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## Иностранные языки и современный мир

## Foreign Languages and Contemporary World

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

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Рецензенты:

Доцент кафедры иностранного и русского языков и методики их преподавания ФГБОУ  
УВО РГАУ-МСХА имени К.А.Тимирязева, кандидат педагогических наук,  
доцент

**А. Ю. Алипичев**

Доцент кафедры теории и практики перевода № 1 УО «Минский  
государственный лингвистический университет», кандидат филологических наук,

**Ю. Н. Русина***Редакционная коллегия:*

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

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

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

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**И. В. Антипова**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – кандидат филологических наук, доцент  
В. В. Авраменко

**MIGRATION: LEGAL AND ILLEGAL**

Modern population migration for the international community, including for the Republic of Belarus, has acquired a significant character and has become a factor that has a powerful impact on the socio-economic and other spheres of state life.

There are many concepts that define the meaning of the word "migration". In a general sense "population migration" is the movement of people from one country to another, in some cases in large groups and over long distances. This is due to the factors associated with different spheres of life: economic, political, social, cultural [2].

Migration like any process associated with the population has both positive and negative sides. It leads not only to a quantitative change in the population of a certain region but also affects various aspects of life of the whole society. Often the number of administrative offenses and criminal offenses by this category of the population makes up a considerable share in the crime of the country. Illegal migration affects many spheres of the life of society and is defined as the main threat in the field of migration security, reaching high levels of danger.

In the structure of illegal migration two blocks can be distinguished: in fact, illegal migration and illegal migration as part of organized crime which includes the illegal import migrants and trafficking people, especially women and children. In the first case the emphasis is on preventing illegal entry and personal liability of illegal migrants. In the second case - on the fight against organized crime by bringing the organizers to justice and protecting the victims

At the same time the active development of migration processes is accompanied by the expansion of illegal migration. Currently illegal migration is a socially dangerous, dynamically developing phenomenon in violation of the current norms of international law and national legislation, threatening the interests of national security and the international community as a whole.

An analysis of the legal norms and determining the legal status of foreign citizens and stateless persons makes it possible to differentiate all incoming migrants into several categories:

1) persons who arrive from other countries with valid documents replacing them, with an immigration visa issued in accordance with the established procedure;

2) persons who arrive in order to obtain refugee status;

3) persons who arrive for the purpose of obtaining asylum [3].

A significant number of people who come to study use the legal channel of entry, having in fact negative migration intentions not related to studies, and after arriving in the country “dissolve” in the ranks of illegal migrants.

For each category of migrants a regime of entry, stay, movement and departure outside the country should be established and the state bodies authorized to implement migration legislation must develop a procedure for such activities as the number of foreign citizens on the territory of the state affects the processes of its functioning. The system of legal acts defines in sufficient detail the legal status and legal status of persons classified in these categories. This applies to all areas, from the organization of traffic, the provision of assistance by medical institutions and ending with the development of mass cultural infrastructure which should be timely predicted by government agencies.

Illegal migration, of course, a threat to the internal security of the state which, first of all, is expressed in the aggravation of the criminal situation. In these conditions, the development of an adequate system of counteracting illegal migration is a task of paramount importance since it should ensure the transition from identifying and suppressing certain types of offenses and crimes in the field of migration to a comprehensive law enforcement impact on the socio-economic system and migration situation in the country.

As for the Republic of Belarus the formation of the legislation of the country regulating public relations in the field of population migration began in the 1990s and was characterized by the adoption of laws that formed the basis of legal regulation of the migration sphere. Currently, the Republic of Belarus has formed migration legislation which makes it possible to effectively regulate migration flows and control the stay of foreigners in the country. An effective legal system has been put to ensure the protection of the rights of refugees and asylum seekers. At the same time all international legal standards have been observed. Legal responsibility is established not only in relation to its own citizens but also to foreign citizens and stateless persons [1]. The main purposes of foreigners' stay in Belarus are private and business affairs, tourism or transit travel through the territory of the republic.

Despite a certain intensification of migration flows the migration situation in the Belarus remains stable, controlled, manageable and does not have a large impact on safety, socio - political and criminal situation.

## СПИСОК ИСПОЛЬЗОВАННОЙ ЛИТЕРАТУРЫ

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В статье раскрыта проблема миграции, легальной и нелегальной. Дано определение миграции, описаны категории мигрантов, способы регулирования их пребывания в других странах с соблюдением правовых норм. Дана характеристика законодательства Республики Беларусь в области миграции.

**к содержанию****М. А. Бабинец**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. Е. Левонюк

**LA CARACTÉRISTIQUE DES CHAÎNES DE LA TÉLÉVISION FRANÇAISE**

La télévision est un phénomène international qui se développe en grande partie parallèlement à la mondialisation et la formation d'un espace d'information mondial unique. De nos jours, le caractère international de la radiodiffusion télévisuelle n'est renforcé que par son caractère virtuel. Toutefois, les mêmes conditions de marché sont imposées à chaque chaîne de télévision, dans lesquelles les pays doivent, d'une part, conserver leur profil d'origine afin d'intéresser le public et, d'autre part, maintenir sa position sur le marché des médias. Quant à la France, elle est connue pour son approche prudente et proattitude sélectionniste à l'égard de sa langue et de sa culture nationale.

Le but de cet articles est d'analyser les caractéristiques de la télévision française à l'ère de la mondialisation, apportant ainsi une contribution à l'étude des problèmes de la télévision étrangère.

La transition vers la télévision numérique est désormais achevée en France : il y a 8 multiplexes, dont 32 chaînes obligatoires, dont 25 gratuites et 7 chaînes payantes, ainsi que plusieurs dizaines de chaînes optionnelles, parmi lesquelles

la chaîne du parlement français, informations spécialisées, chaînes de sport, chaînes de régions et territoires d'outre-mer (Martinique, Guadeloupe, Guyane, Réunion, Polynésie).

Les chaînes TF1, France 2 et France 3 sont les plus populaires. Transmission de ces trois canaux constituent l'objet de l'étude de cet article.

TF1 est historiquement la première chaîne de télévision française créée en 1935, quand la diffusion régulière de la télévision électronique sur ondes courtes a commencé. Jusqu'en 1987, elle appartenait à l'État et représentait un bastion du système de contrôle de l'État sur la télévision. Cependant, en 1987, elle a été privatisée en ligne avec la politique de libéralisation de la sphère de l'information [1].

Aujourd'hui, le programme TV de TF1 s'appuie sur les journaux télévisés. Le plus ancien d'entre eux est «Telegazeta» (Journal Télévisé), diffusée sur TF1 depuis 1949, qui reste un symbole de la télévision française et attire chaque soir plus de 6 millions de téléspectateurs. Les genres informationnels et analytiques incluent les programmes documentaires, dont beaucoup ont fait la renommée de la chaîne TF1 en leur temps. Parmi eux, les cycles «La vie des animaux» de Frédéric Rossif et Claude Dorget, «Des conférences pour tous », «Avec les yeux du spectateur». Ces programmes sont célèbres pour leur conception visuelle et un bon accompagnement musical.

La production artistique de la chaîne TF1 se caractérise par une attention aux aspects sociaux de la vie. TF1 diffuse une part importante de produits importés. Un profil encore plus international s'observe dans le secteur du divertissement du programme télévisé de TF1. Tout d'abord, il faut mentionner des versions françaises d'un grand nombre d'émissions et de jeux télévisés étrangers : il s'agit du concours vocal néerlandais «La voix», du concours vocal sud-coréen «Le chanteur masqué», de l'émission sportive allemande «Grand saut, Course au trampoline», du jeu américain «La Roue de la Fortune», etc.

France 2 a été organisée en 1964 comme une chaîne de télévision ayant le statut de chaîne publique et placée sous le contrôle du conseil public. La mission principale de la chaîne était traditionnelle : information, éducation, divertissement du public. Par rapport à la chaîne TF1, il faut noter la part plus importante des programmes d'information dans le programme de France 2 et leur plus grande variété [1]. Outre les communiqués de presse, cette chaîne propose aux téléspectateurs un magazine de reportage télévisé «Bulletin spécial» et deux magazines télévisés dans le cadre du journalisme d'enquête «Enquête complémentaire» et «Enquête financière». Les deux derniers magazines se caractérisent par un mélange d'éléments documentaires et artistiques que l'on retrouve de plus en plus à la télévision où les éléments mis en scène se superposent sur une base factuelle et chronique, conçus pour visualiser et souligner artistiquement les épisodes les plus importants des cas faisant l'objet d'une enquête. Encore plus esthétiquement sophistiquée est la série

documentaire «Faites entrez l'accusé», qui parle des crimes les plus notoires de l'histoire de la France. Il se caractérise par des tournages artistiques avec des effets spéciaux qui complètent et enrichissent le texte journalistique, offrant ainsi la possibilité de générer de nouvelles significations discursives et des évaluations émotionnelles dans l'esprit du public. Dans le secteur du divertissement des programmes télévisés, France 2 affiche un attachement aux composantes originales françaises : l'émission de variétés «Le meilleur cabaret du monde» (1998-2019) et, bien sûr, le célèbre jeu télévisé «Fort Boyard», dont le tournage se déroule dans un fort de la côte atlantique de la France, où les équipes doivent passer des tests physiques et mentaux afin de gagner le trésor.

Liste des longs métrages et séries télévisées diffusés sur France 2, indique la même ouverture à la production étrangère que l'on a constatée à propos de la première chaîne de télévision française : on y retrouve des produits français, allemands, américains, austro-italiens et britanniques. Un aspect important de la politique de France 2 est la présence de l'émission religieuse «Le Jour du Seigneur», diffusée le dimanche matin depuis 1949. Car la France est donc un pays majoritairement catholique, il n'y a pas de multiconfessionnalisme à la télévision française [2].

France 3 est également une chaîne de télévision publique créée en 1972 et fait partie, avec France 2, de la société de diffusion France Télévisions. La principale caractéristique de la chaîne France 3 a été posée dès sa création : c'est une chaîne de télévision destinée à parler de la vie des régions aussi bien de la métropole française que de ses territoires d'outre-mer [2]. Une place exclusive sur la chaîne TV de France 3 est occupée par les programmes pédagogiques. On peut aussi les appeler de vulgarisation scientifique, mais l'accent y est mis principalement sur les aspects personnels, un regard subjectif, des découvertes des lieux différents, parfois les plus exotiques sur la Terre. La chaîne est importante pour la diffusion des concerts, des compétitions sportives (Jeux Olympiques, Tournoi de tennis Roland Garros, course cycliste «Tour de France»).

En conclusion, il convient de noter que le statut juridique et économique d'une chaîne de télévision particulière influence la manière dont sa stratégie de programmation combine les tendances à l'internationalisation et, inversement, à la préservation des traditions culturelles. Après la privatisation de TF1 France 2 est restée la principale chaîne publique de télévision et s'est appuyée sur des programmes plus intellectuels. De manière générale, on peut affirmer que l'esthétique du cadre aide les deux chaînes publiques France 2 et France 3 à combiner les objectifs intellectuels et compétitifs commerciaux de leurs produits d'écran, tout en assurant la «diversité culturelle» et la «régionalisation» de la télévision française.

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Статья посвящена жанровому анализу телепрограмм трех ведущих французских телеканалов (TF1, France 2 и France 3) с точки зрения соотношения в эфире этих телеканалов оригинальных и зарубежных элементов. Выводы автора свидетельствуют о корреляции между организационно-правовым статусом телеканалов и преобладанием в их эфире национальных или глобальных черт.

### к содержанию

#### **А. С. Балагура**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель О. Н. Коваленко

#### **PEOPLE’S ASSESSORS AS PARTICIPANTS IN THE JUDICIAL PROCESS**

A people’s assessor is a person who is involved in the procedure and cases established by the Criminal Procedure Code [1] and other legislative acts to participate in the activities of the court in the administration of justice. They have a list of rights and obligations to carry out their activities. The law defines the status of a people’s assessor on an equal basis with a professional judge.

In this article we aim to reveal the role of people's assessors as participants in the judicial process, their goals and objectives, rights and obligations enshrined in the Constitution and the Criminal Procedure Code.

The duties of people’s assessors of the Republic of Belarus include strict observance of the Constitution of the Republic of Belarus, laws and other legislative acts, protection of the rights and freedoms of citizens, organizations, individual entrepreneurs, observance of a high culture of judicial activity, being fair and impartial.

People’s assessors take part in the consideration of certain criminal cases in the courts of first instance in the number of two persons. Criminal cases involving juvenile offences and offences for which the Criminal Code of the Republic of Belarus provides for punishment in the form of deprivation of liberty for more than 10 years or the death penalty are considered collegially [2].

Persons selected by the court to participate in the trial as people's assessors are obliged to appear in the specified court at the appointed time and fulfill their duties. A people's assessor may also be involved in the collegial consideration of a criminal case that requires a long period of time for trial. They shall be present in the courtroom from the beginning of the hearing of the case and, in case of retirement of one of the people's assessors, shall replace him. At the same time, the trial of the case continues.

The presiding judge announces the composition of the court, informs who is present in the courtroom (public or private prosecutor, defense counsel, victim, expert, etc.), including people's assessors.

People's assessors have the right to sit with the judge in the advisory room and express their independent opinion, as well as to put their signatures under the verdict.

People's assessors cannot be held liable for a judgment expressed by them in the course of administering justice and the decision taken by a court verdict that has entered into legal force, unless it is established that they are guilty of committing a crime against the interests of the service.

Thus, people's assessors are important participants of the judicial process, they fulfill a certain purpose, they have their own rights and obligations, and play a unique role. Having studied this topic, we find it necessary to issue a separate law regulating the legal status of the people's assessors and determining their procedural activity in court.

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Статья посвящена роли народных заседателей как участников судебного процесса. Показаны их цели и задачи, права и обязанности, закрепленные в Конституции и Кодексе.

**к содержанию**

**П. С. Близнюк**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. Е. Левонюк

## **LES MENSONGES ET LES RAISONS DE LEUR UTILISATION : ASPECTS PSYCHOLOGIQUES ET SOCIAUX**

Les mensonges sont monnaie courante dans nos vies. Ils peuvent prendre des formes différentes et être utilisés pour des raisons différentes. Comprendre ces raisons est un aspect important de l'étude du mensonge.

Dans cet article, nous examinerons les facteurs psychologiques et sociaux qui peuvent influencer les causes du mensonge.

De nombreux scientifiques nationaux et étrangers ont contribué à l'étude du mensonge en psychologie. Ce sont des scientifiques russes tels que V. M. Bekhterev, un psychologue et neurologue russe, qui a mené des recherches dans le domaine de la psychologie du mensonge et de la physiologie du comportement ; A. L. Leontiev, un psychologue soviétique qui a étudié le problème de la psychologie du mensonge et de l'auto-illusion ; L. S. Vygotsky, un psychologue soviétique qui s'intéressait aux questions de la psychologie du mensonge et du rôle du langage dans l'activité mentale ; et des scientifiques étrangers tels que P. Ekman, un psychologue américain, connu pour ses recherches sur les expressions faciales y compris l'étude des mensonges et la détection de la tromperie ; R. Klaus, un psychologue américain, qui se spécialisait lui aussi dans l'étude du mensonge et la détection de la tromperie ; D. Matson, un psychologue américain, qui a travaillé sur le développement des méthodes pour identifier les mensonges et étudier les aspects psychologiques de la tromperie. Ce ne sont là que quelques-uns des scientifiques qui ont étudié le mensonge du point de vue psychologique. De nombreux autres chercheurs ont contribué à cette direction.

Un mensonge est une déformation délibérée ou une dissimulation de la vérité dans le but de tromper les autres. Une personne peut mentir pour diverses raisons et les facteurs du mensonge peuvent varier en fonction de la situation particulière. Certains facteurs communs de mensonge incluent:

- la motivation : les gens peuvent mentir pour éviter la punition, obtenir des avantages, préserver leur réputation ou atteindre leurs objectifs ;
- la peur : la peur, par exemple, des conséquences négatives ou des conflits peut inciter une personne à cacher la vérité ou à déformer l'information ;
- la protection : les gens peuvent mentir pour se protéger ou protéger les autres contre le danger, le mal ou les ennuis ;



- l'influence sociale : la pression du groupe ou les attentes des autres peuvent conduire à mentir pour répondre aux attentes ou éviter les conflits [1, p. 42].

Les types de mensonges peuvent varier dans la nature et le but. Certains types courants de mensonges comprennent :

- le mensonge sur le fond : c'est un mensonge lorsqu'une personne présente des informations incorrectes sur des faits ou des événements ;

- le mensonge par défaut : dans ce cas il s'agit d'un mensonge lorsqu'une personne dissimule ou cache intentionnellement des informations pouvant être importantes ou pertinentes pour d'autres gens ;

- le mensonge par déni : c'est un type du mensonge lorsqu'une personne nie ou rejette la vérité en sachant qu'elle est vraie ;

- le mensonge par exagération : c'est un mensonge où une personne amplifie ou exagère la vérité pour provoquer une réaction ou une impression particulière ;

- le mensonge déguisé : c'est un mensonge lorsqu'une personne se présente ou présente ses intentions autrement qu'elles ne le sont réellement.

Il est important de noter que le mensonge peut avoir diverses conséquences et affecter la confiance, les relations et la société dans son ensemble.

Tous les mensonges ont des causes psychologiques. Ce sont :

- l'auto-défense : les gens peuvent mentir pour se protéger des conséquences négatives. Par exemple, ils peuvent cacher leurs erreurs ou leurs défauts pour éviter les critiques ou les punitions ;

- le désir de paraître meilleur : ce type du mensonge est utilisé pour créer une meilleure impression de soi. Les gens peuvent exagérer leurs réalisations ou leurs succès pour susciter l'admiration ou le respect des autres ;

- préserver les relations : parfois, les gens mentent pour maintenir l'harmonie dans les relations avec les autres. Par exemple, ils peuvent cacher la vérité pour ne pas causer de douleur ou de frustration à leurs proches ;

- le désir d'éviter les conflits : les gens peuvent recourir au mensonge pour éviter les conflits ou les situations désagréables. Ils peuvent cacher leurs vrais sentiments ou opinions pour éviter les différends ou les désaccords [2, p. 51].

Outre les causes psychologiques le mensonge a des causes sociales. Ce sont :

- la protection des intérêts : les gens mentent pour protéger leurs intérêts ou ceux du groupe auquel ils appartiennent. Par exemple, ils peuvent faire de fausses déclarations pour aider leurs amis ou collègues.

- la manipulation : le mensonges de ce type est utilisé pour manipuler d'autres personnes. Certaines personnes peuvent mentir pour obtenir un avantage ou un contrôle sur d'autres gens.

- la protection de la réputation : les gens peuvent mentir pour préserver leur réputation ou éviter la honte. Ils peuvent cacher leurs erreurs ou leurs traits négatifs pour ne pas être condamnés ou perdre le respect des autres.

- jouer sur les émotions : ce mensonge est utilisé pour déclencher certaines réactions émotionnelles chez d'autres personnes. Par exemple, il peut être utilisé pour invoquer la compassion, le regret ou la culpabilité.

Donc, il est à noter que le mensonge est un phénomène complexe qui peut être causé par divers facteurs psychologiques et sociaux. Comprendre ces raisons nous aide à mieux comprendre les motivations du mensonge et à développer des compétences pour distinguer la vérité du mensonge. En outre, être conscient des causes du mensonge peut nous aider à établir des relations plus honnêtes et plus confiantes avec les autres.

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В статье рассматривается проблема обмана и лжи. Автор анализирует причины, по которым человек может прибегнуть к обману, а также раскрывает психологические и социальные причины лжи. Автор приходит к выводу, что понимание психологии и мотивации обмана помогает быстрее отличить правду от лжи и тем самым выстроить более честные, а следовательно, доверительные и более комфортные отношения с другими людьми.

### к содержанию

**Я. Д. Бобич**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель О. Г. Полещук

### **PERSPECTIVAS DE LA REPÚBLICA BOLIVARIANA DE VENEZUELA EN LOS BRICS**

En el mundo moderno, las relaciones internacionales son una herramienta compleja para lograr los intereses del estado. En la etapa actual del desarrollo de la política mundial, las asociaciones y organizaciones políticas desempeñan un papel importante, siendo una especie de plataforma para resolver problemas entre países de todo el mundo. Como todo en este mundo, el tipo y el formato de la organización están sujetos a cambios: así, recientemente, el peso de las asociaciones políticas que unen a países inherentemente diferentes está creciendo. La nueva plataforma del siglo 20 son los BRICS.

BRICS es una asociación Interestatal, la Unión de nueve Estados: Brasil, Rusia, India, China, Sudáfrica, Emiratos Árabes Unidos, Irán, Egipto y Etiopía. La organización (comunidad de Estados) fue fundada en junio de 2006 (como BRIC) en el marco del foro económico de San Petersburgo con la participación de los Ministros de economía de Brasil, Rusia, India y China.

Cada año, los BRICS celebran más de un centenar de reuniones. El evento más importante para el grupo es la Cumbre anual donde se reúnen los líderes de los Estados. En la Cumbre, los participantes discuten temas actuales de la economía y los problemas políticos regionales, desarrollan nuevas estrategias comerciales y financieras, así como desarrollan la cooperación en los ámbitos humanitario, cultural y deportivo. A veces, los BRICS se llaman análogos de la OTAN o la ONU, pero este no es así. Los BRICS se crearon para otros fines y no son una organización internacional, ya que la Unión no tiene un Secretario general, normas y estatutos. El país que organiza la Cumbre coordina el trabajo a su vez y este país se cambia cada año.

Las características comunes de los países fundadores de los BRICS fueron las siguientes: una gran población, vastos territorios en sus continentes, vastos recursos naturales, enormes tasas de crecimiento del producto interno bruto (PIB) y también se consideran atractivos para la inversión extranjera. Brasil, Rusia, India, China y Sudáfrica concentran el 40% de la población mundial, una quinta parte del PIB y producen más de un tercio de la producción mundial de cereales, según la organización de las Naciones Unidas para la agricultura y la Alimentación.

Después de la declaración de los BRICS sobre la admisión de seis nuevos estados, 40 países expresaron su deseo de unirse a la asociación, y otros 23 declararon oficialmente su interés. Entre los primeros 40 países también se encontraba Venezuela. En febrero de este año el presidente de Venezuela, Nicolás Maduro, envió personalmente una nota a China sobre la adhesión de Venezuela a este bloque geopolítico relativamente joven.

En una audaz declaración sobre la reestructuración global, el presidente de Venezuela Nicolás Maduro anunció la próxima membresía del país en el grupo BRICS, lo que indica un cambio significativo del "viejo mundo colonial" hacia un panorama internacional más multipolar. El anuncio se produce en medio de un creciente discurso sobre la dinámica evolutiva de las estructuras de poder globales, y Maduro destacó la naturaleza irreversible de esta transformación.

Durante una entrevista con Venezolana de Televisión, Maduro expuso su visión de un mundo que pasa de una era marcada por el colonialismo histórico, las invasiones y los conflictos a una nueva era caracterizada por el fortalecimiento del consorcio BRICS. Este bloque, formado originalmente por Brasil, Rusia, India, China y Sudáfrica, se ha expandido recientemente para

incluir actores globales importantes como Egipto, Etiopía, Irán, Emiratos Árabes Unidos y Arabia Saudita, y Venezuela se unirá a sus filas "pronto".

