. This was found out during one of the simple experiments when 163 subjects, 74 of whom were former musicians, were offered to take several tests. The results of the tests showed that even seventy-year-old musicians hear speech in a noisy environment and perceive sounds better than fifty-year-old non-musicians [2].

People have begun to study music as a science and discovered a lot of healing properties that are increasingly being used in everyday activities [3].

Music can help with enhancing memory and it can even be therapeutic for people with chronic conditions such as Parkinson's disease and dementia. It can also help people with mental health struggles like depression or anxiety. It is amazing how many things music can cure or at least help people get through [4].

The sounds of music were born simultaneously with living beings capable of perceiving them. Since then a lot of time has passed, sounds have turned into music, and music has become an art that today lives with us.

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В статье раскрывается влияние музыки на человека. Описаны жанры музыки, звуки, инструменты как положительно, так и отрицательно влияющие на настроение, память, умственные процессы, здоровье и эмоциональное состояние людей.

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### **THE USE OF BIOLOGICAL PRODUCTS BASED ON BACTERIA OF THE GENERA RHIZOBIUM AND AZOTOBACTER IN AGRICULTURE**

Currently, the popularity of environmentally friendly farming methods is increasing, the demand for biological products that can replace chemical fertilizers is growing. Nitrogen is one of the most important nutrients. It is found

in all proteins, amino acids and other vital substances of the plant cell. The industrial production of mineral nitrogen fertilizers is associated with high energy costs. This leads to an additional increase in the price of products. Moreover, mineral fertilizers can harm the environment. The use of biological products, the mechanism of action of which is based on a predisposition to nitrogen fixation can help correct the problems. Fixing role of atmospheric nitrogen is of great importance in soil saturation. Biopreparations based on nitrogen-fixing substances are an excellent alternative to mineral nitrogen fertilizers. They are the most effective method of increasing plant productivity and crop quality, allowing to maintain the natural fertility of soils and the ecological balance of the environment. In the production of such biological products, bacteria of the genera *Rhizobium* and *Azotobacter* are used, among other things.

The purpose of this article is to compare and summarize data on the effectiveness of the use of biological products based on symbiotic and free-living nitrogen-fixing bacteria and their prospects for use in agriculture.

The genus *Rhizobium* includes soil-dwelling bacteria capable of fixing nitrogen in a symbiotic relationship with leguminous plants. Nodules develop on the roots of nitrogen-demanding legumes such as peas, beans, clover and soybeans. Within these nodules, rhizobia differentiate into bacteroides which fix atmospheric nitrogen with the help of nitrogenase. In exchange for reduced nitrogen, plants provide bacteroides with carbon and energy in the form of organic acids. The symbiosis of *Rhizobium* and legumes is a widely studied example of mutualism, as legumes are important food crops.

The genus *Azotobacter* includes free-living nitrogen-fixing bacteria that saturate the rhizosphere with a form of nitrogen available to plants. Representatives of the genus usually live in neutral and slightly alkaline soils, form dormant forms - cysts. At a young age, cells have one or more flagella and are capable of locomotion. Unlike *Rhizobium*, they do not enter into symbiosis with plants.

Studies clearly show the effectiveness of the use of biological products based on bacteria of the genera *Rhizobium* and *Azotobacter*.

Karimova E.R. [1] used the varieties such as pea variety “Chishminsky 95”, rapeseed variety “Ural”, wheat variety “Bashkirskaya Krasavitsa”, bean variety “Belozernaya”, nodule bacteria *Rhizobium lupin* as objects of research. The seeds of the studied plants were treated with the preparation based on *Rhizobium lupini*, the control seeds were treated with distilled water, and the commercial bacterial preparation Baikal was used for comparison. In the course of the study, the high efficiency of the preparation was proved in comparison to the commercial preparation and the cultivation of plants without their use.



In the study by Bilokonska O. [3], cucumber varieties “Konkurent” and *Azotobacter chroococcum* were used as research objects. Three types of seeds were taken for field studies: not undergoing pre-sowing treatment, treated with a biological product based on *Azotobacter chroococcum* immediately before planting and soaked in it. The study showed a high yield of plants treated with a biological product. Plants that underwent pre-sowing treatment showed an increase in yield by 37.7%, and plants which seeds were soaked in a solution for some time before sowing, by 29.3% compared to the control group. This undoubtedly proves the effectiveness of a biological product based on free-living nitrogen-fixing bacteria *Azotobacter chroococcum*.

The aim of the study, conducted at the National University “Lviv Polytechnic” [2], was to isolate and study bacteria of the genus *Rhizobium* and *Azotobacter* in order to create a bacterial composition and test its growth-promoting properties. In this study, the combined effect of these genera of bacteria on the productivity of agricultural plants was studied. *Lactuca sativa* was used as a plant object for determining growth-stimulating activity. The use of a bacterial composition based on bacteria of the genera *Rhizobium* and *Azotobacter* increased the mass of *Lactuca sativa* sprouts by 39.9% compared to non-inoculated seeds and by 49.6% compared to seeds treated with a commercial biological product based on *Azotobacter chroococcum*.

Thus, we can confidently speak about the positive effect of biological preparations based on nitrogen-fixing symbiotic and free-living bacteria on agricultural crops. Research in this area has great potential for environment-friendly agriculture. For clarity, the results of all the above studies are presented in Table 1.

Table 1. The effectiveness of the use of biopreparations based on nitrogen-fixing bacteria.

Plant	Base of the biological product	Indicator	Control values	Processed plants	Efficiency, %
Cucumber “Konkurent”	<i>Azotobacter chroococcum</i>	Productivity, t/h	36,90	50,80	37,7
Wheat	<i>Rhizobium lupini</i>	Wet weight of 100 plants, g	6,5	12,4	90,8
Pea	<i>R. lupini</i>	Wet weight of 100 plants, g	37,6	56,5	50,3
Rape	<i>R. lupini</i>	Wet weight of 100 plants, g	0,5	0,56	12,0

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Биопрепараты на основе азотфиксирующих бактерий имеют большой потенциал в вопросах сохранения почвенного плодородия и повышении качества сельскохозяйственной продукции в нестабильной экологической ситуации. В данной статье рассмотрены характеристики препаратов на основе бактерий рода *Rhizobium* и *Azotobacter* при использовании в сельском хозяйстве.

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**SMART HOMES – CONCEPTUAL VIEWS**

Home automation and smart homes are the two terms used in reference to a wide range of solutions for monitoring, controlling, and automating functions in a home. A smart home setup enables appliances and devices to be automatically controlled over the internet from anywhere in the world using a mobile or other networked device. This allows the user to regulate functions such as security access to the house, temperature, lighting, and home theater.

For the first time, the creation of a smart home system was discussed in 1961. The developments of that time seem primitive by today's standards. Then the first modules connected to the electrical wiring began to appear. With their help, it was possible to adjust the lighting in the apartment, turn on and off some devices. It all looked very cumbersome; the control unit took up a lot of space.

In 1966, the first computer was patented, which allowed setting a certain time for turning on household appliances. It could also be connected to alarms and security cameras [1].

The breakthrough in this field dates back to 1978. The Scottish company Pico Electronics has introduced a tire designed to automate household processes. It could be connected to any devices.

Smart home systems began to enter the mass market only in 1999. The revolution was made by Apple. They were the first to offer software for smartphones, with which it was possible to control household appliances [2].

Financial aspects in most cases are the main factors to be considered. Unfortunately, we all know the rule that you have to pay for everything in this life. Designing an “Intelligent building” is no exception, and for the right to possess the capabilities of such a House, you also need to go to expenses. The Smart Home technology is high-tech, built on the latest achievements of electronics, and therefore is not publicly available in comparison with an electric lamp and is not sold in grocery supermarkets and even in electronics stores. What should you do if you are not the owner of an amount sufficient to solve the entire complex of tasks? There is a way out! After all, it is not necessary to create the whole complex at once, it can be done in stages, starting with the most important thing for you and temporarily or completely abandoning secondary and unimportant opportunities for you. The main thing here is to decide when designing your system and lay down for the future the possibilities of its expansion. In addition, there are so-called low-budget technologies that allow you to create a smart home project with a minimum price level. Let's look at some examples of using the “Intelligent Building” system:

The light in the “Intelligent Building” home automation system is not only comfortable, convenient and economical, but also beautiful. You will appreciate the variety of lighting options for your home. The basis for the management of light sources is the ideology of light scenes. Its essence is that by pressing the switch key or a virtual button on the touch panel, you simultaneously control the operation of several light sources in accordance with the program laid down by the designer. For example, when entering the living room, you press only one “Evening” key (or the system itself reacts to movement in the room) and the overhead light turns on at 20% brightness, sconces – at 40%, floor lamps – at 80%, and blinds or curtains smoothly close the windows. You will create a special light mood with one movement. Light scenes are a real treasure for designers. By highlighting some interior elements with light and hiding others

in the semi-darkness, you can create several design options even in one room. You can create light scenes from an unlimited number of lamps that will illuminate all corners of the house, illuminate paintings, plants in the winter garden and the landscape of the infield. You will choose the brightness of the lamps from dazzling to semi-dark. With the help of the “Intelligent Building” system, you can become the creators of countless light scenes at the level of high art. Special rheostat mechanisms allow you to change the brightness by which the light bulb lights up when turned on, as well as the time for which the lamp reaches a given incandescent level. For example, in the hallway, the light can gain brightness slowly, and in the living room – quickly. The landing or hallway will be illuminated when the owners appear in the house and they will not need to look for switches in the dark, and if you live in a cottage and you have a staircase between floors, then it will always be illuminated when passing through it. Automatic adjustment of the incandescent level of lamps, depending on the external lighting, will allow you to maintain a given level of illumination, and if the light in the bedroom turns on at night, the lamps burn at 30% power so as not to irritate the eyes and save electricity. The light in the house turns on only where there is movement (the effect of running light). Moving around the house, you will not think about turning on and off the lights in the corridors and bathrooms – this will happen automatically. It is also possible to control the light by voice. It is enough to say the code word and the light in the room will turn on. The “Intelligent Building” system allows you to open up new possibilities for the operation of blinds. They can be controlled from wall keys, from remote controls, from the central switch, participate in light scenes. The blinds automatically close when the light is turned on in the room when it is dark outside. If the bright sun shines through the window, the blinds are closed, and the slats are rotated at a certain angle to protect from sunlight. At your request, you can configure the opening of the blinds in your bedroom, when you need to wake up so that the sun’s rays wake you up instead of an alarm clock.

One of the problems that the “Intelligent Building” system saves you from is the need to manipulate a large number of various remote control panels for music and video equipment. After the system takes control, you will be able to control all the necessary functions from a single universal remote control, or even from a wireless graphical control panel. There will be no need to remember the right buttons, search for the right remote control, etc. The same universal remote control (or panel) is also capable of controlling all the other systems in your home. The second task solved by the Intelligent Building system is to ensure the transmission of sound and images from any source to any room. All home audio and video equipment is combined into a single system, and you can control it from any control panel from any room. Any of your TVs will be able to get a “picture” from a satellite receiver, a video recorder, or a DVD player, as well as any surveillance camera, regardless of which room they (and the TV

itself) are in, and moving around the apartment you can “let in” the soundtrack of the TV program. Similarly, you can, for example, listen to music from a tuner or CD player from the living room, while in the kitchen, in the hallway or in the bathroom [3].

The progress of modern technologies is truly impressive. A smart home is no longer a distant tomorrow, but the closest thing today. Most large companies have carried out smart home construction projects over the past decade. However, in order for a smart home to become a reality, first of all it is necessary to rebuild one's own consciousness. In the near future, this phenomenon will certainly gain momentum already at the level of districts and cities, that is, the construction of “smart homes” in the future will turn into the creation of one large “smart city”.

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Раскрываются вопросы технологии «умных домов». Показываются преимущества данной технологии, и объясняется, почему они помогут облегчить жизнь человека. Умные дома – это задача будущего всего человечества.

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### **LA PARTICIPACIÓN DE CHILE EN LA INTEGRACIÓN LATINOAMERICANA**

Chile ha perseguido sistemáticamente una expansión de su presencia global, especialmente en el comercio. El país es el primero del mundo en acuerdos de libre comercio. Chile ha perseguido su ambición de convertirse en un actor

global mediante la diversificación de sus relaciones de política exterior y una amplia participación en los procesos de integración regional y subregional. La eficacia de su política queda patente en su adhesión a la Organización para la Cooperación y el Desarrollo Económico en 2010, su participación en el "club de los ricos" y su ascenso a la categoría de país desarrollado, lo que le ha ayudado a convertirse en un actor global. El pragmatismo y el beneficio económico siempre han sustentado la formación de su política exterior. La llegada al poder de las fuerzas de derechas no ha cambiado fundamentalmente este hecho. Sólo han cambiado algunos énfasis de la política exterior, como el claro distanciamiento de países con regímenes extremistas como Venezuela y Cuba [1].

Más recientemente, la capacidad de un Estado para influir en otros países no sólo está relacionada con su poderío económico y militar, sino más bien con su imagen y credibilidad internacional.

El principal objetivo de Chile es crear y difundir una imagen positiva del país en el ámbito internacional, que incluya las realidades políticas, económicas, sociales y culturales. Destaca que el país es pluralista y tolerante, incluido en la comunidad internacional y un vecino y socio fiable. En 2013, M. Bachelet volvió al poder, continuando el rumbo de su predecesor con algunos ajustes.

Como uno de los contribuyentes más significativos a la creación de UNASUR (como primer presidente de la Unión), Chile desempeñó un papel importante en la consolidación de esta asociación regional y fue uno de los iniciadores del Consejo Sudamericano de Defensa y del Consejo Sudamericano de Salud. Sin embargo, en la fase inicial de su presencia en UNASUR (2008-2014), Chile acogió el componente ideológico del nuevo bloque: la unidad civilizatoria de América del Sur, con énfasis en una integración pluralista basada en el respeto a la soberanía, la igualdad y el consenso, entendiendo la necesidad de encontrar soluciones mutuamente aceptables entre gobiernos que representan a diferentes partes del espectro político (derecha e izquierda). En 2017, sin embargo, los dirigentes chilenos se dieron cuenta de la necesidad de un reparto de poder entre la Comunidad de Estados Latinoamericanos (CELAC) y UNASUR. La primera debía hacerse cargo de la agenda política y de la cooperación militar (ya que en ella estaban representados más países). UNASUR debía convertirse en un "bloque técnico" responsable de la integración infraestructural [2 p. 54].

La participación en el Grupo de Río dio un nuevo impulso a la cooperación política de Santiago con los países latinoamericanos y contribuyó a consolidar conjuntamente la región y a racionalizar su sistema de relaciones interestatales. Los chilenos señalaron en repetidas ocasiones que gracias a los esfuerzos realizados en este formato los países de la región pudieron reforzar significativamente la unidad de la ALCAC.

El formato de la CELAC, que sustituyó al Grupo de Río, era, para los dirigentes chilenos, una de las agrupaciones multilaterales más relevantes,

porque incluía a todos los países del hemisferio occidental, excepto EE.UU. y Canadá, simbolizando la unidad latinoamericana basada en los puntos comunes culturales e históricos. La CELAC es considerada importante por la parte chilena debido a su estatus especial como foro exclusivo para discutir asuntos regionales sin la participación de Washington.

Dentro de la Alianza del Pacífico, la diplomacia chilena ha sido siempre generadora de iniciativas de diversa índole. Por ejemplo, entre 2011 y 2017, a sugerencia de la parte chilena, se llevó a cabo gradualmente la liberalización comercial entre los países miembros y se pusieron en marcha algunos ámbitos de interacción con organizaciones como WASLAF y Mercosur.

La Comunidad Iberoamericana de Naciones ha jugado un papel especial en la estrategia de política exterior de Chile. La Comunidad Iberoamericana se ha utilizado con éxito para promover las relaciones culturales, económicas y políticas con España y Portugal. La Comunidad Iberoamericana de Naciones fue también una de las primeras plataformas de intercambio de puntos de vista de los chilenos sobre los temas de mayor actualidad, donde podían discutirlos con sus socios de la región mucho antes de la formación de UNASUR y CELAC [3 p.47].

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В статье рассматривается взаимодействие между участниками латиноамериканских интеграционных процессов. Чили, являясь одним из инициаторов создания Союза южноамериканских государств (УНАСУР), принадлежит к числу его наиболее активных участников. Показана роль чилийского государства в данной организации на современном этапе. Через примеры осуществления дипломатии между странами, которые входят в региональные объединения в Латинской Америке и Чили прослеживаются основные цели, а также положительные и отрицательные стороны таких взаимоотношений.

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**COOPERACIÓN HISPANO-BRASILEÑA A PRINCIPIOS DEL SIGLO XXI**

Los lazos entre Brasil y España siempre han sido muy intensos. Muy poco después de la independencia en 1840, España estableció relaciones diplomáticas con Brasil y abrió una misión permanente en Río de Janeiro. Desde el último tercio del siglo XIX hasta la primera mitad del siglo XX, Brasil fue uno de los lugares favoritos de emigración de los españoles y lo fue junto con Argentina y Venezuela, cuando los flujos migratorios hacia otros países iberoamericanos casi cesaron. Se estima que más de quince millones de brasileños son hoy descendientes directos de inmigrantes españoles. La Diáspora española en Brasil agrupa a 139.886 personas y es la quinta más grande de América Latina y la novena más grande del mundo. El Ministerio de asuntos exteriores de Brasil estima en su último informe de 2022 que hay 163.652 brasileños residentes en España, lo que convierte a España en el sexto destino de emigración brasileña en el mundo y el tercero en Europa, después de Portugal y el Reino Unido [1, c. 269].

En el ámbito político, las relaciones bilaterales se consolidaron en el Plan de asociación estratégica (2003), la declaración actualizada de Brasil (2005), la declaración de Madrid (2012) y la declaración Conjunta de 2017. La asociación estratégica prevé la celebración de consultas políticas a nivel de Ministros de relaciones exteriores cada dos años y a nivel de viceministros de relaciones exteriores en los años intermedios. Además, se crearon seis grupos de trabajo sectoriales: Grupo de trabajo sobre comercio e inversión; Comisión Mixta de defensa; Grupo de trabajo sobre cooperación industrial y de defensa; Comisión Mixta de educación; Comisión Mixta de cooperación, tecnología e información; y reunión Consular de alto nivel [3].

Del mismo modo, el 7 de mayo de 2021, durante la reunión en Brasilia de la Comisión Ministerial para el diálogo político entre Brasil y España, presidida por el entonces ministro de relaciones exteriores, Unión Europea y cooperación, Aranci González Laya, y el entonces ministro de relaciones exteriores de Brasil, Carlos Franchi, se firmó un Memorando de entendimiento por el que se creó la Comisión Permanente bilateral Brasil-España, que pretende ser un mecanismo que sirva de base para el diálogo que ambos países mantienen en muchas áreas: bilateral, cuestiones políticas regionales y multilaterales; comercio, inversión e infraestructura; cooperación técnica;



defensa; educación, cultura y turismo; ciencia y tecnología; medio ambiente; asuntos consulares, migración y lucha contra la delincuencia.

En cuanto a las visitas recientes, tras la visita del entonces ministro de asuntos exteriores, Unión Europea y cooperación, Aranci González Laya, a Brasilia los días 6 y 7 de mayo de 2021, el entonces ministro de asuntos exteriores de Brasil, Carlos Franco, visitó España entre el 2 y el 4 de febrero de 2022. El día 3, celebró un almuerzo con el ministro de asuntos exteriores, Unión Europea y cooperación, José Manuel Albares, en el que discutieron temas bilaterales (como la creación de una Comisión bilateral brasileño-española), al tiempo que reafirmaron su compromiso con el multilateralismo en foros como las Cumbres Iberoamericanas, y reafirmando su compromiso con la ratificación del Acuerdo de Asociación entre la Unión Europea y Mercosur. Del mismo modo, en junio de 2022, tuvo lugar la visita del vicepresidente Hamilton Mourao.

Con motivo de la toma de posesión del presidente Lula da Silva el 1 de enero de 2023, el rey Felipe VI viajó a Brasilia acompañado por la vicepresidenta segunda, Yolanda Díaz, y el ministro de asuntos exteriores, Unión Europea y cooperación, José Manuel Albares. Además de participar en los actos de inauguración, todos trabajaron en una agenda bilateral que incluyó una reunión bilateral de Lula con el rey de España, quien se convirtió en el primer jefe de estado en reunirse con el nuevo presidente de Brasil desde que asumió el cargo. El ministro de relaciones exteriores, Unión Europea y cooperación se reunió con su homólogo brasileño, Mauro Vieira, y el vicepresidente segundo con los Ministros de trabajo, Luis Marinho, y de igualdad racial, Aniel Franco [3].

En términos económicos, entre los socios comerciales de España, Brasil ocupa el puesto 19 y es el segundo destino de las exportaciones españolas a Iberoamérica, con ventas de 3.066, 9 millones de euros, solo por detrás de México (4.871 millones de euros). En cuanto al valor de las importaciones, el primer proveedor de la región es México, con importaciones por valor de 5.515, 3 millones de euros, cerca de las cifras del mercado brasileño (5.477, 7 millones de euros). En 2021, las exportaciones crecieron un 15,3% respecto al año anterior y las importaciones un 30%.

En 2020, Brasil exportó a España bienes por valor de 4.090 millones de dólares. Los principales productos que Brasil ha exportado a España son el petróleo crudo (1.030 millones de dólares), la soja (942 millones de dólares) y el maíz (387 millones de dólares). En los últimos 25 años, las exportaciones de Brasil a España han aumentado un 5,89% interanual, pasando de 978 millones de dólares en 1995 a 4.090 millones de dólares en 2020. En 2020, España exportó a Brasil bienes por valor de 2.630 millones de dólares. Los principales productos que España exportó a Brasil fueron productos refinados de petróleo

(\$336 millones), pesticidas (\$135 millones) y grupos electrógenos eléctricos (\$78 millones). En los últimos 25 años, las exportaciones españolas a Brasil han aumentado un 4,3% interanual, pasando de 921 millones de dólares en 1995 a 2.630 millones de dólares en 2020 [2].

El V Plan Director de la Cooperación Española 2018-2021 considera a los países de renta media-alta, como Brasil, como países de cooperación avanzada con los que se mantendrá "un diálogo profundo sobre políticas sectoriales y esquemas de cooperación técnica e institucional", plasmado en los Acuerdos de Nueva Generación. Esto implica el desarrollo de nuevas estrategias de cooperación diferenciada basadas en un modelo de cooperación horizontal, con especial atención a la promoción de bienes públicos globales y regionales a través de alianzas público-privadas.

En 2015, España y Brasil firmaron un Memorando de Entendimiento sobre Cooperación con el fin de renovar la tradicional relación bilateral entre ambos países. El acuerdo incluye las siguientes áreas de actuación: políticas de equidad racial e inclusión social, con especial atención a los afrodescendientes y a las cuestiones de género; medio ambiente, lucha contra la desertificación y el cambio climático; energías renovables; recursos hídricos; desarrollo rural; y la posible puesta en marcha de áreas temáticas regionales de cooperación [1, c. 270].

Además del mencionado Acuerdo de Nueva Generación, sigue vigente el Memorando de Entendimiento entre el Reino de España y la República Federativa de Brasil para la creación de un Programa Conjunto de Cooperación Tripartita, firmado en Brasilia en 2011. En cuanto a los fondos bilaterales, en agosto de 2017 se firmó un Convenio de Colaboración entre la Agencia Española de Cooperación Internacional para el Desarrollo (AECID) y la Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura (OEI), en virtud del cual ésta recibirá, gestionará y realizará el seguimiento de los fondos públicos de subvención de la AECID destinados a diversas instituciones beneficiarias en Brasil. Este convenio, con una duración estimada de 4 años (hasta agosto de 2021), ha sido prorrogado hasta 2023 y modificado en cuanto al porcentaje de gastos administrativos.

En el marco del ciclo de proyectos 2022 sobre iniciativas de cooperación bilateral directa, la Agencia Brasileña de Cooperación (ABC) ha manifestado su interés en apoyar a la Secretaría Especial de Ingresos Federales de Brasil en iniciativas dirigidas a la modernización y fortalecimiento de la gestión catastral.

Aunque la influencia económica de España sobre Brasil se ha visto anulada en las dos últimas décadas por la feroz competencia de otros países capitalistas, la diplomacia madrileña conserva cierta "influencia" sobre Brasil a través de afinidades etnoculturales y religiosas. A través de la participación activa de España en diversas organizaciones y asociaciones latinoamericanas, Madrid

puede ajustar el rumbo de los Estados latinoamericanos de una forma que le favorezca a ella y a sus socios de la Comunidad Europea.

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В статье представлен обзор развития испано-бразильских отношений и сотрудничества в начале XXI века. Рассмотрены дипломатические и торгово-экономические связи двух стран. Анализ развития испано-бразильского сотрудничества показывает, что в настоящее время Испания, участвуя в различных организациях и объединениях стран Латинской Америки, содействует корректировке курса государств латиноамериканского региона, в том числе Бразилии, в благоприятное для себя и своих партнеров по Европейскому Содружеству русло.

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#### L'IMPACT DES MÉDIAS SUE L'ÉCONOMIE

Les médias comme moyen d'information, d'expression et de communication jouent un rôle extrêmement important dans le monde actuel. Les médias traditionnels (radio, télévision, presse, etc.) communiquent du contenu à partir de mots, d'images ou de sons. Leur objectif principal est la collecte, le traitement et la diffusion de l'informations dans des sources ouvertes à tous les segments de la population. Ils permettent de présenter l'information rapidement et efficacement, atteindre une grande partie de la population.

À présent les technologies ont beaucoup perfectionné le fonctionnement des médias, amélioré les systèmes de communication et d'information. Grâce à la numérisation les utilisateurs peuvent avoir l'accès au contenu informatique sur demande, l'interactivité sous forme de participation, des échanges et des discussions.

L'influence des médias (surtout de l'Internet et des réseaux sociaux) sur la population est considérable et de vaste portée. Leur puissance est incontestable. Les médias contribuent à déterminer les idées, les habitudes et les coutumes. Ils décident et dictent la mode, la consommation, les modes de vie. Ils déterminent ce qui est le bien et le mal, et décident quels sont les événements importants et significatifs dans le monde [1]. Cette influence est rarement neutre (si les médias servent seulement à informer, à communiquer et à divertir). Elle est le plus souvent positive ou négative. Les médias engagés peuvent être utilisés pour manipuler les masses, fausser les faits pour amener les gens à soutenir ou à rejeter une certaine idée. Ils faussent la perception de la réalité et manipulent les émotions. Ils créent des besoins artificiels qui stimule la surconsommation.

L'influence des médias sur l'économie est également grande et se reflète non seulement dans le choix du consommateur, mais aussi dans d'autres aspects de la vie de la société.

Les médias peuvent avoir un impact sur les marchés financiers en publiant des nouvelles sur les entreprises, des rapports sur les résultats, en annonçant des transactions, des changements économiques, en analysant les prévisions susceptibles d'affecter les cours des actions et des devises. L'impact peut être à la fois positif et négatif [2, c. 4].

Les médias ont accru le processus de mondialisation. La communication à distance a non seulement rapproché les pays les uns des autres, mais elle a aussi permis d'unifier l'économie mondiale.

Les médias sont un moyen de promouvoir les services et les produits. En ce sens, ils constituent un avantage dans le domaine de la publicité et du marketing. Les médias peuvent façonner les préférences des consommateurs et les tendances d'achat. Les médias peuvent facilement attirer l'attention de la population sur une certaine dynamique des prix, même insignifiante. La hausse des prix des produits de base, qui représentent une part importante de la consommation de la population, entraînera une augmentation de la demande.

Les médias peuvent jouer un rôle important dans la publicité et le marketing en fournissant aux entreprises, qui souhaitent promouvoir leurs produits et services, un public cible soigneusement sélectionné. La publicité publiée dans les médias est très efficace, car l'individu a un système d'attitudes, de stéréotypes à travers lesquels le mode de vie, la consommation sont formés. La publicité n'atteint cet objectif que lorsqu'elle prend en compte toutes

les caractéristiques de la psyché humaine. Le niveau de développement de la publicité devient plus élevé, plus le choix des biens et services augmente.

Qu'ils soient imprimés, audio, visuels ou numériques, les médias peuvent créer une opinion publique favorable ou défavorable sur les entreprises en reflétant les nouvelles concernant les changements de direction, les taux de rendement, la divulgation d'informations sur la corruption ou les scandales. Cela peut modifier l'attitude du public à l'égard de l'entreprise et de ses produits ou services.

En effet, les médias nous diffusent toute sorte d'information dans lesquelles il faut savoir faire le tri afin de ne pas se laisser influencer. multiplier ses sources d'information et faire appel à sa réflexion personnelle.

Bien qu'ils offrent de multiples avantages, les médias présentent un certain nombre d'inconvénients [1]:

– Ils ne sont pas toujours exactes. Dans les réseaux sociaux, des informations sont diffusées souvent invérifiables ou tirées des sources non fiables, ce qui peut entraîner des problèmes.

– Il existe parfois le détournement de l'information (elle est présentée dans un contexte autre que son contexte réel).

– Les médias peuvent poser des problèmes juridiques, notamment en ce qui concerne le droit d'auteur en cas du téléchargement des informations originales sur Internet, problèmes de sécurité et de protection de la vie privée, de réputation professionnelle.

En conclusion il faut noter que dans la société d'aujourd'hui les mass médias peuvent définir l'ordre du jour des questions politiques, sociales et économiques mais également détruire la réputation d'une personne, d'une organisation et même d'un pays.

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В статье раскрываются основные аспекты влияния средств массовой информации на различные субъекты экономики, на формирование экономического мышления и экономического поведения населения. Обсуждается роль СМИ в формировании общественного мнения о состоянии экономики, их взаимодействие с бизнесом и государством. На основе исследования выявлены принципы и механизмы воздействия СМИ на формирование потребительских предпочтений, общественного мнения и восприятие событий.

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## **LE TOURISME ÉCOLOGIQUE COMME PROMOTION D'UN MODE DE VIE SAIN**

Aujourd'hui, le tourisme écologique se développe activement dans le monde, gagne de plus en plus en popularité et attire l'attention des touristes grâce à ses itinéraires individuels. Sur la route écologique les touristes pourront profiter de paysages uniques, de monuments naturels, de flore et de faune dans la zone naturelle choisie pour le voyage. Les touristes peuvent visiter ces itinéraires à la fois indépendamment et avec un guide professionnel. Pour ceux qui préfèrent voyager sans guide, les organisateurs installent des panneaux indicateurs et des stands d'information et préparent des livrets d'information.

Le but de cet article est de déterminer la notion du tourisme écologique comme l'une des méthodes pour attirer les gens vers un mode de vie sain aussi bien que de montrer ses avantages et inconvénients.

L'écotourisme consiste à voyager dans des lieux de la nature relativement intacte, afin de se faire une idée des caractéristiques naturelles, culturelles et ethnographiques de la région, sans violer l'intégrité des écosystèmes [1, с. 4].

Le terme « écotourisme » a été officiellement utilisé lors de l'une des conférences de l'écologiste mexicain Hector Ceballos-Lascurain dans la première moitié des années 80 du XX-e siècle. Il reflétait l'idée d'harmonie entre les loisirs et l'écologie et a acquis une grande popularité. L'une des options de cette définition est l'écotourisme en tant que forme active de loisirs basée sur l'utilisation rationnelle des ressources naturelles. Elle implique le rejet du culte du confort, des communications de masse, la disponibilité et la consommation de plus en plus de prestations touristiques. Et en retour, elle inculque un autre système de valeurs, qui sont la contemplation de la nature, l'enrichissement spirituel par la communication avec elle, l'implication dans la protection du patrimoine naturel et le soutien de la culture traditionnelle des communautés locales [2].

Les principaux pays hôtes des amateurs de l'écotourisme sont le Laos, le Kenya, la Tanzanie, le Costa Rica, le Népal, l'Australie, la Nouvelle-Zélande et l'Afrique du Sud. Dans les pays développés d'Europe et des États-Unis, les écotouristes se rendent souvent dans les parcs nationaux de leur pays.

L'écotourisme est l'un des secteurs les plus dynamiques de l'économie mondiale, la croissance de l'écotourisme dans le monde, selon les experts, est de 20 à 30% par an. Avant la pandémie de 2020, l'industrie rapportait jusqu'à

1 milliard de dollars par jour ; environ un tiers de tous les touristes dans le monde sont des écotouristes [2, c. 36].

La base du développement du tourisme écologique sont les sentiers et itinéraires écologiques des zones naturelles spécialement protégées, les jardins botaniques, les parcs dendrologiques, les forêts, les zones médicales et récréatives et les stations balnéaires [2, c. 49].

Comme les routes touristiques, les sentiers écologiques peuvent être linéaires, semi-circulaires, circulaires et radiaux (dans ce dernier cas, l'aller-retour suit le même sentier). Les sentiers se distinguent également par la difficulté de dépassement et la complexité des informations proposées. Subdiviser les écosentiers par tranches d'âge de la population n'a le plus souvent pas beaucoup de sens, puisqu'ils sont conçus pour le « visiteur moyen ».

Il existe un certain nombre de critères pour classer les écotrails, par exemple, la façon de passer. Cela comprend le vélo, la randonnée, l'équitation et le ski le long de l'éco-sentier, la plongée, le rafting, la course d'orientation, le tourisme en voiture et en moto, les mini-tours en bateau ou en yacht. Dans le même temps, les modes de transport peuvent se substituer au cours du trajet.

Les sentiers écologiques sont également subdivisés en sentiers cognitifs ou « week-end », pédao-touristiques et pédagogiques [1, c. 6].

En ce qui concerne les avantages et les inconvénients de l'écotourisme, il y a quelques points clés à considérer.

Premièrement, l'écotourisme est un moyen durable de gagner de l'argent pour l'économie locale ; deuxièmement, c'est une opportunité de créer des emplois bien rémunérés pour la population locale ; troisièmement, ce type de tourisme permet aux gens de voir le monde intact de la nature et de se familiariser avec des cultures locales ; et enfin, c'est un type de voyage très rentable et abordable.

Quant aux points négatifs il faut dire que l'écotourisme peut endommager la nature, apporter des changements à la culture locale, peut transformer les gens en attractions touristiques, n'a parfois pas un bon système de soutien, en particulier dans les régions reculées du monde.

En conclusion, il faut souligner que que l'écotourisme a un effet positif sur la santé humaine en interaction avec le sport. De plus, le tourisme écologique présente un certain nombre d'avantages pour la santé humaine : une personne peut améliorer son état psycho-émotionnel et restaurer sa force physique et spirituelle, enrichir son corps d'une dose d'air frais, qui a également un effet bénéfique sur le corps.

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В статье рассматривается такое направление туризма как экологический туризм, к которому относятся активные виды отдыха и спортивные туры (велосипедные, пешеходные, конные, лыжные, автомобильные, мотоциклетные, водные), которые способствуют поддержанию здорового образа жизни. Авторы раскрывают различные виды экологического туризма., а также анализируют преимущества и недостатки данного туризма..

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### **BREAK YOUR BAD HABITS**

Everyone has or has experienced bad habits. Some are trying to get rid of them, others have managed to accustom themselves to a full life and without bad habits, others do not take any measures and live quietly on, but not long.

The category of bad habits includes those habits that are both harmful to human health and restrict a person from the full use of their capabilities throughout life. Bad habits acquired at a young age, which a person is not able to get rid of, are critically dangerous. They include smoking, drinking alcohol, drugs, toxic and psychotropic substances. There are also less dangerous bad habits of people, like dependence on a computer or smartphone; unhealthy diet, including diets and eating fatty foods, gluttony; the habit of not getting enough sleep, not letting your body rest at least 8 hours a day; gambling addiction; promiscuous sex life, which provokes various sexually transmitted diseases; uncontrolled use of drugs ... [1].

Most often, the reasons for the development of bad habits in a person are: social consistency – if in the social group to which a person belongs, this or that model of behavior, for example, smoking, is considered the norm, then most likely he will also follow it in order to prove his belonging to this group, hence the fashion for bad habits; disorder in life and alienation; pleasure is one of the main reasons why the influence of bad habits is so great, it is the constant obtaining of pleasure that leads people to become alcoholics or drug addicts; idleness, inability to properly manage free time.

All bad habits have a direct or indirect impact on human health. Nail biters can become infected with parasites, computer game fans often suffer from diseases of the eyes and spine. But of course, the most severe consequences are



the habits of using drugs, nicotine and alcohol, which quickly develop into addiction and can lead to the development of a number of complications, up to death.

Alcohol belongs to the group of neurodepressants – substances that reduce the supply of oxygen to the brain, and, as a result, a decrease in brain activity, and in severe cases – the development of alcoholic dementia. There is also a violation of the activity of almost all body systems and a decrease in life expectancy by 15-20 years. [2].

Smoking may seem like a more harmless habit than drinking alcohol. In fact, this is one of the forms of substance abuse, which causes chronic poisoning of the human body, developing mental and physical dependence. Over time, diseases such as asthma or cancer may develop, the risk of heart attacks and strokes increases, a decrease in brain and sexual (especially in men) activity, a change in taste sensations. Minus 10 years of life.

The transition to electronic cigarettes does not eliminate the problems at all, but only exacerbates them, because with steam, nicotine instantly enters the bloodstream, the concentration of carcinogenic substances in them is 10 times higher than in ordinary cigarettes, and formaldehyde in their composition can lead to fatal poisoning.

Finally, the most merciless and terrible disease in terms of its impact on a person, which many consider a habit, is the use of pharmacological drugs, better known as drugs. Regardless of the method of introducing a substance into the body, all drugs cause especially dangerous harm to the nervous and immune systems, liver, heart, and lungs. Smoking drugs contributes to the formation of chronic bronchitis, lung cancer, impaired immunity, cardiovascular insufficiency, arrhythmias, and liver intoxication.

With intravenous administration of drugs, the risk of AIDS and hepatitis is extremely high.

Volatile narcotic active substances slow down the mental development of a person, destroy the activity of the cerebral cortex, and damage all organs and tissues of the body.

What are the methods and ways to deal with bad habits, and which one is the most effective? There is no definite answer to this question. It all depends on so many factors – the degree of dependence, the willpower of a person, and the individual characteristics of the organism. However, the most important is the desire of a person to start a new life without bad habits. He must be fully aware of his problem and admit that he is an alcoholic or drug addict. Without the desire of the person himself to get rid of the addiction, it is extremely difficult, and often impossible, to carry out treatment. [3].

What about the prevention of bad habits? Unfortunately, it has not yet received adequate attention. The effect of various commercials, signs and posters is not great.

The formation of bad habits is influenced by many factors: the personality of a person, his temperament, social environment, as well as the psychological atmosphere in which he is. Therefore, you should carefully choose your environment, as well as the environment of your children. Remember that bad habits harm not only you, but also your loved ones.

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В статье автор рассматривает проблемы вредных привычек и их негативное влияние на организм человека.

#### к содержанию

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#### **DÉVELOPPEMENT ET TEST D'UNE PILE À COMBUSTIBLE MICROBIENNE**

Tout le monde sait que la recherche de sources d'énergie alternatives est l'une des principales tâches de la dernière décennie. Dans cet article il s'agit de la source d'énergie dans laquelle l'électricité est générée par des microbes, comment on a collecté ces piles et quelles sont les perspectives du développement en cette direction.

Le but de ce travail est d'étudier le problème de l'utilisation des sources d'énergie alternatives.

*Sources d'énergie alternatives.* L'énergie alternative est une industrie énergétique qui comprend le développement d'installations avancées et leur utilisation pour l'extraction d'énergie, qui, en raison de facteurs économiques et techniques, sont moins courantes que les sources d'énergie traditionnelles. La nécessité de leur création et de leur développement est due à la limitation de l'extraction des énergies fossiles naturelles ; la nécessité de durcir les exigences environnementales pour leur utilisation; l'émergence de nouvelles technologies énergétiques hautement efficaces ; l'apparition de nouveaux problèmes de consommation d'énergie, etc. De plus, la nature n'est pas en mesure de faire face à l'abondance de composés chimiques inhabituels pénétrant dans l'atmosphère du sol et de l'eau. La capacité des écosystèmes diminue sensiblement.

*L'hydroélectricité* est un exemple de production d'énergie à grande échelle à partir d'une source renouvelable – l'eau. Le principe de fonctionnement : le barrage bloque l'écoulement de l'eau. L'eau est recueillie dans un réservoir devant le barrage. Sous l'influence de son poids, elle pénètre dans les turbines par des conduites d'eau. Un jet d'eau fait tourner les aubes de turbine reliées à son arbre. Un générateur électrique est fixé sur l'arbre. Le courant est transmis par des bus de grande section à des transformateurs qui augmentent la tension afin de réduire les pertes de chaleur lorsqu'elle est transmise à de longues distances, puis à des appareillages puis aux consommateurs. Les centrales hydroélectriques n'ont pas besoin de carburant. Le coût de l'électricité pour eux est inférieur à celui des centrales thermiques. En même temps, les conditions de vie des organismes aquatiques se détériorent et ces grands réservoirs affectent également le climat local.

*L'énergie géothermique* peut être obtenue à partir de la chaleur des roches. Les stations géothermiques puisent l'énergie interne de la Terre – l'eau chaude et la vapeur. Ils sont placés dans des zones volcaniques où l'eau est proche de la surface ou peut être atteinte en forant un puits (de 3 à 10 km.). L'eau extraite chauffe les bâtiments soit directement, soit par l'intermédiaire d'un échangeur de chaleur. Il est également converti en électricité lorsque de la vapeur chaude fait tourner une turbine reliée à un générateur électrique. Inconvénients de cette source d'énergie : prix, menace à la température terrestre, émissions de dioxyde de carbone et d'hydrogène sulfuré. La plupart de toutes les stations géothermiques se trouvent aux États-Unis, aux Philippines, en Indonésie, au Mexique et en Islande.