Las declaraciones de Maduro reflejan un sentimiento más amplio en Venezuela y otras economías emergentes sobre el potencial de los BRICS para revisar los contornos de la gobernanza global y la cooperación económica. El mes pasado elogió al grupo como "el futuro de la humanidad", destacando su papel en el fortalecimiento de un orden global más inclusivo y equilibrado.

Se espera que las aspiraciones del líder venezolano a ser miembro de los BRICS se formalicen finalmente en la próxima Cumbre en Rusia en octubre de este año. Esta medida es coherente con los esfuerzos estratégicos del país para diversificar sus alianzas internacionales y fortalecer su posición económica y diplomática en el escenario mundial. Sin embargo, el camino hacia la expansión de los BRICS no está exento de dificultades. El reciente rechazo de Argentina a su decisión de unirse al grupo después de un cambio de liderazgo presidencial pone de relieve las complejidades políticas asociadas con tales agrupaciones globales.

Rusia, que actualmente preside los BRICS, desempeña un papel clave en la organización de la expansión del bloque, y el presidente Vladimir Putin está comprometido con la integración armoniosa de nuevos socios. La visión del presidente ruso está respaldada por casi 30 países que expresan interés en unirse o asociarse con los BRICS, lo que subraya el creciente atractivo del bloque como contrapeso a las instituciones tradicionales dominadas por Occidente.

El ministro de asuntos exteriores de Rusia, Serguéi Lavrov, durante su gira por América Latina, reiteró el compromiso de Moscú con la ampliación de los BRICS, subrayando la necesidad de que los nuevos miembros se ajusten orgánicamente a los objetivos del grupo. La visita del canciller ruso a Venezuela para discutir temas de cooperación bilateral fortalece aún más los crecientes vínculos entre los dos países y su visión común de un orden mundial alterado.

La importancia de los BRICS en el panorama económico mundial es cada vez más evidente, ya que el fondo Monetario internacional (FMI) atribuye al bloque hasta el 36% del PIB mundial en paridad de poder adquisitivo (PPA). Esta cifra contrasta con un poco más del 30% en el G7, destacando el desplazamiento del poder económico hacia las economías de mercados emergentes.

Los planes de Venezuela incluyen unirse al nuevo Banco de desarrollo BRICS, como anunció el presidente en el marco de su última visita a China. La adhesión de Venezuela a esta Institución financiera de economías emergentes sería "modesta pero significativa", explicó el presidente chino. Este movimiento, según Maduro, permitiría a su gobierno formar parte de la "nueva geopolítica mundial" y dejaría claro que abriría el camino para una adhesión total al bloque.

La entrada potencial de Venezuela en los BRICS simboliza no solo la victoria diplomática de la administración de Maduro, sino también la evidencia de una narrativa global en evolución a favor de la diversidad, la multipolaridad y la inclusión en las relaciones internacionales. A medida que el "viejo mundo colonial" da paso a nuevas alianzas y asociaciones, países como Venezuela están listos para desempeñar un papel clave en la configuración del futuro de la cooperación y el desarrollo globales.

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В статье раскрывается вопрос о необходимости вступления Боливарианской Республики Венесуэла в международную организацию БРИКС. Автор анализирует причины и возможные последствия вступления государства в объединение путём рассмотрения заявлений представителей Венесуэлы, а также посредством изучения активных действий страны на международной арене.

### к содержанию

#### **В. С. Бобрик**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – кандидат филологических наук, доцент

О. В. Сидоревич-Стахнова

### **EL PAPEL DE LOS MEDIOS DE COMUNICACIÓN MASIVA EN LA TOMA DE DECISIONES POLÍTICAS EN EL EJEMPLO DE LA GUERRA DE VIETNAM**

La influencia de los medios de comunicación masiva en las decisiones políticas es un tema importante de estudios en la ciencia política contemporánea. Los medios de comunicación masiva pueden moldear la opinión pública, difundir información e ideas y servir de plataforma para la discusión y el debate políticos. Desempeñan un papel importante tanto en el reflejo como en la

configuración de la agenda política, lo que los convierte en una poderosa herramienta en manos de actores estatales y no estatales. Esta influencia es especialmente notable en períodos de elecciones, crisis y acontecimientos públicos significativos, cuando los medios de comunicación masiva se convierten en la principal fuente de información para el público en general. Los objetivos de este artículo son analizar el papel de los medios de comunicación masiva en la configuración de la política exterior estadounidense durante la guerra de Vietnam de 1965-1973, evaluar el impacto en la opinión pública e identificar las implicaciones para la política militar de EEUU.

La Guerra de Vietnam, también conocida como la Segunda Guerra de Indochina, fue un conflicto complejo y controvertido que tuvo un impacto significativo en las relaciones internacionales del período de la Guerra Fría. De 1955 a 1975, Estados Unidos desempeñó un papel clave en el conflicto, apoyando a Vietnam del Sur en su lucha contra el Vietnam del Norte comunista y sus aliados como parte de una estrategia para contener el comunismo.

La guerra de Vietnam fue un período de gran tensión en la sociedad estadounidense, a lo que contribuyó la prensa y la televisión.

La televisión se convirtió en el canal de difusión de acontecimientos emocionantes y dramáticos, y las cadenas de noticias empezaron a competir por la atención de los telespectadores ofreciendo reportajes desde el frente de la guerra de Vietnam. Esto supuso un cambio con respecto a la Segunda Guerra Mundial, cuando los medios de comunicación se centraban en la moral y la cobertura positiva, y estaban fuertemente censurados para garantizar que nada censurable para los militares apareciera en las noticias. Fueron estos cambios en la cobertura de la guerra los que llevaron a referirse a la Guerra de Vietnam como la "primera guerra televisiva". Durante la guerra de Vietnam, los medios de comunicación masiva de Estados Unidos retrataron el conflicto bajo una luz más oscura. Los periodistas, al estar directamente en las zonas de combate, proporcionaron reportajes realistas, lo que dio a los estadounidenses la oportunidad de ver la verdadera cara de la guerra, que a menudo provocó reacciones negativas.

De 1954 a 1965, la opinión pública tuvo poca influencia en las acciones del gobierno estadounidense, ya que el apoyo estadounidense al gobierno de Vietnam del Sur era bastante modesto. Entre 1965 y 1968, la presencia estadounidense en el sudeste asiático aumentó drásticamente. El número de tropas pasó de veinte mil a más de medio millón. La aviación estadounidense comenzó a atacar objetivos en Vietnam del Norte. El público estadounidense se enteró de la guerra y se desilusionó con ella. 1968 fue un año decisivo. En febrero, comenzó en todo Vietnam del Sur un levantamiento contra el gobierno y las tropas estadounidenses, que se conoció como la Ofensiva del Tet. Pronto apareció en televisión un reportaje sobre este levantamiento realizado por el

célebre periodista Walter Cronkite. Tras regresar a Estados Unidos, Cronkite expresó sus impresiones y pensamientos en un reportaje especial de televisión que se emitió en la CBS el 27 de febrero de 1968. En este reportaje, declaró que creía que la guerra había llegado a un punto muerto y que Estados Unidos debía iniciar el proceso de retirada de las tropas. Esta declaración fue de gran importancia porque Cronkite era el periodista en el que más confiaban los estadounidenses. Sus palabras influyeron en la opinión pública y en el discurso político del país. Se cree que tras este reportaje, el presidente Johnson decidió no presentarse a un segundo mandato, al darse cuenta de que perder el apoyo de un periodista respetado como Cronkite significaba perder el apoyo de los "americanos medios". Durante la guerra de Vietnam, los medios de comunicación masiva estadounidenses publicaron muchos documentos que tuvieron un impacto significativo en la opinión pública y la política. El ejemplo más famoso son los Papeles del Pentágono, un informe secreto del Departamento de Defensa estadounidense encargado por el Secretario de Defensa Robert McNamara en 1967. El informe contenía una historia de las operaciones militares estadounidenses en Vietnam desde 1945 hasta 1967 y estaba destinado exclusivamente a uso intradepartamental. En junio de 1971, Daniel Ellsberg, un antiguo analista militar, dio a conocer partes de este informe a la prensa. Poco después, se publicaron en varios de los principales periódicos estadounidenses, entre ellos el New York Times y el Washington Post. La publicación de estos documentos provocó una gran indignación pública porque revelaban que el gobierno estadounidense había engañado al público sobre el alcance y la naturaleza de la guerra de Vietnam.

Estos hechos dieron lugar a una demanda conocida como el caso New York Times contra Estados Unidos, que llegó hasta el Tribunal Supremo de Estados Unidos. Finalmente, el tribunal defendió el derecho de la prensa a publicar información importante para el interés público, aunque el gobierno intentara impedir la difusión de información clasificada.

Durante la guerra de Vietnam, además de los Papeles del Pentágono, se publicaron diversos informes, artículos y fotografías que cubrían los acontecimientos del conflicto e influían en la opinión pública. Por ejemplo, las fotografías tomadas por corresponsales de guerra, como la de Eddie Adams "Ejecución callejera en Saigón" o la de Nick Ut "Niña con napalm", se convirtieron en símbolos de la brutalidad de la guerra e influyeron en el sentimiento antibelicista.

Además, la prensa publicaba regularmente artículos e informes que analizaban la situación actual en Vietnam, informaban sobre la vida de soldados y civiles y evaluaban la política estadounidense en la región. Estas publicaciones contribuyeron a una creciente percepción crítica de la guerra por parte de la sociedad estadounidense y la comunidad mundial.

La cobertura mediática de la guerra de Vietnam influyó en las carreras de los presidentes Lyndon Johnson y Richard Nixon. En el caso de Johnson, el creciente descontento público con la guerra y la cobertura crítica de los medios de comunicación le llevaron a no presentarse a un segundo mandato en 1968. Publicaciones como los Papeles del Pentágono aumentaron el descontento público y minaron la credibilidad de su administración.

Richard Nixon, por su parte, utilizó la promesa de "paz con honor" en Vietnam como elemento clave de su campaña, lo que le ayudó a ganar las elecciones presidenciales de 1968. Sin embargo, más adelante en su presidencia, el descontento continuado con la guerra y los escándalos asociados a su administración, especialmente el escándalo Watergate, le llevaron a dimitir en 1974.

Las publicaciones durante la guerra de Vietnam no sólo aumentaron el sentimiento antibélico de la sociedad, sino que también provocaron una crisis de confianza en el gobierno. Con el tiempo, esto condujo a cambios en las políticas de censura y en la relación entre los medios de comunicación y la Casa Blanca, así como a una reevaluación de la política exterior estadounidense. Puede que los medios de comunicación masiva contribuyeran a hacer perder la guerra a los estadounidenses, pero en Vietnam demostraron cómo podían ser una herramienta de un poder social inimaginable y ayudar a movilizar el poder del pueblo para conseguir lo que es justo.

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В статье анализируется роль СМИ в формировании политической стратегии США во время Вьетнамской войны. Освещается, как публикации документов, фотографий и телевизионных репортажей повлияли на общественное мнение и политические решения. Автор рассматривает изменение отношения американской общественности к войне под воздействием информации, распространяемой СМИ, и последующее влияние этого изменения на политические действия президентов Джонсона и Никсона.

**к содержанию**



**А. П. Богдан**

Беларусь, Брест, Брестский государственный университет имени

А. С. Пушкина

Научный руководитель – преподаватель Е. С. Дробот

## **PROGRESS TOWARDS ACHIEVING THE SUSTAINABLE DEVELOPMENT GOALS**

On September 25, 2015, 193 UN member states adopted the 2030 Agenda for Sustainable Development (Agenda 2030). An integral part of the 2030 Agenda are 17 Sustainable Development Goals (SDGs) and 169 subordinate tasks that need to be achieved by 2030. They represent global directions that will coordinate the actions of the international community in the next 15 years. The SDGs are a plan for the preservation of the planet, as they include such important tasks as eradicating poverty and hunger, protecting the planet's ecosystems and ensuring the well-being of every person, regardless of their place of residence.

The 2030 Agenda is based on five main components: people, prosperity, planet, partnership and peace. Traditionally viewed through the prism of three main dimensions – social integration, economic growth and environmental protection – with the adoption of the 2030 Agenda, the concept of sustainable development has acquired a deeper meaning, being complemented by two important components: partnership and peace. Crucially, true sustainability is achieved and concentrated at the very core of these five interrelated components.

To achieve the Sustainable Development Goals, joint efforts of all countries and all people are needed. For the average person, the contribution to the process under consideration may include sorting garbage, saving water and electricity, avoiding the use of disposable materials and much more. Spreading information about the SDGs is already a step towards sustainable development and a way to change our life for the better.

In the modern world, sustainable development is becoming an increasingly relevant scientific topic. Thus, despite all efforts, insufficient awareness of the Sustainable Development Goals remains one of the main problems. Without informing people, finding partners to implement the SDGs becomes impossible. The successful implementation of the SDGs requires the establishment of strong partnerships and cooperation, as this plays a key role in creating effective mechanisms that can lead to sustainable development. Interaction between states, organizations, businesses and civil society is necessary to solve complex problems and meet the interests of people and the planet.

In our opinion, it is necessary to focus on the realization of human potential, and not be limited to meeting the needs of the country. We need to work more on identifying opportunities for different people and creating conditions for

them to realize their potential. It is very important to understand what they can achieve, despite who they are now.

It is important to note that Belarus is actively working to achieve the Sustainable Development Goals, and it does not stop at the results achieved, confirming its level from year to year. Global statistics on achieving the Sustainable Development Goals have been conducted since 2015, but not all data are available for study. So let's take statistics for the last three years as an example. For example, according to the data for 2021, Belarus ranked 24th out of 165 countries. In the SDG ranking for 2022, Belarus took 34th place out of 168 countries. In 2023, according to the Sustainable Development Report, Belarus also ranked 34th among 166 countries in the ranking of achieving the Sustainable Development Goals, scoring 77.5 points out of 100 possible [1]. This indicator is an important incentive for the country to move on and get closer to the coveted hundred. However, in order to continue progress and achieve even better results, Belarus needs innovative approaches and effective strategies.

In 2023, the National Statistical Committee assessed progress in achieving the Sustainable Development Goals of the Republic of Belarus. The assessment was carried out for the period from 2015 to 2023: progress is being made on almost 80% of the indicators [2]. This is a high result. In the future, it is planned to assess progress in achieving the Sustainable Development Goals annually. As it was mentioned above, in 2023 Belarus retained a high position in the world ranking of SDG achievements – 34th place among 166 countries. This is the best indicator among the CIS countries. In 2023, each of the Sustainable Development Goals was implemented by more than 65% (except for SDG 14, which is not entirely relevant for our country). Progress on some goals is almost 100%.

The Sustainable Development Goals are a powerful tool for creating a better future for all of us. They remind us of the need to act now to save the planet for future generations. Using these goals as a guideline, together we can achieve even greater results and ensure sustainable development for future generations.

Thus, in order to ensure an effective pursuit of achieving the Sustainable Development Goals and solving the tasks associated with them, the following organizational work needs to be updated in the Republic of Belarus:

- conducting large-scale information on the 2030 Agenda (including the definition of lists of possible contributions to the average person, enterprises and organizations, separate plans for ministries and departments);
- identification of new approaches to the realization of human potential (synchronize the work of legislative bodies with the pace of time, take into account the growing trends of informatization and digitalization of the economy, the transition of society to post-industrial and information);

- development of the strategies covering the horizons of one or more generations, included in the national idea of the Belarusian society;
- youth mobilization (to organize volunteer programmes, actions and events aimed at solving the problems of sustainable development, which will help young people realize their role in this process and contribute);
- monitoring and evaluation (to collect data, analyze results and provide information on progress towards achieving the Sustainable Development Goals in order to determine the effectiveness of measures taken).

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Статья посвящена проблеме достижения Целей устойчивого развития в Республике Беларусь. Представлены показатели общего прогресса по достижению ЦУР в РБ, который является самым высоким среди стран СНГ, а также статистика с 2015 по 2023 год по достижению всех ЦУР в РБ. Для обеспечения эффективного стремления по достижению целей устойчивого развития в Республике Беларусь предлагается актуализировать определенные организационные подходы.

### к содержанию

**А. А. Бойчук, Д. В. Резниченко**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Н. В. Иванюк

### ARCHITECTURE OF ANCIENT JAPAN

Nowadays architects take great inspiration from ancient Japanese architecture, a fact that points to the indelible mark that it has left on the history of Japanese architectural practices. The beginnings of ancient Japanese architecture are deeply intertwined with the emergence of the country's cultural and religious panorama, closely linked with the arrival of Buddhism and the

influence of neighbouring China and Korea. This magical amalgamation of foreign and local traditions is a key factor that makes ancient Japanese architecture unique – a galvanising reminder of how global influences can be integrated into local systems and made unique.

The architectural structures built in ancient Japan remain significant even to this day. One of the powerful structures includes the architecture of the castles. Additionally, the shrines in Japan have significant architectural designs. A well-known Shinto Shrine is the Ise Shrine that is located in Mie Prefecture. During early civilization materials used for construction were limited. The materials used included wood and stones. Wood was the main raw material that was used for building systems until the 7<sup>th</sup> century. Stone buildings began to emerge as a design concept from China. The golden Pavillion of Kyoto is a classic example of an ancient Japanese temple that is now a designated heritage site [1, p. 123].

Ancient Japanese architecture was heavily influenced by China. It was suggested that even indigenous cultures and clans in Japan heavily influenced the architecture at that time. Ancient Japanese people built largely with wood and stone avoiding the use of bricks as they believed that using them would cause disasters. Traditional Japanese buildings would have been constructed from key materials such as wood, rice paper and plaster and generally used sliding doors to provide any necessary internal partitions. This method of construction was largely used due to structural and external factors – main influences included buildings that had to withstand the unique Japanese climate – everything from humid summers, to regular earthquakes – and threats of attack from other warlords. Moreover, Japanese cultural norms and values greatly influenced the architectural style at that time, with buildings such as Shinto shrines and Buddhist temples having been built in positions that reflect the general layout of the surrounding cities.

Let's consider the main ancient Japanese styles.

**Shinden-zukuri Style.** It is a type of architecture that was originally used for the residences and palaces of the Heian aristocrats. This architectural style is characterized by large, single-story structures that are raised two to three meters off the ground, and are often constructed in a straight line.

**Wayō Style.** It is suggested that the Wayō style initially appeared in the late Heian period and grew in popularity and specialisation among the aristocratic classes during the Kamakura period. It was characterised by the combining of two previously established styles: the Wayō teien, the Japanese garden, and the Wayō sekishitsu, the architectural design. Temples in the Wayō style were designed to have a “stage” from which to view gardens, and their inherent nature. The gardens at Tō-ji and Saihō-ji are deemed some of the oldest examples we have of Wayō style gardens. Wayō gardens were inspired by the influence of Chinese landscape painting and poetry, whereas earlier garden styles found in Japan were influenced by Chinese landscaping techniques. Wayō buildings were on average 50 % larger than anything

seen before within Japan. Another architectural feature of this style was the new original structure, the tō, in which four “legs” support an elevated structure.

Zen Buddhist Architecture. Zen temples have some very specific characteristics; they are usually built without any decorations in order to spotlight the innate features of the natural wood. Zen temples have very large entrance gates at which there usually hangs a curtain that is closed at night to keep evil spirits out. Zen temples are usually also the warmest of the temples, as they are built so that the sun shines on one room at a time [2, p. 87].

Shoin-zukuri Style. This was considered the most important private space of a domestic structure and was meant for the head of the house, as well as his immediate family and seemed to vary greatly in style. At the core of this architectural style was tatami covered flooring, fusuma sliding doors, and a built-in desk and some form of tokonoma or chigaidana alcove, each architectural element utilized in a very specific manner. The shoin room, in fact, takes its name from the shoin or study area of the ideal Japanese palace and demonstrates a conservative approach to the use and layout of shoin and its usage, claiming the throne in the alcove.

These styles have influenced the development of architecture all over the world.

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Статья посвящена архитектуре и архитектурным стилям древней Японии, которые оказали значительное влияние на современные архитектурные направления, поскольку они сочетали в себе местные и зарубежные традиции, связанные с развитием архитектуры в Китае и Корее.

#### к содержанию

**А. О. Борейко**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель О.Г. Полещук

#### LA FRANCOFONÍA COMO FACTOR DE COHESIÓN COMUNITARIA MUNDIAL

Hoy en día, la lengua francesa es un medio de comunicación en los cinco continentes y une a todos los francófonos, que a su vez contribuyen a su desarrollo. Así se forma la Francofonía, una comunidad lingüística especial en el

mapa mundial. En este documento, el término "comunidad lingüística" se entiende como un conjunto de personas unidas por lazos sociales, económicos, políticos y culturales comunes, y que en su vida cotidiana mantienen contactos directos e indirectos entre sí y con diversas instituciones sociales por medio de una única lengua o de diferentes lenguas habladas en este conjunto.

La lengua francesa en los países de la Organización Internacional de la Francofonía (OIF) cumple diversas funciones, desde ser la única lengua oficial hasta ser la lengua de la cultura. Es precisamente el medio de acercamiento entre las distintas regiones de la OIF en el ámbito de las relaciones comerciales, en el campo de la educación y en la economía. Como se ha señalado, un fenómeno notable de la vida internacional son las distintas formas de asociación basadas en cierto grado de proximidad lingüística (2, p.37]: Commonwealth, OIF, Hispanidad, Unión Latina, Mancomunidad de Países de Lengua Portuguesa, etc.). En el contexto de estas organizaciones destaca claramente la OIF. Aquí, en primer lugar, hay que señalar el factor de la preservación de la diversidad cultural como uno de los objetivos de la francofonía. Se ha observado que ninguna otra comunidad multinacional de personas unidas por una lengua ha prestado hasta ahora tanta atención a la cultura como la francofonía.

El francés pertenece sin duda a las lenguas de tipo pandémico. Las lenguas de tipo pandémico son comunes en todos los países y en todos los continentes. La expansión colonial de estos países, sobre todo en América y África, desempeñó un papel importante en su difusión, al igual que otras lenguas románicas. Francia dos veces adquirió y perdió extensas posesiones coloniales. En los siglos XVI y XVIII creó su primer imperio, principalmente en América [2 p.75].

En 1960, tras la independencia de las colonias, los primeros presidentes de Senegal, Níger y Túnez - Leopold Sedar Senghor, Amani Diori y Habib Bourguiba - propusieron unir a todos los países que acababan de obtener la independencia nacional y que deseaban continuar sus relaciones con Francia basándose en similitudes culturales y lingüísticas. El concepto de "francofonía" adquirió carácter oficial. En 1986 se celebró en París la primera Cumbre de la Francofonía.

Hoy, la Comunidad Francófona está formada por 57 Estados y 23 países observadores. Actualmente hay unos 274 millones de hablantes en el grupo de países miembros de la OIF.

El Día Internacional de la Francofonía se celebra el 20 de marzo, ya que ese día de 1970 se firmó un acuerdo (en la capital de Níger) para crear la Agence Intergouvernementale de la Francophonie (AIF), que hoy es la principal institución de la OIF [3].

La primera Secretaria General de la OIF, el 5 de enero de 2015, fue Michaëlle Jean, representante de Canadá y ex Gobernadora General de ese país.