*L'énergie éolienne.* Le vent est une source d'énergie répandue et inépuisable. La ressource de l'énergie éolienne dépasse plusieurs fois les besoins énergétiques de l'humanité. L'énergie des flux d'air est convertie en énergie cinétique des turbines en rotation. Elles sont divisées en turbines à aubes et à carrousel. Les parcs éoliens permettent de convertir le vent en énergie électrique, thermique et mécanique. L'énergie éolienne se développe très

rapidement. Le Danemark tire actuellement plus de 15 % de ses besoins en électricité de l'énergie éolienne. L'inconvénient est que le vent ne peut pas être contrôlé [3, c. 23]. La vitesse et la force du vent ne sont pas constantes. Les centrales éoliennes, de capacité égale aux centrales hydroélectriques, aux centrales thermiques et nucléaires, nécessitent des surfaces beaucoup plus grandes pour leur placement. Elles peuvent gêner le vol des oiseaux, des insectes et être une source de bruit. Les éoliennes peuvent causer des interférences radio et affecter le climat car elles participent à l'énergie cinétique du vent.

*L'utilisation directe de la lumière du soleil.* Le moyen le plus prometteur d'obtenir de l'énergie est la conversion directe de la lumière du soleil en courant électrique dans des panneaux solaires. La lumière est incidente sur une couche semi-conductrice à conductivité électronique, superposée à une autre couche, mais à conductivité des trous. Les quanta de lumière expulsent les électrons du réseau semi-conducteur. Les places laissées par eux peuvent être considérées comme des charges positives. Lorsqu'une différence de potentiel est appliquée à un semi-conducteur, les électrons se dirigent vers l'anode et les protons se dirigent vers la cathode [2, c. 148]. Dans la plupart des produits modernes, le rôle des semi-conducteurs est assuré par des tranches de silicium, qui possèdent les propriétés semi-conductrices nécessaires. Le principal avantage est la ressource illimitée de la source – le Soleil. La production d'énergie solaire est un processus totalement respectueux de l'environnement et sans risque pour la nature. La collecte de la lumière du soleil et la production d'électricité se font avec une intervention humaine minimale. La seule chose à faire est de garder les surfaces de travail ou les miroirs propres. Les unités sont durables lorsqu'elles sont correctement entretenues. Les inconvénients incluent la dépendance de la météo et de l'heure de la journée.

*L'énergie hydrogène.* L'énergie hydrogène est une branche de l'énergie basée sur l'utilisation de l'hydrogène comme moyen d'accumulation, de transport et de consommation d'énergie. L'utilisation de l'hydrogène comme carburant énergétique a de grandes perspectives : l'hydrogène a un rendement de combustion très élevé, sa ressource est pratiquement illimitée, la combustion de l'hydrogène est absolument respectueuse de l'environnement [1, c. 66]. Cependant, l'énergie hydrogène n'est actuellement pas en mesure de satisfaire pleinement les besoins de l'humanité en raison du coût élevé de la production d'hydrogène pur et des problèmes techniques de son transport en grande quantité.

*Les piles à combustible microbiennes* ont été créées par nous lors du projet du technoparc de l'Université chimique et technologique russe Mendeleev. La pile à combustible microbienne est une alternative propre, efficace et fiable à tous les combustibles nocifs pour l'environnement. Elles fonctionnent avec des ressources naturelles, ne nécessitent pas de combustion de carburant et n'utilisent pas de ressources fossiles. Une batterie microbienne peut également

fonctionner sur une grande variété de matières organiques, y compris les eaux usées municipales ou les déchets industriels. Par conséquent, on essaye de les combiner avec des systèmes de traitement de l'eau existants pour la production synchrone d'électricité. Le développement peut être utilisé pour alimenter des appareils de faible puissance qui sont utilisés dans le système de ville intelligente ou l'agriculture. Il peut s'agir de capteurs de pression, de température ou de concentration de toute substance dans l'eau ou l'air. La composition de la pile à combustible microbienne comprend : des chambres d'anode et de cathode, deux électrodes en feutre de carbone qui facilitent le transfert d'électrons de la chambre anaérobie à la chambre aérobie, un fil électrique avec un conducteur en cuivre, une pince électrique, des micro-organismes générateurs de courant et un substrat nutritif. Le substrat de toutes les batteries est une solution de glucose dans un mélange de sels, et la source de micro-organismes générateurs de courant est une boue activée, qui est utilisée pour le traitement biologique des eaux usées. Les bacs ne sont pas complètement remplis pour laisser une couche d'air. L'oxygène jouera le rôle d'agent oxydant. À la suite de l'expérience, des mesures de courant ont été prises et une LED a été connectée. La tension obtenue en sortie du circuit de 18 cellules est de ~ 6 Volts. Pour créer un échantillon d'usine pilote, il est nécessaire d'étudier plus avant les processus physico-chimiques qui se produisent lors de la génération d'électricité par des micro-organismes et de mener des travaux de recherche. Nous voulons poursuivre nos recherches au Département de microbiologie et d'immunologie de notre Académie.

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В статье рассматривается необходимость развития энергосберегающих технологий. Микробные топливные элементы могут быть частью таких технологий. Микробная батарея может работать на самой разной органике – в том числе, муниципальных сточных водах или отходах производств. Наиболее перспективное применение таких батарей связано с совмещением технологии биологической очистки сточных вод с производством электроэнергии.

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**PROSPECTS OF AGROTOURISM IN BELARUS**

Agrotourism or rural tourism is one of the tourism industries that is developing very quickly and productively in Belarus. This type of activity is organized in rural areas, which provides a lot of services, activities for guests, for example, engaging in active types of tourism, organizing fishing, hunting, acquiring new knowledge and skills. In addition, agritourism can also be considered work that is organized in rural areas and in which group offers for accommodation and entertainment, meals are formed and given to visiting guests. Rural tourism is aimed at the introduction of agricultural, natural, cultural, historical and other resources of the rural territory and its specificity for the creation of an all-encompassing tourist product. With its help, it is possible to make more profitable use of the current trends in the world tourism market. Agrotourism is based on the use of natural, agricultural and other resources. The Republic of Belarus consumes an all-encompassing potential in the development of agrotourism due to multiple eco-resources. But there are also many nuances of an international nature, such as the certification of agrotouristic services in accordance with international standards, as well as the formation of agrotourism as a competitive among nationwide tourist services.

Today, agrotourism is one of the most priority areas in tourism. This type of tourism is developing very quickly and is strongly supported by our state. Most foreign tourists actively visit agricultural estates in order not only to relax, but also to get acquainted with the culture, customs of the country, as well as enjoy the view of picturesque nature. The Global Tourism Organization notes that agrotourism combines all kinds of forms of tourism, which is developing most briskly in many countries of the world. Agrotourism gives an impetus to the development of rural areas due to the creation of a fresh kind of economic division. Cultural, educational, public work in the field of ecology and tourism is carried out by public organizations that carry out a huge informational work to spread the ideas of agrotourism among the general public. The main tasks in the field of agrotourism are the creation of a high-quality tourist product and its promotion in tourist markets.

The agrotouristic cluster is one new direction in agrotourism, which contributes to the expansion of the range of payments provided for tourists. Also it reduces the economic efficiency of the cluster entities through general management and marketing activities. The agrotouristic cluster assumes the joint

use of local tourist resources, universal infrastructure, a single human energy resource.

Clusters cover a large number of different business structures, government agencies, institutions, associations and public associations. The cluster model allows to improve and minimize the available financial, social and political resources for the purposes of regional and district formation.

Also, the agrotourism cluster should be formed on the basis of several models of the formation of agrotourism, which can be attributed to the basic and promising, taking into account the specificity of regional and district criteria. To begin with, there should be a regional tourism network for small private agrotourism households and for the existence of agrotourism infrastructure. The next stage will be the restoration of the socio-cultural environment of the historical territory: the restoration of the "historical village" or similar locality, other historical objects. Then the creation of large and medium-sized agricultural facilities focused on the reception of tourists. There are special centers for this (sports, cultural, culinary, and so on), there are also "agricultural tourist villages", as well as "fishing villages", "hunting villages" and etc. . And the last thing that should be in the cluster is the creation of public and private agricultural parks as large-scale tourist, exhibition, advertising, exhibition and entertainment, cultural and propaganda, scientific and industrial complexes with residential buildings and appropriate infrastructure.

At the moment, most people choose more convenient and comfortable conditions in order to celebrate different events such as weddings, birthdays, anniversaries, graduations and many more different holidays. Tourist farmsteads are suitable for these needs. Now a significant half of the population of cities has close family ties with the village, and many residents of cities also spend vacations with their relatives in the village. But quite often the cost of agrotouristic offers is clarified suddenly, without calculating material losses and wages. Subjects of agrotourism occasionally keep books of income and costs, which are used in the pricing strategy. Also, the cost of agrotouristic offers is affected by a large number of factors: seasonality, natural circumstances, financial abilities of tourists, material and monetary abilities of the farm, the potential in meeting the needs of tourists. But, of course, several factors affect the prices of the proposed agrotouristic product: 1) market prices; 2) minimum prices, economically covering the project; 3) demand. Also, the economic dedication from agrotourism depends not only on dividends, but also on the achieved profit, which is obtained by subtracting expenses from income. The results of the income will be planned with the number of visits of agrotourists, the time that tourists will be on the farmstead and prices.

Agrotouristic work is more dependent on seasonality. This leads to a narrow stage of obtaining profits from tourism. Wishing to extend this stage, business entities should use an elastic pricing policy. Lowering the tariffs of prices before

the key season, and even after it, will undoubtedly help attract more interested buyers who want to pay less.

Despite the problems in the development of agrotourism, there is still a positive trend. Western Belarus is rightfully considered the most promising region. One of the most popular industries of agrotourism today is hunting and fishing. Therefore, such private tourist farmsteads and hotels do not feel a shortage of customers. Tours and one-day trips to small towns of Western Belarus are also in demand, largely due to the high-quality restoration of ethnographic monuments.

Thus, it can be concluded that at the moment the field of agrotourism is poorly developed, but the forms of agrotourism, as well as approaches to its development, are different in different regions of the country. It is possible that the negative impact on the socio-cultural state of the environment, as well as on the ecology of the agroecosystem, can be minimized due to strict regulation by local and state authorities. It can also be said that successful development in this field of tourism requires the mobilization of forces of all project participants, owners of accommodation facilities, enterprises of the tourist complex. Only the interaction of these structures can ensure the effective and progressive development of agrotourism.

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В статье раскрывается одно из перспективных течений в сфере экономики – агроэкотуризм, который вносит вклад в государственный бюджет и так же способствует привлечению иностранных инвестиций в экономику страны.

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## **HISTORY OF DEVELOPMENT AND FORMATION OF PHYSICAL EDUCATION AND CULTURE**

Physical culture is a specific type of social activity in the course of which the satisfaction of the physical and spiritual needs of a person takes place through targeted physical exercises, assimilation and application of relevant knowledge and skills as well as participation in sports events and competitions [1].

Physical education as an organic part of general education and pedagogical process is aimed at strengthening health, the harmonious development of the forms and functions of the human body, its physical abilities and qualities, the formation and improvement of motor skills and abilities necessary in everyday life and productive activities which help achieve physical perfection.

Academician N.I. Ponomarev came to the conclusion, which became fundamental for the history of the initial development of physical education, that "man became a man not only in the course of the development of labour tools but also in the course of constant improvement of the human body itself" [2].

Types of organized physical education originated in ancient Greece in the form of special training for young people in military, sports games and physical exercises. Ancient physical culture and military physical training reached a high degree of development in Sparta, Athens and other states. At that time the Olympic, Pythean and Nemean games arose and enjoyed great popularity.

From the point of view of the Greeks the training of the body was of importance. They introduced physical training as a priority into the general system of training and education and supported it. One of the first editions of the Encyclopædia Britannica says: "The Greeks devoted more time to the physical education of young men than to all other disciplines put together" [2].

But the systems of physical education in different parts of Greece were different. In Sparta the main goal of such education was to train warriors. Strong and brave men who knew how to fight were especially appreciated there. In Athens, where philosophy and poetry were successfully developed, physical training was aimed at achieving masculinity and outward beauty. They also understood the connection between the body and the mind as the latter cannot be completely healthy until the body is healthy. Neither philosophers nor physicians considered any other remedy to restore health more useful than physical exercise. Gymnastics was given such importance that it took up more time in training courses than other disciplines.

Humanists made attempts to introduce physical education in schools. In Italy at the beginning of the 15th century Vittorino da Feltre opened a school in which great attention was paid to physical education, the organization of mental and physical performance of students. In France, F. Rabelais and M. Montaigne preached physical education in unity with moral education and mental education

and wrote “We train not the body and not the mind but the person, and we should not divide it into parts.” Ya. A. Comenius considered physical education as the most important part of family education and the pedagogical process at school. Thoughts on the physical education of children, consonant with the ideas of Comenius were expressed by the monk Epiphanius Slavinetsky (17th century) who was the first in Rus' to make an attempt to classify outdoor games and select from them the most acceptable for the physical education of children. T. More and T. Campanella considered physical education as an integral part of the comprehensive education of the younger generations [2].

The strengthening of the empire of Peter I (XVIII century) influenced the development of physical culture at the state level in Russia. This affected the combat training of troops, physical education in educational institutions and the education of the nobility. It was in the era of the reforms of Peter 1 that physical exercises were used in Russia for the first time in the system of training soldiers and officers. At the same time physical exercises, mainly fencing and horseback riding, were introduced as an academic discipline at the Moscow School of Mathematical and Navigational Sciences (1701), at the Naval Academy and other educational institutions. Under Peter 1 physical exercises were also introduced in civilian gymnasiums, rowing and sailing classes were organized for young people. These measures were the first steps taken by the state to lead the cause of physical culture. In the future, physical exercises were increasingly used in educational institutions and in the system of military education. Much credit for this belongs to the great Russian commander A.V. Suvorov [3].

In 1852 Troll's «The Family Gymnasium» was first published in the United States with illustrations of physical exercises, in 1860 Dr. J. Taylor published a very valuable book on the treatment of hernia and viscera through exercise.

The rise of Russian science and culture, pedagogy, anatomy of medicine contributed to the further development of the scientific and pedagogical foundations of physical education in Russia. The Russian educator N.I. Novikov considered three important components of education: physical, moral and mental, but the care of the body was the main of all concerns. The idea of the need for physical education from the first days of a person's life passes through all his judgments.

Academician A. P. Protasov, professor of anatomy, for the first time in Russia at the end of the 18th century introduced the concept of "physical education" [3].

During the existence of the USSR the main social function of physical education was the formation of healthy people – physically perfect, socially active, morally stable, devoted to this system. The state system of physical education was built on the basis of Marxist provisions on its significance for the

all-round development of the human personality. A programme for the development of the physical culture movement was adopted [3].

In the modern world sports and physical culture are developing very rapidly. Nowadays, for example, in Belarus physical culture and sports, which have become the hallmark of the country on the world stage, are given great attention. This is evidenced by the high achievements of Belarusians in international competitions, the presence of world-class sports facilities and, of course, the active support of a healthy lifestyle and sports among the residents [4].

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В статье автор проанализировал историю развития физической культуры, как особого вида социальной деятельности, от момента становления до сегодняшнего дня. Приведены аргументы, доказывающие, что физическое воспитание способствует развитию физических способностей и качеств, укреплению здоровья, улучшению форм и функций организма человека.

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#### EL TURISMO DE HALLU COMO NUEVO DESTINO TURÍSTICO

Este artículo examina la aparición y el desarrollo del fenómeno de la «ola coreana» en Corea del Sur y muestra su influencia en la formación del turismo de hallu.

A mediados del siglo XX, después de la Segunda guerra mundial y las guerras de Corea, Corea del Sur fue uno de los países más pobres del mundo en 1954 con un PIB per cápita de 70 \$. Históricamente una parte agraria de Corea con poca o ninguna industria, el país pasó tres décadas bajo regímenes autoritarios que iniciaron varios planes quinquenales para industrializar la economía, lo que resultó en un desarrollo inusualmente rápido del país.

Una de las características distintivas de la economía del país fue que en la década de 1990, Corea del Sur se propuso exportar la cultura y logró liberar el potencial de la música pop nacional en los mercados nacionales y extranjeros, cambiando completamente el sistema de la industria del entretenimiento. Así, Corea del Sur convirtió su propia cultura en uno de los valiosos productos de exportación, creando el fenómeno de la «ola Coreana» o «Hallu».

«Ola coreana» (韓流, cor. 한류 hallu) – es un término que ahora se usa para referirse al fenómeno de la creciente popularidad de la cultura popular coreana y la industria del entretenimiento [1].

El aumento de la popularidad en la década de 1990 en China y Japón de los nuevos géneros musicales y televisivos, que ahora se conocen comúnmente como K-pop y K-drama, se considera el impulso a la aparición de «Hallu» en su sentido moderno.

La demanda de música coreana y dramas de televisión en el extranjero ha brindado a los artistas la oportunidad de atraer la atención de un estado que busca crear y mantener una economía orientada a la exportación, así como atraer inversores y profesionales de diversos campos.

Debido a la adopción tan generalizada de hallu, el negocio coreano ha hecho un esfuerzo considerable para convertir a los fanáticos de la «ola coreana» en consumidores de bienes y servicios coreanos.

Hoy en día, el área de distribución de la "ola Coreana" no se limita solo al Sudeste asiático, sino que abarca toda Europa, América, medio Oriente e incluso algunos países de África [2, p. 160].

Hoy en día, hay tres destinos principales en el turismo de hallu:

- tours para turistas que desean asistir a conciertos en vivo de artistas coreanos;
- viajes para turistas que vienen a ver lugares relacionados con sus Series y películas favoritas. Para este tipo de turismo, las empresas productoras y los municipios crean productos turísticos especiales basados en películas y eventos famosos;
- compra de productos relacionados con la «ola coreana». La «ola coreana» está impulsando la expansión de las ventas de productos coreanos a medida que los consumidores vienen a comprar productos relacionados con hallu, incluidos electrodomésticos, alimentos y cosméticos.

Habiendo tomado su lugar en el mercado, el turismo de hallu ha crecido hasta el punto de crear su propio mercado, que se basa en un nuevo concepto

que combina el «rendimiento» (performance) y el «turismo». Esto permite a los turistas extranjeros comprender y experimentar la cultura del país, lo que garantiza una imagen positiva de Corea en el ámbito internacional, y en el proceso de citas, lo que aumenta la probabilidad de visitas repetidas [3, p. 140].

Por lo tanto, de un país conocido solo en la región asiática, la República de Corea se ha convertido en un destino turístico reconocible en Todo el mundo, y su popularidad crece cada año. Esta tendencia debe continuar en los próximos años, incluso mediante el uso adecuado de todos los recursos disponibles en el sector del turismo.

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В статье рассматривается появление и развитие в Южной Корее феномена «Корейская волна». Показано его влияние на формирование халлю-туризма.

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### **WHY IS IT IMPORTANT TO EAT HEALTHY FOOD**

Proper nutrition is the key to health, strength and beauty. A healthy person is often quite inattentive to what he eats. When people get sick, they go to pharmacies for expensive drugs, forgetting about such a reliable and permanent remedy as food. Our health, disease prevention, and life expectancy largely depend on proper nutrition, built on the basis of nutrition science data.

Healthy nutrition is an ancient and wise science, its laws are simple: diversity, balance, a sense of proportion. We eat more than we spend energy, so everyone needs to increase their physical activity in order to be in harmony with themselves and nature. The effect of nutrition on life expectancy and longevity has been experimentally proven. The conditions of longevity are formulated by the ancients: eat less, move more, be always in a good mood [1].

Until now, many people treat vegetables and fruits as “frivolous” food. But in the food of plant origin there are all the vitamins and minerals necessary for the body.

Back in the early 20th century, scientists decided to divide products into groups depending on how useful they are for the human body. For many decades, this model has been formed and modified to acquire the final form, which has been called the universal pyramid of nutrition.

At the heart of the nutrition pyramid are the most useful foods on which the diet should be based. Above the main level there are three more floors, which gradually narrow as the use of products in the human diet decreases.

The foundations of the pyramid, and as a result, the basis for our health are vegetables and fruits. After all, it is in vegetables and fruits that the greatest amount of vitamins and trace elements is contained. These products are low in calories and contain the optimal amount of energy.

Grains and cereals with rich fiber content have settled on the second floor of the pyramid. It is also necessary to include potatoes, pasta made from durum wheat and unpeeled rice. Fiber and starch, which are abundant in these products, contribute to healthy digestion.

On the third floor there are products with high protein content. This category can be divided into two parts. The first is dairy and fermented milk products. The second is animal proteins (meat and eggs), vegetable proteins (legumes) and seafood.