El término "francofonía" fue utilizado por primera vez en 1880 por el geógrafo francés O. Reclue, que decidió clasificar a los habitantes del planeta tomando como punto de partida la lengua que hablaban. El término fue utilizado originalmente sólo por geógrafos para describir a los habitantes del mundo.

La sede de la OIF se encuentra en París. En 1986 se celebró en Versalles la primera cumbre mundial de la organización, a la que asistieron los representantes de 42 países francófonos. Antes de este acontecimiento histórico, el Ministro francés de Asuntos Exteriores, R. Dumas, señaló la necesidad de que la comunidad francófona debatiera los problemas que surgían entre el Norte y el Sur y encontrara vías para resolverlos. También subrayó la importancia de trabajar en el desarrollo y el uso de "tecnologías e instituciones del futuro" en el seno de la organización.

Hoy en día, la mayoría de los francófonos aprenden francés como segunda lengua. En los países africanos el francés se aprende en la escuela y se utiliza en las comunicaciones oficiales, como al dirigirse a la administración. También se utiliza en los ámbitos médico y cultural y en el lugar de trabajo. Algunos ejemplos de países donde el francés es lengua oficial pero no primera lengua son Benín, Burkina Faso, Congo, Costa de Marfil, Gabón, Guinea, Malí, Níger, República Democrática del Congo, Senegal y Togo.

La francofonía se difunde activamente a través de diversos canales y organizaciones, como la Agence France-Presse (AFP) y medios de comunicación como Radio France international (RFI) y el canal de televisión France 24. Cabe destacar que el canal de televisión en francés TV5Monde, lanzado en 1984 con el apoyo de la OIF, se emite en todos los continentes. Esto ayuda a Francia a mantener su interés por la lengua y la cultura francesas a pesar del dominio de los países anglosajones en este ámbito.

Consideremos el alcance de la francofonía en las distintas regiones del mundo:

En África, hay francofonía por necesidad, donde el francés se percibe como una ventaja para entrar en el comercio mundial.

Guinea Ecuatorial, por ejemplo, cuenta con una cuarta parte de la población francófona. Globalmente, el dominio del francés disminuye aquí con el rango social, salvo en las zonas fronterizas con Camerún y Gabón. En Zimbabue, el francés es la única lengua extranjera que se enseña oficialmente en las escuelas secundarias, mientras que el inglés es la lengua de enseñanza [1, p.4].

En Sudáfrica sólo hay dos escuelas con lengua francesa: en Johannesburgo y Pretoria. Aquí la demanda es muy alta, llegando a veces al 15-20% anual, y esto se debe, en particular, a la introducción del bilingüismo en las guarderías y las escuelas primarias.

Egipto, Líbano, Israel y los EAU son especialmente francófilos entre los países de Oriente Próximo. Hablar francés en Oriente Medio es un "marcador sociológico" que distingue a la élite cultural y social del resto de la población.

En Egipto, por ejemplo, el francés es la lengua de acceso a la cultura. Parte de la literatura egipcia se publica en la lengua de Molière. La Bibliotheca Alexandrina, ha firmado un acuerdo de colaboración con la Bibliothèque Nationale de France, que a su vez ha donado 500.000 obras francesas

El siguiente país es Israel, que, aunque no es miembro de la OIF, es uno de los centros importantes de la francofonía, con 600.000 francófonos. El francés en Israel es la lengua de comunicación empresarial, ya que allí hay muchas empresas francesas. Una parte importante de la comunidad empresarial francófona está formada por nativos de Francia, Bélgica, Canadá y el norte de África.

En Australia y Oceanía, la francofilia se expresa principalmente en el consumo de productos franceses, y la lengua actúa como vehículo económico para las empresas.

En Australia existe una fuerte demanda de productos culturales franceses. El cine ocupa el cuarto lugar en popularidad. También se extiende la música clásica francesa [1, p.31].

En Nueva Zelanda, los eventos como el Festival de Cine Francés de Auckland son un gran éxito, lo que demuestra un interés real por la cultura francesa [1, p.31].

Así pues, de todo lo anterior podemos extraer las siguientes conclusiones:

- el papel de la lengua francesa en el ámbito internacional depende no sólo de la actuación de las instituciones políticas de Francia en particular y de la francofonía en general, sino también del número de personas dispuestas a aprender y conocer la lengua, y al mismo tiempo su cultura, el número viene determinado, en primer lugar, por el factor económico, y la lengua, por tanto, representa la oportunidad de formar parte de una economía fuerte de un estado determinado;

- la posición del francés en América e incluso en Europa se debilita, pero existe un terreno fértil para su desarrollo en los países del África Tropical;

- ningún otro idioma podrá resistir a la comunidad francófona mientras las personas se reconozcan como parte de este mundo, promuevan la rica cultura no sólo de Francia, sino también la de cada uno, contribuyendo así al desarrollo del multiculturalismo y a la promoción de valores universales.

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В статье рассматривается история развития франкофонии, ее влияние на образование, науку, искусство и политику, особенности социокультурного обмена среди стран-участниц. Особое внимание уделено значению франкофонии для сохранения культурного многообразия и межкультурного диалога в современном мире.

### к содержанию

**М. М. Бычкова**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – преподаватель И. Н. Бахур

### PSYCHOSOMATICS OF FEMALE DISEASES

21<sup>st</sup> century is the age of growth and advance. People are interested in a wide range of issues starting from the Earth's core structure to the question of the universe infinity. Our century is not only challenging and leading to the progress, but also rather stressful. It is for this particular reason that both experts and ordinary people turn to such a field in medical psychology as psychosomatics. The word psychosomatics comes from Greek '*psyche*' meaning '*soul*' and '*soma*' meaning '*body*'. It is a field of medical psychology which deals with the study of how psychological factors influence the emergence and subsequent course of somatic diseases. According to the basic principle of this science the core of a psychosomatic disease is a reaction to emotional sufferings accompanied by functional changes and body abnormalities. Each person's susceptibility may define which organ or system will be affected depending on a human's personality and genetic factors of a person. The aim of the current paper is to trace how psychological state of a woman impacts the development of female illnesses.

Any psychosomatic disease should be viewed as the property of a human body as a system. It cannot be singled out separately either from the psychic or from the physiological (including hereditary) human traits. It cannot be accounted for by studying the qualities of a particular subsystem – either psychic or somatic system. Only the interaction between these subsystems and the

environment can lead to a new property of a body state defined as psychosomatic disease. And only the understanding of these links can enable us to treat effectively the developed disease including the use of various methods and trends of psychotherapy.

Every person, either a man or a woman, is a unique individual with his/her own story and life path. Today's world makes extremely high demands on women. Being more emotional than men, women are more prone to distress, they are more sensitive to what is going on in their surroundings. A great deal of emotional stress and agitation may cause anxiety and depression. According to the statistics of the World Health Organization, 4% of men and 6% of women on the planet suffer from depression. Anxiety and depression can cause numerous illnesses including infertility.

There is such a phenomenon in psychology among women as rejection of their own femininity and womanhood. This factor, as a rule, serves as a defense mechanism, for example, as a reaction to bad experience in a woman's life. One of the possible reasons can be a trauma which results in the body's blocking femininity. There may also be social factors such as pregnancy loss caused by severe stress. All these factors can become a trigger for an illness.

When we are speaking about women there is such a disease of the reproductive system as infertility. A woman is diagnosed with infertility in case when she does not get pregnant for a period of a year having a regular sexual intercourse without using any contraceptive devices. As a rule, a man is examined first during a medical check-up because it is much easier to leave out a man's factor than a woman's factor. Undoubtedly, there are cases when infertility is caused by physical factors, but there are numerous cases of psychological factors being a reason of infertility. "Gynecological diseases, hormonal disorders, overweight, infections, hypothermia, traumas, impaired posture refer to physical factors. Psychological factors deal with fears, emotional stress, depression, predominance of masculine energy (suppression of female energy), self-rejection, infertility as a way of self-expression" [1, c. 132]. According to the statistics, 80% cases of infertility are attributed to psychosomatic origin.

An American psychologist Louise Hay, who is a key figure of self-help movement, names one of the possible reasons for women infertility: fear and resistance to life process or an absence of the demand for acquiring a parental experience. "In this case, so-called psychological attitudes may become possible psychological solutions to the problem of infertility. One of such attitudes sounds the following way: 'I believe in life. By doing real work in due time, I am always in the place where I am supposed to be. I love and approve of myself'" [3, c. 98].

One more female reproductive system disease is ovarian cyst. The cyst is a covered body cavity with liquid. On a psychological level this medical condition can be interpreted as an accumulation of something negative: unvoiced offences, anxieties, distress. All the above-mentioned negative factors start to accumulate in our body and to protect itself the body creates a covering that includes all these clusters. On a somatic level they are existing in the form of an ovarian cyst.

Candidiasis is a somatic disease of frequent occurrence, which is manifested in the form of whitish secretions and goes hand in hand with itchy sensation. A physical reason, which causes this disease, can be linked to an excessive use of carbohydrates. From the psychological point of view, candidiasis is auto-aggression for taking the wrong decisions.

“Along with the traditional pharmacological therapy for treating psychosomatic diseases psychology offers its own ways of dealing with these problems: using relaxing methods, calm breathing, meditation, autogenic training” [2, c. 122]. Patients can practice cognitive-behavioral therapy. In the course of the therapy a patient tries to perceive the peculiar features of his conditions as well as sets goals for changing his state of health. A doctor guides him and helps to find the true reason for his disorder. Gestalt-therapy also has a positive effect upon psychosomatic diseases. This therapy is aimed at unfolding emotional reactions and working through unexpressed emotions, which have a negative influence on a person. Together with an expert, a patient seeks for the ways to express his needs. One more method of psychological aid is positive therapy. In the course of treatment sessions an attempt is made to find positive points in the existing situation. A psychotherapist strives to activate the inner potential of a patient. An expert can also employ psychological suggestion and different meditation techniques. The choice of particular methods of treatment and their combination depends on the characteristics of a patient. Physical activity and massage produce good results. However, the core component is working with a specialist who will help the patient discover the psychological causes of this or that illness and cope with it.

Thus, we may conclude that in some cases, diseases of women’s reproductive system can be caused not only by physiological but also by psychological factors. In case the reason is related to psychological factors, it is necessary to resort not only to medical methods of treatment but also to employ psychological techniques, such as breathing exercises, meditations, autogenic training. Cognitive-behavioral therapy, Gestalt therapy and positive therapy also provide a positive effect. Nonetheless, we must keep in mind that these practices should be exercised with the involvement of a professional specialist in the sphere of psychology.

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В статье рассматривается вопрос взаимосвязи между заболеваниями репродуктивной системы женщин и психологическими факторами их возникновения. Акцент сделан на необходимости выявления истинных причин заболевания и обращения не только к медикаментозному, но и психологическому воздействию на пациента.

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#### **В. В. Варицкая**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Л. М. Максимук

#### **LA CORRIDA DE TOROS DESDE LA ANTIGÜEDAD HASTA NUESTROS DÍAS**

La historia de la corrida de toros se remonta a la época de la antigüedad y se relaciona directamente con la tribu de los íberos, que vivían en la Península Ibérica en el III mil a. C. Los íberos consideraron los toros sagrados, y posiblemente, su asesinato fue una especie de ritual que realizaban directamente los sacerdotes. Se sabe que la misma tradición la tenían los griegos. El joven Creta de uno en uno luchó con el toro, y después de la victoria al toro sagrado ofrecieron en sacrificio. El juego en sí llevaba el nombre de tauromaquia por lo que muchos creen, que la corrida de toros es una moderna tauromagia.

A la hora de la finalización de la Reconquista en España el combate con los toros comienza a ser el asunto de nobleza. En este momento, en el campo de batalla con el toro lucha caballero [1]. En el siglo XVI muchas fiestas están relacionadas con las corridas de toros. Por ejemplo, en Madrid, en la plaza Mayor, las peleas se organizaban bastante a menudo para que todos las veían. Se crearon incluso escuelas especiales de tauromaquia: apareció por primera vez a finales del siglo XVII, en Sevilla, donde los jóvenes aspiraban a hacerse los valientes toreros. Se sabe que a finales del siglo XIV Roma no dio la bienvenida a esta pasión. El 1 de noviembre de 1567 el Papa Pío V promulgó el decreto por el que se prohibía llevar a cabo la corrida de toros. Él creía que ella "representa

un gran peligro para las almas y demonio más digno, más humano" [2]. Pero sin embargo, el Rey de Español Felipe II quería continuar este sangriento espectáculo, ya que endurecía el coraje y logró la cancelación de un decreto del Papa.

A lo largo de varios años, la corrida de toros fue un éxito en España, pero más tarde, cuando el trono español se tomó el nieto del Rey francés Felipe V, la tradición de corrida de nuevo se veía frustrada. Al nuevo gobernador esta tradición no le gustó nada, le precia un desierto, por lo que las corridas de toros fueron prohibidas. Y sólo después de su muerte en 1740 la década de la interrumpida tradición ha sido reasumida. Pero su naturaleza había sido un poco cambiado: en lugar de caballero aparece el torero. Por lo tanto, en las batallas pudieron participar y representantes de la clase baja, que no gozaban de sus caballos [2].

A mediados del siglo XVIII en Madrid había una multitud de las arenas de la plaza de toros, que fueron vallados de madera y escudos. La actual corrida de toros, básicamente, ha conservado todos los rasgos que se han inherente para el siglo XVIII. Hay varios períodos de batalla, de otra manera se les llama los tercios. En la primera tercia el matador y sus ayudantes encuentran al toro en la arena y tratan de darle mucho coraje, utilizando dos tonos del capote. En la segunda tercia los asistentes utilizan banderillas para herir al toro ligeramente, pero es importante no quitar al toro mucha fuerza para él continúe la batalla. Aquí puede participar no sólo el matador, sino sus ayudantes banderilleros. Y, por último, seguido "la tercia de la muerte" el matador lucha con el toro, con muleta y el estoque, la que se debe utilizar al final para matar a un toro. Como regla general, el toro debe ser asesinado en el plazo durante 10 minutos después del comienzo de tres partes de tercias. Si el tiempo expira, y el toro se mantiene vivo, el matador pierde el combate. Esta culminación es vergonzosa para cualquier matador.

Por lo tanto, la corrida de toros siguió evolucionando. Hasta el siglo XX, en las corridas de toros podrían participar incluso las mujeres. Por ejemplo, a finales del siglo XVIII en Madrid en la arena actuaba la conocida matadora Pagueuera. En el siglo XX aparecen los primeros famosos toreros que han desarrollado las diferentes técnicas de la moderna tauromaquia – Joaquín Rodríguez, José Delgado y muchos otros. Es famoso el torero Pedro Romero Martínez. Él mismo es mencionado en el libro *Fiesta* del famoso escritor Ernest Hemingway [5, p.190]. La "edad de oro" de la plaza de toros se consideran los años 1910 - 1920, así como en el campo de batalla actúa Juan Belmonte, el mejor torero de todos los tiempos, y muchos lo llaman el padre del estilo de tauromaquia.

Pero no todos los españoles valoran positivamente la corrida de toros. Algunos la perciben como fiesta nacional, y creen que la corrida de toros es el mejor entretenimiento de toda España. Otros creen que la corrida de toros es

cruel y mal trato de los animales. Pero a pesar de esto, muchos representantes de diferentes países todavía se reúnen para ver un espectáculo inolvidable.

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Статья посвящена истории возникновения и расцвета корриды дэ торос (corrida de toros, исп. - бой быков). Описан процесс развития корриды с античных времен до современности с ее характерными особенностями.

### к содержанию

#### **А. Д. Васковская**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель А. З. Зенченко

### **PROMOCIÓN DE ESTILO DE VIDA SALUDABLE**

Una de las prioridades de la política estatal moderna es preservar y fortalecer de la salud de la población de la República de Belarús y reforzar la promoción de un estilo de vida sano. Los principales componentes de un estilo de vida saludable son el rechazo de los malos hábitos, una alimentación sana y racional, un régimen equilibrado de actividad física, y una actividad laboral fructífera [1, с. 17].

La promoción de un estilo de vida saludable abarca una amplia gama de actividades, desde programas de educación y concienciación hasta el uso de los medios de comunicación, para que las personas se responsabilicen de su salud y reciban la información que necesitan para mantenerla y mejorarla. Los medios de comunicación desempeñan un papel importante en la promoción.

Los medios de comunicación intentan constantemente convencer a la gente de que una actitud cuidadosa y responsable hacia su propia salud, la adhesión a

los principios de un estilo de vida sano y la concienciación sobre la prevención de enfermedades permiten a cada uno de nosotros cambiar radicalmente el nivel y la calidad de vida para mejor.

Para promover estilos de vida saludables, se utilizan métodos publicitarios orales, impresos, visuales (pictóricos) y combinados:

- el método de propaganda oral es el más eficaz. Incluye conferencias, conversaciones, debates, cuestionarios;
- el método de propaganda impresa abarca a amplios sectores de la población. Incluye artículos, folletos, notas, periódicos murales, folletos, etc.;
- el método visual es el más diverso en cuanto al número de medios que incluye. Pueden dividirse en 2 grupos: objetos naturales y medios pictóricos (volumétricos y planos);
- método combinado: un método de propaganda de masas, en el que se produce un efecto simultáneo en los análisis auditivo y visual.

La salud de las nuevas generaciones es la clave del éxito del desarrollo de nuestra sociedad. La cuestión de la formación, preservación y promoción de la salud de los niños, los adolescentes y los estudiantes tiene una importancia social especial, ya que la salud de la nación depende de esta categoría de la población.

Desde la infancia, el niño debe comprender y valorar su salud y la de los demás. Es importante comprender la importancia y el valor de la salud, entender sus signos y criterios, así como los señales que indican posibles violaciones. El niño debe entender la esencia de la mejora de la salud y de las actividades de la educación física [2, c. 185].

La salud en el sentido amplio de la palabra no es solo la ausencia de enfermedades y el funcionamiento normal de los sistemas corporales. La salud también debe significar la posibilidad de participar plenamente en numerosas relaciones sociales, la capacidad de ser activo en actividades cognitivas, la capacidad de controlar el estado del propio cuerpo, de desarrollarse creativamente y de disfrutar y gestionar la plenitud de la vida.

Mientras que promoción de un estilo de vida saludable en nuestro país en lo que respecta el abandono del tabaco, las drogas y bebidas fuertes está ganando impulso cada año, entonces el problema de la ingesta dietética adecuada sigue sin recibir la debida atención. Mientras tanto, resolver el problema de la nutrición en favor del aumento del consumo de verduras frescas, frutas, zumos y otros productos saludables tendrá automáticamente un efecto beneficioso sobre el problema del exceso de peso.

Por lo tanto, los principios de un estilo de vida saludable están interrelacionados y deben aplicarse de manera integrforma integrada. Así es como podemos lograr una mayor mejora de la esperanza y la calidad de vida. Se

espera que en los próximos años la promoción estatal de estilos de vida saludables comience a abordar este problema de forma activa y fructífera.

La realización de una campaña informativa y educativa para promover la cultura física, el deporte y un estilo de vida saludable ayuda a fortalecer la salud de la población y crear un clima material y tecnológico favorable en los colectivos y en la sociedad en general. La participación de amplios sectores de la población en actividades activas de educación física y deportes reduce las consecuencias negativas y las tasas de morbilidad de la población.

La comprensión de que el futuro de cualquier país o nación es imposible sin miembros sanos de la sociedad ha llevado a un consenso, también en Belarús, de que un estilo de vida saludable es una condición importante para prevenir muchas enfermedades, promover la salud, prolongar la vida y desarrollar una longevidad activa.

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В статье приводятся главные составляющие здорового образа жизни: перечисляются и раскрываются основные методы пропаганды, рассматриваются принципы здорового образа жизни. Автор анализирует преимущества информационно-образовательной кампании по пропаганде физической культуры, спорта и туризма, а также раскрывает воздействие СМИ на ведение здорового образа жизни.

#### к содержанию

**К. М. Веремейчик, А. М. Бандик**

Республика Беларусь, Минск, Белорусский государственный  
экономический университет

Научный руководитель – кандидат филологических наук, доцент

М. В. Юнаш

#### **PECULIARITIES OF MEDICAL AND HEALTH TOURISM IN THE REPUBLIC OF BELARUS**

Medical and health tourism is considered to be the travel of people to other countries and regions in order to receive treatment, often combined with recreation. Medical and health tourism existed in antiquity, in particular, the ancient Greeks travelled to temples, which are both hospitals for purification and



spiritual healing. A really rapid development of this sphere of tourism began in the 90s of the 20th century, when the term appeared. Initially, these were trips of patients from developing countries to developed countries. Nowadays, the trend has changed, and citizens of developed countries are travelling to developing countries to receive medical care and save money on treatment.

The purpose of our work is to consider the most developed directions of medical and health tourism in the Republic of Belarus. In this publication, we will focus on the advantages of medical and health tourism as a promising direction in the Republic of Belarus, the most developed directions of medical and health tourism, as well as sanatoriums of various medical profiles.

Citizens from 100 countries, such as Russia, Ukraine, Kazakhstan, Azerbaijan, Moldova, Georgia, Syria, Cyprus, Germany, Israel, Italy, Yemen, etc. come to Belarus for therapeutic treatment. Health care institutions provided medical assistance to citizens from 121 countries [1]. According to expert forecasts, in the future the number of tourists will increase annually by approximately 20%, which, accordingly, will be reflected in the growth of income from this type of activity [2].

The Republic of Belarus from the point of view of the development of health tourism has a number of competitive advantages: the policy of visa-free visits by foreign citizens, convenient geographical location, moderate climate that does not require acclimatisation, absence of natural and social disasters, high qualification of Belarusian doctors, well-equipped clinics and reasonable prices, the use of innovative technologies and techniques, modern equipment that allows to make accurate diagnoses and carry out medical treatment.

The most developed and popular areas of medical and health tourism in Belarus are dentistry (implantation and prosthetics), gynaecology, obstetrics, cardiac surgery, cardiology, plastic surgery, neurology and neurosurgery (paediatric and adult), traumatology and orthopaedics, treatment of oncological diseases, cancer treatment, diagnostic examinations, preventive treatment, recovery from diseases, ophthalmology, reproductive medicine, services helping to get rid of post-COVID syndrome, organ and tissue transplantation, and recreation in health centres.

In Belarus, there are a number of sanatoriums of various treatment profiles offering a wide range of services. Here 240.8 thousand foreigners have undergone treatment and recuperation [1]. Among the sanatoria that are the most popular with foreigners are the following: "Krinitsa", "Pridneprovsky", "Lesnye Oзера", "Bug", "Belaya Vezha", "Ruzhansky", "Priozerny", "Sputnik", "Yunost", "Sosnovy Bor" and others. There are also children's sanatoria of various profiles, such as "Sluch", "Rosinka", "Svisloch" and "Solnyshko". The only medical institution for children with diseases of the organs of vision in Belarus is the sanatorium "Bogatyr". The main direction of sanatorium and

resort activity is the organisation of full-fledged recreation and recovery using natural factors in combination with physiotherapy, dietetics, therapeutic exercise and other modern effective medical technologies.