The top of the pyramid is headed by the so-called flavorings and seasonings: garlic, aromatic herbs, pepper, avocado, olives, nuts.

The basic principle of the pyramid is the rule – it is necessary to eat food from all four floors every day. However, products from the lower floor (vegetables and fruits) should make up half of the daily diet, the totality of products from other sectors of the pyramid will make up the second half (25% - cereals, 20% - milk, meat, fish, 5% - additives).

It is recommended to eat from 7 to 11 servings of vegetables and fruits daily. It is desirable that each portion has a different color. Ideally, a healthy daily diet should contain foods of all colors of the rainbow. It is better to start the day with yellow and orange fruits (orange or carrot juice), during lunch it will be useful to eat something green (cabbage, cucumbers), but in the evening, pink or red products (tomatoes, berries) will be just right [2].

The products of the second floor should make up about a third of your diet (6-7 servings daily). Cereals should be chosen in dark colours, they contain fewer carbohydrates, unlike light cereals, and pasta made from durum wheat.

From the products of the protein group, nutritionists advise paying attention to fish. Lean beef and veal, as well as white chicken and turkey meat should be consumed from meat products. But sausage and semi-finished products should

be excluded from the diet. From dairy products – kefir, yogurt and low-fat cottage cheese.

Following the principles of proper nutrition laid down in the pyramid, we not only provide a full healthy diet, but also normalize metabolism, get rid of excess weight. Nutritionists around the world support the principles of the healthy nutrition pyramid, creating diets and weight loss programs based on it.

In order to be in shape and at the same time not suffer from hunger, it is not necessary to go on a diet. If you are not satisfied with your appearance, but you may accidentally gain excess weight, you do not have to eat less. It is enough to simply reduce the caloric content while maintaining the same amount of food eaten – switch from fatty to lighter. The table of caloric content of products will help you with this. In any case, do not reduce the frequency of meals. On the contrary, it is recommended to eat more often, but in smaller portions. It would also not hurt to introduce fasting days into the daily routine and engage in sufficient physical activity.

The main and healthy diet is a healthy diet, it is the healthiest way to be healthy and look 100%. And if necessary, in no case switch to dietary nutrition without prior consultation with a doctor, since thoughtless fasting or the exclusion of certain foods from consumption is fraught with liver dysfunction, loss of proteins and vitamin deficiency.

It is necessary to reduce the consumption of unhealthy foods. These are canned food, especially meat and fish, mayonnaise, "Fanta" and almost all carbonated drinks, many confectionery products. It is also advisable to avoid all salty, refined vegetable oils, sugar and all products containing it.

To organize proper nutrition, it is necessary to follow certain rules, drink enough water, eat fruits and vegetables, and eat regularly. This will help the body to work well, not to experience rapid fatigue and keep the body in good physical shape. It's never too late to try to change your lifestyle and eating habits for the better in order to be healthy!

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Раскрываются основные факторы правильного питания, построенного на основе данных науки о питании, от которого во многом зависят наше здоровье, профилактика заболеваний, продолжительность жизни.

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**CATS IN ART AND CULTURE**

In the age of the Internet, no animal has captivated audiences quite like the humble house cat. Whether captured in a playful photo or immortalized through a quirky video, these portrayals have proven the animal's modern-day prowess. The popularity of cat pictures, however, did not start with social media; in fact, such images have been an artistic staple since ancient times.

The purpose of the article is to show how people's perception of cats has changed throughout history and how it is reflected in art.

Artists approach the representation of cats in various ways, portraying them either with detachment or obvious affection, deeper reflections of social truths seethe below the superficial imagery. The appearance of the cat in the world of art moves beyond an interesting form utilized only for decorative purposes; felines serve as semiotic icons and reflect contemporary cultural attitudes within their various manifestations.

It is thought that cats were originally domesticated because they hunted mice that would eat stored grains, but a recent study found that cats domesticated themselves. They were never specifically sought out for domestication like dogs were but their coexistence with humans naturally developed from the mutually beneficial nature of the relationship, with their hunting protecting the food stores. It was a beneficial situation for both species: cats got a reliable source of prey, and humans got effortless pest control. This mutually beneficial arrangement began the relationship between cats and humans which continues to this day.

Representations of cats in art permeate history, beginning after their domestication in ancient Egypt circa 3,000 BC. By 1,000 BC, the cat embodied Bastet, a solar goddess and daughter of Ra, the most powerful of the deities. Bastet was the musical goddess of happiness, mistress of the hearth and protector of births. This divine association gave felines an elevated place of honour in the landscape of the Egyptian social hierarchy. It was a capital crime to kill a cat in the ancient world. Cats, as holy beings, were also mummified and given sacred burials.

As world power shifted to the West, cats began to appear in Roman art. The Romans had a strong interest in the natural world and wished to bring it into their homes. The appeal of realistic elements manifested itself in early attempts at shading, such as adding textural dimension to a cat's fur. Cats were also often



seen dining on fish bones discarded from Roman tables. This represents the artists' desire to depict scenes from domestic life and to display the interrelationship between humans and animals.

After the fall of Rome and the descent of the Middle Ages around 1100 AC, cats fell out of favour. Cats were rarely shown in art at this time because of their alliance with witchcraft and connection to the supernatural, and were often killed in Europe. Their dwindling numbers may have contributed to the burgeoning of a rat population, whose fleas brought the Great Plague to Europe in 1348. Cats regained popular favour after their natural skills at controlling the rodent population were realized.

In Norse mythology, the goddess Freyja was associated with cats. Farmers sought protection for their crops by leaving pans of milk in their fields for Freya's special feline companions, the two grey cats who fought with her and pulled her chariot.

Admired for their lion-like stalking skills (and subsequent contributions to pest control), domesticated cats have been kept as pets in China for thousands of years. Thus, in most Chinese art, they are typically shown doing what house cats do best: hunting small animals, exploring their surroundings, or curling up for a cat nap. Given the slinkiness of their silhouettes and the rounded contours of their bodies, they remain favoured subjects among Chinese painters and calligraphy artists.

Although no species are sacred in Islam, cats are revered by Muslims. Some Western writers have stated Muhammad had a favourite cat, Muezza. He is reported to have loved cats so much that, "he would do without his cloak rather than disturb one that was sleeping on it". The story has no origin in early Muslim writers, and seems to confuse a story of a later Sufi saint, Ahmed ar-Rifa'i, centuries after Muhammad.

Black cats are generally held to be unlucky in the United States and Western Europe, and to portend good luck in the United Kingdom. In the latter country, a black cat entering a house or ship is a good omen, and a sailor's wife should have a black cat for her husband's safety on the sea. Elsewhere, it is considered unlucky if a black cat crosses one's path; black cats have been associated with death and darkness. White cats, bearing the colour of ghosts, are conversely held to be unlucky in the United Kingdom, while tortoiseshell cats are lucky.

In 19th-century Britain, certain breeds of cats had political connotations. A tabby cat, for example, was regarded as the "cat of the people," a symbol for the rising power of the middle classes following the Industrial Revolution.

Unlike Western countries, cats have been considered good luck in Russia for centuries. Owning a cat, and especially letting one into a new house before the humans move in, is said to bring good fortune. Cats in Orthodox Christianity are the only animals that are allowed to enter the temples. Also, cats became an

integral attribute of Russian Orthodox monasteries. According to Russian law, a huge fine was imposed for killing a cat, the same as for a horse or ox.

It is common lore that cats have nine lives. It is a tribute to their perceived durability, their occasional apparent lack of instinct for self-preservation, and their seeming ability to survive falls that would be fatal to other animals.

Given the popularity of our feline friends, it is not surprising that today's top artists often opt to incorporate cats in their oeuvre. Much like the contemporary art movement itself, these depictions are diverse and eclectic. Spanning all sorts of materials, mediums, and styles, these perfect portrayals prove that cat iconography is here to stay.

Thus, cats have been close friends of a man for a long time. In many countries of the world, they have been helpers and faithful companions of people. Of course, this could not but be reflected in culture and art. Cats are still very loved and revered by people around the world.

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В статье раскрывается история появления котов в жизни людей, а также их отражение в культуре с Древнего Египта и Рима до настоящего времени. Показано влияние этих животных на искусство стран Европы, Азии, Африки и Америки. Автор анализирует мифы, обычаи и традиции, связанные с котами.

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#### **ENVIRONMENTAL PROTECTION AND WAYS TO IMPROVE THE ECOLOGICAL SITUATION IN THE WORLD**

Man and nature are inseparable from each other and closely interrelated. For a person, as well as society as a whole, nature is the environment of life and the

only source of resources necessary for existence. Nature and natural resources are the basis on which human society lives and develops.

The maintenance of nature in a livable state is possible only with a properly chosen strategy of social and economic activity of the people. In order to justify the hopes placed on it, ecology should not be limited to considering the problems of “environmental protection” or “rational use of resources”. A broader theory of the interaction of society with nature is needed, which makes it possible to foresee long-term trends in the development of the ecological situation.

One of the most acute problems (environmental pollution) is waiting for a speedy solution. Otherwise, the imbalance between nature and man will have serious consequences. Undoubtedly, modern society should be aware of the severity of environmental problems: there are constant conflicts, wars that lead the population to a miserable existence, hunger, outbreaks of incurable diseases, etc., which can lead to the destruction of all mankind. The arms race allowed the accumulation of a huge mass of weapons, which led to the depletion of the planet’s resources and is still getting worse.

Industrialism has dramatically increased human use of the biophysical resource base and its withdrawal from it. A key change in the relationship between humans and the environment has been the use of relatively cheap fossil fuels, which have contributed to industrialization, more intensive agriculture and urbanization. This implied a much more extensive exploitation of the physical and biotic resource bases. This has also led to greater and more complex environmental pollution, as production has gradually shifted away from natural materials (wood, paper, cotton), which are harmless to the environment compared to synthetic materials, which are slowly destroyed in ecosystems and can be toxic to humans and wildlife (such as stainless steel, DDT, dioxin and plastics).

The process of forest destruction is an urgent problem in many parts of the globe, as it affects their ecological, climatic and socio-economic characteristics and reduces the quality of life. Deforestation leads to a decrease in biodiversity, wood stocks, including for industrial use, as well as an increase in the greenhouse effect. Forests make up about 85% of the world’s phytomass. They play a crucial role in the formation of the global water cycle, as well as the biogeochemical cycles of carbon and oxygen. The forests of the world regulate the climatic processes and the water regimes of the world. As a result of his activities, man destroyed at least 10 million km<sup>2</sup> of forests containing 36% of the phytomass of the land. The main reason for the destruction of forests is the increase in the area of arable land and pastures, due to population growth. Deforestation leads to a direct decrease in organic matter, loss of carbon dioxide

absorption channels by vegetation and a wide range of changes in the cycles of energy, water and nutrients.

Acid rain is a type of precipitation consisting of water and toxic waste, especially acids from vehicles, industrial plants or other types of machinery. To prevent this from happening, it is necessary to control emissions of pollutants, close non-conforming enterprises and reduce the sulfur content of fuel or promote and invest in renewable energy sources.

Water pollution is the ingress of various pollutants into the waters of rivers, lakes, groundwater, seas, oceans. It occurs when pollutants enter the water directly or indirectly in the absence of adequate measures for cleaning and removal of harmful substances.

Oil and petroleum products are the main pollutants in the oceans, but the harm they cause is significantly aggravated by sewage, household garbage and air pollution.

Fresh water supplies are under threat due to the increasing demand for it. The population is growing and needs it more and more, but due to climate change, it is likely to be less and less.

Natural ocean geosystems are experiencing ever-increasing anthropogenic pressure. For their optimal functioning, dynamics and progressive development, special measures are needed to protect the marine environment.

The shortage of natural resources, a problem that worried people in ancient times, sharply worsened in the XX century, due to the powerful growth in consumption of almost all natural resources – minerals, land for agriculture, forests, water and air.

Now we consume oil, gas and coal at a rate about a million times faster than the rate of their natural formation in the earth's crust. It is obvious that sooner or later they will be exhausted. Excessive greenhouse gas emissions change the Earth's climate and lead to natural disasters.

Environmental pollution, the depletion of natural resources and disruption of ecological connections in ecosystems have become global problems. And if humanity continues to follow the current path of development, then its death, according to the leading ecologists of the world, is inevitable in 2-3 generations.

The disturbance of the ecological balance in the modern world has taken on such proportions that there has been a violation of the balance between the natural systems necessary for life and the demographic needs of mankind.

The threatening nature of global environmental problems is largely due to the enormously increased means of human influence on the surrounding world and the huge scale of its economic activity, which has become comparable to geological and other planetary natural processes.

The protection of nature directly concerns everyone. All people breathe the same air on Earth, all drink the same water and all eat food, whose molecules

continuously participate in the endless cycle of matter in the biosphere of the planet. Perhaps there is still a chance to correct the ecological situation in the world, and we should take this chance to restore what we have violated in the biosphere and learn to live in harmony with nature.

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В статье рассматриваются экологические проблемы, которые возникли как следствие нерационального отношения человека к природе, стремительного роста промышленных технологий. Показано, что от решения экологических проблем зависит прогресс и судьба цивилизации, поэтому их решение является важной и актуальной задачей.

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#### **DIE ENTWICKLUNG DER SPRACHLICHEN KOMPETENZ DER SCHÜLER IM DEUTSCHUNTERRICHT**

Neben der Literatursprache sprechen die Menschen in verschiedenen Bundesländern Deutschlands und in den deutschen Nationalregionen, in der Schweiz auch Dialekte.

*Ziel der Studie* ist die Systematisierung und Verallgemeinerung der verfügbaren Informationen über die Verbreitung der deutschen Sprache in europäischen Ländern auf der Grundlage der Materialauswahl, Beschreibung und Analyse von Dialekten in der deutschen Sprache in der Schweiz, Beschreibung und Analyse der heutigen Rolle des Englischen als Brückensprache intern Schweizern.

*Praktische Bedeutung der Arbeit.* Das vorgestellte Material kann im Deutschunterricht verwendet werden, um das Interesse der Schüler an einem

intensiveren und tieferen Deutschlernen zu wecken, um die kognitive Aktivität der Schüler zu fördern. Das vorgestellte Material erweitert und vertieft sprachliche Kenntnisse der Lernenden, entwickelt ihre sprachliche Kompetenz.

In der Schweiz haben Dialekt und Hochsprache ein besonderes Verhältnis. Die Sprachwissenschaft betrachtet die Alltagssprache der Deutsch-Schweizer als Dialekte des deutschen Sprachraums. Kann sich ein Ausländer, der Deutsch gut beherrscht, in der deutschsprachigen Schweiz verständigen, wenn Einheimischen Mundart sprechen? Um den Schweizer Dialekt zu verstehen, müssen sich auch deutschsprachige Ausländer normalerweise einige Zeit in der Schweiz aufhalten. Da sind sprachbegabte Menschen im Vorteil. Ein Problem ist dann natürlich, dass es sehr unterschiedliche Dialekte auf dem recht kleinen Raum der Schweiz gibt. Die Schweizer sind normalerweise bereit, Hochdeutsch zu sprechen, wenn jemand die Mundart nicht versteht. Dieses „Schweizer Hochdeutsch“ wird von vielen Deutschen für Schweizerdeutsch gehalten, vor allem in Norddeutschland. Aber Ausländer lernen dann auch oft den Dialekt. Merkwürdigerweise entsteht dabei ausgerechnet bei Deutschen oft ein komischer Akzent... den die Schweizer nicht besonders mögen. In der Deutschschweiz wollen viele Schweizer sich auch gegenüber Deutschland abgrenzen, indem sie Dialekt sprechen. Allerdings wird das Alemannische am Hochrhein von Konstanz bis Basel auch auf der anderen Rheinseite gesprochen, was interessanter und überraschenderweise zu gewissen Animositäten führt.

Es ist richtig, dass man auf Hochdeutsch wesentlich besser über anspruchsvolle Themen diskutieren kann, als auf Schweizerdeutsch. Im Schweizerdeutschen fehlen die Ausdrücke, weswegen dann viele Schweizer auf „Denglisch“ ausweichen, also Englisch unter das Schweizerdeutsch mischen. Dazu gibt es außer Perfekt keine andere Vergangenheitsform, was die Formulierungen ebenfalls erschwert. Deswegen sollte man in offiziellen Veranstaltungen Hochdeutsch sprechen. Besonders schlimm wird es, wenn jemand eine Rede auf Hochdeutsch schreibt, aber auf Schweizerdeutsch mit hochdeutscher Syntax vorträgt. In bestimmten Dialekten ist die Satzstellung unterschiedlich. Zum Beispiel: „*als ich das gesehen habe*“ heißt auf Berndeutsch „*won ig das ha gseh*“, in Zürich „*won i das gseh ha*“.

Wie gelingt die Verständigung der verschiedenen Sprachgruppen untereinander? Früher haben die Welschen Deutsch eher abgelehnt, in den letzten Jahren hat sich das geändert. Deutschunterricht in der Schule gibt es aber schon länger, heute sogar schon ab der dritten Klasse. Da lernt man aber die Hochsprache, nicht den Dialekt, diesen übernimmt man normalerweise erst, wenn man sich eine Zeit lang in einem anderssprachigen Teil der Schweiz aufhält. Viele Welsche sprechen gern Französisch mit den Deutschschweizern, die meisten gehen darauf ein, auch um die Sprache zu trainieren. Viele Tessiner sprechen gut Deutsch, schon wegen der Touristen. Italienisch ist in vielen

Schulen ein Freifach. Französisch ist in den Deutschschweizer Schulen obligatorisch.

Welche Rolle spielt heute das Englische unter den Schweizern und nach außen gegenüber den Europäern? In einigen Kantonen ist Englisch die erste Fremdsprache. Das ist sinnvoll, denn in der Praxis braucht man das. Heute ist Englisch wichtig als internationale Sprache, und manchmal sprechen sogar Deutsch- und Welschschweizer miteinander Englisch. Vor allem in den größeren Schweizer Städten wird Englisch oft gesprochen, auch wegen der Touristen.

Wie steht es angesichts der komplizierten sprachlichen Situation in der Schweiz um eine gemeinsame Identität? In der Deutschschweiz betrachtet man die Dialekte als Teil der Schweizer Identität, aber diese beruht keineswegs nur auf der Sprache, sondern darauf, dass die Schweizer ein unabhängiges und stolzes Volk sind, z. B. seit Jahren sind die Schweizer beim Global Innovation Index führend.

Sehr wichtig ist, dass die Schweizer eine direkte Demokratie haben und diese gegen den Druck der EU verteidigen müssen. Politisch denken die Deutsch- und die Welschschweizer nicht immer gleich, was zu unterschiedlichen Abstimmungsergebnissen führt, man nennt die deutsch/französische Sprachgrenze den „Röschtigrab“.

Es gibt Literatur in Dialekt, aber normalerweise werden Bücher und Theaterstücke in Hochdeutsch geschrieben. Im Fernsehen wird häufig Schweizerdeutsch gesprochen, so auch im Schweizer „Tatort“. Natürlich gibt es auch angesehene Schweizer Schriftsteller der jüngeren Generation, aber ob man diese mit Dürrenmatt oder Frisch vergleichen kann, wird sich erst später zeigen.

In der Bundesverfassung der Schweizerischen Eidgenossenschaft sind vier Amtssprachen auf Bundesebene festgeschrieben: Deutsch, Französisch, Italienisch und Rätoromanisch. In der Deutschschweiz spielt der Dialekt eine wesentlich größere Rolle als im nördlichen Nachbarland.

*Die Schlussfolgerung.* Es ist wichtig zu wissen, dass es neben dem literarischen Deutsch auch deutsche Dialekte gibt. Die deutsche Sprache ist ziemlich eine alte Sprache, sie existierte bereits vor 1200 Jahren und hat seit über 200 Jahren einen normativen Standard (Literatursprache). Natürlich verändert sich die deutsche Sprache ständig. Das Wichtigste für alle, die Deutsch lernen, ist Folgendes: Hochdeutsch wird überall in Deutschland und den deutschsprachigen Ländern verstanden und daher wird die Kommunikation mit den Gästen des Landes in der literarischen Sprache fortsetzen. Deutsch lernen ist deswegen nicht nur eine Kommunikationssprache in Deutschland und den deutschsprachigen Ländern, sondern auch eine Sprache, die viele Menschen in Europa und der Welt beherrschen. Die deutsche Sprache verändert sich ständig, wie alle anderen auch, mutiert. Durch die moderne Globalisierung wandern alle Dialekte von einer Region in eine andere, die Sprache wird

«allgemeiner» und verständlicher. Intelligente literarische Muttersprachler oder die intellektuelle Elite fügen ihrem Vokabular zunehmend dialektische Wendungen hinzu, um die Sprache bunter und emotionaler zu machen.

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В статье актуализируется проблема обучения немецкому языку с акцентом на расширение знаний школьников о немецком литературном языке и его диалектах. Автор рассматривает диалекты швейцарского немецкого языка. Особо детально рассматриваются вопросы обучения языкам в школе, роль английского языка как посредника в общении.

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#### **HEADLINES OF OPINION-BASED MEDIA ARTICLES AS INDICATORS OF THEIR GENRE-SPECIFIC FEATURES**

The most characteristic features of media articles are the rather original formation of the title, the variety of ways of material presentation and the arrangement of the main information at the beginning. The purpose of opinion-based media articles is to convey the national and cultural characteristics of the country and the people by referring to the cultural, political and historical events.

Almost all periodicals are focused on worldview, perception peculiarities of the transmitted information and ideological orientation of the target audience.



Based on these characteristics, it is possible to divide all modern media into three categories: quality press, popular press and specialized publications. In the UK quality press includes: “*The Guardian, The Daily Telegraph, The Independent, The Herald, The Times, The Scotsman*” and the popular press: “*The Daily Mail, The Sun, The Sunday Mail, The Daily Mirror*”. In addition to distinguishing newspapers by the type of discourse, they also differ in appearance, format, style and content. “*Quality press*” - these are large-format publications where events in the country and abroad are published, carrying information function, which is stated in the official language of the press using reliable facts and arguments. As to “*popular press*”, periodicals are issued in small formats, have a low frequency (usually once a week), their language is close to the spoken language and they have a more scandalous style, because the main purpose is to have an emotional impact on people [2].

These two types of publicist discourse have one common goal – to influence the opinion of the audience through suggestion, which is both conscious and unconscious in its effect and covert and overt in the type of evaluation. At present, there is a renunciation of overt propaganda in the newspaper materials as a consequence of public opinion manipulation and consciousness. The manipulation of public opinion is carried out through socially colored evaluative means, i.e. information is presented under a certain angle, positive and negative facts are used in a certain proportion, metaphor and euphemisms are used as means of hidden evaluation, and language play for accentuation with humour and jokes [1, p.50]. As means of language play, sarcasm, irony and puns are also used in advertising texts. In addition to indoctrination and manipulation of public opinion with the help of certain linguistic and stylistic evaluative means, in English journalistic texts there is a clear structure, the logic of presenting information and a certain set of confirmed facts

The trend of modern periodicals is to attract readers, i.e. to expand the target audience by focusing on striking and memorable headlines. In modern English a special term “*headlines*” is used, which has a literal translation as “*headline*”, a piece of information placed in a limited space, which has the function of arousing the interest of the audience to read the article [3, p. 7].

In addition to the use of words with a figurative meaning, various linguistic means are used to have an impact to make headlines relevant and memorable.

In headlines, we can observe the technique of omission, i.e. the intentional omission of certain words to create an effect of novelty and surprise, as well as to save time on reading, which has both the positive side, making the headline memorable, and the negative side, causing distortion of meaning and misunderstanding.

“*Ukraine plane with seven on board crashes in [the] Sahara*” (AFP, August 30, 2014)

*“More than 80 iPads among goods [have been] stolen from BBC” (Telegraph staff, December 23, 2014)*

In the first example, there is a negative application of the omission technique in the form of grammatically incorrect use of the article before the desert name “*Sahara*”, which makes it difficult to understand the proper name and its geographical location, thus creating uncertainty about the location of the plane crash, requiring further explanation in the text of the news report. In the second headline, there is also a grammatical error in the form of the verb in the passive voice tense “*stolen*”, which in this case acts as a participle, which generally makes it difficult to perceive the meaning of the sentence due to the absence of a predicate.

In addition to the omission of words, we also use the method of abbreviating words that are synonymous, which is often seen in political and economic articles. And this technique is equally popular as in quality, large-format press as in the popular press.

For example: “*-ex*” replaces “*former*”, “*envoy*” replaces “*ambassador*”, “*cash*” replaces “*money*”.

*“Ex-president Bush returns home from hospital” (AFP, December 30, 2014).*

In this case, the use of “*-ex*” indicates that this headline belongs to an article written in the popular press, as this abbreviation is mostly used colloquially to refer to divorced spouses.

The noun “*envoy*” changes the style of the phrase from official to artistic, suggesting the actual mission of the Korean ambassador, anticipating his appearance not as an official representative of North Korea, but as someone who is to bring about some changes in relations between two states.

*“Scots to demand cash for English services” (J. Kirkup, March 9, 2014)*

Another technique used to attract the attention of the audience and increase the rating of the article is the use of metaphors to create an intentional ambiguity in the interpretation of the headline. In the example, the expression “*a glimmer of hope*” is translated as «проблеск надежды», giving more significance to the covered event.

*“A glimmer of hope for the Union” (Telegraph View, September 15, 2014).*

*“Donald Trump at the White House: Obama reports excellent conversation - as it happened” (The Guardian, November 2016).*

The metaphorical adjective “*excellent*” shows that expectations of the meeting between Donald Trump and Barack Obama are justified, and that the political campaign will continue to be favourable.

*“Behind Moscow’s bluster, sanctions are making Russia suffer” (The Guardian, October 2022).*

This sentence clearly demonstrates the attitude of the western world towards President Putin’s policies, expressed in an unwillingness to accept Russia’s

position as a strong competitor, using the destructive noun “*bluster*”, and to recognise the negative effect of sanctions against Russia, primarily on the European Union, evoked by the noun “*suffer*”, which conveys wishful thinking into reality

Based on the above information and examples, we can say that in addition to influencing the opinion and attracting the attention of the readership through the use of various stylistic techniques, each periodical is also shaping its style through headlines.

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В статье рассматриваются особенности современных публицистических текстов, а также их проявление в заголовках статей на примерах популярных англоязычных периодических изданий. Газетные заголовки отличаются наличием определенных языковых средств и структур, используемых для реализации установленных целей воздействия на публику, формируя общественное мнение и осуществляя передачу информации наиболее ярко и в кратчайшие сроки.

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#### **THE CONCEPT OF COMIC AND THE SPECIFICS OF THE MANIFESTATION OF ENGLISH HUMOR**

Concepts of “humour” are ambiguous. In a broader sense, it is defined as a mildly mocking attitude to individual phenomena of life and the world as a whole, and in a narrower sense, as a way of self-expression of a creative person, on which works of the comic genre are created. From the point of view of linguistics, humor is considered as a social tool that can effectively relieve psychological stress and improve relations between people [1].

It is believed that the British can be recognized by three characteristics: formality, arrogance and a sense of humor, but they are never understood by foreigners who do not speak English very well. British humor is characterized by a complete lack of emotion and grace. This property has been cultivated by the British for centuries and is considered the most important dignity of a person. But over the years the humor has evolved. Thanks to the multinational population of the territories of England and America, the humor has absorbed the best qualities and elements of those who visit them.

With the advent of English entertainment TV shows and films in our country, such as Monty Python's Flying Circus or Mr. Bean, it became clear that the Russian-speaking recipient was not ready for such prim and flat humor. Translations of the jokes were not enough; the audience also needed a basic knowledge of British culture and mentality. However, the Internet has opened up great opportunities for the Russian-speaking audience. Russian recipients had the opportunity to experience the English language and American culture, as well as through dozens of different open access TV shows. The idea that the meaning of English humor lies within the framework of world values reflected in the stereotypes of English behavior belongs to A. V. Karasik. Having studied the linguistic and cultural aspects of British humor, he showed that its peculiarity lies in the active use of semi-serious communication styles. The linguoculturological aspect, in turn, consists of emphasizing the opposite meanings associated with the compared cultures [2].

For decades, several types of jokes have formed in English humour:

1. Ethnic slurs - ethnic jokes that exaggerate the characteristics of national characters;
2. Dry humour - ironic jokes in which mockery is hidden under the mask of seriousness;
3. Shaggy-dog stories - a joke that is a detailed and boring story about an event that only the speaker finds interesting and funny. They have an unexpected, often ridiculous or absurd ending;
4. Banana-skin humor - primitive jokes;
5. Elephant jokes - stupid or flat jokes (elephant fantasies).

In conclusion, comic and humor are considered universal categories that are represented in many aspects of modern life. In our time, telecommunications have opened up new horizons in the development of humour. Now it is impossible to imagine a day without some kind of humorous TV show.

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В статье предпринята попытка изучить и проанализировать особенности английского юмора как неотъемлемой составляющей английской культуры и необходимого элемента национального самосознания. Статья посвящена актуальной на сегодняшний день проблеме понимания английского юмора людьми разных стран на примере Великобритании.

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### **ОСОБЕННОСТИ МЕЖКУЛЬТУРНОЙ КОММУНИКАЦИИ В КИТАЕ**

В последнее время понятие межкультурной коммуникации расширилось на такие сферы, как иноязычное образование, теория и практика перевода, сравнительная культурология и др. [1].

Исследователи считают, что при изучении иностранных языков очень важно учитывать сложность межкультурной коммуникации, поскольку существует несколько барьеров при осуществлении межкультурной коммуникации [3].

С вступлением Китая во Всемирную торговую организацию (ВТО), многие страны начали сотрудничать с Китаем, создавать в стране филиалы, позволяя таким образом состояться процессу межкультурной коммуникации. Анализируя межкультурный обмен, мы обобщаем несколько наиболее распространенных конфликтов межкультурной коммуникации.

#### *Конфликт во времени*

Западные люди придают большое значение понятию «время», они считают, что время – это деньги, трата времени – это, соответственно, пустая трата денег, поэтому они особенно ценят время, его разумное планирование. В случае, если западные люди желают кого-либо навестить, то сначала согласовывают место и время. Для жителей же Китая соблюдение договоренности во времени является не таким строгим правилом, они могут встретиться в удобное для обеих сторон время. В

случае посещения кого-либо в условиях заранее не назначенного визита считается, что это сюрприз, но иногда такой сюрприз действительно приносит много неудобств.

*Конфликт в коммуникации: косвенная против прямой.* Китайцы предпочитают косвенный способ общения, они считают вежливым и уважительным скрывать истинные чувства, даже когда они не согласны с мнением своего визави. Китайцы в ответ на просьбу не говорят «нет», а используют обтекаемые формулировки: «может быть», «надо уточнить», «я не знаю», «я не уверен», «я постараюсь», «я выясню». Но в некоторых обстоятельствах китайцы действуют прямым образом, особенно когда речь идет о вопросах личной жизни, таких как возраст, финансы и профессия, эти вопросы они предпочитают обсуждать открыто.

*Конфликт в отношении неприкосновенности частной жизни*

Известно, что иностранцы, особенно женщины, не любят, когда их спрашивают о возрасте, о зарплате, они считают, что это их частная жизнь. В Китае все по-другому, китайцы любят общаться друг с другом о личной жизни, любят рассказывать друзьям о своей радости и горе, поскольку в Китае это является предпосылкой дружественного и равноправного общения, но в глазах иностранцев это выглядит как нарушение границ их личной жизни.

*Конфликт в области обмена любезностями*

В Китае ценится скромность, поэтому жители Китая очень скромно относятся к похвале. Согласно конфуцианской добродетели, хвалить себя не принято. Несмотря на то, что некоторые люди в Китае достигли больших успехов, им нравится проявлять смирение перед другими людьми, не принимая комплименты, отрицая их или даже смеясь над ними. В других странах, когда вы высоко оцениваете чью-то работу, обучение, будут рады принять похвалу, которая, по их мнению, свидетельствует о признании их достижений. С древних времен конфуцианство требовало сдерживать свои эмоции, не проявлять их свободно, так как такое проявление эмоций может задеть кого-то, нарушить отношения. Особенно требуется сдерживать отрицательные эмоции. Такой подход приводит к тому, что китайцев сложно понять, они стараются избегать открытой критики и резкого выражения мнения. Многие люди удивлены, почему китайский народ не может критиковать себя.

**Вывод.** В условиях глобализации проблема взаимодействия и достижения взаимопонимания между представителями разных наций и народов является очень актуальной. Необходимо учить обучающихся на занятиях по китайскому как иностранному языку преодолевать барьеры при столкновении разных культур. При изучении китайского языка надо

отводить особую роль культуре, акцентировать внимание на культурные различия.

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#### **HEMOPHILIA IS NOT A VERRDICT**

There are about 400 thousand people with hemophilia in the world. However, there is no accurate data because not all countries keep records of people suffering from it. The main danger to the lives of these people and their children arises because of major injuries and surgical operations, tooth extraction, spontaneous internal hemorrhages in muscles and joints.

Modern scientific research of hemophilia has been conducted since the XIX century. The term “hemophilia” was first introduced in 1828 by the Swiss physician Friedrich Hopf. Alexander A. Schmidt, professor at the University of Dorpat was the first to point out the true cause of the disease in 1861 creating an enzymatic theory of familial bleeding. Later his assumptions were confirmed, and it turned out that the blood plasma of these patients lacks some proteins that healthy people have [1].

Hemophilia B is a genetic disease when the blood clotting system is disrupted which is based on a decrease in the synthesis of VIII, IX or XI coagulation factors. Hemophilia is inherited by the X-linked recessive type which means that this disease mainly affects men, but women act as carriers of the defective gene. At the same time depending on the type of hemophilia this disease can occur with different frequency in both men and women [2].

Characteristic signs of hemophilia are the appearance of hematomas on the head and prolonged bleeding, lesions of muscles and joints with painful swelling, hemarthrosis, inability to stop bleeding by conventional methods,

subcutaneous and intermuscular hematomas, nasal, renal, gastrointestinal bleeding, severe bleeding after tooth extraction [1].

Moderate to severe hemophilia is treated with lifelong continuous replacement of clotting factor IX to prevent bleeding. Gene therapy for hemophilia B is aimed at establishing a stable activity of factor IX, thereby protecting against bleeding without burdensome replacement of factor IX.

Nowadays hemophilia is treated with replacement therapy with coagulation factor concentrates. Usually preference is given to the drug that with the same effectiveness has the most positive effect on the patient without consequences and also has the best individual indicators and is most convenient to use in these conditions. Concentrates of blood clotting factors are injected intravenously. Bolus infusion is most often used at the rate recommended and in exceptional cases continuous infusion can be used. The main principle of hemophilia treatment is based on “home treatment”. The conditions for such treatment are: the presence of hemostatic drugs, the decision to use a hemostatic drug is made by the patient or his relatives in accordance with the recommendations of the hematologist, the patient or his relatives are trained in the rules of storage and use of medicines.

With modern therapeutics, patients with hemophilia can lead fairly normal lives. New physical activities and new forms of active recreation have become available to them. The possibilities of moving around the city have increased, the number of patients involved in sports has become 3 times more, new opportunities for self-realization have appeared, positive changes are revealed 8 months after the start of the program and are expressed in improving physical well-being, reducing the number of complications and the frequency of seeking medical help [3].

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В статье раскрываются проблемы, связанные со здоровьем человека, вследствие такого заболевания как гемофилия. Описаны комплексы мероприятий и новые методы,



направленные на лечение и улучшение качества жизни людей, страдающих гемофилией.

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### **WINDKRAFT IN DEUTSCHLAND**

Die Energieversorgung der Wirtschaft und Bevölkerung erfordert einen erheblichen Einsatz von Rohstoffen. Für die Gewinnung von Energie werden bisher in Deutschland zu einem wesentlichen Teil konventionelle bzw. fossile Energiequellen wie Kohle, Erdgas und Erdöl eingesetzt. Wegen der Endlichkeit von fossilen Energieträgern hat Deutschland vor ein paar Jahrzehnten begonnen, seine Energieerzeugung grundlegend umzustellen, und zwar auf erneuerbare Energien. Ihr Anteil am Bruttostromverbrauch hat sich von 2011 bis 2021 mehr als verdoppelt. Erneuerbare Energien wie Windkraft, Photovoltaik und Biogas sollen im Rahmen der Energiewende langfristig zum wichtigsten Energieträger werden. Die Energieversorgung soll klimaneutral werden und das Land gleichzeitig unabhängig vom Import fossiler Brenn-, Kraft- und Heizstoffe machen. Bei der Entwicklung der erneuerbaren Energien hin zu einer wirtschaftlich tragfähigen und klimaverträglichen Energieversorgung bei angemessenen Preisen und hohem Wohlstandsniveau spielt die Nutzung des Windes eine tragende Rolle. Im vorliegenden Beitrag werden Vor- und Nachteile sowie Entwicklungspotenzial der Windenergie in der BRD untersucht.

Der Mensch versteht es seit Jahrhunderten, die Kraft des Windes zu nutzen, aber erst mithilfe der jüngsten Erfahrungen und technischen Möglichkeiten gelang es, das enorme Potenzial zuverlässig auszuschöpfen. Gewinnung der Energie erfolgt über Windkraftanlagen, besser bekannt als Windräder. Sie nutzen die Bewegungsenergie des Windes, die durch unterschiedliche Luftdruckverhältnisse in der Nähe der Erdoberfläche entsteht. Die Energie kann der anströmenden Luft durch Turbinen mit Flächen unterschiedlicher Anzahl, Form, Größe und Kombination entzogen werden. Windkraftanlagen stehen in Lagen mit regelmäßigem starkem Wind, wie auf Anhöhen oder im Meer, immer abseits von Wohnsiedlungen. Stehen mehrere in einer Gruppe, spricht man von einem Windpark. Gerade im Alpenvorland gibt es einige Gebiete, die zur Nutzung der Windkraft sehr geeignet sind.

Warum ist die Nutzung von Windkraft sinnvoll? Der Energieträger Wind ist kostenlos und unbegrenzt verfügbar. Die Windenergie ist daher nachhaltig. Der hohe Stellenwert der Windenergie ergibt sich auch daraus, dass sie im ganzen Land verfügbar ist. Dies gilt nicht nur für Deutschland, sondern auch weltweit.

Sie kann dezentral und verbrauchsnahe ausgebaut werden. Zwei Prozent der Landesfläche reichen aus, um bis zu 400 Terawattstunden (TWh) Strom pro Jahr zu erzeugen, dies entspricht etwa 75 Prozent des heutigen Stromverbrauchs. Windkraft ist somit besonders flächeneffizient.

Rohstoffarme Länder wie Deutschland profitieren sehr von der Windenergie. Durch Windenergie wird Deutschland unabhängiger. Denn gäbe es den Strom aus erneuerbaren Energien nicht, müsste Deutschland viel Strom importieren oder mehr fossile Brennstoffe einsetzen, um den Strom in konventionellen Kraftwerken zu erzeugen. Der Ausbau von Windkraftanlagen verschafft Deutschland somit langfristig einen enormen wirtschaftlichen Vorteil gegenüber anderen Nationen. Und mehr noch: Die BRD exportiert Windenergieanlagen in die ganze Welt.

Windenergie an Land ist mit etwa 5 bis 10/kWh zudem die preiswerteste Form von Strom aus erneuerbaren Energien. Die Anlagen holen die für ihre Herstellung nötige Energie in ca. 5 Monaten wieder herein. Darüber hinaus erzeugt eine Windenergieanlage während ihrer 20-jährigen Laufzeit bis zu 70 Mal so viel Energie, wie für ihre Herstellung, Nutzung und Entsorgung benötigt wird [2].

Ein weiterer Pluspunkt: Wind ist eine saubere Energiequelle und Windenergie ist somit Klimaschutz. Eine Windkraftanlage verursacht keine schädlichen Emissionen wie Smog oder Treibhausgase. Das heißt, Windenergie belastet die Luft nicht wie etwa Kraftwerke, die auf die Verbrennung fossiler Brennstoffe wie Kohle, Erdöl oder Erdgas angewiesen sind und dabei Feinstaub, Stickoxide und Schwefeldioxid ausstoßen. 2017 wurden durch Windenergie 71 Millionen Tonnen Treibhausgase eingespart.

Windkraftanlagen werden stetig effizienter und günstiger. Eine moderne Windkraftanlage erzeugt also deutlich mehr Strom als noch vor 15 Jahren. Da die Forschung natürlich nie still steht, kann davon ausgegangen werden, dass die Effizienz von Windrädern in der Zukunft noch weiter steigen wird, was die Errichtung bzw. den Ausbau neuer Anlagen immer attraktiver macht, zumal auch die für ein Windrad benötigte Fläche zunehmend kleiner ausfällt.

Darüber hinaus ist Windenergie ein Jobmotor für ganz Deutschland: Sie schafft zusätzliche Arbeitsplätze in der Produktion, in der Wartung und der Forschung. Im Jahr 2018 waren in Deutschland laut dem Umweltbundesamt 304.400 Menschen im Bereich der erneuerbaren Energien beschäftigt. Mit 121.700 Beschäftigten war Windenergie dabei die wichtigste Branche.

Gegen die Nutzung von Windkraft spricht eigentlich nur wenig, dennoch sollen sie hier erwähnt werden:

- Es kann keine konstante Menge Energie erzeugt werden, da sie auf das Vorhandensein von Wind angewiesen ist.

- Windkraftanlagen können aufgrund der Lärmerzeugung und des Schattenwurfes nicht in der Nähe von Siedlungen aufgestellt werden.

- Vögel kollidieren mit Anlagen und werden durch die Rotorblätter getötet.
- Orte, die dem Wind sehr ausgesetzt sind, sind oft schwer zu erreichen. Die Installation auf Bergen und im Meer ist häufig sehr aufwendig.