Medical and health tourism in Belarus is becoming more and more in demand and popular every year. Guests of our country can combine recreation with receiving highly qualified assistance in the best medical centres and clinics, undergo rehabilitation and recovery courses in sanatoriums of Belarus. Medical and health tourism has a really mass character. This is largely due to the development of information support for the industry.

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В статье рассматриваются особенности лечебно-оздоровительного туризма в Республике Беларусь, включая конкурентные преимущества страны, наиболее развитые направления и популярные санатории. Показано, что лечебно-оздоровительный туризм становится все более востребованным благодаря повышенному интересу иностранных граждан.

### к содержанию

#### **А. В. Вожейко, Н. В. Борейко**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель О. Н. Коваленко

### **CRYPTOGRAPHY AND DATA SECURITY IN PROGRAMMING**

Cryptography is the science of protecting information by transforming it into an unintelligible form, making it unreadable to unauthorized parties. In the world of programming, cryptography plays a crucial role in safeguarding sensitive or confidential data from unauthorized access or tampering. Cryptography is essential in programming as it provides a vital layer of protection for sensitive data such as passwords, credit card information, and personal identifiable information. Without cryptography, these data could be

vulnerable to theft, leading to severe consequences such as identity theft, financial losses, or breaches of privacy.

The goal of this article is to explore the different aspects of cryptography and its role in ensuring data security in programming. We will discuss various encryption methods, authentication techniques, digital signatures, as well as the current data security threats.

The basic concept behind cryptography is to use mathematical algorithms to encrypt data, making it secure even if intercepted during transmission or storage [1]. AES (Advanced Encryption Standard) is a secure symmetric encryption algorithm, capable of encrypting and decrypting data using key sizes of 128, 192, or 256 bits. It is known for its efficiency and resistance to brute force attacks.

Another widely used encryption algorithm is RSA, which falls under the category of asymmetric encryption. RSA stands for Rivest-Shamir-Adleman, and it uses a pair of keys, namely a public key and a private key [3]. The public key is used for encryption, while the private key is kept secret and used for decryption. RSA is often used for secure communication and digital signatures, providing a high level of security and authenticity.

Data Encryption Standard (DES) is an older symmetric encryption algorithm that was widely used in the past [3]. Although it is considered less secure by today's standards, its significance in the history of cryptography is worth mentioning. DES operates on blocks of data, encrypting them with a 56-bit key. Despite its vulnerabilities, DES paved the way for more robust encryption algorithms like AES.

These encryption algorithms, AES, RSA, and DES, each serve their unique purpose in securing data. AES excels in symmetric encryption, while RSA provides strong asymmetric encryption capabilities. DES, while less secure by today's standards, contributed to the foundation of modern cryptography. Understanding the strengths and weaknesses of these algorithms is crucial for programmers when selecting the appropriate encryption method to secure their data.

Symmetric and asymmetric encryption algorithms are two fundamental approaches to encryption, and understanding their differences helps programmers choose the appropriate method based on specific scenarios.

Symmetric encryption employs a single key for both encryption and decryption processes [1]. This means that the same secret key is used for both encryption and decryption of data. It offers fast and efficient encryption, making it suitable for encrypting large amounts of data. However, a significant challenge with symmetric encryption is securely exchanging the key between the parties involved. If the key falls into the wrong hands, the entire system's security can be compromised.

On the other hand, asymmetric encryption, also known as public-key encryption, uses two separate but mathematically related keys: a public key and a private key. The public key is shared openly, while the private key is kept secret. Encrypted data can only be decrypted using the corresponding private key. Asymmetric encryption provides a solution to the key exchange problem faced by symmetric encryption. It facilitates secure communication between parties which have never shared a key before. However, asymmetric encryption is generally slower and computationally more intensive than symmetric encryption.

A common practice is to combine the strengths of both symmetric and asymmetric encryptions. For example, a typical scenario is using asymmetric encryption to establish a secure communication channel and exchanging a randomly generated symmetric key. The symmetric key is then used for the rest of the data encryption process, taking advantage of its fast encryption and decryption speed [2].

Symmetric encryption is efficient for large-scale data but needs secure key distribution, while asymmetric encryption solves the key exchange issue but is computationally demanding. Programmers must understand these approaches' pros and cons to choose the right encryption method for their needs.

Key management is a critical aspect of cryptography that encompasses various processes such as key generation, distribution, storage, and rotation. Proper key management is essential for maintaining the security and integrity of data. Key management in cryptography involves several critical processes [1]:

- 1) key generation: creating strong, random cryptographic keys using secure algorithms to ensure unpredictability and randomness;
- 2) key distribution: securely sharing keys between parties using mechanisms like key agreement protocols or key encapsulation to prevent unauthorized access;
- 3) key storage: storing keys securely with practices such as encryption at rest, access control, and using secure storage solutions like Hardware Security Modules (HSMs) or key management systems;
- 4) key rotation: periodically changing keys to mitigate the risk of compromise and maintain data security. This involves establishing policies and procedures for timely key changes.

Cryptographic techniques, including hash functions and digital signatures, are vital for ensuring data integrity and authenticity by detecting and preventing unauthorized modifications. Hash functions generate unique outputs for input data, enabling the identification of changes, while digital signatures, combining asymmetric encryption and hash functions, verify both the authenticity and integrity of data. These methods offer robust protection against tampering or unauthorized access, crucial for maintaining data integrity and authenticity.

Cryptography and data security are essential in programming to safeguard sensitive information, maintain privacy, and ensure data integrity. Programmers must adapt to evolving threats as technology advances and malicious actors develop new tactics.

To sum up, implementing strong encryption algorithms, proper key management practices, and robust data integrity measures provide a secure foundation for applications. Understanding the strengths and weaknesses of different encryption methods, such as symmetric and asymmetric encryption, enables informed decisions when designing secure systems.

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В статье показаны различные аспекты криптографии и ее роль в обеспечении безопасности данных в программировании, а именно различные методы шифрования, методы аутентификации, цифровые подписи и текущие угрозы безопасности данных.

### к содержанию

#### **Е. И. Возняк**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. М. Калилец

### **THE ROLE OF SOCIAL FACTORS IN THE FORMATION OF A HEALTHY LIFESTYLE AMONG YOUNG PEOPLE**

In recent years, efforts have been made to promote a healthy lifestyle among the population. It is important to note that this area has become one of the priorities of state policy. Given that the concept of a healthy lifestyle is based on human health, as well as the future of young people, it is natural that it will play a key role in the development of society.

To form a healthy lifestyle among the young generation is a rather urgent task at the moment. Health is the most valuable thing a person has, because you can pay for it, but you can't buy it. That is why measures should be taken to

maintain a high level of health. The main measure is to follow a healthy lifestyle.

The purpose of the article is to study the degree of influence of social factors in the formation of a healthy lifestyle on the younger generation.

To investigate the degree of influence, it is required to know more about social factors [1].

A social factor is any variable in the social environment that has a significant impact on the behavior, well-being and health status of an individual [1, p. 3069]. Following this definition, several factors can be distinguished. For example:

- Mode and quality of sleep;
- Mode and quality of nutrition;
- Daily physical activity;
- Hygiene;
- Prevention of bad habits;
- Mental well-being.

The factors listed above directly contribute to the development of a healthy lifestyle among young people. It is worth breaking down each one individually.

The mode and quality of sleep are extremely important in the life of every person. As everyone knows, sleep is able to restore energy and give a charge of vigor. However, for this reason sleep must be on schedule, quite long and of high quality. It is clear with the schedule and duration: it is desirable to sleep at night, the more, the better. But the quality of sleep is a bit more complicated. In order for it to be considered quality, you need to sleep in a dark room with a comfortable temperature, moderate humidity, and at the same time, sleep should be uninterrupted.

The mode and quality of nutrition also have a direct impact on human health. Food, like sleep replenishes the body's energy. However, one must also know how to eat. According to the standard there should be 3-4 full meals per day. Food should be healthy, contain a sufficient amount of useful substances not only to maintain, but also for the continuous development of the young body. Nowadays the problem of "hidden hunger" is actively gaining momentum. The problem is that the body feels satiety, but does not get the right amount of nutrients and vitamins. Therefore, it is important to monitor your diet.

Daily physical activity. The problem of sedentary lifestyle is becoming more and more tightly entrenched in the modern world. The consequences of such a lifestyle are gaining excess weight, developing diseases, loss of strength and mood. To counteract this and improve your health, you should lead an active lifestyle. There are different methods of controlling daily activity: you can count the time during which you were active; you can track the number of steps per day with the help of special devices. In the case of time, according to physical

activity data from the World Health Organization, an adult needs to move with a moderate level of activity for at least 300 minutes per week. If oriented by steps, 10000 steps is considered a daily norm [2].

Hygiene as well as other factors affect human health. Observance of elementary norms of self-care can prevent the development of a huge list of various diseases.

Prevention of bad habits is a rather relevant topic today. According to the statistics of the Ministry of Health of the Republic of Belarus for 2017, there were nine out of ten people with bad habits in the country [3]. Harmful habits are directly harmful to human health. Not having or getting rid of them is the best solution!

Mental well-being. It is proven that the state of mental health has a huge impact on how a person feels physically. Frequent worries, nervous shocks, scandals and quarrels can provoke various diseases. According to the recommendations of doctors for a stable state of mental health, it is necessary: eat right, drink more water, do not lead a sedentary lifestyle, learn to manage your emotions, give up bad habits and addictions, and develop an active life position.

Having studied the information about social factors, we can draw the following conclusions:

The role of social factors in the formation of a healthy lifestyle is key, because some of them (sleep, eating, and any daily activity) are the direct life activity of a person, it is impossible to “detach” them from the person. Other factors (hygiene, prevention of bad habits) may not have such a strong influence on the maintenance of vital energy, but they directly affect human health, which in turn is the most valuable human resource.

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В статье определяется понятие и анализируются пути формирования здорового образа жизни у молодого поколения, что является актуальной задачей на современном этапе.

**к содержанию**

**Т. А. Воробьёва**

Республика Беларусь, Брест, Брестский государственный университет  
А. С. Пушкина

Научный руководитель – старший преподаватель А. Ю. Тищенко

## **TEACHING DIFFERENT TYPES OF READING AS THE MAIN MEANS OF FORMING LANGUAGE COMPETENCES**

Nowadays, when knowledge of English is becoming more of a norm and one can speak of English as a language of international communication, educators put forward an extended interpretation of the goal of foreign language teaching in schools – the formation of communicative competence. In the context of forming the required level of communicative competence, all types of speech activity are necessary for mastering the art of communication, further education and personal development. It goes without saying that reading is an independent type of speech activity, which provides a written form of communication.

At the primary and secondary stages of language acquiring, reading rather acts as a means of learning. Attention is paid to the formation of reading technique, the expansion of language repertoire and the development of basic reproductive skills of students on the basis of what they have read. At the senior stage of education, reading more often acts as an independent type of speech activity, when students read not so much in order to fulfil a learning task correctly, but to get the necessary information from the text and use it. Depending on the situation, the completeness and accuracy of information retrieval can and should be different.

Thus, the purpose of teaching reading as an independent type of speech activity is the formation of the ability to extract information from the text to the extent necessary to solve a particular speech task. This implies mastering certain types and technologies of reading. This does not mean that in the senior grades the role of reading as a means of learning recedes into the background. Reading continues to be an optimal means of development and control of related speech abilities and language skills, which allows to optimize the process of learning new and using already learned factual language and speech material.

Foreign and domestic methodologists single out different types of reading and call them differently. We support the point of view in which reading is divided into browsing, exploratory, searching, introductory.

In the context of forming the required level of communicative competence, all types of speech activity, all types of reading are necessary for mastering the art of communication, further education and personal development. The development of skills of working with text with different strategies develops students' philological skills, increases the general educational and



developmental effect of reading and thus makes a significant contribution to the general culture of reading.

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В статье рассматривается обучение различным видам чтения как основному средству формирования языковых компетенций. Опираясь на исследования отечественных и зарубежных методистов, автор показывает, как обучение различным видам чтения помогает обучающимся формировать языковые компетенции.

### к содержанию

#### **В. Н. Геленко**

Республика Беларусь, Брест, Брестский государственный университет имени А.С. Пушкина

Научный руководитель – кандидат филологических наук, доцент

В. В. Авраменко

### **ALGAE BIOLOGY**

Algae are prokaryotic (cyanobacteria) or eukaryotic photoautotrophic organisms that can convert nitrogen and phosphorus from the environment into biomass using light, CO<sub>2</sub> and water. Algae can use sunlight for photosynthesis or can exist as mixotrophs or facultative heterotrophs.

Algae can be divided into micro- and macroalgae. Microalgae (microphytes) are represented by green (*Chlorophyta*), blue-green (*Cyanobacteria*), yellow-green (*Ochrophyta* и *Xanthophyta*), and golden (*Ochrophyta* и *Chrysophyta*) algae and diatoms (*Bacillariophyta*). Macroalgae or simple algae include red (*Rhodophyta*), green (*Chlorophyta*) and brown algae (*Ochrophyta*). The main primary metabolites of algae are lipids, proteins, carbohydrates and water. The biochemical composition of microalgae makes them suitable for producing

various compounds. The ratio of primary metabolites depends on the type of algae and the conditions of their cultivation.

Macroalgae are mainly found in the marine environment. They are available naturally or can be cultivated in large areas of the seaside. Algae use natural nutrients available in the sea for their growth

Microalgae are rich in lipids mainly composed of esterified saturated and unsaturated fatty acids. Microalgae are also rich in exopolysaccharides. Microalgae are rich in exopolysaccharides. Cyanobacterial exopolysaccharides have some structural features compared to polymers produced by other microorganisms such as the presence of one or two uronic acids, the presence of sulfate groups—a feature unique to bacteria but distinguishing exopolysaccharides produced by archaea and eukaryotes.

A wide variety of compounds synthesized by different pathways of algae metabolism provide promising sources of polyunsaturated fatty acids, polyphenols, sterols and steroids, carotenoids, polysaccharides, lectins, mycosporine-like amino acids, proteins, halogenated compounds, polyketides, alkaloids, alginic acid and carrageenans. The human body absorbs algal iron more easily than that from higher terrestrial plants due to the pigment phycocyanin which forms soluble complexes with iron and other minerals during digestion. Microalgae are rich in iodine, potassium, iron, magnesium, and calcium. Microalgae contain vitamin such as B<sub>12</sub> or K. *C. vulgaris*, *H. pluvialis*, *D. salina*, and *S. maxima* are rich in vitamins A, C, B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>, and B<sub>6</sub> [1].

Thus, microalgae extracts can be considered a potential natural source of biologically active compounds with antimicrobial and antiviral activities.

In addition to primary metabolites, macroalgae contain secondary metabolites, which are substances that are not involved. Algae are rich sources of biologically active compounds with antiviral, antitumor, and anti-inflammatory properties. Algae are rich sources of biologically active compounds with antiviral, antitumor, and anti-inflammatory properties, and they are also sources of plant growth stimulators or antioxidant agents. Components of microalgae help maintain the health of the cardiovascular system and exhibit anti-inflammatory, anticoagulant, antiviral, antibacterial, antifungal, and other properties. Components of microalgae are used to strengthen the immune system, lower blood cholesterol levels, and are effective against hypercholesterolemia. The active components of algae can remove harmful elements from the human body and also have ulcer- and wound-healing properties. Microalgae extracts can increase hemoglobin concentration, reduce the level of sugar in the blood, and exhibit analgesic, bronchodilatory, and hypotensive activities [2].

As a food product, microalgae provide high nutritional value but with a reduced calorie content. In addition to microalgae, macroalgae are an excellent

source of proteins, fats, and carbohydrates and contain many vitamins and macro- and microelements. At the same time, the algae composition can vary depending on the time and place of collections. Algae are rich in fatty acids. Many bioactive products derived from algae are used in the pharmaceutical and food industries.

Algae have undeniable advantages in various fields of application. The article is aimed to investigate the edible and biologically active fractions of algae, their composition and properties and the use of algae in the food, pharmaceutical, chemical, and agricultural industries, as well as for environmental cleaning.

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В статье рассмотрены водоросли как прокариотические и эукариотические организмы. Описаны их первичные и вторичные метаболиты и полезные свойства (антимикробные и противовирусные) биологически активных соединений водорослей. Проанализированы элементы водорослей, используемых в продуктах питания и укрепляющих здоровье человека.

### к содержанию

**О. Д. Герасимук**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – преподаватель К. В. Спесивцева

### THE KING OF RUSSIAN ADVOCACY

One of the brightest and most iconic figures who influenced the development of the jurisprudence of Belarus and Russia, was a native of the Minsk province Vladimir Spasovich. This person, during his lifetime, was known as “the first lawyer of St. Petersburg” or “the king of Russian advocacy” who participated in all major political processes of his time. V. D. Spasovich showed himself not only as a lawyer, but he was also known as a progressive law professor, teacher, publicist and writer.

Vladimir Spasovich was born on January 16<sup>th</sup>, 1829 in the city of Rechitsa, Minsk province. His father, Daniil Osipovich, was a country doctor. His mother, Theophila Kreutz, a German, was a distant relative of the hero of the Patriotic

War of 1812, General Baron K. A. Kreutz. She received an excellent education and was fluent in the German and French languages [2].

Very capable and well prepared by his mother, Spasovich immediately entered the 4<sup>th</sup> grade in Minsk gymnasium and graduated with a gold medal. In the autumn of the same year, he brilliantly passed entrance exams to the law faculty of St. Petersburg University. In his student years, Vladimir Spasovich was fond of history, philosophy and literature. In 1849, Spasovich graduated from the university with a degree in law, joined the office of the Ministry of Justice, and in 1851 defended his dissertation for the title of Master of International Law. The dissertation was called “On the Right of the Neutral Flag and Neutral Cargo” which gave him European fame. Furthermore, some of its provisions are enshrined in the acts of the Paris Congress of 1856 as international laws [2].

The young lawyer was noticed by K. D. Kavelin, known as an authoritative scientist and publicist and one of the representatives of Russian liberalism at that time. With his assistance, Spasovich began lecturing on civil law at St. Petersburg University, and from 1857 he became a professor and headed, on Kavelin’s recommendation, the criminal law department. In 1861, after the student unrest, together with a group of other professors, he left the university and taught criminal law at the School of Jurisprudence. In 1863 he published the textbook of Criminal Law for which he was awarded the degree of Doctor of Law. In fact, the appearance of the textbook caused great controversy. The result of this was that a special commission headed by the chief of gendarmes found in the book more than 36 places “which contained hostile thought of the West”. According to the royal decree, the textbook was confiscated. He completed his professorship in 1864, devoted himself entirely to the legal profession in 1866. Moreover, Vladimir Spasovich was one of the first people to criticize the Criminal and Correctional Codes of 1845 [2].

Vladimir Spasovich’s speeches were distinguished by their strict composition and genuinely scientific analysis of the evidence. He often questioned and challenged expert statements, as he had deep knowledge of many disciplines (particularly in criminalistics). In a speech, he skillfully and convincingly put each evidence in its place. No one so skillfully and widely enjoyed scientific knowledge like Spasovich.

He died on October 26<sup>th</sup>, 1907 in Warsaw from influenza. Since he had no family, he bequeathed all his savings to the Academy of Sciences in Warsaw and the St. Petersburg Roman Catholic Society Foundation.

Having devoted 40 years of his life to advocacy, Spasovich always combined that work with literary and scientific activities. Ten volumes of his works are devoted to the most diverse branches of knowledge. A great contribution to science is the theory of criminalistics evidence developed by him, the theory of hacking, a large number of works on criminal law and

process. It should also be noted that critical, literary and journalistic articles devoted to the analysis of the work of Russian and Western writers: the work of Pushkin, Lermontov, Senkevich, Byron, Goethe, Schiller, Shakespeare and others [1].

The literary works of Spasovich testify to the great talent and the diversity of his interests. The activities of this remarkable lawyer left a bright mark in the history of Russian advocacy. With his exceptional courtroom skills, profound knowledge and commitment to justice, Vladimir Spasovich has left an indelible legacy. As the King of Russian Advocacy, he serves as an inspiration to aspiring lawyers and a testament to the power of one individual's unwavering pursuit of justice.

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Статья посвящена деятельности выдающегося адвоката, юриста-правоведа, публициста и преподавателя Владимира Даниловича Спасовича. Особое внимание автор уделяет его профессиональной деятельности преподавателя и автора. Перу В. Д. Спасовича принадлежит один из лучших учебников по уголовному праву, за который ему была присуждена ученая степень доктора права.

### к содержанию

#### **Е. В. Глинская**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Н. В. Иванюк

### **GEOGRAPHY IN NUMISMATICS**

Numismatics as a science provides information about the diverse economic relationships of various peoples of different times and epochs. With the help of coins one can learn a lot about political history, physical and economic geography. Coins are a kind of source of information in scientific research, and they are a way to increase the popularity of geography among people by effectively implementing the principle of visibility and knowledge of science through impressions.

The purpose of the article is to consider the role of numismatics in geography by studying the symbolism of various coins of the 20<sup>th</sup> and 21<sup>st</sup> centuries.

Numismatics is an auxiliary historical discipline that studies the history of coinage and monetary circulation of coins, payment bars, and other monuments. Numismatics as a science originated from amateur coin collecting. Collecting as a hobby appeared in the Renaissance in Italy, and then spread throughout Europe. At the same time, the first sketches and descriptions of coins appeared as well as the first private collections. The systematization of coins began only in the 18<sup>th</sup> century, and a century later state collections and catalogues of museum coins began to appear [1].

Also, in the 18<sup>th</sup>-19<sup>th</sup> centuries the first works on numismatics appeared. At the same time numismatics became an auxiliary science for history and gradually began to gain independence.

The founder of numismatics can be considered Johann Joseph Hilarius von Eckhel who at the end of the 18<sup>th</sup> century prepared a fundamental work of 8 volumes entitled “The Science of ancient coins”.

Heraldry closely cooperates with geography, according to the principles of which coats of arms are created for countries around the world. With the help of heraldic symbols, the state expresses important aspects, collects them into a single composition – the coat of arms. By reading the state heraldic symbol, we can learn interesting facts, preferences, trade routes, and a brief history of the proposed territory.

The first heraldic images were found on the coins in Europe in the 13<sup>th</sup> and 15<sup>th</sup> centuries. The coats of arms of many countries themselves carry a large amount of geographical information — about nature, economy, and form of government. This is especially true for decolonized countries, such as those in Africa and Latin America. An example of a coin with an image of heraldry can be 5 centavos which depicts the official coat of arms of Nicaragua.

The coats of arms of European states carry little geographical information since all the elements of the coat of arms originate from the Crusader knights who participated in military campaigns to protect the “Holy Sepulchre”. However, some European coins display heraldry. The example is the 1<sup>st</sup> centime of the Principality of Andorra.

The next major category is coins with images of elements of physical geography. All objects of physical geography on coins can be divided into several most extensive groups: cartographic, geomorphological, floral and faunal [1].

Using the map, the geographer establishes spatial relationships between phenomena and deduces geographical patterns. “There is no geography without a map” – these words, once said by the famous geographer and economist

Nikolai Nikolaevich Baransky, are still relevant today. On modern coins, namely euros and euro cents, a globe with a stylized map of Europe is depicted on the reverse side.

Coins with images of various landforms are dominated by images of mountains, most often the highest points of the states. These are the Triglav Mountains in the Eastern Alps in Slovenia (Slovenian 50 euro cents) and Krivan Peak in the High Tatras in Slovakia (20 hellers).

There are also other interesting landscapes, such as the Indian Ocean coast at 5 cents of the Cocos Islands and the Grand Canyon National Park in Nevada at 25 cents of the United States.

The most common images in this category are representatives of the animal and plant world. They are found on coins of all continents. Images of both ubiquitous species and endemic species living in a certain area are present with the same frequency. Among the endemic animals, such species can be noted as the armadillo on the coin of Zambia, the tuatara on the coin of New Zealand, the bird of paradise on the coin of Papua New Guinea, Cape sparrows on the coin of South Africa, the Pyrenean chamois on the coin of Andorra. Among the most widespread are the weasel on the coin of Malta, the rabbit on the coin of Tanzania, the jaguar on the coin of the Congo, the heron on the coin of Hungary.

One can often see representatives of marine fauna, such as dolphins, seahorses, sea turtles on the coins of island and peninsular states [2].

The flora is not so widely represented on coins. However, it should be noted that a special place is occupied by coins which depict plants – the official symbols of the states.

Another category is coins with images of elements of economic geography. There are several groups among the category: industrial, transport and agricultural topics. There are few coins with a pronounced industrial theme, but one can note the Belgian franc of the 70s with the image of a miner. Belgium has long stood out for its mining industry.

Transport is mainly represented by sea. For example, the coin of Panama depicts a modern ship passing through the Panama Canal which the country's economy largely depends on.

The subject of agriculture is widely represented. The main topic is agricultural crops, the cultivation of which is the main one in this state. Most often such images are represented by coins of developing countries. For example, the 1 centimeter coin of Ethiopia, which depicts a scene of buffaloes plowing a field, can also tell about the level of development of the country. Ethiopia is one of the most backward countries in the world.

All objects of numismatics can be used as a means of popularizing geography. Using the examples of the article, we can say that each coin is able to “tell” about a country or city in its own way. It is the various coins of the

countries of the world that can tell an experienced researcher no less than dozens of pages of an atlas. By studying coins, we can learn the history of the country, its heraldry, some stages of the development, traditions and geographical objects that are located inside the country, as well as explore the animal and plant world.

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В статье раскрывается роль нумизматики в географии на примере изучения монет различных государств мира второй половины 20 – начала 21 веков. Классифицируются монеты с изображениями элементов физической и экономической географии. Автор подробно анализирует каждую из групп.

#### к содержанию

##### **В. А. Гнаповская**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – преподаватель И. Н. Бахур

#### **THE POSTULATES OF PLUTCHIK'S THEORY OF EMOTION**

Robert Plutchik (21 October 1927 – 29 April 2006) was a pioneer in emotion theory, and his influence on the discipline of psychology runs both wide and deep. In his wise way R. Plutchik exerted a powerful influence on the spread of the study of emotion from a sideline to a main concern not only in psychology, but in biology, in the social sciences, in psychiatry, and even in the humanities. He was a well-known American professor who taught at Albert Einstein College of Medicine and the University of South Florida. During his life R. Plutchik was the author and co-author of more than 260 articles, 45 chapters and 8 books, acted as the editor of 7 books. R. Plutchik studied various aspects of clinical and cognitive psychology and also studied the relationship between people and their emotional development. His research interests included the study of suicide and violence, and the study of the psychotherapy process. This article examines the key points of his psychoevolutionary theory of emotion.

The psychoevolutionary theory of emotion was developed in 1962 and presented as monographic research. After that, the theory gained international recognition and was used to reveal the structure of group processes. It allows to



form an idea of intrapersonal processes and mechanisms of psychological protection. The main postulates of the theory have become a part of a number of psychotherapeutic areas, for example, Gestalt therapy, emotionally oriented therapy and cognitive behavioral therapy.

According to the theory, throughout evolution emotions have been extremely important in the process of an individual's life, since they have been and continue to be one of the main adaptive means. "Emotion is a human reaction that corresponds to some kind of biological process of habituation, moreover, such processes are similar for all living beings, having a similar structure" [1, p. 197]. According to this theory, each emotion regulates behavior, and behind each of them there is a natural impulse that requires a response. These mechanisms are genetically embedded and function at the level of instincts, contributing to the reaction to external changes. R. Plutchik divided all emotions into primary and secondary. Primary emotions consist of eight basic ones. They include anger, fear, sadness, joy, disgust, surprise, anticipation, trust. Secondary emotions can consist of several basic ones.

There are six main postulates in R. Plutchik's psychoevolutionary theory of emotion. The first postulate says that emotions are mechanisms of communication and survival based on evolutionary adaptation. Emotions arose as reactions to various environmental factors. Their evolutionary function is to help organisms respond to their environment and ensure survival and reproduction. Communication takes place through eight basic adaptive reactions, which are based on eight basic emotions. The first reaction is called incorporation or introjection. Its essence lies in the fact that favorable stimuli penetrate into the body, for example, the process of food consumption. The second reaction is rejection, that is, getting rid of something unsuitable that was perceived earlier. The third adaptive response is called protection. It is characterized by behavior designed to ensure the avoidance of danger or harm. A vivid example of such an adaptive response is an escape and any other action that increases the distance between the body and the source of danger. The fourth adaptive reaction is destruction. Human behavior at this moment is accompanied by actions designed to break down the barrier that prevents the satisfaction of an important need. Destruction is followed by a fifth reaction – reproduction, that is, reproductive behavior, which can be defined in terms of approximation, the tendency to maintain contact and mixing of genetic materials. The sixth adaptive response is reintegration, which is based on the loss of something important that was possessed or enjoyed. Its function is that a person regains custody of what he has lost. Orientation is the seventh behavioral reaction, which consists in contact with an unknown, new or undefined object. The eighth reaction is research, which means "behavior that provides an individual with a schematic representation of a given environment" [2].

The second position is based on the idea that emotions have a genetic basis, that is, emotions are related to genetic heritage and are conditioned by evolutionary processes. This creates the prerequisites for typical emotional reactions in different people. The third postulate states that emotions are hypothetical constructions based on obvious phenomena of various classes. The main idea of the fourth postulate is that emotions are chains of events with stabilizing feedbacks that create some type of behavioral homeostasis. “Emotions are triggered by various events that must be mentally evaluated in terms of significance for the well-being of the individual. The result of the assessment is various experiences, as well as certain physiological changes. Physiological changes are in the nature of reactions of anticipating events associated with various stresses or impulses: the urge to explore, attack, retreat. In accordance with the intensity of these various internal forces, the final direction of action is shaped in the form of an observed result, which should affect the stimuli that initiated this sequence of events” [3, p. 57].

The essence of the fifth postulate is that the relationship between emotions can be represented in the form of a three-dimensional structural model shaped like a cone. It is the basis for building a theoretical model of protection, and the model can be expanded by including features of protective behavior. These can be psychosomatic disorders, possible behavioral deviations, types of roles in a group, etc. This postulate contains the position that states that some emotions are primary, while others are derived or mixed. The sixth postulate is related to the fifth and is based on the relationship of emotions with a number of derived conceptual areas. R. Plutchik emphasized that emotions interacted with cognitive processes, social relations and physiological reactions. Later on, his psychoevolutionary theory laid the foundation for the construction of a theoretical model of protection mechanisms, developed by R. Plutchik in 1979. He identified 16 protective mechanisms that make up the sphere of psychological protection.

Thus, it can be concluded that according to R. Plutchik's psychoevolutionary theory, emotions are adaptive reactions to external stimuli that ensure the survival and adaptation of the organism to the environment. R. Plutchik's psychoevolutionary theory of emotions has had a significant impact on various fields of psychology. It has been applied in clinical psychology, cognitive psychology, psychotherapy, as well as in the study of interpersonal relationships and emotional development.

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Статья посвящена основным положениям и постулатам адаптационной теории Р. Плутчика. Автор обращает внимание на тот факт, что данная теория оказала значительное влияние на развитие многих областей психологии. В статье также раскрыты области применения данной теории.

### **к содержанию**

#### **М. К. Головунина**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева  
 Научный руководитель – кандидат филологических наук, доцент  
 А. А. Зайцев

#### **LA COLLECTION ENTOMOLOGIQUE DU DEPARTEMENT DE PROTECTION DES PLANTES DE L'ACADEMIE AGRICOLE DE MOSCOU K. A. TIMIRIAZEV**

Le travail présenté est consacré à l'étude des particularités de la structure et de l'organisation de la collection entomologique du département de protection des plantes de l'Université agraire d'État de Russie – l'académie agricole Timiriazev. L'actualité de ce travail ne laisse aucun doute – à l'échelle mondiale, les ravageurs, les maladies et les mauvaises herbes font perdre chaque année jusqu'à 35 % des récoltes, dont environ 14 % pour les seuls ravageurs. Cette recherche a pour but de rédiger un catalogage partiel de la collection du département de protection des plantes.

Au début de notre recherche, nous aimerions vous rappeler que l'entomologie (du grec "entomon" - insecte et "logos" - science) étudie le monde des insectes. L'entomologie moderne est divisée en plusieurs disciplines scientifiques indépendantes: l'entomologie générale, l'entomologie agricole, ainsi que l'entomologie forestière, médicale et vétérinaire [3].

La collection entomologique du département de protection des plantes de l'Université agraire d'État de Russie – l'académie agricole Timiriazev est très vaste. On a commencé sa formation il y a plus de 100 ans ! Aujourd'hui elle

compte plus de 10 000 spécimens, parmi lesquels plus de 500 espèces d'insectes sont représentées.

La plupart des spécimens sont en bon état, bien que une grande partie d'entre eux ait été collectée au cours de la première moitié du dernier siècle.

La collection du département joue donc non seulement un rôle important dans le processus éducatif et la formation du futur personnel du complexe agro-industriel russe, mais elle a également une grande valeur historique et scientifique. Tout cela prouve la nécessité de cataloguer cette collection particulière.

Notre objectif était de rédiger un catalogage partiel de la collection du département de protection des plantes de l'Académie agricole d'État de Russie. Ce projet a été inauguré en 2024.

Cet ouvrage présente les résultats intermédiaires du catalogage de la collection. Au cours de ce processus, 219 spécimens appartenant à la famille des Acrididae (Criquets véritables) ont été étudiés jusqu'à présent, dont 5 espèces : *Chorthippus biguttulus biguttulus*, *Chorthippus biguttulus* L., *Chorthippus albomarginatus* De G., *Locusta migratoria* L., *Schistocerca gregaria* (Forsskål) [1].

Lors de la rédaction du catalogue, un numéro a été attribué au spécimen, les noms latins et russes de certains taxons auxquels l'insecte appartenait (ordre, famille, genre, espèce) ont été indiqués. Dans de nombreux cas, l'appartenance taxonomique des criquets était déjà déterminée et indiquée sur l'étiquette [2].

Dans certains cas, pour préciser l'espèce de tel ou tel individu, ainsi que pour clarifier les noms communs russes, un travail avec l'identifiant a été effectué.

Dans la plupart des cas, il y a deux étiquettes pour chaque individu du genre *Chorthippus* Fieber. La première étiquette contient la date et le lieu de la collecte ainsi que le nom du chercheur qui a collecté l'insecte. La seconde étiquette indique l'appartenance taxonomique de l'insecte et le scientifique qui l'a déterminée. Dans de rares cas, le sexe de l'insecte est indiqué sur l'étiquette.

Dans 16 spécimens des genres *Locusta* et *Schistocerca*, il n'y a pas d'étiquettes, ce qui, évidemment, réduit leur valeur scientifique par rapport aux autres représentants de la collection. Mais les 25 spécimens restants ont des étiquettes. Celles-ci, dont les inscriptions ont pu être comprises, présentent des informations sur la série dont provient l'insecte (les spécimens d'une boîte appartenaient à plusieurs séries) ; la date de la mort de l'insecte ; la cause de sa mort ; son sexe. Certaines données concernant chaque individu sont également présentées: par exemple, le nombre de jours après la dernière mue, le nombre d'œufs pondus. Ces données suggèrent que chaque individu a été suivi.

Les spécimens bien conservés datant du début du 20-ème siècle et dont le site de collecte est connu présentent le plus grand intérêt scientifique. Ces spécimens nous permettent de juger de l'évolution de la faune d'une zone

particulière sur une longue période (de nombreux spécimens de la collection ont plus de cent ans). Parmi les spécimens analysés, les plus anciens sont 4 spécimens de l'espèce de raie *Chorthippus biguttulus* datant de 1912.

En outre, un spécimen représentant deux insectes épinglés sur une seule épingle est indicatif. D'après leurs différences morphologiques, il s'agit d'un mâle et d'une femelle. Ce spécimen démontre clairement le dimorphisme sexuel de l'espèce. Les spécimens du criquet pèlerin, qui n'existe pas en Russie, présentent également un grand intérêt.

Ainsi, notre recherche montre que la collection entomologique du département de protection des plantes de l'Université agraire d'État de Russie – l'académie agricole Timiriazev a une histoire longue, instructive et riche en événements, ainsi que diverses découvertes scientifiques, et elle a apporté une contribution significative à la pratique. C'est pourquoi elle attire de plus en plus les étudiants puisque l'intérêt pour l'étude du monde gigantesque et diversifié des insectes s'accroît dans le monde entier.

Nous exprimons notre gratitude et notre reconnaissance à JSC "Shchelkovo Agrochem" et personnellement au directeur général de la société, l'académicien de l'Académie russe des sciences, docteur en sciences chimiques Karakotov Salis Dobaevich, pour l'aide apportée à l'achat de boîtes de collecte de haute qualité.

Nous remercions également Natalia Leonidovna Polina, ingénieur en chef du département de la protection des plantes, et Svetlana Valeryevna Dmitrieva, assistante de l'ingénieur en chef du département de la protection des plantes, pour l'aide considérable qu'elles nous ont apportée en travaillant sur la collection.

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В работе анализируются особенности структурной организации энтомологической коллекции кафедры защиты растений РГАУ-МСХА имени К.А. Тимирязева. Представлены результаты о частичной каталогизации данной коллекции.

**к содержанию**

**А. В. Гончаревич**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – преподаватель И. Н. Бахур

## **FAIRY TALES IN PSYCHOLOGICAL PRACTICE**

A fairy tale is an amazing means of working with the inner world of a child, a powerful tool for development. Within the framework of the modern educational system not only folk or author's fairy tales are used but also specially created fairy tales intended for use in the activities of a school psychologist. Among the variety of such fairy tales (psychotherapeutic, psychocorrective, didactic), psychological fairy tales (psycho stories) occupy a special place. The main feature of psychological fairy tales is that they can be used not only to work with children, but also to provide psychological assistance to adults. The purpose of this work is to study possibilities of fairy tales as a psychotherapeutic tool for working both with children and adults and to trace the general strategy of working with fairy tales used in psychological training.

The main characteristic of a fairy tale, found in almost all definitions of this genre, is fiction. The difference lies mainly in the purpose of the fiction and its meaning. It can be either conventionally poetic, or symbolic, or oriented towards active intertwining with the truth. But with such a broad interpretation of the term "fairy tale", all fantastic works, detective stories, and any works describing some stories and containing truth and fiction can be attributed to this genre. It turns out that the fairy tale is everywhere.

It should be noted that there are no people who do not like fairy tales. But which fairy tales are most attractive to readers? Experience shows that among the favourite fairy tales, author's and folk ones are represented by about fifty-fifty. "But among those fairy tales that are not liked, the ratio is fundamentally different: almost ninety percent of the fairy tales attributed to the unloved are author's fairy tales. Moreover, fairy tales that hold a clear primacy... (belong to) Hans Christian Andersen! The one that is most often called is *The Little Mermaid*" [1, p. 37]. Thus, it becomes clear that folk tales are less likely to be unattractive to readers. And if we recall that many folklore fairy-tale plots are several millennia old and in various versions are found in sharply different cultures and among peoples geographically very far from each other, then it makes sense to think about the reasons for this. The question arises, what is contained in ancient folk tales that is significant for people living in different places of the globe? It turns out that some fairy tales become amazing connecting threads between peoples, probably largely because they reflect what only unites people – the similarity of the laws of their inner world. In other

words, it is the psychological content of fairy tales, the symbolic representation of psychological phenomena, polished by centuries of fairy tales, that makes folk tales an indispensable tool for influencing a person. And why do author's fairy tales so often cause internal rejection? The researchers concluded that this happens in cases when the storyteller violates some important laws of fairy tale construction and projects his personal characteristics into the fairy tale he created.

If we turn to the activities of teachers, then among the variety of psycho technologies used in relation to the teacher, the fairy tale still has an undeservedly low rank. Meanwhile, it is fairy-tale metaphors that allow the teacher to get out of the existing ego state of a parent and give free rein to his own inner Child. The main purpose of fairy tale therapy is to introduce students to the developmental and psychotherapeutic resources of fairy tales of various types and, in particular, to the resources of a psychological fairy tale. Psychologists can help teachers focus on the psychological analysis of fairy tales and the possibilities of fairy tales as a diagnostic, psycho corrective and psychotherapeutic tool for working with children, adolescents and adults.

The general strategy of working with fairy tales can be implemented in several stages. The first one is informational. This stage includes a brief introduction to the psychological interpretation of fairy-tale content, the set of functions of fairy tales and the main characters found in fairy tales. The second – interpretative – implies a psychological analysis of famous fairy tales. The third one is a composing one. At this stage the first attempt is being made to construct a fairy tale based on the individual functions of fairy tales. The fourth is the stage of dramatization. Fairy tales are played out and modified.

During the first stage participants are invited to write down the associations that they have in connection with the word “fairy tale”. Usually, definitions of fairy tales are rare, but they are bright and unexpected. More often, an associative series is presented along the following lines: “childhood”, “warmth”, “grandmother”, “joy”, “fiction”, “scary”. During the discussion, a psychologist can ask a question about who found whose associations the most interesting and close to their own. At interpretative stage, the participants begin to reveal the deeper meanings and see in them not only literary works, but also symbolic reflections of psychological aspects. At the same time, it is important that the interpretations of the participants are not criticized or rejected, but considered along with the interpretations of the psychologist. At this stage, participants have new ideas that are unexpected for themselves, wonderful “creative breakthroughs” arise, opening up opportunities for them to see something completely new in the familiar texts of old fairy tales. It is necessary to support the manifestation of their creative potentials in every possible way.

The final stage is writing. To facilitate the process of creating fairy tales, participants are offered the following procedure. From a stack of cards with the names of the characters' functions, one of the participants randomly draws several (8-10) cards and puts them in order. The names of the cards are voiced and written on the board or on a poster. Participants are invited to compose a fairy tale according to the specified conditional scenario. At the stage of writing fairy tales, it is usually suggested to try to create a psychological fairy tale, i.e. one that would describe events in the inner world of a person. Of course, this is a very difficult task. In the subsequent sessions participants often make completely unexpected discoveries for themselves. However, it should be remembered that participants can analyze created fairy tale only with the permission of the author himself. The interpretation of tales is a solely the function of participants themselves. The psychologist tries to limit himself to questions or individual remarks that help direct the discussion in the right direction. The most important task of a psychologist is to ensure the psychological safety of the author, who can experience a real cathartic experience. The psychological fairy tales composed by the participants according to the set conditions turn out to be so diverse, vivid and artistically honed that it may come as a surprise even to the presenter.

So, we can make the conclusion that fairy tales are attractive to people because they show the similarity of inner world of different peoples. At the same time fairy tales can be used in psychological practice. The process of creating a psychological fairy tale that includes several stages has great therapeutic effect both on children and adults.

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В статье рассматривается жанр сказки и его использование в качестве одного из позитивных элементов психотерапии. Описаны основные принципы и техники, основные этапы процесса проведения сеанса сказкотерапии, а также проанализированы перспективы развития сказкотерапии как метода помощи людям в решении их внутренних конфликтов и проблем.

**к содержанию**



**К. П. Гринкевич**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – преподаватель К. В. Спесивцева

## **THE FEATURES OF FUNCTIONING OF THE BELARUSIAN MEDIA AT THE PRESENT STAGE**

Mass media has always been acknowledged as the “fourth estate”. Indeed, in a broad sense, it has a special power. The Law “On Mass Media” enshrines the basic principles of media activity in Belarus: reliability of information, equality, respect for human rights and freedoms, diversity of opinions, protection of morality, and observance of professional ethics [1].

The media fulfills a number of important functions:

- 1) influence mass consciousness;
- 2) criticize;
- 3) guide;
- 4) dictate the agenda;
- 5) determine the topics of information messages and rank their relevance and social significance for society.

Basically, the media manages information. It creates and shares news stories, delivers news in the form of text and media materials to the masses, forms and maintains public opinion.

According to the statistics, as of January 1, 2024, 920 print media were published in Belarus, including 369 newspapers and 536 magazines, as well as 14 bulletins and 1 catalog. Also 55 online publications were registered in Belarus. Print media in Belarus are published mainly in the Belarusian and Russian languages. There are also editions in English and Chinese. In total, more than 1.7 thousand foreign print media are distributed in Belarus, including those from Russia and Kazakhstan [1].

The most authoritative and influential newspapers in the country are “SB. Belarus Today” and “Respublika”. Local editions of major Russian newspapers “Komsomolskaya Pravda” and “Argumenty i Fakty” are also very popular. Moreover, the largest news agency in Belarus is the Belarusian Telegraph Agency (BelTA), which has a correspondent network in all regions of the country and provides up-to-date information on current events not only in our country, but also in the world. BelTA is very often quoted in the international media and is a reliable source of information transmission. It is very developed in social networks and broadcasts news online as well.

Today is a complicated time for Belarusian media as it undergoes impressive changes and embraces the challenges of modernity.

First of all, the most global source of information is at the crossroads between paper and digital media. As we can see, social networks have a greater degree of influence on the audience than traditional media and compete with it for authority. For example, in March 2024 there was only 916 print media. Thus, Belarusian regional media have to adapt quickly to the flow of changes in the digital space. A significant part of the media has its own Instagram accounts and Telegram channels, interactive messengers, which have become the main sources of information and have grown into independent media platforms.

Secondly, Belarus faces a high level of threats in the media field. Fake news is spreading rapidly, the entire digital space is filled with it. However, Belarus did not let the development of its own media resources stop and began to interact more actively with allied countries. The sanctions, which have been imposed by other states today, have complicated mutual cooperation and exacerbated problems in the media sphere.

Thirdly, some publishing houses and TV and radio companies are experiencing acute staff shortages and difficult financial situations. However, media outlets are working quite steadily, reorganizing and hiring young and creative specialists to fill vacant positions, ensuring modification and development of the regional media platform. Managers are trying to ensure that their employees work more efficiently in specific changeable conditions, give them the opportunity to improve their skills and gain new experience.

Nevertheless, despite the difficulties and restrictions on media activities in the information market, Belarusian media do not lose its positions. Among the prospects and possible future changes are the following:

- 1) partial or complete transition of traditional media to the Internet space;
- 2) expansion of the journalist's duties and attraction to greater responsibility;
- 3) improvement of feedback, relevance and loyalty;
- 4) meeting the demands of the entire audience (personalization);
- 5) use of experimental and trendy methods of presenting information;
- 6) consolidation of copyright for media and impossibility to use their content without permission.