Aber im Angesicht des Klimawandels erscheinen die genannten Probleme unbedeutend und sind schon jetzt weitgehend lösbar.

In den letzten Jahren verzeichnete Deutschland eine sehr dynamische Ausbauentwicklung der Windenergienutzung: Seit 2010 hat sich die installierte Stromerzeugungsleistung in Windenergieanlagen an Land verdoppelt – obwohl der Zubau in den Jahren 2018 bis 2020 erheblich ins Stocken geriet. Mit 54.500 MW installierter Leistung stehen heute Windräder an erster Stelle der Kraftwerkskapazitäten. Ein Viertel der nationalen Stromerzeugungsleistung ist in rund 28.000 Windturbinen an Land installiert. Bis Ende 2032 müssen die Länder zwei Prozent der Bundesfläche für die Windenergie ausweisen, hat der Bundestag im Gesetz festgelegt [1].

Um den Ausbau der Windenergienutzung in Deutschland auf hohem Niveau aufrecht zu erhalten, wird neben dem weiteren Ausbau an geeigneten Landstandorten und dem Ersatz alter, kleinerer Anlagen durch moderne und leistungsstärkere Anlagen (Repowering) auch der schrittweise Ausbau der Windenergie auf See – der sogenannten Offshore-Windenergienutzung – weiterentwickelt. Die Änderungen im „Windenergie-auf-See-Gesetz“ sehen bis 2040 den Ausbau der Offshore-Windenergie auf eine installierte Leistung von 40 Gigawatt vor.

Zusammenfassend kann man sagen, dass die Vorteile der Nutzung von Windenergie überwiegen die Nachteile bei Weitem. Mit verbesserter Technik der Anlagen und Maßnahmen, die Schaden für Menschen durch Lärm oder für Wildtiere durch die Bewegung der Rotoren vermeiden soll, ist die Nutzung der Windenergie ein wesentlicher Baustein für die intelligente Energiewende. Der Ausbau der Windenergie ist entscheidend, um die Unabhängigkeit von fossilen Importen zu stärken und die Klimaziele zu erreichen.

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Статья посвящена ветровой энергетике Германии. Рассматриваются преимущества и недостатки использования энергии ветра. Освещены современное состояние и перспективы развития ветровой энергетике.

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## **COOPERACIÓN INTERNACIONAL Y PARTICULARIDADES DEL DESARROLLO ECONÓMICO EN EL MUNDO CONTEMPORÁNEO**

La economía es la ciencia que estudia la circulación de los recursos entre los agentes económicos [1]. Es imposible no apreciar su importancia desde la época de la Revolución Neolítica hasta nuestros días. Es importante que todo el mundo conozca los principios de económicos, independientemente de su ocupación o nivel de educación.

Esta ciencia está vinculada con otros ámbitos, como el social, cuando el gobierno trae de redistribuir los ingresos en favor de los pobres. La economía también se relaciona con la política, porque las autoridades recurren a la regulación económica durante los tormentas políticas. No podemos ignorar tales intervenciones, porque pueden causar nuestra pobreza o, con menos frecuencia, nuestra prosperidad.

Además de la influencia local, dentro de las fronteras de los países, la economía afecta a las relaciones entre los países y organizaciones internacionales. En el mundo actual existe tal fenómeno como la globalización, que ha sido objeto de acalorados debates desde sus inicios hasta hoy.

La globalización es la relación recíproca entre países en diversos campos: economía, política, cultura, educación y muchos otros. Este fenómeno surgió a finales de la Edad Media, después de los descubrimientos realizados por exploradores portugueses, españoles y sus sucesores. Después de Colón, varios descubridores viajaron desde el Viejo Mundo a otras partes del planeta, estableciendo puestos comerciales y conquistando naciones en honor de sus reyes. A pesar de las consecuencias negativas, especialmente la destrucción del modo de vida tradicional de los nativos, los descubrimientos propiciaron el establecimiento de contactos mutuos entre distintas culturas, incluidos intercambios económicos, tecnológicos y culturales. Exacto gracias a estos descubrimientos las naciones comparten sus logros económicos e intercambian bienes. Podemos por ejemplo probar la comida tradicional china en los restaurantes chinos de Nueva York, París y Moscú, o comprar vodka rusa en los supermercados de lejana California o darle al plato un toque picante con especias indias que abundan en nuestros mercados.

Paralelamente al desarrollo de las infraestructuras, con la llegada del ferrocarril, el avión y otras formas de comunicación, la globalización no ha

hecho más que aumentar. Hoy ha alcanzado tal nivel que en muchos casos la globalización está perjudicando algunos aspectos de la cultura. Pero ante todo nos preocupan las relaciones económicas.

En cuanto a la economía, la globalización tiene sobre todo efectos positivos. Por ejemplo, varios países pueden acumular sus esfuerzos y proporcionar a los países subdesarrollados dinero, experiencia o ayuda humanitaria. Alguien puede recordar “las piernas de Bush”, que se exportaron a la Unión Soviética y salvaron millones de sus habitantes del hambre. Recientemente, tras los terremotos de Turquía, varios países han enviado allí grandes cantidades de ayuda humanitaria. Y las acciones descritas no son raras, muchos países y organizaciones hacen algo parecido sin pensar si obtendrán algún beneficio. Así pues, los beneficios económicos y sociales de la globalización son evidentes.

Pero ¿Y el impacto en otros ámbitos? Por desgracia, en términos de cultura, hay consecuencias negativas como la extinción de lenguas raras. Es propio de la naturaleza humana elegir la opción más fácil. Por eso los hablantes de lenguas raras eligen las lenguas más comunes, o internacionales, para comunicarse, por ejemplo, con los empleadores y luego con sus compañeros. Y la realidad es que en algunos países sigue sin haber cátedras universitarias sobre lenguas raras y en peligro de extinción: o no hay suficientes especialistas, o simplemente es la voluntad de las autoridades. Sí, hay algunos proyectos para resolver el problema, como la Carta Europea de las Lenguas Minoritarias o Regionales. Pero esta carta no está ratificada por Francia, el país que tiene varias lenguas minoritarias, o no siquiera está firmada por Turquía y Azerbaidzhán [2], los países famosos de su actitud salvaje hacia las minorías [3]. Por lo tanto la globalización tiene sus numerosos opositores en todo el mundo.

¿Qué tenemos que hacer con todo esto? Creo firmemente que debemos profundizar la cooperación internacional en el ámbito económico, porque nos da la oportunidad de resolver varios problemas económicos y sociales como la pobreza, crisis humanitaria, desempleo y muchas más. Las autoridades deberían suavizar las restricciones y barreras económicas, porque la experiencia mundial demuestra los beneficios de dicha cooperación. El inconveniente es que a veces, si una crisis se produce en un país, se extiende muy rápidamente a otros, como durante la crisis de 2008 o la Gran Recesión, pero podemos resolver muchos problemas más rápido que antes, o al menos evitar que un gran número de personas sufran consecuencias negativas. Pero cuando se trata de cultura, no debemos trabajar por la unificación y la globalización, sino por la preservación de las costumbres, las lenguas, los lugares históricos y sagrados, porque son sin duda la clave de nuestra alma y la seña más importante de nuestra identidad.

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В статье раскрывается значение термина «экономика», связи экономики с другими сферами деятельности и её значение в жизни общества. Автор обозревает историю глобализации, а также анализирует преимущества и недостатки глобализации с точки зрения различных подходов, в том числе экономического и культурного.

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#### **DO SELLS CONTROL GENES?**

Recently a new and important direction of molecular biology has appeared – epigenetics which is not as well-known as genetics. The differences between these two directions are that epigenetics studies changes in genes without changing the structure of DNA, and genetics studies the processes by which changes in genes occur. It can be assumed that the development of epigenetics will raise medicine to a higher level. Since epigenetic diseases are the cause of many diseases such as psoriasis and systemic lupus erythematosus a more detailed study of the epigenome will help to create a treatment for many epigenetic diseases. We can say that epigenetics is like a “commander” who, in response to external stimuli (nutrition, emotional stress, physical exertion), gives orders to our genes to strengthen or weaken their activity [3].

Epigenetics studies how cells control gene activity without changing the sequence of DNA. Modifications to DNA that regulate whether genes are turned on or off are called epigenetic changes. The modifications are attached to DNA but they do not change the sequence of the building blocks of DNA. All the modifications of DNA in a cell (genome) that regulate the activity of the genes are called epigenome [2].

Epigenetic changes influence the production of proteins in cells. The regulation (whether genes are turned on or off) helps each cell produce only those proteins that are necessary for its function. For example, proteins that are produced in muscle cells are not produced for promoting bone growth.

A lot of types of epigenetic processes have been identified. They include methylation, acetylation, phosphorylation, ubiquitylation and sumoylation. Epigenetic processes are natural and essential to many organism functions but if they occur improperly there can be major adverse health and behavioural effects.

DNA methylation is a common type of epigenetic modification. It involves the attachment of methyl groups. Each consists of one carbon atom and three hydrogen atoms. If methyl groups are in a gene this gene is turned off and no protein is produced from this gene [2].

Chromatin modification is another important epigenetic process. Chromatin is the complex of proteins (histones) and DNA that fit into the nucleus. The complex can be modified by the following: substances enzymes, acetyl groups (the process called acetylation) and some forms of RNA such as microRNAs and small interfering RNAs. This modification changes the structure of chromatin and converts hereditary information from a gene into RNA or protein. Thus tightly folded chromatin tends to be turned off while open chromatin functions.

Imprinting is the effect of such processes. In genetics it describes the condition where one of the two alleles of a gene pair is silenced by methylation or acetylation which is an epigenetic process. This becomes a problem if the expressed allele is damaged or contains a variant that increases the organism's vulnerability to microbes, toxic agents or other harmful substances [1].

Histone modification is one more epigenetic change. Histones are structural proteins in the cell nucleus. DNA envelops histones and gives the chromosomes their shape. Histones can be modified by adding or removing acetyl groups or methyl groups. Each group consists of two carbon, three hydrogen and one oxygen atoms. The chemical groups influence how tightly the DNA covers histones. This affects if a gene is turned on or turned off.

Modification of the wrong gene or failure to add a chemical group to a particular gene or histone are the errors in the epigenetic process which can lead to abnormal gene activity or inactivity. Caused by epigenetic errors altered gene activity is a cause of many genetic disorders. Cancers metabolic disorders and degenerative disorders are considered to be epigenetic errors [2].

Summing up, we can say that epigenetics is a new direction in the development of science, thanks to which in the future it will be possible to get rid of many diseases that are incurable at a given time. An example is cancer because it is a consequence of genetic and epigenetic mutations. The further study of genes may lead to the fact that humanity will be able to regenerate organs because their body will be able to restore the non-functioning part of the organ.

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В статье рассматривается новое направление в молекулярной биологии – эпигенетика, которая изучает активность генов без изменения последовательности ДНК. Автор описывает генетические модификации, гены и эпигенетические процессы (метилование, ацетилирование, фосфорилирование, убиквитилирование и сумоляцию).

### к содержанию

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### **“STREET ART” VS “GRAFFITI”: WHAT’S THE DIFFERENCE**

There is no doubt that art has a lot of different forms. Since the 20th century many controversial forms of art have appeared. Nowadays there are people who consider graffiti to be a new form of art. Are they right?

Although the common image of graffiti is a stylistic symbol or phrase sprayed on a wall by a member of a street gang, some graffiti is not gang-related. Graffiti can be understood as antisocial behaviour performed in order to gain attention or as a form of thrill seeking, but it also can be understood as an expressive art form.



Derived from the Italian word *graffio* (“scratch”), graffiti has a long history. Graffiti has existed for thousands of years in one form or another. For example, markings have been found in ancient Roman ruins, in the remains of the Mayan city of Tikal in Central America, on rocks in Spain dating to the 16th century, and in medieval English churches.

There is as yet no simple definition of street art. With anti-capitalist and rebellious undertones, it is a democratic form of popular public art probably best understood by seeing it in situation. It is not limited to the gallery nor easily collected or possessed by those who may turn art into a trophy.

Considered by some a nuisance, for others street art is a tool for communicating views of dissent, asking difficult questions and expressing political concerns.

Its definition and uses are changing: originally a tool to mark territorial boundaries of urban youth today it is even seen in some cases as a means of urban beautification and regeneration.

Whether it is regarded as vandalism or public art, street art has caught the interest of the art world and its lovers of beauty. However, many people associate graffiti with anti-social behaviour and gang culture, rather than being considered an art form.

So is the graffiti illegal?

Graffiti includes defacing, writing, scratching or drawing on property so that the marks can't be removed easily with a dry cloth. This includes stencil art and engraving. It is an offence to mark graffiti on property that can be seen by the public unless the owner has given you permission. To stop people from doing that there are very serious penalties for making or intending to make graffiti, including large fines and imprisonment. It is a more serious offence if the graffiti would offend a reasonable person. Political comments are an exception to this, if they are reasonable.

The laws on public property are very strict and anyone caught doing graffiti can be arrested and prosecuted under the Criminal Damage. Offenders can go to prison for a long time – from three months and up to ten years imprisonment, if the damage costs more than 5000 pounds. They can also be fined.

It is also an offence to carry a can of spray paint that could be used to mark graffiti in particular areas without a good reason, such as needing to carry these tools because of your work. Police may take anything that they believe may be used to make graffiti, but it may be returned if police decide not to take you to court or if you are found not guilty. You can't buy spray if you are less than 18 years old.

Much graffiti serves no purpose other than to promote the tagger who's defacing the property, much like a dog marking his territory. But there are many street artists whose works arguably enhance their environment.

Lots of councils in the UK offer spaces for graffiti artists to legally do their art. These are called “free walls”. These areas are not for “tagging”. These can be an excellent way of practising your style and meeting other graffiti artists in your area.

*Street art* is, quite literally, art that can be found on the street. Defined as “public-space artwork that’s created for consumption outside of the typical art gallery setting,” *street art* is essentially synonymous with “public art” as it encompasses a variety of mediums like painting, sculpture, or stained glass.

This intentionally broad definition is the key to understanding the scope of what *street art* covers, but public murals are by far the most common form of *street art*. These expansive, often larger-scale works of art typically painted on open walls or sides of buildings are most frequently created in partnership with companies, brands, or local organizations, but have also at times been commissioned by city officials to discourage and prevent illegal *graffiti*.

London street art has brightened up the city from Southbank to Brick Lane and beyond. Street art today is a regular occurrence on London’s streets; in some areas it is ubiquitous. The appeal of street art includes its unpredictability, illegality, the challenge it poses to authority, the altruism of the street artist, and the romance and poetry of the work. Exposed to the ravages of urban life, street art can be considered transient, delicate, beautiful and fragile. Done well, it reaches out and touches your soul, increasing the quality of your emotions as you trudge through the city.

Although street art, for the most part, is not commissioned or requested, so is criminal and illegal, London has one of the biggest and best collections of uncommissioned street art in the world. Street artists are deliberately unpredictable in locating their works. But in London there are hives, around which street artists buzz and rule supreme, where it would seem, Councils have given up on taking the works down, crushed under the weight of the art deposited or seduced by the economic and cultural benefits attendant to a critical mass of street art. Three principal locations in London are Camden, East London and Leake Street in Waterloo.

Local and international artists have decorated the streets of London with a staggering array of creative works using a wide range of mediums, from miniature bronze statues to painted murals several storeys high.

Possibly the most famous street artist to date is Banksy. There has been Banksy art in London for more than a decade. He stencils pictures of people and animals engaged in unexpected behaviour. Some of the art makes a hard-hitting political point, while other works are extremely funny; often they are both. Due to his popularity, or unpopularity in some cases, many of the original Banksy pieces in London are no longer visible.

Martin Ron is one of the pre-eminent street artists in Argentina. He paints hyper realistic surrealist imagery on a huge scale. Upon invitation from Street Art London he travelled to London to participate in Village Underground Wall Project

and over the course of eight days painted a breathtaking mural. Certainly a contender for one of the best ever pieces on this prestigious London wall.

As in most other countries graffiti is also illegal in our state. In our country, you can be put into prison for a term from three months to three years or in most cases, you will be fined. But anyway this form of art is also popular in Belarus, especially in the capital. Nowadays graffiti art has a lot of admirers who view it as a form of personal and cultural expression. Street artists are deliberately unpredictable in locating their works. But if graffiti is done by really talented people, a picture can be a work of art. There are many examples of such works in Minsk. In Brest two drawings have been done with portraits of Maxim Bogdanovich and Yanka Kupala with their quotes. The style is lettering, combined with artwork in black and white. The work was coordinated and created in the daytime in a relaxed atmosphere. It does not raise an acute social issue, but rather an expression of love for Belarusian literature and drawing attention to the Belarusian language.

So, if a public mural is considered *street art*, does that mean *graffiti* is *also* a form of *street art*? The answer is: sort of.

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В статье исследуется проблема граффити и стрит-арта. Автор на примерах и фактах раскрывает неоднозначность данного явления.

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#### THE DEVELOPMENT OF INCLUSIVE TOURISM IN BELARUS

Every new year Belarus creates the most comfortable conditions for tourists with disabilities. At the moment, the inclusive tourism group includes the elderly people, pregnant women, mothers and overweight people. About 550 thousand people from inclusive group live in the country. That is almost 6% of the population. And there are only 4-5 travel agencies that offer a special holiday to these 6% of the population. In general, the potential demand for inclusive tourism in Belarus is about 26% of the population. The

main problems, which connect with inclusive tourism, are the adjustment of the standards of tourist services and the definition of tourist routes for people with special needs. And the state program “Hospitable Belarus” solves these problems (the program operates from 2021 to 2025).

However, people with disabilities may face difficulties in the regions of the country. In many tourist places there are no conditions for such tourists (transport, food outlets, hotels, places of interest, etc.), as well as a lack of specialists with the skills to work with such travelers. In our country, more than 100 travel companies offer travel packages for inclusive tourists. Some travel companies may also come to the client’s home to help select a trip. Our country is trying to help make all the conditions for people with disabilities. Almost all hotels in Belarus have specially equipped places for accommodation and recreation of wheelchair users. Only 200 enterprises out of 613 hotels and similar types of accommodation were created for the comfortable stay of such tourists. In the capital, hotels “Europe”, “Victoria”, “Belarus”, “Sputnik”, and “Voyage” are equipped for physically weakened people and wheelchair users.

In addition, there are many hiking trails for inclusive travelers. Famous memorials, churches, castles, art galleries, natural areas are located on these routes. In the very center of Minsk, an interesting visit to Independence Square was organized for wheelchair users, as well as for the blind and visually impaired. The automobile plant BelAZ has developed production tours for wheelchair users and people with visual impairments. Nalibokskaya Pushcha is an ecological area suitable for wheelchair users and people with visual impairments.

A good example is the Belokorets Ecological Road, which was opened in the Volozhin district in 2018 on the territory of Nalibokskaya Pushcha. It has interactive stands, tactile maps and special boards for visually impaired people. The ecological trail is also equipped with benches and information stands (there is a memo with images of birds living in the forests of Belarus, an interactive map and others). In addition, all information is copied into Braille. In the corridor of such interactive stands there are 9.6 tactile cards for blind visitors.

Also, for example, in 2020, the Tourist Information and Recreational Center "Local Regional Center for Social Services for the Population" was opened. It was founded as part of the international project "Volozhin without barriers: strengthening the provision of social and recreational services to people with disabilities."

The number of public institutions for people with disabilities (museums, theaters, banks and shopping centers) is constantly growing. Currently, about 90 of the country's 115 museums are fully equipped with accessible protective features, and almost all of them provide free access to permanent and

temporary exhibitions and events for persons with disabilities. For example, inclusive art projects have started in Minsk. In 2015, the National Art Museum of Belarus and the Mivia creative group began work on the Art at Hand project, which will allow the blind to touch tactile interpretations of the works of Belarusian artists such as Ivan Khrutsky and Yazep Drozdovich. Later, such projects regularly appeared in the National Museum of Fine Arts. Also in 2021, the museum and the BelonicaArt project presented 8 works that were painted by blind artists.

Minsk National Airport has special equipment for boarding an aircraft in wheelchairs. The building also has a remotely controlled voice announcer based on a free app. A barrier-free environment for people with disabilities has been created at the Minsk railway station. Wheelchair users have unimpeded access to everything at the Minsk Central Bus Station, and visual information is also transmitted there for passengers with hearing impairments. New metro stations were built, adapted to the needs of people with disabilities. The old stations have been largely modernized with cable equipment.

Studying this issue, we can conclude that our country is at an early stage in the development of inclusive tourism. Currently, Belarus is not distinguished by a very high availability of tourism infrastructure for people with special needs. Unfortunately, at present it is quite difficult to find information about inclusive tourism and available tourism tools and services in Belarus. For example, there is no information on the availability of tourism for people with special needs on the official portal Belarus.travel. On sites such as vetliva.by., holiday.by, they provide only brief information about the availability of certain services, which is not enough when planning a trip for this category of tourists. However, this direction is promising. An additional incentive for the development of inclusive tourism in Belarus are international technical assistance projects that are directly or indirectly related to the development of inclusive tourism. Examples of such projects are "Green roads without obstacles", "Novopolotsk - from inclusive school to inclusive city", "Local entrepreneurship and economic development".