Thus, rapid changes are expected in the Belarusian media, as they are rapidly

developing, modifying and keeping up with the main trends, accepting the challenges of modernity.

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В статье рассматриваются особенности функционирования белорусских медиа. На данном этапе СМИ переживают сложные времена, однако не теряют своих позиций, как на внутреннем, так и зарубежном рынке. Автор заключает, что изменения, которые происходят в настоящее время, позволяют пересмотреть изжившие стратегии и двигаться в направлении актуальных трендов.

### **к содержанию**

**А. С. Гуринович, В. Д. Поплавская**

Республика Беларусь, Минск, Белорусский государственный  
экономический университет

Научный руководитель – кандидат филологических наук, доцент

М. В. Юнаш

### **CRIMINALIZATION AND DECRIMINALIZATION: ADVANTAGES AND DISADVANTAGES**

Criminalization and decriminalization of socially dangerous acts are among the most important subjects of criminal-legal policy in any state. This topic is relevant for all states due to the fact that society is changing as well as moral principles, which means that some crimes will not pose such a great threat to society and the perpetrators should not be punished too severely. In turn, some acts are beginning to have a greater impact on society and should be dealt with more effectively.

The purpose of the work is to consider the concepts of criminalization and decriminalization and analyze their features.

Criminalization of an act is the establishment of criminal liability for an act that was not previously considered criminal [1]. Criminalization is characterized by a number of advantages:

1. Crime prevention. Establishing criminal liability for specific actions can serve as a deterrent, discouraging individuals from committing those acts and preventing their occurrence.

2. Protection of society. Criminalizing certain actions helps protect society from potentially dangerous or harmful behavior.

3. Justice and restitution. Criminalizing crimes helps to punish the perpetrators and provide restitution to the victims.

The disadvantages of criminalization encompass the overcrowding of prisons and the allocation of resources for the judicial system, which may not effectively address the root causes of crime and impose disproportionately harsh penalties for minor offenses.

Decriminalization is the removal of criminal responsibility for an act that was considered a crime [1]. Decriminalization has a number of advantages, such as:

1. Optimization of law enforcement resources. Decriminalization allows law

enforcement agencies to focus their efforts on more serious crimes.

2. The removal of unnecessary criminalization. Decriminalization of certain actions can help avoid severe penalties for minor or non-dangerous offenses.

3. Protecting the rights and freedoms of citizens. Decriminalization of certain actions can help protect individual rights and freedoms of citizens from unnecessary state interference [2].

At the same time, decriminalization has certain disadvantages. For example, decriminalization may lead to an increase in crime, which in turn will require additional mechanisms and resources for regulation and control.

Thus, it is critical to have a balanced perspective on criminal responsibility that considers the preservation of people's rights and freedoms as well as the requirement to maintain public safety, law, and order. To achieve the best outcome, the balance between criminalization and decriminalization should be carefully chosen, considering the benefits and drawbacks of both sides.

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В статье анализируются особенности криминализации и декриминализации, выявляются их преимущества и недостатки. Обсуждается роль криминализации в профилактике преступлений и защите общества, а также необходимость декриминализации для оптимизации ресурсов правоохранительных органов и защиты прав граждан. Авторы приходят к выводу о необходимости сбалансированного подхода к уголовной ответственности, учитывающего интересы общества и права граждан для обеспечения оптимальных результатов в борьбе с преступностью.

**к содержанию**

**К. С. Деменчук**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Н. В. Иванюк

## **JAPAN'S AGING POPULATION: CHALLENGES AND PROSPECTS**

Japan is considered one of the countries with the fastest aging population in the world. According to the data, more than 28 % of Japanese are over 65 years old, and this percentage continues to grow. This demographic trend poses serious challenges for the country and its economy. One of the main problems associated with an aging population is a decrease in the labour force. As more and more people are retiring, there are not enough young workers to support economic growth. This can lead to a decrease in productivity and an increase in the burden on social programmes such as pensions and medical care. In addition, the aging population creates additional health challenges. There is also a problem of social isolation of the elderly, which negatively affects their mental and physical health. However, Japan is taking steps to address these issues. The introduction of flexible forms of employment for the elderly and raising the retirement age are just some of the measures that the country is taking to maintain the sustainability of its economy. In general, Japan's aging population is a complex challenge that requires an integrated approach and innovative solutions. Despite this, Japan remains among the leaders in developing strategies to manage an aging society and can become a model for other countries facing similar demographic challenges.

The main problems that are causing Japan's aging population include:

1. Low birth rate. Japan has one of the lowest birth rates in the world. This means that the number of newborns is not enough to replace the outgoing generation, which leads to a decrease in the workforce and an increase in the proportion of the elderly population.

2. Increased life expectancy. Thanks to medical advances and improved living conditions, the Japanese are living longer. This leads to an increase in the elderly population and an increase in the proportion of people over 65 years of age.

3. Lack of migration. Japan has a strict immigration policy and does not attract enough migrants to compensate for the loss in the labour force due to low fertility. It also contributes to the aging of the population.

4. Uneven distribution of the population. The majority of Japanese live in cities, which creates additional challenges in providing care and medical services for the elderly, especially in rural areas.

5. Economic consequences. The aging population puts pressure on social programmes such as pensions and medical care, which can lead to financial difficulties for the state and reduce economic growth [1].

These problems require a comprehensive approach and innovative solutions to ensure Japan's sustainable development in an aging population. To combat the aging of the nation and its consequences, the Japanese and the Japanese authorities are taking a number of measures:

1. Increasing the birth rate. The state supports family planning, maternal and child health programmes, as well as it provides financial incentives for families with children. Campaigns are also being conducted to raise awareness of the problem of low fertility.

2. Prolonging work activity. The authorities encourage older people to stay in the labour market longer by providing benefits and retraining programmes. Work is also underway to create flexible forms of employment for people over the age of 65.

3. Technology and innovation development. Japan is actively developing the field of robotics and artificial intelligence to create automated systems for caring for the elderly and improving the quality of life.

4. Improving living conditions for the elderly. The authorities are implementing social support programmes ensuring the availability of medical services and care for the elderly, as well as creating communal centers for socialization and an active lifestyle.

5. Pension reform. Changes are being made in the pension system to ensure the sustainability of financing and the adequacy of pension payments. These measures are aimed at mitigating the negative effects of population aging and ensuring Japan's sustainable development in the future [2].

In conclusion, it can be noted that the aging of the nation of Japan is a serious demographic problem that requires an integrated approach and multifaceted solutions. The Japanese authorities are actively working on the development and implementation of programmes to increase the birth rate, prolong the labour activity of older people, develop technology and improve living conditions for senior citizens. Reforms in the pension system also play an important role in ensuring the sustainable development of the country. Despite the challenges associated with the aging of the nation, Japan continues to seek innovative approaches and solutions to ensure the well-being of its population and sustainable development in the future.

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В статье рассматриваются проблемы, возникающие в связи с быстрым старением населения Японии: сокращение рабочей силы, возросшая нагрузка на здравоохранение и социальная изоляция пожилых людей. Автор анализирует такие меры решения указанных проблем, как гибкие варианты трудоустройства пожилых людей, улучшение условий их жизни, повышение пенсионного возраста и др.

### к содержанию

**О. А. Демидович**

Республика Беларусь, Брест, Брестский государственный университет имени А.С. Пушкина

Научный руководитель – кандидат филологических наук, доцент

В. В. Авраменко

### INVASIVE SPECIES

Much of our life depends on the biodiversity and variability of healthy natural landscapes. However, there is currently a serious problem associated with the reduction of biodiversity, displacement of species and changes in landscapes.

Biologists generally list several types of human related “causes of extinction”, of which habitat destruction is considered the greatest threat. Yet, a lot of experts point to invasive species as the second largest (and probably the fastest growing) threat to biodiversity in many ecosystems. Invasive species are described as alien, novel, exotic, introduced, naturalized, noxious and non-native [3].

The accelerating introduction and spread of invasive species is one of the most serious threats to global biodiversity. Loss of species is just one result of biological invasions, changes in ecosystem structure and function and increasing homogenization of unique regional biota are others.

Recently, the use of the term “invasive species” has become common.

There are several definitions of the term invasive species. An “invasive species” is a species that is:

- 1) non-native (or alien) to the ecosystem under consideration;
- 2) introduction of which causes or is likely to cause economic or environmental harm or harm to human health.

The term “invasive species” is most often applied to plants and larger animals, but less well-studied microscopic and microbial species can also be invasive [3].

Worldwide, at least 7,000 species, ranging from cholera and botulism bacteria to invertebrates and fish, are probably in motion each day in the ballast water of rivers and oceans [4]. Because of these movements, thousands of non-native species are now present or established in new locations, sometimes making up a significant portion of the biota.

There are numerous natural and anthropogenic causes that contribute to the spread of alien species. The causes of invasion of the same species into the ecosystems may include [3]:

- migration and introduction of species as a result of natural range expansion by diffusion;
- anthropogenic changes in abiotic environmental factors that led to corresponding changes in the boundaries of the range;
- deliberate introduction and reintroduction of organisms;
- accidental introduction (with the import of agricultural products, with ballastwater, along with “useful” introduced species, luggage, etc.) [3].

Invasive species often threaten biodiversity through complicated interactions, many taking place invisibly and over long period. These interactions may affect native organisms at multiple ecological levels, i.e. organisms, populations, communities and ecosystems. Direct negative impacts of invasive species include effects on the abundance, distribution or function of native species through predation (including infection, herbivory or parasitism) or competition for resources with potentially lasting and profound changes to native biodiversity [2]. Invasive species can affect not only other living organisms, but also ecosystem processes. For example, they can alter terrestrial carbon, nitrogen and hydrologic cycles [1].

Invasive species are a global problem that threatens native biodiversity, the functioning of ecosystems, natural resources, regional economies and human health. They pose a major concern for conservation and management and are the focus of a highly productive multidisciplinary field called invasion ecology.

As invasive species are dangerous not only to human health but they also harm natural ecosystems, reduce the productivity of agricultural land, reduce yields in ecosystems and lead to extinction of many species control of them is recognized worldwide as one of the most important challenges in biodiversity conservation. Serious measures are used to prevent the entry and spread of invasive species which include identifying and controlling dominant vectors and transport routes, improving invasion control programs, reducing the vulnerability of natural systems to invasive species and spatial modification of habitats.



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В статье рассмотрена проблема инвазивных видов, проникновение и распространение которых угрожает экосистемам и видам, причиняет экономический и экологический ущерб. Автор раскрывает понятие «инвазивные виды», указывает наиболее частые причины, способствующие их расселению, характеризует способы воздействия инвазивных видов на живые организмы, природные процессы и циклы в среде их обитания. Описаны способы решения проблемы биологической инвазии.

**к содержанию****А. А. Джига**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – преподаватель И.Н. Бахур

**THE TYPES AND RULES OF ATHLETICS**

Modern progress and civilisation, on the one hand, improve the life of mankind, but on the other hand – alienate man from nature. People’s motor activity has decreased, which causes significant harm to the human body. The number of diseases is increasing, the activity of the immune system is decreasing, many diseases have become “younger” and led to reduced life expectancy. Reduced motor activity is one of the many negative factors that hinder normal fruitful human activity. “Athletics is the most mass sport that contributes to the all-round physical development of a person, as it unites common and vital movements such as walking, running, jumping and throwing. Systematic practice of athletic exercises develops strength, speed, endurance and other qualities necessary for a person in everyday life” [1, p. 3]. In the system of physical education, athletics occupies a predominant place due to its variety and accessibility. Various types of running, jumping and throwing are an integral part of every physical education lesson in educational institutions of all levels.

At the same time, athletics is a scientific and pedagogical discipline and has its own teaching methods and techniques. Athletics is an Olympic sport, which includes running, race walking, all-around competition, cross-country and technical sports. Athletics is called the queen of sports because it is one of the most popular sports and its disciplines have always won the most medals at the Olympic Games. Track and field athletes are athletes who participate in one or more types of athletics. The aim of this article is to study main types and rules of track and field athletics.

“The first Olympic champion in athletics is considered to be Coroebus of Elis (776 BC), and it is this date that is considered to be the beginning of the history of athletics. The modern history of athletics began with the competition in running for a distance of about 2 km by college students in Rugby town (Great Britain) in 1837. Later the competitions program began to include running for short distances, running with obstacles, weight throwing, long and high jumps. In 1865 the London Athletic Club was founded to promote athletics, and in 1880 the Amateur Athletic Association was organised, uniting all athletics organisations of the British Empire. The rapid development of athletics was associated with the Olympic Games in 1896” [1]. The winner of an athletic competition is the athlete or team that has the best result in the final heats or final attempts of the technical disciplines. Running track and field events are usually divided into several stages: qualification; quarterfinal; semi-final; final. The number of competitors is determined by the competition regulations.

Athletics includes a number of sports. In race walking the athlete must have constant foot contact with the ground. Race walking competitions are held on a track. According to the rules, race walking is an alternation of steps that must be performed in such a way that the walker has constant contact with the ground. The forward leg must be fully straightened from the moment of the first contact with the ground. Judges may announce warnings to walkers to prevent them from breaking the rules. If a rule is broken and the walker is given a warning, the referee sends a red card to the head referee. An athlete will be disqualified if three red cards from three different judges on the course have been sent to the Chief Judge. In this case, the athlete shall be informed of the disqualification.

Running is one of the oldest sports and has been included in the program since the very first modern Olympic Games in 1896. There are the following types of running in athletics: short-distance running, middle-distance running, long-distance running, steeplechase 2000 m on the arena and 3000 m on the open stadium; hurdle race and relay running. All of them take place on the stadium track.

“At the start, athletes take their positions according to the lot or the places taken in the previous stages of the competition. At the command “to start” they take their places at the starting line or in the pads (sprint). At the command

“attention” they prepare for the start and must stop all movements. The command “march” is given by the starter with a shot of the starting gun” [2]. The athlete who crosses the finish line first wins. In case of disputes, a photo-finish is used. At large competitions with a large number of participants the starts are held in several rounds eliminating the losers. Results in running disciplines at the stadium are measured down to 1/100th of a second, in road running down to 1/10th of a second.

Technical types of athletics include vertical jumps (high jump, pole vault); horizontal jumps (long jump, triple jump); throws (shot put, discus throw, javelin throw, hammer throw). The high jump is a discipline of track and field athletics, which refers to vertical jumps of technical types. A jump consists of a run-up, preparation for the push-off, push-off, jump over the bar and landing. The pole vault is a technical discipline which refers to vertical jumps. In this jump, the athlete must pass over the bar using an athletic pole. The long jump is a horizontal jump and requires sprinting and jumping ability. The triple jump consists of a run-up, three alternating jumps and a landing.

Throwing is an exercise that requires “explosive” muscular effort. The goal in this event is to move the projectile as far away from the athlete as possible. Types of throwing include grenade or ball throw; shot put; hammer throw, discus throw and javelin throw. Competitions are usually held in two rounds: qualifying and main rounds. The order of performance of athletes at all stages is determined by the drawing of lots. At any stage, if three unsuccessful attempts are made consecutively, the athlete is eliminated from further competitions. In case of a successful attempt the judge raises a white flag, in case of an unsuccessful attempt – a red flag. The winner is the one who achieves the highest result among all counted attempts in the main competition.

At the beginning of the competition in vertical jumps the sequence of increasing the height of the bar for all stages is determined. The athlete is given three attempts to overcome each height. If the athlete has successfully taken the height, he/she again has three attempts. Athletes have the right to carry over one or two remaining attempts to the next height.

All-around competition – a sport discipline that includes competitions in several disciplines of the same or different sports. The men’s decathlon during the summer season includes 100 m run, long jump, shot put, high jump, 400 m run, 110 m hurdle race, discus throw, pole vault, javelin throw, 1500 m run. The women’s heptathlon in the summer season includes 100 m hurdle race, high jump, shot put, 200 m run, long jump, javelin throw, 800 m run. In the winter season, the men’s heptathlon includes 60 m run, long jump, 60 m hurdle race, shot put, high jump, pole vault, 1000 m run. Women’s pentathlon in the winter season includes 60m hurdle race, high jump, shot put, long jump, pole vault, 800m run. For each event athletes receive a certain number of points, which are

awarded either according to special tables or empirical formulas. The all-around competitions at the official competitions are always held in two days. An interval for rest is mandatory between the events. Now the Olympic Games program includes 24 events for men and 23 events for women.

So, the conclusion can be made that track and field athletics is the most mass sport that dates back to antiquity. This sport discipline has many types which follow a number of rules.

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Статья посвящена такому массовому виду спорта, как легкая атлетика. Автор раскрывает историю возникновения этой дисциплины и развития ее как вида спорта, а также уделяет особое внимание основным видам легкой атлетики, правилам и технике.

### к содержанию

**М. С. Дранникова, Е. Ю. Сидун**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководители – кандидат педагогических наук, доцент

Т. С. Троцюк

### THE ORIGIN OF THEATRE

Music, singing, dancing, processions, pantomime and plays have a long history. The birth of theatre and drama is describes in the article. The earliest human cultures bound these dramatic forms with their religious rituals, they were considered both necessary and enjoyable.

Theatre appeared as a result of religious rites and ceremonies. The history of its origin begins in the Stone Age. More than 100000 years ago the Neanderthals were the first people to use rituals and place offerings around their dead. Then the cave dwellers came to Europe who created magnificent rock paintings of the Upper Paleolithic. The caves were probably temples and the drawings preserved an animal-related ritual which included hallucinations caused by the complete darkness. Religious rituals began with the practical need for people to take precautions against disaster [1].

In Britain the first extended ritual dates back to about 7500 BC. Among the remains of everyday life several hollowed-out red deer skulls with holes allowing them to be tied to people's heads were found. The explanation for them is that they were used in a dance connected with the migrating herds of deer.

Masked processions are recorded in many cultures. They appeared widely on the walls of temples and tombs of Ancient Egypt where processions were shown accompanied by music and flowers and have survived in stories like that of the Minotaur in Crete, half-man half-bull. In the UK one of the processions involved the so-called Padstow horse, a curious creature, made up of a headdress above a circular costume. The accompanying ceremony concerned life, death and possibly fertility. The Iron Age also gave rise to the enduring tradition of the bard, a storyteller who told a tribe's history in verse as entertainment after feasts. The stories of the Mabinogion and Beowulf are later examples of this tradition [2].

Thus, one can see that Britain had a rich theatrical culture associated with religion even before the Romans arrival in 43 AD, who brought their own rituals with them. The appropriate animals for particular occasions were brought in processions to be sacrificed, for instance, unblemished white bulls were sacred to Jupiter. The Romans also had a tradition of poetry, songs and dance entertainment at private dinners. They built amphitheatres for wild beasts and gladiatorial shows and formal theatres for plays. Dramatic performances were originally part of a religious ritual and many of the plays depicted stories involving the gods.

Early Greek theatre used a choir in a circular dancing area located at the foot of the embankment which provided seating and helped to amplify sound. Originally, the only structure was an altar to the god Dionysus. The male actors wore stylized masks which were recognized by the audience. The theatre in Athens dates back from the fifth century BC and saw premieres of the tragedies of Aeschylus, Sophocles and Euripides and the comedies of Aristophanes.

Such traditions were followed by the Roman playwrights. Some wrote comedies for the masses, which thrilled audiences in British theatres, while others wrote subtler comedies appreciated more by the educated.

The performances of jugglers, clowns, buffoons and "street" entertainment were popular, especially in town fairs. Some medieval theatres which has survived to this day has its roots in these ancient traditions. Mummers' plays are still being staged throughout Britain. Although the texts can be corrupt due to age they are the story of good and evil with the hero fighting the enemy being killed and brought back to life by magic. The hero's death and rebirth mimic the cycle of the seasons, and mummer's plays were usually performed on Boxing Day, Twelfth Night or Plough Monday to encourage the return of the sun's power over the crops.

In the medieval period and later there were "rounds". These were plays performed in a round or oval area called "the place". The place was marked by a rampart and a moat. Some scenarios included fine poetry and psychologically insightful scenes, some included stunts and pure farce with comic clowning. Rounds may have been commonplace throughout Britain, but the plays could also be performed in the city's market square or on scaffolds lined up. If space was limited then the plays could be staged on the carts dragged through the streets.

On special social and political processions the entertainment also included allegorical processions and tournaments where the people were welcome spectators to demonstrate the power of the ruler [3].

The traditions and practices of medieval theater can also be found in the church liturgy. Church services included a set routine of standing, sitting, praying, singing, listening, reading and processing. The Mass was a dramatic reconstruction of Christ's Last Supper. The entire Christian history is a cycle of dramatic events. Over time separate plays appeared telling stories from the Creation to the Last Judgment.

Today theatre is a special kind of art and is one of the most difficult arts, which combines literature, acting and music. Modern theatre stages amaze with their beauty, special devices make the scenery appear and disappear as if by magic. That's why theatre is still very popular and deserves attention and love of the audience.

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В статье проанализировано зарождение театра и драмы, когда самые ранние человеческие культуры связывали эти драматические формы и с религиозными обрядами, и с развлечениями. Описано как музыка, пение, танцы, шествия, пантомима и пьесы постепенно стали неотъемлемой частью в истории развития театра.

**к содержанию**

**М. А. Дронов**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Т. С. Троцюк

## **ECOLOGICAL PROBLEMS OF SOILS**

Soil is a non-renewable resource that supports many processes in our world ranging from various cycles of matter to the absorption and retention of dangerously radioactive substances and viruses.

The anthropogenic impact on agricultural land increases over time. Already in ancient times intensive agricultural activity repeatedly led to their degradation which led to the death of entire civilizations and the transformation of previously fertile lands into deserts as in North Africa. Land is affected by all types of human economic activity – agriculture, construction, industry and transport.

Deterioration of soil cover can be associated with both natural and anthropogenic factors. The main consequences of human economic activity include: pollution, depletion and acidification of soils, their salinization, glaciation, their depletion of mineral substances and dehumification [1].

With the advent of the first inorganic and poorly soluble fertilizers and various kinds of pesticides one could see: the soil to be compacted which has led to the fact that it is impossible to grow anything on it; the porosity of the soil has decreased; the circulation of fluids and the vital activity of some organisms has disrupted because of the heat exchange of the soil. After mankind started using machinery in agriculture the soil also began to deteriorate:

-it got polluted with various substances and wastes;

-it got compacted under the influence of the weight of equipment.

There are also other environmental problems of soils caused by excessive cultivation of soil: ingress of various micro and macro substances, non-observance of the water balance of soils, which leads to soil degradation, soil erosion, waterlogging and drying of soils, pollution and fatigue of soils.

It is worth noting the environmental problems associated with the release of radioactive isotopes such as cesium-137, strontium-90 and transuranium elements into the soil in connection with the Chernobyl disaster. As a result, over 36% of soils on the territory of the Republic of Belarus were contaminated. According to research by scientists the increase in soil activity will continue until 2060. Safe levels of soil pollution will be observed after approximately 2400 [3].

The Global Symposium on Soil Pollution was held in 2018 to:

1. explore the current scientific and technical understanding of soil pollution and its implications for food security;
2. critically assess the impact of land-use decisions at the national level on soil pollution and ultimately when contaminated soil or pollutants are transported through erosion and water runoff;
3. identify constraints and highlight key challenges related to the remediation of contaminated land [2].