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Статья посвящена развитию инклюзивного туризма в Беларуси. Рассматриваются положительные и отрицательные стороны этого туризма в стране. Выявлены пути, при которых этот вид туризма будет более популярен в нашей стране.

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### **REISEJOURNALISMUS ALS BERUF**

Fremde Kulturen und exotische Länder üben nach wie vor einen ungebrochenen Reiz auf den Mediennutzer aus. Deshalb will auch nahezu kein Medium auf das Reise-Ressort verzichten. Allein im Printbereich gibt es auf dem deutschen Markt etwa 40 reine Fachmagazine sowie circa 200 Zeitungen und Zeitschriften mit einem eigenen Reiseressort. Hinzu kommen unzählige weitere Formate in Hörfunk, Fernsehen und vor allem im Internet, wo es zu jedem Reiseziel zahlreiche Seiten gibt, deren Inhalte teilweise auch mit journalistischem Anspruch gefüllt werden. Das Thema Reisen scheint den Deutschen also am Herzen zu liegen. Reisejournalist ist für viele Menschen ein echter Traumberuf: immer unterwegs auf dem Globus, immer auf der Suche nach Abenteuern, aufregenden Touren und spannenden Gesprächspartnern. Doch hinter den locker geschriebenen Texten des Reisejournalismus steckt eine Menge Arbeit. In vorliegendem Artikel wird das Berufsfeld der Reisejournalisten vorgestellt und die Rolle des Reisejournalismus aufgezeigt. Der Zweck ist dabei zu beweisen, dass der Reisejournalismus als sich aktiv entwickelnder Bereich mit großem Potenzial besondere Aufmerksamkeit verdient.

Reisemagazine und Reiseressorts wurden vorwiegend nach dem Zweiten Weltkrieg gegründet, als die Mediennutzer es sich auch leisten konnten, die Länder zu besuchen, über welche sie sich zuvor informiert haben. Doch das Thema Reise hat die Mediennutzer schon sehr viel länger interessiert und fasziniert. Deshalb dürfen die Berichte und Erzählungen der Forscher im 19. Jahrhundert als früheste Formen des Reisejournalismus gelten. Sie berichteten subjektiv über ihre Reisen, die sie meist durch den Fernen Osten oder Afrika geführt hatten, und begründeten damit auch die Tradition der

Reisereportage. Die gesellschaftliche Relevanz des Reisens ermöglichte die Etablierung des Reisejournalismus als eines der bedeutendsten journalistischen Fachressorts.

Der Reisejournalismus ist ein fachspezifisches Ressort des Journalismus, das zugleich unterhält und informiert. Im Vordergrund stehen dabei touristische Aspekte [1]. Als Reisejournalisten werden Journalisten bezeichnet, die festangestellt oder freischaffend für einen Medienbetrieb arbeiten und hauptsächlich mit Berichterstattung zum Thema Reisen betraut sind. Das können Reiseziele sein, die Reiseart, Destinationen für bestimmte Sportarten und so weiter [2]. Das primäre Ziel eines Reisejournalisten ist die objektive Berichterstattung, wobei die Abbildung der Welt realistisch sein soll. Reisejournalismus, und damit das Tätigkeitsfeld für Reisejournalisten, findet sich in verschiedenen Medien.

Es gibt unzählige Darstellungsformen im Reisejournalismus. Besonders gefragt sind Reportagen und Reise-Features, die persönliche Erfahrungen der Reisejournalisten darlegen. Hintergrundartikel, Meldungen, Porträts und Servicetexte stoßen ebenso auf große Beliebtheit. Porträts von Urlaubsländern und -regionen, Meldungen und Servicetexte werden meist von lokalen Journalisten verfasst und zeichnen sich durch eine informative und kurze Form aus. Im Internet und in Fachmagazinen werden zusätzlich Hintergrundberichte veröffentlicht. Diese dienen dazu, weitere interessante Informationen über das Land zu vermitteln, wie z. B. geschichtliches Hintergrundwissen oder die politische Lage im Land [1].

Regelmäßig berichten die verschiedenen Medien über die beliebtesten Urlaubsziele. Bei diesen Themen steht die Vorstellung des Reiseziels und der Servicegedanke im Vordergrund. Reisejournalisten stellen attraktive Ausflugsziele und Freizeitmöglichkeiten am Urlaubsort vor, aber auch Tipps, was die Reisenden bei der Anreise und am Urlaubsort berücksichtigen müssen. Beispielsweise, was die Auslandskrankenversicherung oder den Versicherungsschutz für das eigene Auto angeht. Es werden also Hintergründe zu einem speziellen Land oder Reiseziel recherchiert, wobei hier ebenfalls auf die politische, wirtschaftliche und gesellschaftliche Lage, sowie kulturelle Themen eingegangen wird. Deswegen überschneidet sich der Reisejournalismus mit anderen Ressorts, hauptsächlich mit dem Kultur- und dem Gastronomiejournalismus. Denn ein ausführlicher Reisebericht wirkt auf den Mediennutzer erst dann rundum gelungen, wenn der Reisejournalist auch Tipps zur regionalen Küche und besonderen Spezialitäten gibt. Dazu gehört vor allem bei exotischen Reisezielen auch eine kurze Einführung zu den örtlichen Traditionen und Gepflogenheiten. Des Weiteren sollte der Reisejournalist auch kulturelle Highlights, bekannte Museen oder Veranstaltungen im Rahmen seiner Berichterstattung vorstellen. In diesem Bereich benötigt er also zumindest etwas

Hintergrundwissen, um beurteilen zu können, welche Einrichtungen und Veranstaltungen für seine Zielgruppe interessant sein könnten.

Darüber hinaus erwartet der Mediennutzer vom Reisejournalisten Informationen darüber, wie sicher die Reise in ein bestimmtes Land ist und ob er besondere Sicherheitsvorkehrungen treffen muss. Das gilt vor allem für beliebte Reiseländer wie Ägypten, Mexiko oder Brasilien. In ärmeren Ländern ist bspw. die Kriminalität ein wichtiges Thema, der besonders unvorsichtige Urlaubsgäste zum Opfer fallen. Der Hintergrund ist hier die schlechte wirtschaftliche Lage der Bevölkerung. Auch hier dürfen entsprechende Warnungen und Hinweise in der Reiseberichterstattung nicht fehlen.

Die Tourismusindustrie zählt zu den weltweit größten Wirtschaftszweigen mit aktuell über 100 Millionen Beschäftigten und ist damit ein nicht zu unterschätzender Wirtschaftsfaktor. Daher müssen Reisejournalisten nicht nur interessante Reisedestinationen im Blick haben, sondern auch über eine hohe wirtschaftliche Kompetenz verfügen, um Entwicklungen am Reisemarkt zu erkennen und darüber zu berichten, sei es schreibend oder visuell.

Reisejournalismus ist somit mehr als nur Berichte über die „schönsten Wochen im Jahr“. Der Beruf verlangt von Bewerbern mehr als nur eine Reisetätigkeit mit Aufenthalt an interessanten Reisezielen. Ehe die Reisejournalisten ans Werk gehen, werden Hintergründe recherchiert. So müssen etwa Materialien aus Archiven und Datenbanken durchgesehen werden, es werden Pressemitteilungen zur Destination gelesen und Termine mit Interviewpartnern gemacht. Reisejournalisten betreiben eine deutlich umfangreichere Recherche als normale Journalisten, was schon allein daran liegt, dass sie in der Regel direkt vor Ort sind und im Land oder in einer Stadt selbst recherchieren. Reisejournalisten checken in verschiedenen Hotels ein, testen Freizeitangebote, besuchen kulturelle Einrichtungen und recherchieren im Internet z. B. aktuelle Preise. Sie benötigen vielseitige Kontakte im Land bzw. müssen Menschen finden, die Auskunft erteilen. Normale Journalisten greifen häufig auf gleiche Informanten zurück. Das ist für einen Reisejournalisten kaum möglich, da er immer über andere Länder und Regionen berichtet. Der Reisejournalist muss noch mehr als der normale Journalist ein Allroundtalent sein, muss kommunikativ, neugierig, offen, selbstbewusst und zum abstrakten Denken in der Lage sein. Hinzu kommt, dass er das schreiberische Handwerkszeug erlernen muss, er muss die Unterschiede zwischen einzelnen Arten der Publikation kennen und im Detail beachten.

Immer wieder ist die gängige Meinung zu hören, dass es im Reisejournalismus kaum noch neue Themen geben könne. Das ist weit gefehlt, auch wenn der Eindruck entstehen kann, dass zum hundertsten Male über einen bestimmten Strand auf einer Insel berichtet wird. Doch es gibt immer wieder neue Aspekte, die ein Reisejournalist beleuchten kann.



Reisejournalismus – das ist ein alles andere als gesicherter Begriff. Reisejournalisten befinden sich als Akteure im Berufsfeld Reisejournalismus in einem Spannungsfeld, das ihre Arbeit und ihr Selbstverständnis beeinflusst. Es herrscht eine Diskrepanz zwischen: 1) den normativen Erwartungen, die an Reisejournalisten hinsichtlich Funktion und Qualität grundsätzlich gestellt werden, und 2) den Einflüssen aus dem Tourismussektor auf die reisejournalistischen Medien [2]. Den Beruf des Reisejournalisten üben in den meisten Fällen freiberufliche Journalisten ohne festen Werdegang aus. In ihnen zeigt sich eine Entscheidungsnot zwischen der Moral und dem Business aufgrund der starken Beeinflussung durch Sponsoren und der PR. Da ein freiberuflicher Reisejournalist die Kosten für seine Reise in den meisten Fällen selbst tragen muss, es sei denn, Sponsoren geben dem Journalisten eine Reise samt Thema vor, steht auch hier der Einsatz des Journalisten und der Erfolg seiner Arbeit in einem schlechten Verhältnis zueinander.

Obwohl einzelne Reiseveranstalter versuchen, für die Organisation einer Pressereise eine exklusive Berichterstattung zu bekommen, sollten sich Reisejournalisten nicht auf diese „unmoralischen Angebote“ einlassen. Auch wenn Geschäfte nach dem Modell „Eine Hand wäscht die andere“ nicht unüblich sind, sollten Reisejournalisten zumindest andere Anbieter recherchieren und erwähnen. Denn wenn sie zu offensichtlich in den PR-Journalismus abgleiten, machen sie sich nicht nur selbst unglaubwürdig, sondern schädigen damit sogar den Ruf des gesamten Reisejournalismus.

Abschließend sollte die Rolle des Reisejournalismus für Konsumenten aufgezeigt werden. Die Tourismusbranche boomt, die Umsätze der Veranstalter steigen. Ebenso steigt das Bedürfnis nach den kleinen Fluchten aus dem Alltag und sei es auch nur eine „Traumreise“, die auf dem Kanapee beginnt und endet. Unverkennbar ist das ungebrochen starke Interesse daran, dem kalten, industrialisierten und dichtbevölkerten Mitteleuropa zu entgehen, die Paradiese in der Ferne zu suchen. Der Reisejournalismus bietet hier Startrampen an, für reale wie virtuelle Abflüge in die weite Welt.

Durch die Massenmedien wird das Publikum in seiner Urlaubsentscheidung beeinflusst und bekommt gleichzeitig neue Einblicke in fremde Länder und Kulturen. Des Weiteren soll der Reisejournalismus Denkanstöße und Inspirationen für die eigene Reise liefern. Mit spannenden Reiseberichten können professionelle Journalisten das Interesse zum Besuch ferner Länder steigern und zum Erfolg der Tourismusbranche beitragen.

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В статье рассматривается малоизученный сегмент медиапространства – журналистика путешествий и туризма. Автор раскрывает понятие “трэвел-журналистика”, определяет круг задач и компетенций трэвел-журналиста. Также подчеркиваются роль и особенности этого активно развивающегося и весьма перспективного направления в журналистике.

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### **THE ROLE OF THE ENGLISH LANGUAGE IN THE SPHERE OF TOURISM**

Humanity is currently in the age of globalization and international travel. There are about two hundred states in the world today. Each country has its own history, culture and language. Today there are a huge number of languages and dialects in the world, but only a few are the most important and have power. First of all, these are English, French, Spanish, Portuguese, Russian and Arabic.

Foreign languages are one of the most important factors in the development of international tourism. Nowadays, the study of foreign languages is a crucial aspect of the life of a modern person. Knowledge of a foreign language gives us the opportunity to get acquainted with the culture and traditions of other countries, contributes to the development of thinking, imagination and memory. Its knowledge is necessary for the effective interaction of states with each other in many areas of life (science, politics, culture, art etc.). Knowledge of a foreign language today is one of the conditions for professional competence. A foreign language, especially English for specialists of any profession, is a means of communication with representatives of a different culture. This is a particularly important factor for inbound and outbound tourism professionals who have to deal with people from all over the world on a daily basis.

The processes of world globalization and integration have led to the rapid growth of intercultural contacts in all spheres of our life, which include such situations of intercultural communication as studying at school and at the university on exchange, internships for scientists, international conferences, joint ventures, tourist trips, exhibitions, tours, sports competitions. Thus, one of the prerequisites for successful adaptation in the social space is the knowledge of foreign languages.

This article deals with the role of English in tourism and its importance for those who want to be successful in this industry.

The tourism industry is closely connected with foreign languages. Every year the number of travelers increases. But it is impossible to travel around the world and not know foreign languages. Undoubtedly, that a common language of communication, among a wide variety of languages, is necessary for the smooth functioning of the tourism industry. Many people believe that if there is a need for travel, then they need to know a lot of different languages, but not everyone shares this opinion.

In the 21st century, English is the language of travel. No matter what country you are in, you will be understood in English everywhere. At the hotel, at the restaurant, at the bus stop, you can talk to the locals. English is the most important international language. More than 400 million people speak English as their first language, 300 million use it as a second language, and another 500 million speak English to some extent. It is used by millions of people worldwide. Currently, English is the most popular language in the world [2, p. 12].

Heads of tourism departments and agencies and other officials all over the world use English to communicate with local tourists, international tourists and immigrants. Like a multinational company, in tourism, English proficiency is a prerequisite for communication, collaboration and development of this industry both within the company and outside it, as well as internationally. English is seen as a tool to improve the effectiveness of communication in a tourism organization, and it can also be said that a good command of English is considered an advantage for a person associated with the tourism industry.

Currently, the tourism business is especially developed and has a lot of directions. This includes international tourism, and the main condition for working in this area is, of course, an excellent knowledge of English as the language of intercultural communication. For employees of travel agencies, English is essential for communicating with clients from all over the world. The tourist staff is the most active user of English. The reason is that travel agencies or tour operators use English for various purposes, such as publishing brochures, posters, travel guides, writing emails and faxes, browsing the Internet, issuing tickets and booking hotels. The quality of service largely depends on language skills. The ability to organize a trip, meet a client, provide hospitality, accommodate a client in a hotel, resolve a conflict situation, provide various kinds of services - all this is the responsibility of tourism workers who cannot do without English [1, p. 56]. Moreover, there is always an opportunity to develop professionally in this direction. The language is necessary not only for employees of travel agencies, but also for specialists working in the hotel business and resorts, as well as guides and organizers of cultural events.

Currently, people prefer to travel on their own without using the services of travel agencies. It is interesting to choose the route yourself and visit the sights. For such trips, knowledge of spoken English is sufficient. Having at least a basic knowledge of English, you will be able to solve many issues that will certainly

arise during the journey, as well as save a lot of time. The opportunity to talk on your own in museums with guides or ask questions to local residents also helps better learn about the culture, history, customs and traditions of the country. In addition, one can learn more interesting facts that are not mentioned in the guidebook. Even basic knowledge of the language will help to get an excellent experience of communicating with residents of other countries.

But one shouldn't worry about a poor command of English: hotel staff or the owner of a local restaurant will not test their customers for knowledge of verb tenses. Foreigners are the same people, they are well aware that everyone can face a language problem. And even when planning a trip to a country where English is an unofficial language, one still needs to know it. It could be useful to communicate with hotel staff, at the airport, museums and even in conversations with taxi drivers. In other words, with knowledge of English traveling in a foreign country will be more pleasant and comfortable.

In conclusion, we can say that ignoring the important role of the English language can lead to a loss of resources, inhibition and limitation of activities in tourism due to lack of communication and exchange of knowledge and information. Therefore, for a successful organization and management of tourism, English should be regarded as a necessary and important means of communication.

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В статье раскрывается значение владения английским языком в сфере туризма, так как на сегодняшний день именно этот язык является языком международного общения. Подчеркивается, что хороший уровень языка обеспечивает специалисту туристической индустрии быстрый профессиональный рост. Более того, владение английским языком позволяет предоставить высокий уровень обслуживания иностранным туристам.

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#### **ERNÄHRUNG IM KINDERGARTEN: DIE BASIS DER GESUNDHEIT**

Die Ganztagsbetreuung von Kindern nimmt zu, und damit auch die Zahl der Kinder, die am Mittagessen in den Einrichtungen teilnehmen. Im März 2019

wurden knapp 2,8 Millionen Kinder von 0 bis unter 6 Jahren in Kindertageseinrichtungen (KiTa) in Deutschland betreut, davon besuchen 665.302 Kinder unter 3 Jahren eine Kindertagesstätte [3]. Somit ist die Chance sehr groß, dort den Kindern eine gesunde Ernährung nahezubringen.

Essgewohnheiten werden überwiegend in der Familie geprägt und sind zudem kulturell beeinflusst. Mit dem Besuch der Kleinen in einer Kinderbetreuungs-einrichtung geben Eltern auch einen Teil der Verantwortung hinsichtlich Ernährung in „fremde Hände“. Erzieherinnen und Erzieher haben Einfluss auf die Ernährung der Mädchen und Jungen und können mit den richtigen Methoden einen wichtigen Teil zur Gesundheitsförderung beitragen. So wird das Thema der gesunden Ernährung auch für Kindergärten immer aktueller.

Im vorliegenden Beitrag wird die Bedeutung der ausgewogenen und vollwertigen Ernährung im Kindergartenalltag aufgezeigt und Ziele der Ernährungsbildung der Kinder analysiert.

Die Art und Beschaffung der Verpflegung in den Kinderbetreuungseinrichtungen können je nach Einrichtung stark voneinander abweichen. Besonders wichtig sind die Zusammensetzung des Frühstücks und des Mittagessens, aber auch der gelebte Umgang mit Getränken und Süßigkeiten.

Die Mehrheit der Kindergärten wird extern mit dem Mittagessen beliefert. Viele Kinderbetreuungseinrichtungen lassen sich durch eine Cateringfirma oder einen Gemeinschaftsverpflegungsanbieter einer anderen Einrichtung wie z. B. des Altersheims in der Nähe mit heißgehaltenen, gekühlten oder tiefgekühlten Speisen beliefern und wärmen diese vor Ort auf. In manchen Einrichtungen wird alles oder teilweise selbst zubereitet und gekocht. Andere versorgen sich in z. B. der umliegenden Gastronomie, dem Supermarkt oder dem Fleischer. In manchen KiTas wird auch Essen von zu Hause mitgegeben bzw. kochen die Eltern selbst.

Das Angebot und die Qualität der Verpflegung in den Kinderbetreuungseinrichtungen sind folglich sehr unterschiedlich. Eine Studie der Bertelsmannstiftung „Is(s)t KiTa gut?“ zeigte, dass Kinder in deutschen KiTas gerade das Gegenteil einer ausgewogenen und gesunden Ernährung erhalten: zu viel Fleisch, zu viel Zucker, zu wenig Gemüse, zu wenig Salat, kaum Rohkost und kaum Obst [2]. Es kommt noch hinzu, dass nur in den wenigsten KiTas biologisch angebaute Lebensmittel verwendet werden. Die verwendeten Fleisch- und Wurstwaren enthalten überdies häufig Phosphate und Nitritpökelsalze. Auch Farbstoffe und Konservierungsstoffe, Geschmacksverstärker, Süßungsmittel etc. finden sich sehr oft in den angebotenen Kinder-Mahlzeiten.

Ein weiteres großes Manko ist die Versorgung mit Getränken. Erstens bekommen in vielen KiTas die Kinder nur zu festgelegten Essenszeiten auch Getränke angeboten. Zweitens handelt es sich dabei oft um süße Säfte, gesüßte Saftchorlen oder gesüßte Tees. Der Verzehr von potenziell ungesunden

Lebensmitteln, ebenso der hohe Konsum gesüßter Getränke und der geringe Verzehr von Obst und Gemüse gilt als Risikofaktor für Übergewicht.

Die gesunde Ernährung sollte einen wichtigen Platz im Kindergartenalltag einnehmen. Bekanntlich wäre eine ausgewogene Ernährung mit reichlich Gemüse, Früchten, Vollkornprodukten, Nüssen und Salaten wünschenswert. Statt Wurst und Würstchen sollten überdies lieber Biofleisch oder Seefisch auf dem Programm stehen, und auch die Fettauswahl sollte sorgfältig vorgenommen werden. Ernährungs-Experten empfehlen für Kinder fünf Mahlzeiten pro Tag: die drei Hauptmahlzeiten Frühstück, Mittagessen und Abendbrot sowie zwei kleinere Snacks am Vormittag und Nachmittag. Von den Hauptmahlzeiten sollten zwei kalt sein, z. B. Frühstück und Abendbrot, und eine warm, z. B. das Mittagessen.

*Kalte Mahlzeiten:* Am wichtigsten sind Milch und Milchprodukte. Dazu kommen Obst, Gemüserohkost, ungezuckertes Müsli oder Vollkorn-Brot. Beispiele für kalte Mahlzeiten sind: Müsli aus Haferflocken, Joghurt und frischem Obst; ein belegtes Brot mit einem Glas Milch, dazu ein Apfel; ein Käsebrot mit Gemüse-Rohkost; Nudelsalat mit Tomaten, Gurken und Joghurtdressing

*Warme Mahlzeit:* Pflanzliche Lebensmittel wie Kartoffeln, Nudeln, Reis sowie eine große Portion Gemüse bilden den Hauptteil. Dazu kann etwa dreimal pro Woche eine kleine Portion fettarmes Fleisch serviert werden. Einmal pro Woche gibt es Fisch. An den übrigen Tagen eignen sich vegetarische Gerichte mit Hülsenfrüchten, z. B. Eintöpfe, Aufläufe oder Nudeln mit Gemüsesoße.

*Snacks:* Die beiden Zwischenmahlzeiten sind für den Vormittag und Nachmittag gedacht. Folgende Lebensmittel bieten sich als Snack an: Obst oder Gemüse-Rohkost; Brot oder ungezuckertes Müsli; Milch, Quark oder Joghurt; selten auch eine Süßigkeit – ein Keks oder ein Stück Kuchen [1].

Neben dem Essen ist auch ausreichendes Trinken wichtig, am besten Wasser oder ungesüßter Tee. Gesunde Getränke (Wasser, Kräutertee) sollten für Kinder zu jeder Zeit verfügbar sein – z. B. im Wasserspender.

Gerade energiedichte Nahrungsmittel wie Süßigkeiten und Snacks essen Kinder zu oft. Deswegen haben Ernährungs-Experten für Eltern leicht verständliche und gut umsetzbare Empfehlungen zur Verbesserung der Kinder-Ernährung formuliert: keine Süßigkeiten mit in den Kindergarten geben; keine süßen Saft- oder Limonadengenätränke mitgeben; keine Fruchtzwerge oder andere überzuckerte Milchprodukte mitgeben. Stattdessen kommt in die Brotdose: Vollkornbrot mit Bioprodukten (Biokäsescheibe, Salatblatt, Gurkenscheibe o. Ä.), Rohkost (Karotten-, Gurken und Paprikasticks oder das aktuelle Lieblingsgemüse), Obst (Apfelschnitze, Mandarinstückchen, Weintrauben, Banane oder aktuelles Lieblingsobst).

Eine ausgewogene Ernährung ist wichtiger Bestandteil der Gesundheitsprävention, insbesondere bei Kindern. Viele Kinder haben mit Übergewicht zu kämpfen und somit kann der Kindergarten mit einer gesunden Ernährung die Jüngsten vor späteren Gesundheitsproblemen schützen. Eine gesunde Ernährung bildet eine wichtige Grundlage für das kindliche Bewegungsverhalten: Indem sie alle wichtigen Nährstoffe bereitstellt, liefert sie dem Kind die nötige Energie, die es für seine täglichen Aktivitäten, für sein Spiel und seine Bewegung, braucht. Darüber hinaus könnte die Konzentrationsfähigkeit gesteigert, die Zahngesundheit verbessert und die Nährstoffversorgung optimiert werden. Neben dem positiven Erleben von Essen und Trinken tragen zudem die Regelmäßigkeit und Ausgewogenheit der Mahlzeiten zum optimalen Heranwachsen der Kinder bei.

Für die Vorbeugung von Krankheiten im jugendlichen Alter ist überdies die Ernährungserziehung von großer Bedeutung. Die Ernährungssituation in der Kinderbetreuungseinrichtung soll den Kleinen einen gesundheitsförderlichen Lebensstil näherbringen und Alltagskompetenzen, u. a. im Bereich der Ernährung, vermitteln. Ziele der Ernährungsbildung sind also: Kindern ein Bewusstsein für eine gesunde Ernährung näherbringen; neue Lebensmittel kennenlernen; Familien in ihrem Alltag im Bereich Ernährung stärken; Nachhaltigkeit im Alltag leben; Bewusstsein stärken, woher das Essen kommt; selbst kochen; Offenheit der Kinder gegenüber der Geschmacksvielfalt stärken. Es ist wichtig, den Kleinen die Grundkenntnisse über den eigenen Körper, den Nahrungsprozess sowie über die verschiedenen Lebensmittel zu geben. In der KiTa lernen die Kinder, warum der Mensch essen muss, wie viele Mahlzeiten der Speiseplan enthalten soll, welche Lebensmittel gesund und welche ungesund für den Körper sind, wie viel man am Tag trinken sollte, wie man sich am Essenstisch richtig verhält usw. Nur so erhalten sie ein eigenes Bild von sich, was sich auch positiv auf die eigene Entwicklung auswirkt.

Die gesundheitliche Erziehung gehört fest zum Alltag einer Kindertagesstätte dazu und bietet eine Chance, Kinder für eine gesunde und nachhaltige Ernährung zu begeistern. Tägliche oder wöchentliche Aktionen wie Mittagessen-Rätsel, Obst- und Gemüsetag, Projekttag „Küche“ o. Ä. helfen, den Kindern eine bewusste und gesunde Ernährung nahezubringen. Wenn in der KiTa selbst gekocht wird, könnte der Koch beispielsweise in einem Schaukasten oder an einer Tafel die Zutaten des Mittagessens zeigen. Die Kinder raten dann, was daraus gekocht wird. Die Eltern oder Erzieher können anhand des Speiseplans das Rätsel gemeinsam mit den Kindern lösen. An einem festgelegten Tag in der Woche kann jedes Kind ein Stück Gemüse oder Obst mit in die KiTa bringen. In einem gemeinsamen Kreis bespricht die Erzieherin oder der Erzieher mit den Kindern, was jeder mitgebracht hat. Die Kinder lernen so,

dass saisonale und regionale Lebensmittel gut schmecken, kochen Spaß macht und nehmen das Bewusstsein auch mit nach Hause.

Man kann ein Fazit ziehen, dass das Thema der gesunden Ernährung im Kindergarten sehr aktuell ist. Die Kinder sind unsere Zukunft, und unsere Pflicht ist, sie zu besorgen und ihre Ernährung zu beachten, da eine ausgewogene Kinderernährung die Basis für ein gesundes Leben legt.

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В статье раскрывается проблема детского питания в детских садах Германии. Предложены также рекомендации по улучшению детского питания и преимущества перевода ребенка на здоровый образ жизни.

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#### **ENERGÍA EÓLICA EN EL MUNDO Y EN BELARÚS, PERSPECTIVAS PARA SU DESARROLLO**

La energía es el mayor beneficio y el motor del progreso de toda la humanidad. Gracias a él, una persona tiene tales dones de civilización como electricidad, calor, luz, radio, televisión y, finalmente, Internet. Consumimos energía en grandes cantidades, a menudo de forma irracional y en vano.

Al mismo tiempo, el agotamiento de los recursos, el aumento de los precios de los combustibles, hace que la gente piense en cómo reducir los costos de calefacción y electricidad, encontrar fuentes de energía alternativas. Belarús no



tiene recursos propios de combustible y energía suficientes para satisfacer sus necesidades y es un importador de energía. En este sentido, es extremadamente importante que Belarús incluya recursos energéticos secundarios y fuentes de energía renovables en el balance de combustible y energía, especialmente porque la república tiene suficiente potencial para su desarrollo.

La relevancia del tema se debe al hecho de que áreas como la energía eólica, la energía solar, la bioenergía, así como el uso de combustibles locales se consideran las más prometedoras para la República de Belarús.

La dirección principal de la energía alternativa en este momento es la energía eólica. Esta industria ocupa una parte significativa en Alemania, Dinamarca, Holanda y España y representa alrededor del 15-17% de toda la energía en estos países [3].

Podemos indicar los siguientes beneficios de la energía eólica:

**Ecología.** Las unidades usan la energía renovable que se puede utilizar de forma continua sin dañar.

**Versatilidad.** Las plantas de energía eólica se pueden construir en casi todas partes: en las llanuras, en las montañas, en los campos, en las islas. La energía eólica es especialmente apreciada en lugares remotos donde es difícil extender las comunicaciones eléctricas habituales.

**Eficiencia de uso.** Los modelos modernos procesan la energía incluso de los vientos débiles.

Una alternativa decente a las tradicionales. Las plantas de energía pueden proporcionar electricidad por completo a un edificio residencial o incluso a una instalación de producción mediana.

**Rentabilidad.** En comparación con las fuentes tradicionales de energía eléctrica (gas, turba, carbón, petróleo), los costos de energía se reducen significativamente. En muchos casos, construir un parque eólico es más económico que conectarse a los sistemas de energía existentes [1].

La principal desventaja es la fuerte dependencia del viento.

El costo bastante alto de tales unidades se puede atribuir a los puntos negativos, sin embargo, el bajo costo de la fuente de energía elimina en gran medida este factor.

La energía eólica representa actualmente el 10% de la capacidad energética total en la región de Asia-Pacífico, mientras que el carbón representa el 45% y la gasolina el 12%. Se espera que la situación cambie en 2050, cuando la participación de la energía eólica y solar se duplique y juntas representen el 50% de la capacidad energética total de la región.

China es la mayor fuente de contaminación del mundo (la razón es la industria del carbón), pero planea lograr la neutralidad de carbono para 2060.

Los parques eólicos europeos produjeron 437 teravatios-hora de electricidad el año pasado. La tasa de instalación de aerogeneradores en la Unión Europea aumentó un 18% respecto a 2020.

En 2021 se puso en marcha un número récord de nuevo aerogeneradores en Europa. La mayor cantidad de nueva capacidad se instaló en el Reino Unido, Suecia, Alemania, Turquía y los Países Bajos [1].

Belarús tiene suficiente potencial para el desarrollo de energía alternativa. Actualmente, el país es un participante potencialmente significativo en el mercado mundial de energías alternativas y el desarrollo de esta área en nuestro país cuenta con importantes reservas.

Se necesita apoyo estatal para aprovechar las oportunidades para el desarrollo de la energía eólica en Belarús. Un papel importante lo juegan los proyectos internacionales que permiten atraer inversión extranjera y utilizar la experiencia positiva de países que ya han logrado un éxito significativo en el desarrollo de la energía eólica. Como resultado, la energía eólica puede convertirse en una buena alternativa a las fuentes de energía tradicionales, especialmente a nivel local, y generalizarse en Belarús, así como en el resto del mundo.

Sobre la base de los resultados de estudios científicos anteriores sobre el potencial energético en Belarús [2], se extrajeron las siguientes conclusiones. La república cuenta con importantes recursos de energía eólica. En su territorio se han identificado 1840 sitios aptos para colocar centrales eólicas y parques construidos. Cada uno de ellos puede acomodar varios aerogeneradores de una clase de megavatios [3].

La viabilidad y el alcance del uso de parques eólicos en Belarús deben correlacionarse con indicadores tales como:

- aceptabilidad de las condiciones geográficas y climáticas;
- análisis de las condiciones y resultados de operación en marcha;
- evaluaciones económicas;
- selección de las soluciones técnicas y parámetros más apropiados de parques eólicos individuales y parques eólicos en general;

Por lo tanto, la energía eólica es actualmente uno de los sectores de más rápido crecimiento de la industria de energía eléctrica mundial, y un generador de viento es una excelente fuente de producción de electricidad, que será especialmente apreciada por los residentes de lugares remotos. Varias empresas ofrecen una amplia gama de estructuras eólicas, además, los modelos domésticos se pueden hacer con sus propias manos.

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В статье рассматривается развитие ветроэнергетики на примере развитых стран мира и оценено ее состояние в Республике Беларусь.

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### “一带一路”框架内的白中国际合作

白中外交关系始于1992年1月，几乎是在苏联解体、白俄罗斯独立后立刻建立的。此后，双边关系不断发展，并于2022年9月升级为“全天候全面战略伙伴关系”。近年来，双边合作项目不断增加，其中之一便是重大国际经济项目——“一带一路”。

提及“一带一路”就必须追溯到公元前2世纪的古丝绸之路，当时中国派遣使者张骞出使中亚各国。古丝绸之路起自中国古代都城长安，经中亚国家、阿富汗、伊朗、伊拉克、叙利亚等而达地中海，以罗马为终点。[1]

顾名思义，当时丝路上交易的主要商品是丝绸。现代丝绸之路项目与古代丝绸之路有诸多相似之处，同样通过陆路运输物流、人流，但不同的是“一带一路”如今已经穿过中亚、俄罗斯、白俄罗斯抵达欧洲大陆，将中国与众多欧洲国家连接起来。

2013年9月，中国国家主席习近平在访问中亚国家期间提出了“一带一路”伟大倡议，为该地区的基础设施项目的发展注入了巨大动力。[2]

与其同时，在中国政府的倡议下，中国央行、其他国有银行及国企共同发起成立了总额高达400亿美元的“丝路基金”。[2]

白俄罗斯作为重要的交通枢纽在该倡议中扮演着极其重要的角色，中欧班列使两国铁路运输的时间比以往的海运时间提高了3倍，也将白中外交、经济关系提升到一个新高度。

目前，白俄罗斯对中国的主要出口产品是钾肥、牛奶和奶制品、聚酰胺、纤维素、亚麻及亚麻制品。中国向白俄罗斯主要的出口商品则是通讯设备及其零配件、计算机、汽车拖拉机车身及零配件、袜类、合成复合纱线织品等。[3]

2016年中白贸易额为26.022亿美元，到了2018年，该数字已增长至36.381亿美元。根据白俄罗斯国家统计局的数据，2018年两国出口贸易额增长了33.4%。2018年白俄罗斯对华出口农产品和食品比2017年增长4.4倍，占出口总额的比重从5.2%上升到17.1%。同期牛奶及乳制品出口增长9.2倍。[3]

对白俄罗斯来说，参与“一带一路”项目意味国家将铺设更多公路、铁路、管道，这将有助于白俄罗斯能源、农业、矿业、旅游和文化交流的发展。众所周知，中国在该地区扮演着经济一体化火车头的角色，“一带一路”项目的运转也使欧亚经济体能够创造内部增长源。

因此，“新丝绸之路”项目是白中两国关系中的重要一环。我们有理由、有信心地说，两国合作必将稳步扩大和不断深化，并将继续造福于两国人民。

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В статье автор рассматривает особенности международного сотрудничества Республики Беларусь и Китайской Народной Республики в рамках экономического проекта «Новый шелковый путь». Отообразил роль и суть участия обеих стран в данном проекте. Автор приводит экономические показатели данного сотрудничества, раскрывает историю проекта и его современное состояние.

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**WOMEN IN PROGRAMMING**

The path of women in science has never been easy, for many centuries women have faced difficult obstacles. Today, the fact that a woman occupies a leadership position, works as a doctor, scientist, programmer, engineer will not surprise anyone. But a few centuries ago the question was squarely: is a woman allowed to work, does a woman need to get an education? For a long time women fought for the right to study with men on an equal footing and did their best to refute the offensive sexism that made women “second-class scientists”.

Quite often we can hear the opinion that a programmer is an exclusively male profession and that a woman has nothing to do in programming, because for this you need to have a mathematical mindset, which is not typical for women. Archaic prejudices about women’s lack of ability in exact sciences and technology flourish in universities and in the workplace. As a result, it is difficult for girls to build a career in STEM (Science, Technology, Engineering and Mathematics). In this article we would like to give examples of women

programmers who have made a huge contribution to the development of IT and information technology.

We would like to start the list of amazing women programmers with Augusta Ada Lovelace. Despite the fact that Ada is a descendant of the famous poet George Gordon Byron, she did not follow in her father's footsteps, since childhood the girl was interested in mathematics. This interest in her daughter was supported by her mother Anna Isabella Wentworth. In adolescence Ada was lucky enough to meet a teacher of mathematics at the University of Cambridge Charles Babbage. For many years Ada and Charles corresponded and Babbage introduced the girl to his ideas for creating a computing machine, the predecessor of the computer. Ada made corrections and comments to the work of the scientist. The apogee of Lovelace's work is the compilation of a Bernoulli programme which she gave to Babbage as an example of how an implicit function can be computed by a machine without first being resolved by a human head and hands. The Ada Lovelace programme is the first programme in the world. In addition, Ada introduced such terms as "cycle", "work cell". Ada made a great contribution to world science, and later the universal programming language was named after her. Today, every year on December 10, "Programmer's Day" is celebrated, this date was not chosen by chance, because it was on this day that the world's first programmer Ada Lovelace was born [1].

The next woman to influence modern programming is Grace Hopper. Grace, like Ada Lovelace, is a pioneer. Hopper is the creator of the first compiler programme. Initially, Grace began her career as a simple mathematician, defending her doctoral dissertation and receiving the academic title of professor at Yale University. The mathematician did not limit herself to work at the university. In 1943, she volunteered for the Navy. It was there that she had the opportunity to sit at the keyboard of the Harvard Mark 1, and later the Mark 2 and Mark 3. So, working on these computers, Grace and other programmers tried to figure out the causes of the error, but in the end they found a mole in the relay. This was the origin of the term "computer error (bug)", the first mention of which is attributed to Grace Hopper. In 1949, Grace joined the UNIVAC I computer development team, with whom she subsequently released the world's first compiler, A Compiler, in the early 1950s. Hopper promoted the idea of creating device-independent programming languages and believed that the programming language for writing programmes should be close to English, and not to machine code. These ideas of Grace Hopper were implemented in 1959 in the COBOL programming language developed with her participation. Grace Hopper has many names that emphasize her huge contribution to the development of modern technology. Grace Hopper is rightly called "Grandma COBOL", "Queen of Software", "Amazing Grace" [2].

One of the earliest software developers is Gene Bartik. She was part of a team of six female programmers who developed software for the first electronic digital computer, ENIAC. Betty Holberton, Kay Antonelli, Marlene Meltzer, Francis

Spence and Ruth Teitelbaum have worked with her. Jean's work was complicated by the fact that the ENIAC hardware was classified, which forced the girl and her partners to work "blindly". But this did not stop the girls from making truly amazing discoveries. So Jean, together with partner Bertie Holberton, developed a programme during World War II that saved 20 hours of human time. The programme created by the girls could calculate the flight path of an artillery shell in 30 seconds. Jean said that the day of the ENIAC demonstration is the most wonderful day of her life. The sad fact is that the contribution of Jean Bartik and other girls of her team was silent during the demonstration of the computer, considering only the machinery, and not its software, to be important. The world learned about the prominent role of Jean Bartik and other girls in the development of ENIAC from the documentary "Top Secret Rosies: The Female 'Computers' of WWII" in 2010, a year before Jean's death [3].

Women have been involved in the development of many famous programming languages. For example, the first successful high-level programming language FORTRAN, created in the 1950s, was developed by an IBM team that included female programmer Lois Mitchell Heibt.

The contribution of women to programming has saved many human lives more than once, and also contributed to the landing of a spacecraft on the Moon. Margaret Hamilton led a team at NASA, developing software for Apollo and Skylab. It was this fragile woman and her team who were able to prevent human error in 1969 and saved the Apollo 11 landing on the moon. Margaret is considered one of the authors of the term "software development", she has written and published more than 130 scientific papers, papers and reports on sixty projects and 6 major programmes. Margaret popularized the term "software engineering", participated in the development of the concept of asynchronous software, priority planning, end-to-end and interaction model. Margaret Hamilton's contributions have been greatly appreciated, and in 2003 she was awarded the NASA Exceptional Space Act Award for scientific and technical contributions [3].

The women mentioned above are only a small part of the big women's history of IT. Programming is an integral part of the technological development of our modern world. Over the years, scientists around the world have made their incredible discoveries, but it should be remembered and known that these were not only men, but also a large number of women. Every year, the involvement of women in the field of IT becomes more and more obvious, and the offensive stereotype about the "male" world of technology has no reason to exist. A programmer is not only a male, but a female profession, the main thing is that a woman likes to do programming.

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В статье рассматривается роль женщин в программировании. Показан вклад, внесённый женщинами, в развитие программирования на протяжении всей истории развития информационных технологий. Упоминаются авторы первых компьютерной программы и компилятора. Приводятся примеры участия женщин в разработке программ во время Второй мировой войны, в разработке современных универсальных языков программирования высокого уровня, в организации полёта на Луну.

**к содержанию**