It was scientifically proven that the main source of pollutants in the soil is human activities, the potential resistance of soils to pollution is limited and the prevention of soil contamination should be a priority worldwide. Every symposia held nowadays raises questions on soil conservation and restoration.

At present there exist the ways to restore the fertility of soils polluted with oil products and heavy metals, both by physical and biological methods. Studies and attempts are already underway to return soils to their fertility [4].

Based on the above we can conclude that the problem of soil pollution has been going on since antiquity as well as an attempt to solve these problems. Various symposia and other international gatherings show that we are trying to address the problems. In many ways people are to blame but we ourselves can change this world and make it better.

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В статье раскрывается серьезная экологическая проблема - ухудшение почвенного покрова, что приводит к эрозии и деградации, переувлажнению и пересыханию, загрязнению и утомлению почв. Анализируются факторы, влияющие на деградацию почв: антропогенное воздействие, природные процессы, использование неорганических удобрений и пестицидов.

**к содержанию**



**Л. И. Жердева**

Российская Федерация, Елец, Елецкий государственный университет  
им. И.А. Бунина

Научный руководитель – доктор педагогических наук, профессор  
В. Н. Карташова

## **ADVANTAGES AND DISADVANTAGES OF NEW MEDIA**

Time does not stand still. Developments in information technology (IT) are setting the tone worldwide. This also includes the topic of digital media. The rapid progress in IT makes it all the more difficult to develop and implement meaningful, long-term learning concepts. Investments in digital media are often hasty and disillusionment quickly sets in.

Digital media are increasingly becoming part of the teaching/learning situation, enabling new perspectives and tasks and, due to the multitude of possibilities, also entailing increased complexity and more effort [2].

What is digital media? The term digital media refers to communication media and technical devices based on information and communication technology (ICT).

Examples of digital media applications and devices are:

- Notebook, Tablet, Smartphone
- Internet, Social Media
- Games
- E-Books.

Digital media specifically intended for teaching purposes include: Media Systems and Media Technologies; Interactive whiteboard; Teaching/Learning Platforms; Devices such as visualizers or tablets.

Today's pupils are confronted with digital media at a very early age. As a result, children and young people are often better able to use tablets, mobile phones and the like than their parents. Unfortunately, the use of digital media is not learned in the classroom, but in the playground. The problem here is that the devices of the first contact are often entertainment or communication electronics devices from which the children and young people are difficult to separate. This is not surprising, because no one has ever taught them how to use it correctly. This problem could be solved by starting at an early stage in schools to show how to deal sensibly and to teach media skills such as skills in other disciplines as a matter of course [1].

Digital Media in the Classroom – Pro

*Advantages of digital media in the classroom:*

- important basic training in working with digital media
- Flexible adaptation of teaching materials

- graphical illustration of (complex) learning content (e.g. through 3D animations)
- Individual learning content through learning apps
- Better overview of the learning progress of individual learners
- Improved, more targeted support from teachers
- Information research on the Internet
- Greater spontaneity in worksheets and information material

A conventional blackboard has its place in a modern classroom just as much as a digital blackboard, wireless image transmission or "augmented reality". That's why it's important to leave it up to the teacher to decide whether they want to work in analogue or digital mode, in frontal teaching or in groups. The possibilities created by digital media in the classroom are manifold and can enrich the classroom on many levels – it is of central importance that teachers are open to this and take on the tasks that arise from it.

Teachers are already clearly feeling the effects of negative aspects of digital media use in the classroom. Lack of attention, addictive behaviour and bullying are just some of the consequences that can result from incorrect consumption of digital media.

A major factor in this development is that the devices, which can be integrated very well into the classroom in some areas, also allow platforms such as social media or games that take up students' attention and thus prevent them from learning. The supervisor has to intervene in such cases, which can cost a lot of teaching time if the frequency is appropriate.

However, even the smooth use of media in the classroom is not yet sufficiently stable for many teachers to want to rely on it completely. Topics such as service and maintenance are not sufficiently implemented in schools, so that in the event of a failure, either a teacher assigned to the technology has to rush to help, or analogue media are used.

Digital Media in the Classroom – Contra

*Other disadvantages of digital media in the classroom:*

- Danger of "outsourcing" the knowledge (Why should I learn it when I can look it up at any time?)
- Expensive appliances that not every family can afford
- Maintenance of digital devices usually not available
- Less direct personal contact
- Too few teachers trained in digital media

It will be a huge task for politicians to cope with the digital transformation in schools. Since each federal state pursues its own education policy, there will probably be no uniform equipment and use of digital media at the federal level.

There is a great danger for federal states that are in a poor financial position. The pupils of these schools are then the ones who suffer, because they have to

do without modern learning technology and are left behind in national and international comparison.

The possible uses are almost unlimited. If it were possible to set up a uniform basic infrastructure of digital media in our schools, it would even be conceivable in the future to completely dispense with the different types of schools by adapting learning software to the level and level of knowledge of the student. It's a political nightmare, yes, but the technical possibilities have been there for a long time.

Teaching will change so much as a result of digital media that we will not recognize it in a few years. In subjects such as mathematics or physics, there will be 3D programs that will make it easier for students to visualize and understand abstract content by graphically representing it. In this way, pupils with a less pronounced spatial perception can be better picked up. The use of digital media will also increasingly change group work between students. Learning meetings outside of school, e.g. to prepare a group presentation, are less needed, as information material can practically be moved back and forth via clouds or similar platforms. Online meetings are also conceivable, in which such group projects can be worked out.

The spread of digital media in the world will also be unstoppable in our schools. In order to be able to keep up with the international education competition in the future, it is all the more important to take the introduction of digital media in schools seriously and to implement them as quickly as possible. This applies to the school authorities as well as to the teachers. However, it is important not to lose sight of the goal: a place where students enjoy and learn successfully.

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В статье рассматривается вопрос о внедрении цифровых медиа в процесс обучения. Быстрый прогресс в области информационных технологий не только облегчает образовательный процесс, но и еще больше затрудняет разработку и внедрение осмысленных, долгосрочных концепций обучения. Автор называет преимущества и недостатки применения медиа в образовании.

**к содержанию**

**А. В. Жигалко**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – преподаватель И. Н. Бахур

## **HISTORY OF ICE HOCKEY IN BELARUS**

What role does sport play in human's life? Some people are indifferent to sport and even consider it a useless waste of time. Others adore sport and cannot live without it. The representatives of the latter group may prefer to watch it on TV or just to do some kind of sport or general physical training, and for some of them sport is a means of livelihood. The latter group may include both active athletes and coaches, doctors, directors of sports societies and managers. Sport can unite people, strengthen health, character and even improve the mental abilities of people who are engaged in it. Sport develops speed, agility, reaction, coordination, endurance, patience and strength. Sport makes people more resilient to negative environmental factors. It often brings people positive emotions, for example, when a favorite team wins or when a person achieves some result. There are sports that have conquered millions of people and one of them is ice hockey. Ice hockey is one of the most popular winter disciplines, and for many years ice hockey was the only playing sport included in the Winter Olympics program. The goal of the article is to trace history of ice hockey in the world and in Belarus.

The first references to the game with sticks on the ice date back to the XVIII century, but only at the end of the XIX century in Canada the modern form of ice hockey appeared. "The starting point in the history of hockey is considered to be the date of March 3, 1875. On that day in Montreal, university students held a hockey match, the information about which was published in the local newspaper. The game was played in the format "nine on nine" and very little resembled modern hockey, but it was after this event that the game began to gain popularity as a full-fledged sport" [2]. The development of hockey in Canada went at a rapid pace. A few years later, the wooden puck was replaced by a rubber puck. The initiator of this innovation was a Canadian, Robertson, who formulated the first postulates of the rules of the hockey game. In 1885 an amateur hockey league was founded in Montreal, and a year later the official rules of the game and competitions in this sport were published. According to this document, the number of players in each team was reduced from nine to seven, and substitutions during the match were allowed only in case of injury to one of the hockey players. At first, all matches were played on natural ice. In 1899 the first artificial ice hockey rink appeared in Montreal.

A huge contribution to the popularization of hockey was made by the Governor General of Canada and a great lover of the game, Lord Frederick Arthur Stanley, who became the founder of the competition for the trophy which the strongest team in the country could get. The Cup, purchased by him at his own expense, was originally played on a challenge basis – any hockey team in Canada had the right to challenge the current holder of the trophy, and the latter had to accept it. After Lord Stanley's death in 1908, the Cup was named after him, and from the same year it began to be awarded only to professional teams. And since 1927, the Stanley Cup became the main trophy of the National Hockey League.

Since the beginning of the twentieth century a rapid development of hockey began not only in North America, but also in Europe. In 1908 at the Congress in Paris, the International Ice Hockey League was founded, which initially included five countries: Great Britain, Switzerland, France, Belgium and Bohemia. Three years later it approved the official rules of the game, which were based on the Canadian version. "In 1920 two very important events for ice hockey took place: Canada joined the International Ice Hockey League and the first Olympic tournament in this sport was held. Since there were no Winter Olympics at that time, hockey was included in the program of the Summer Games in Antwerp, which were held in April. Seven teams took part in the tournament" [2].

In Belarus ice hockey started to develop at the end of the 40s of the XX century. The leading club of the republic represented the capital in the championships of the USSR and International Hockey League. The teams of Gomel, Bobruisk, Grodno and Novopolotsk also played in the All-Union championships. In addition, the BSSR championship was developing.

Since 1992/93 season the national championship of Belarus has been held. For a long time the clubs of the country formed the base of the Higher Unified Ice Hockey League. Since 2004 the Open (International) Championship of Belarus has been held, in which, in addition to Belarusian clubs, teams from Latvia and Ukraine regularly participated. In the 2015/2016 season the tournament was officially called "Belneftekhim – Open Ice Hockey Championship of the Republic of Belarus". The Belarusian national team participated in three Olympics (1998, 2002, 2010). The best achievement was the 4th place in 2002 in Salt Lake City. It was then that the Belarusian team sensationally reached the semifinals, defeating one of the favorites of the Olympics – Sweden in the quarterfinal match.

At the dawn of sovereignty, there were only three indoor skating rinks in the country. Today there are more than 30 arenas in Belarus. On March 6, 1992, the Ice Hockey Federation of the Republic of Belarus was founded. "The year 2014 became a significant milestone in the history of national ice hockey. Minsk hosted the World Ice Hockey Championship in the elite division for the first

time. The attendance record was set in Minsk: 640,044 spectators attended 64 matches” [1].

Several Belarusian hockey players were involved by NHL clubs: Egor Sharangovich, Alexei Protas, Maksim Sushko. Three Belarusians were selected at the NHL draft: Danila Klimovich, Alexei Kolosov and Dmitri Kuzmin. A lot of attention is paid to children’s hockey. The Belarusian national team reached the playoffs at the World Junior Championship for the third time in a row.

In May 2022, cooperation with the Russian Ice Hockey Federation (RIHF) was announced. It includes cooperation in many areas: the adult and youth national teams of Belarus and Russia meet in international matches, tournaments with the participation of club teams from both countries are also held. Belarusian hockey players play in Russian children’s and youth competitions, that gives our hockey players a great opportunity for growth.

In 2022 the Belarus Ice Hockey Federation (BIHF) did a lot for the development of women’s ice hockey in Belarus. In March 2022 the Global Girls Game, a world women’s hockey match was held. In October an open training session was held, where hockey players of Minsk “Dynamo” were invited. And in late October, the BIHF held the first women’s national team camp. “For four days the girls, who are professionally engaged in hockey in Belarus worked in the mode of one-time training on the ice and on the ground. The main task of the camp was to assess the level of readiness of hockey players and to develop plans for their development” [1].

Finally, we can conclude that ice hockey is one of the most popular sports, as well as one of the oldest sports. The Republic of Belarus pays great attention to the development of ice hockey. Ice rinks and ice arenas are being built, children and youth ice hockey schools are being developed. The national team has made great successes in the international arena, won prizes at the Olympic Games. Many Belarusians go to the USA and show good results, play in the leading teams. Ice hockey is a sport which unites many people, therefore we should continue to develop hockey and pay attention to its development.

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Статья посвящена истории возникновения хоккея на льду. Определяется роль генерал-губернатора Канады Фредерика Артура Стэнли в популяризации данной игры. Автор уделяет особое внимание развитию данной игры в Беларуси: создание детских и

юношеских спортивных школ по хоккею, развитие женского хоккея в стране. Отмечается, что достижения выдающихся хоккеистов признаны за рубежом.

### **к содержанию**

#### **Ю. А. Жидкова**

Российская федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева

Научный руководитель – кандидат филологических наук, доцент

А. В. Николаева

### **PLANTS IN MEMES**

A meme is an idea, image, cultural object that is adopted by many members of a community [1, p. 162]. Usually, a meme is defined by spontaneous and unplanned spreading in the global network. The purpose of our study is to determine the function performed by plants in memes. To do this, we set the following tasks: to formulate the main characteristics of memes; to describe what kind of meme is considered successful; to determine with the help of which plants and how the humorous effect of a meme is created.

The main characteristics of memes are: media (memes are a typical information resource, the Internet plays the role of a medium in which Internet memes emerge), humorous character (humorous effect is the main effect of a meme), emotionality (the ability to convey certain emotions with the help of a meme), virality (replication and instant distribution on the Internet), minimalism (characterised by a concise form and quick understanding) [2, p. 3-5].

Due to the great competition among memes, there are more and more criteria for the successful existence of a meme. The main rules of a successful meme according to I. Berger and K. Milkman: the first rule is that a meme has a positive character. This is important because people are more inclined to spread memes that are positive, interesting, and surprising. The second rule is that a meme is capable of evoking emotion. If a given post finds an emotional response from users, its chances of spreading increase many times over. Rule 3: a meme is easy to decode: simple and clear memes spread better than complex and intricate ones. The fourth rule is that a meme is prestigious. That is, by copying it to himself and passing it on, the user shows his awareness of online trends. The fifth rule is that the meme is at the top of the best. The position occupied by a meme in the list of the most trending memes is directly proportional to the number of users who spread this post. The opportunity to become a meme itself, in other words, not just to share a post online, but to take part in it yourself, is the sixth rule of a successful meme [4, p. 192-205].

In order to understand which plants are most often used in memes and for what purpose, we selected various memes with images of plants. The plant *Spathiphyllum wallisii* (Latin: *Spathiphyllum wallisii*), a popular indoor plant of the aroid family, is found in the first meme, which goes like this:

Example 1. Nobody: (blank rejoinder), house plants at random: “For personal reasons, I have decided to pass away.” Actually, there are so many factors influencing the wilting of flowers. The main ones are lack of nutrients and moisture. The comicality of the meme is achieved by depicting the rapid withering of a plant for no apparent reason, which is distressing and upsetting to its owner.

Example 2. The following meme is related to how complicated plant names can be. *Zamioculcas zamiifolia* (Latin: *Zamioculcas zamiifolia*) is a plant native to Africa; it is otherwise known as the “dollar tree” in Russian. “Me: Constantly forgetting everything”, also me: “*Zamioculcas zamiifolia*”. Here the comic effect is achieved due to the contrast in the sound of the hard-to-pronounce plant name in Latin, which consists of two words of 6 and 5 syllables for the average Russian speaker, but is not difficult for a hobby plant breeder.

There are also examples using photosynthesis in plants - the process of converting organic matter from inorganic matter using water and light.

Example 3. The meme projects a typical situation of schoolchildren and their parents, when the whole family is solving the former's homework. Two plants in the role of mother and son are at the table, the mother's rejoinder: “You won't leave the table until you finish photosynthesis”, the son says: “Well maaaam”. We think this is not only a funny meme, but also relevant as it is aimed at modern schoolchildren and their parents.

Example 4. It depicts a house plant and presents the caption, “Sometimes I feel my own uselessness and then I remember that I exhale carbon dioxide for plants.” Let us remember that plants need carbon dioxide to produce oxygen in the atmosphere as a by-product of photosynthesis. In our opinion, the comic effect is created by exaggerating the man's feelings about the meaning of life: human life is so useless that it is needed only for the existence of plants.

Example 5. A man observes a potted houseplant and says the following: “What if the reason why plants are silent is because they have no mouth?” It is true that plants do not need mouths: they are able to absorb nutrients from the soil by means of root hairs, which are located in the suction zone. However, this assumption by the man in the example is quite successful in creating a comic effect.

Example 6. “Ordinary people: I need new plants for my house”, plant lovers: “I need a new house for my plants”. The comic character is created by exaggerating the role of a hobby in a person's life.

Example 7. A person sees one cactus in front of him, blinks, and now observes a variety of different plants: a large number of racks with shelves of



flowers, standing pots with plants reaching almost to the ceiling. The meme shows the situation as it really is, because when a person enjoys an activity, he or she will continue to do it and will not notice how it has filled most of his or her life or flat.

Example 8. Another meme, represented already by a dialogue between a house plant and a street plant. Street plant: “Mmm, cosy”, house plant: “Is that tap water? I'm allergic.” The point of this meme is to compare two plants living in different places. The humorous effect is achieved by giving the plants human characteristics (allergies) and creating a contrast (street-home). It also focuses on the ability of some plants to survive in unfavorable conditions, while others show low vitality even in favorable circumstances.

Example 9. “Two types of plant lovers”. There are two images on the picture, the first shows a fully alive sprout of Monstera (Latin: *Monstera*), a perennial indoor plant that can grow up to several metres. The caption to the image is: “Nightmare! I think it's dying.” The second image shows only the withered stem of the plant and the caption, “I think I can save it!” This meme mocks a person's desire to remedy the situation when there is every indication that these attempts are useless.

To sum it up, we can state that plants are an important aspect of human existence. Using plants, the authors of memes allegorically and comically show man's daily life, with his hobbies, problems, anxieties, and fears. The predominant memes are about cultivated plants, as they are the ones that people encounter the most in everyday life.

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В статье представлено исследование роли растений в мемах, дано определение слова «мем», перечислены его основные характеристики. Автор рассматривает несколько мемов с изображением домашних и диких растений, и описывает способ достижения юмористического эффекта в каждом из них. Выявлено, что для достижения

комического эффекта в некоторых мемах растениям приписываются характеристики человека, а в других растения используются для яркой демонстрации образа жизни человека, чье хобби – растениеводство.

### **к содержанию**

**М. В. Журавлев**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – преподаватель И. Н. Бахур

## **HISTORY OF BOXING AND OUTSTANDING BOXERS**

Boxing is a sport in which two opponents punch each other with special gloves in the ring under the control of the referee. Boxing has ancient roots and has been popular in different cultures and civilizations. Boxing includes different styles, techniques, rules, and weight categories. Boxing is also one of the most spectacular and prestigious sports. In this article we would like to trace the history of appearance of this sport and to present the most outstanding boxers of different times and nationalities.

Boxing originated in antiquity, as evidenced by cave paintings, vase paintings and texts by ancient authors [1]. The first fights were held without rules and protection, and often ended in the death of one of the participants. Boxing was common in ancient Egypt, Mesopotamia, India, China, Japan, and other countries. In ancient Greece, boxing was one of the types of athletic competitions that were held at the Olympic games. Boxers wore leather straps on their arms, which served as protection and weapons. The fight continued until one of the boxers conceded defeat or lost consciousness. Boxing in ancient Greece was a violent and dangerous sport. “In ancient Rome boxing was mainly entertainment for spectators. Boxers were mostly slaves, criminals, or war prisoners who fought for their lives or freedom” [1]. Boxing in ancient Rome was even more brutal and deadly than in ancient Greece.

Boxing in its modern form was formed in England in the early 18th century, when the first rules and restrictions for fist fighting were introduced. Boxing became a more civilized and sporty form of martial art, in which not only slaves but also aristocrats and connoisseurs participated. Boxing has also become popular in other countries such as the United States, France, Germany, and Russia.

In 1867, the rules that had been offered by John Sholto Dougla, the Marquess of Queensberry, were adopted, which became the basis for modern boxing. According to these rules, boxers had to wear gloves, the fight had to consist of 12 rounds of three minutes each, with breaks of one minute in

between, boxers had to fight only in the ring, measuring 7.3 by 7.3 meters, and were not allowed to hold on to ropes or hit the opponent while he was lying on the floor.

Boxing is a sport that is governed by a number of rules, depending on whether it is professional or amateur, as well as which organization is holding the competition. However, there are some general rules that are followed in most cases. Firstly, boxers must be in the same weight category. Secondly, boxers must wear a special uniform. Gloves must be approved by the organizers and weighed before the fight. Bandages must be wound around the boxers' arms under the supervision of the judges. Teeth and groin protection should be made of safe materials and should not interfere with the breathing and speaking of boxers. Boxers must fight in a ring that is surrounded by four ropes stretched at four corners. Another rule states that boxers must fight under the control of a referee who monitors compliance with the rules, stops the fight in case of a violation, injury, knockout or technical knockout, counts to ten when the boxer falls to the floor, and declares the winner at the end of the fight. The referee may issue a warning or disqualify a boxer for a violation of the rules. Another condition is that boxers must fight a certain number of rounds, which are usually 12 for professional boxing and 3 for amateur boxing. Each round lasts three minutes.

The question of who is the best boxer in history does not have a definite answer, as each boxer has his own strengths and weaknesses, his own style and belongs to a certain era. However, there are different rankings and lists that try to evaluate boxers according to different criteria, such as the number of victories, titles, knockouts, the quality of opponents, entertainment and impact on boxing.

One of the most authoritative sources that compiles a list of the best boxers in the world is "The Ring" magazine. According to this magazine now the best boxer in the world is the American Terence Crawford, who is the world champion in three weight categories and has a record of 40 victories, 31 fights ended by knockout, 0 losses. In second place is the Ukrainian Oleksandr Usyk, who is also the world champion in three weight categories and has a record of 21 victories, 0 losses, 14 fights ended by knockout. In third place is the Japanese Naoya Inoue, who is the world champion in four weight categories and has a record of 25 victories, 0 losses, 22 fights ended by knockout [2].

If we talk about the best boxers in the history of boxing, then you can also encounter different opinions and assessments. However, among the most frequently mentioned names is that of Muhammad Ali. He is an American boxer who is considered one of the greatest athletes of the 20th century. He was the heavyweight champion of the world three times, won 56 out of 61 fights (37 by knockout) and participated in legendary fights against Joe Frazier, George

Foreman, Sonny Liston and others. He was also known for his social, political activities and his charisma. Ray Robinson, nicknamed “Sugar”, is an American boxer who is considered one of the best technical boxers in history. He was the welterweight and middleweight champion of the world, won 173 fights out of 200 and dominated his categories for two decades. He was also the first boxer to become a mass culture star and a role model for many subsequent boxers. Roy Jones is an American boxer who is considered one of the most talented and spectacular boxers in history. He was the world champion in four weight classes, from middleweight to heavyweight, won 66 fights out of 75 and had incredible speed, strength, coordination and the ability to adapt to any opponent. He was also the first boxer to become the heavyweight champion of the world [2]. Floyd Mayweather is an American boxer who is considered one of the most successful and richest boxers in history. He was the world champion in five weight categories, from super lightweight to super middleweight, won all 50 of his fights and earned more than a billion dollars during his career. He was also one of the smartest and most cunning boxers who masterfully controlled distance, defense and tactics in the ring [3]. Manny Pacquiao is a Filipino boxer who is considered one of the most versatile and beloved boxers in history. He was world champion in eight weight classes, from flyweight to super welterweight, won 62 out of 72 fights and participated in many epic fights against Juan Manuel Marquez, Eric Morales, Miguel Cotto and Ricky Hatton. He was also known for his humanitarian and political activities, his modesty and religiosity.

These are just a few of the many boxers who deserve respect and admiration for their achievements and contributions to the development of boxing. Of course, every fan can have their own opinions and preferences, but it is important to remember that all these boxers were not only athletes, but also people who had their own strengths and weaknesses, their joys and sorrows, their dreams and goals. Boxing is not only a sport, but also an art that requires not only physical, but also spiritual qualities from boxers. Boxing is not only a fight, but also a life.

The conclusion is that boxing as a sport discipline has a long history. To participate in it a boxer must follow a number of strict rules. It is very difficult to define the best boxer of the world because there are many outstanding sportsmen who possess not only excellent physical qualities but have very bright personality.

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В статье рассматривается вопрос возникновения и основных требований, предъявляемых к такому виду спорта как бокс. Акцент уделен ключевым параметрам и экипировке. Особое внимание обращено на выдающихся боксеров современности, которые выделяются не только своими физическими качествами, но и уникальностью своей личности.

### к содержанию

#### **В. Г. Зайцева**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. М. Калилец

### **IS LONELINESS THE NORM?**

There are people who do not perceive loneliness as a problem, while others, on the contrary, suffer from it. From a psychological point of view, loneliness is a state or moments when a person is left alone physically or when there are no like-minded people nearby. But if we take as a basis the types of personalities (extrovert, introvert, ambivert) to which this or that person belongs, then loneliness for each of them can be defined in its own way. [1] The aim of this article is to reveal what loneliness is for people with different personality types.

A *personality type* is a set of personal qualities and psychological characteristics to describe similarities between certain categories of people. There are three types of personality: extroverts, introverts and ambiverts. *Extroverts* are a group of people who are open to the world, very sociable, and the soul of companies. *Introverts* are people who focus more on their inner world, are not too sociable, but at the same time, they are very pleasant interlocutors if you talk to them about topics that interest them. *Ambiverts* are the golden mean between an introvert and an extrovert. If they are uncomfortable, they immerse themselves in themselves, if they like the surrounding conditions, ambiverts actively communicate with everyone [2].

If an extrovert abruptly encounters loneliness, then it will be extremely painful and incomprehensible for him, since he is not used to such a feeling. For this type of personality, support, importance and live communication are

important. There is a possibility of loss of mental stability from prolonged loneliness.

Loneliness for an introvert is a gift of fate. Introverts are waiting for the opportunity to stay on one with themselves. It's like a kind of cozy corner (protection) that they strive for. Alone, it is easy for an introvert to concentrate on his business and spend time productively without being distracted by society.

An ambivert is a type that sometimes needs solitude. They, like extroverts, are in close contact with people, but because of the large amount of communication, such people can burn out. To recover, they need peace in the form of loneliness. However, with an excess of loneliness, ambiverts again seek to communicate. If there is too much of one side, then this type of personality chooses the other side.

Abstracting from personality types, let's analyze the causes of loneliness. People can often feel lonely in their families because there is a lack of mutual understanding, close communication and support between family members. The absence of these qualities can lead to an inner feeling of loneliness. But there are other circumstances, for example, moving or changing places of study, work – when old social ties are lost, but new ones have not yet been formed [3].

Sometimes it's useful to stay single. If you live alone, loneliness can provide advantages. There is no external and internal pressure from the people around you, you have the right to decide for yourself what to do and when.

Most people have the problem of being afraid of loneliness, as if they are not comfortable being alone with themselves. Such people can seek help from a psychologist. A specialist will help you deal with the feeling of loneliness, understand its nature and determine together what prevents you from understanding and accepting yourself [3].

If you are afraid to seek help from a specialist, you can try to search for interests and hobbies. Loneliness is a great opportunity to improve. Being independent of the opinions of others, you can start developing new hobbies. When there is a new hobby that brings pleasure, self-esteem rises and the emotional state improves.

When a person has consciously made a choice in favor of loneliness, he feels easy and good; there is no rejection from this situation. When there are psychological problems, loneliness can turn into trauma, tension and anxiety. For some people, this can serve as an impetus for an early change in the situation.

Summing up all of the above, we can say that loneliness is necessary for every person. Even the most sociable person can face unpleasant situations in life, which temporary loneliness will help him deal with. Time alone with oneself gives many advantages, the opportunity for people to sort themselves out, calm down and make the right decision.

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Раскрываются проблемы, связанные с одиночеством – состоянием, когда человек остается один физически или когда рядом нет единомышленников. Если взять за основу типы личности (экстраверт, интроверт, амбиверт), к которым относится тот или иной человек, то одиночество для каждого из них можно определить по-своему.

**к содержанию****В. И. Иович**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – преподаватель И. Н. Бахур

**THE HISTORY OF IQ TESTING**

In 1946 Ronald Berrill, an Australian barrister, and Professor Lance Ware, an English scientist and lawyer, founded “Mensa” organization in England. They had the idea of creating a society for smart people, with the only requirement for entry – a high IQ level. They wanted to create a non-political community free from such social differences as race, religion and so on. The organization has become very popular and today there are around 150,000 Mensans in roughly 90 countries throughout the world [2]. In addition to the primary goal of enabling smart people to communicate with each other, today “Mensa” also pursues other goals and objectives. For example, the organization participates in programs for gifted children, literacy development, and provides scholarships.

During its existence the community of “Mensa” has been opened to all people whose IQ met the specified requirements, regardless of their background so that people could enjoy communicating with each other and participate in a variety of social and cultural events. “Mensa” accepts participants who scored higher than 98% of those who passed certain standard tests. Since different tests show different scores, only percentages are compared. For example, the minimum acceptable result of the Stanford-Binet test for admission to “Mensa” will be 132, and the James McKeen Cattell’s test will be 148. But why do we

have different intelligence tests and how did they appear and become so popular and influential in our life? Why do we rely so much on them? The aim of this article is to trace the history of development of testing system.

The first scientist who attempted to develop a modern version of intelligence test in 1884 was Sir Francis Galton. In his open laboratory people could measure their visual and hearing acuity, as well as their reaction time to various stimuli. The process of developing test was continued in 1890 by American psychologist James McKean Cattell who created the first mental test. This test consisted of similar tasks. They measured the speed and accuracy of perception. Unfortunately, such tasks could not predict academic performance so they were not excellent indicators of what we would call intelligence.

The first modern IQ test was created by Alfred Binet in 1905. He was a French psychologist best remembered for developing the first widely used intelligence test, often known as the Binet-Simon test. The test originated after the French government commissioned Binet to create an instrument that could identify school kids who needed remedial studies. With his collaborator Theodore Simon, they created the Binet-Simon Intelligence Scale [1]. Unlike Galton, Binet was not inspired by scientific research. Rather, he was referring to very practical implications: to be able to identify children who could not keep up with their peers in an education system that had recently become mandatory for everyone. The Binet test consisted of knowledge questions as well as questions requiring simple reasoning. In addition to the test tasks, Binet also needed an external criterion of reliability, which he found at age. Indeed, despite significant differences in development rates, older children are generally more cognitively developed than younger ones. Thus, Binet determined the average age at which most children were able to solve each question, and classified the questions accordingly. In this way he could assess the child's position relative to his peers. If a child was able to solve problems that were solved only by children two years older, then this child would be two years ahead in mental development.

Subsequently, William Stern developed a more precise approach, which suggested that instead of subtracting the real age from the age estimated by the test results, the latter so called "mental age" should be divided by the former. Hence the famous "intelligence quotient" or "IQ" was born, which is defined as mental age/chronological age. Indeed, it turned out that such a calculation was more consistent with other estimates of mental performance. For example, an 8-year-old child who reached the level of a 6-year-old child would receive the same Binet score as a 6-year-old child who reached the level of a 4-year-old child. But according to Stern's system, a 6-year-old child would have received a lower score. Experience shows that when they both turn 10, an 8-year-old is



more likely to surpass a 6-year-old in performing cognitive tasks, that is why Stern's method proved to be more effective.

It was in the USA that IQ testing became a real success story after Lewis Terman, who was a psychologist at Stanford University, revised the Binet test, creating a much more appropriate norm than the original, and published it as the Stanford-Binet test. He also sought to multiply the result by 100, so that the final equation for IQ is mental age/chronological age multiplied by 100. However, this method only works well in the case of children. If the parents of a child were told that their 6-year-old child had already had the mental abilities of an average 9-year-old child and, therefore, his IQ is 150, they would be really happy. But if you tell a child's grandfather that, although he is only 60 years old, his cognitive abilities are at the level of the average 90-year-old person, he may not take it as a compliment. It becomes clear that the coefficient works only as long as the original Binet criterion is functional; that is, as long as older age generally means better abilities. This method is inappropriate when mental development is no longer happening.

David Wechsler, American psychologist and inventor of several widely used intelligence tests for adults and children solved the problem of calculating the IQ of an adult by simply comparing academic performance with the distribution of test results, which is a normal distribution. In his system, the IQ of those whose score was equal to the average value for the age group was 100. Thus, the IQ of the average adult would be 100, just like the IQ of the average child in the original system. He used the statistical properties of the normal distribution to assign IQ scores based on the degree of peer superiority. For example, a person whose score was one standard deviation above the average and who thus surpassed 86% of his peers would have an IQ of 115 and so on.

And finally, it should be noted that even though it's called IQ it is not a quotient at all. It still has this name only because the concept of IQ has become very popular. In adults it is an indication of how well one performs on mental tests, compared to others. One more step in the development of IQ testing was the creation of group tests. The first group test was created for the US army, but they soon spread to schools and companies, becoming one of psychology's greatest popular successes, and remain so to this day.

So, the conclusion can be drawn that in spite of the fact that nowadays we widely use cognitive tests to estimate our intellectual level it has been a long way before psychologists could develop an effective means of evaluating both children's and adults' intelligence. Scientists of different countries participated in this process. In the beginning it was just measuring visual and hearing acuity, but later on these tests develop into reliable means of checking people's intellect. The evaluation process has begun with individual testing but the needs of the U.S. military have taken this procedure to a new level – group testing.

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В статье рассматривается вопрос об использовании тестов с целью оценки интеллектуальных способностей детей и взрослых. Автор статьи обращается к истории возникновения системы тестирования и прослеживает ее путь от появления первых тестов, созданных Гальтоном, до современного уровня коллективных тестов.

### к содержанию

#### **О. А. Ишкова**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА им. К. А. Тимирязева  
 Научный руководитель – кандидат филологических наук,  
 Р. В. Агаджанян

## **XENO NUCLEIC ACIDS (XNA) IN MEDICINE**

Talking about a situation in contemporary medical science, we can see that the number of pathogenic organisms resistant to traditional methods of treatment is increasing. One of the possible solutions is to create new amino acids and proteins. Researchers can do it using genetic engineering e.g. coping combinations of proteins' series and using co-factors, but it is still being a complicated question. Some scientists have already started working on creation of completely new nucleic acids that do not exist in nature [6].

The aim of this paper is to find out the eventual application of xeno nucleic acids (XNA) in medicine.

A part of synthetic biology that studies creation and management of artificially created biological systems and objects is called “xenobiology”. Firstly, this term was used by Robert Heinlein (1954) meaning any biological organisms foreign for planet Earth [7]. There are several aims of xenobiology: studying the origin of life and evolution by creating artificial models, developing ways of resisting pathogens, and creating firewall to struggle horizontal gene transfer.

Xenobiology is a new and innovative science, it is not widely regarded, but several researches connected with nucleic acids (or xeno nucleic acids (XNA))

creation have already been done. Currently, we can say that this direction has high potential of development in the future.

XNA engineering could be developing in case of exploring new drugs. Recent research by P.P Gerber et al [4] has shown the application of 2'-deoxy-2'-fluoro- $\beta$ -D-arabino nucleic acid can inhibit activity of SARS-CoV-2, virus which is responsible for coronavirus pandemic. By exploring virus' enzymes and XNA synthesis, scientists have successfully created highly specific enzyme, which inhibits replication of virus' RNA. Such intervention does not let virus split.

Quick diagnostic that is also an essential part of treatment and xenobiology has an application in this field too. Aptamers of XNA are short oligonucleotides that have ability to bind targets with high specify and affinity. They also have a number of advantages, such as short generation time, low cost of manufacturing, thermal stability, and modifying ability. The way of obtaining such aptamers is called systematic evolution of ligands by exponential Enrichment (SELEX), which actually includes several methods. For example, IP-SELEX (uses immunoprecipitation), Capture-SELEX (Oligonucleotide library is immobilized

Target Name	Aptamer	Selection Target	Delivery/Application
Epidermal growth factor receptor (EGFR)	RNA	Purified extracellular domain of EGFR	Nanoparticle delivery
Immunoglobulin heavy chain (IGHM)	DNA	Cell	Micelle nanoparticles for drug delivery
Mucin1 (MUC-1)	DNA	Recombinant peptides	Photodynamic therapy, radionuclide delivery
Prostate-specific membrane antigen (PSMA)	RNA	Purified extracellular domain of PSMA	siRNA delivery, Chemotherapeutic drug delivery
Protein tyrosine kinase-7 (PTK7)	DNA	Cell	Chemotherapeutic drug delivery

on a support instead of the targets to identify aptamers against small soluble molecules), M-SELEX (microfluidic system) and many more. Aptamers as diagnostics can be used in pathogen recognition. They were applied to detect *Escherichia coli*, *Lactobacillus acidophilus* [5], *Vibrio parahemolyticus* [2], *Shigella sonnei* [1] etc. The SELEX is also useful in diagnostics of viral infections, like hepatitis C virus [3]. It is important for health care to develop cancer diagnostic with aptamers application. One of the ways to deal with it is to detect cancer-related biomarkers and there is a research studied detection of carcinoembryonic antigen or CEA [8] and prostate specific antigen or PSA [9].

Aptamers have been successfully used in delivering drugs to a target. In the table above, the application of several aptamers is presented.

By analyzing information given, we can infer that xenobiology (and XNA in particular) is a good area of expertise to develop in treatment and diagnostics. Despite the fact that more surveys are needed, we can already say that XNA might be used in medicine for drug development and therapy as well. There have been studies confirming the possibility of using XNA in the treatment of viral diseases. In the long term, xeno nucleic acids could become an effective and inexpensive alternative to antiviral and antibacterial medications.

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В статье рассматривается вопрос создания нуклеиновых кислот, не существующих в природе. Автор анализирует возможности их применения в медицине как в качестве средств диагностики некоторых заболеваний, так и в качестве лекарственных средств. Приведены данные об использовании аптамеров ксенонуклеиновых кислот для транспортировки лекарств в организме.

**к содержанию**

**А. В. Казаченко**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. М. Калилец

**PROCRASTINATION AND TIME MANAGEMENT IN STUDENTS' ACTIVITIES**

The life of a modern person is dynamic. It is filled with a lot of things to do and tasks that need to be completed within a certain time frame. There is a constant lack of free time or time to be spent on essential tasks. In addition, everyone receives a huge amount of information per day, and not always they may be able to process or evaluate it quickly. This phenomenon can be summarised by the term "information shock", which often manifests itself in a feeling of information overload, difficulty in decision-making, fatigue and physical or psychological tension. In this mode of constant multitasking and overload, there is a desire to postpone tasks until later, despite their importance and the availability of opportunities to solve them. This intention of putting things off until later is called "procrastination".

According to available research, procrastination is one of the factors that cause problems in the educational process. Reduced academic achievements and performance are the most frequent manifestations of this behaviour [1].

Here the relationship between time and planning skills comes to the force. If material and human resources are capable of gradual recovery and transformation, time is not. This makes time the most valuable asset that cannot be purchased for money and other goods, cannot be changed or accumulated.

The idea that time is a valuable resource that needs to be managed has become an object of reflection for many people. Various methods, principles and techniques of time organisation can be summed up in a slogan: to allocate your time correctly means to build your life correctly.

Time management is a system of organising time and tasks in order to use time effectively, set priorities, plan and optimise workflow.

Although it is impossible to equate time management with 100% productivity, as time management is not the only determinant of performance, it has a significant impact on the lives of students, especially in higher education where there is no parental or teacher supervision. All students need to develop time management skills: setting goals and priorities, using time management mechanisms and organising the use of time. A central aspect of time management is the allocation of free time for rest and recreation, as insufficient breaks and constant work on academic tasks can lead to overwork and stress, negatively affecting the quality of work and concentration [2].

Moreover, regular breaks and exercises increase productivity, which allows not losing interest in the learning process, helping to maintain motivation. It is important to note that it is necessary to allocate time to prepare for classes and assimilate the learning material. Dividing the necessary literature into parts and distributing them on certain days of the week or hours will help to study the subject more deeply and assimilate knowledge more effectively. Proper time management helps to avoid stress, increase productivity and motivation to achieve academic goals.

It is worth saying that there are currently more than twenty time management methods. Some of them were developed decades ago, while others have appeared quite recently.

To get the best solution to a problem, it is worth choosing a method based on the specific goal you need to solve. For example, if you need to be more productive, you can use the time block technique. This method involves dividing your working time into specific blocks dedicated to the fulfilment of specific tasks. Each block of time is allocated to a specific activity, which helps to improve productivity and focus. This approach allows you to plan tasks more effectively, optimise your time and improve your work performance [3].

The Getting Things Done (GTD) method may be suitable for people who find it difficult to focus on one thing at a time. The basic idea is to write down all your tasks, ideas and responsibilities in a list, prioritise them and update the to-do list regularly. This will help to organise your workflow, make it more structured and orderly, which will allow you to achieve your goals and objectives more quickly.

“Do it tomorrow” is also a time management technique, the essence of which is to postpone some tasks until tomorrow, unless they are critical or urgent. This allows you to concentrate on more important and urgent things at the moment, to unload the list of tasks. However, it is important not to abuse this technique to avoid accumulation of pending cases.

As stated earlier, there is a huge variety of time planning techniques, but the basic idea of using any time management method is the awareness of the person in the need for these techniques and the discipline of their application [4].

The application of time management by university students will not only improve academic performance, but also increase productivity, reduce stress levels and improve the overall quality of life. Competent time planning will help a future specialist to form all the necessary competencies for professional activity, to be in demand in the labor market.

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Рассматривается влияние прокрастинации на организацию учебного процесса студентов. Приводятся примеры тайм-менеджмента – системы организации времени и задач, позволяющих эффективно использовать время, устанавливать приоритеты, планировать и оптимизировать рабочий процесс.

### **к содержанию**

#### **В. А. Казусик**

Республика Беларусь, Брест, Брестский государственный университет имени А.С.Пушкина

Научный руководитель – старший преподаватель Л. Е. Левонюк

### **LA THÉORIE DE L'ATTACHEMENT DE JOHN BOWLBY ET MARY AINSWORTH**

La théorie de l'attachement est un sujet crucial dans la psychologie du développement de l'enfant. Elle a été développée au XX<sup>ème</sup> siècle et reste pertinente jusqu'à nos jours. Car le modèle de comportement d'une personne lors de la communication et du contact avec d'autres gens dépendra des conditions dans lesquelles l'attachement se forme et sous l'influence de quels facteurs il se développera dans l'avenir. L'étude de cette théorie est nécessaire en premier lieu pour ceux qui travaillent ou envisagent de travailler comme enseignants et éducateurs dans les jardins d'enfants ou les institutions spéciales.

Cet article a pour but de faire l'analyse des fondements et des concepts de la théorie de l'attachement de J. Bowlby et M. Ainsworth.

J. Bowlby est un psychologue et psychiatre anglais, engagé dans des recherches dans le domaine de la psychiatrie de l'enfant, la psychologie du développement, est également considéré comme un psychanalyste. Il a

développé les fondements de la théorie de l'attachement. M. Ainsworth, psychologue américain, qui a étudié la psychologie du développement de l'enfant. Elle elle a conçu et réalisé une expérience qui a permis de classer les types d'attachement et décrire leurs caractéristiques, en se basant sur la théorie de J. Bowlby.

La théorie de l'attachement est basée sur la relation entre la mère et l'enfant. Leur interaction joue un rôle primaire dans la formation de l'attachement chez l'enfant. Selon certains psychanalystes, l'attachement se forme uniquement parce que la mère satisfait les besoins fondamentaux de l'enfant. Cependant, pour décrire le mécanisme de l'attachement, J. Bowlby part des notions d'éthologie, en introduisant le concept de l'empreinte. Selon l'auteur, l'empreinte est un processus inné par lequel les organismes vivants absorbent les stimuli initiant les instincts. Par exemple, la première chose que voit un poussin sorti d'un œuf est sa mère le poulet. Cette image restera dans sa mémoire, il s'y attache, et dans les premières périodes de sa vie le poussin suit sa mère partout. C'est très similaire au développement de l'attachement chez un jeune enfant, mais J. Bowlby a souligné que le même processus chez l'homme couvre une plus grande période de temps que chez les animaux. Il l'a divisée en quelques étapes:

- une phase de réaction aveugle aux gens (jusqu'à 3 mois). Pendant cette période l'enfant ne distingue pas encore les visages, mais réagit principalement à la voix de la mère, ainsi qu'à son sourire. Il montre son intérêt à l'aide de réflexes tels que saisir, sucer et ainsi de suite.

- une phase de concentration sur les gens familiers (de 3 à 6 mois). L'attention de l'enfant devient plus sélective. L'attachement aux membres de la famille commence à se former. L'enfant montre son affection à travers un sourire social.

- une phase de l'attachement intense, qui représente un pic de formation d'attachement dans les relations (de 3 à 6 ans). L'enfant commence à avoir peur des étrangers et, en l'absence des parents il a une anxiété prononcée. Car les parents sont les garants de sa sécurité. L'étape se termine par la formation d'un modèle fonctionnel de l'objet d'attachement.

- une phase de comportement de partenariat. À ce temps l'enfant commence à se séparer de la mère, maintenant elle est perçue comme un objet indépendant. L'attachement se forme non seulement envers les membres de la famille, mais aussi envers les autres gens [1, p. 260].

J. Bowlby a mené ses recherches sur des enfants hospitalisés pendant un certain temps, sans possibilité de voir leur mère, et soignés par des infirmières. Les participants à l'expérience étaient de jeunes enfants élevés dans des familles complètement différentes. Il a étudié le comportement des enfants pendant l'absence de leur mère. À la suite de cette expérience, le chercheur a proposé le



concept *la privation*, qui signifie l'incapacité de satisfaire ses besoins vitaux. Dans notre cas, c'est un besoin de sécurité et d'affection. En outre, au cours de l'expérience, le psychologue a identifié trois étapes de la privation lors de la séparation : protestation, désespoir, aliénation. En plus de cette expérience, Bowlby a également observé des enfants orphelins. À la fin du travail, il a conclu que l'attachement de l'enfant se forme jusqu'à 9 mois, et si cela ne se produit pas, l'enfant aura des problèmes à l'avenir lors de la construction de relations avec les gens.

M. Ainsworth, inspirée par la théorie de J. Bowlby, a poursuivi la recherche dans ce domaine. Sa plus grande réalisation a été la classification des types d'attachement. Les principaux critères d'évaluation étaient le comportement du bébé en l'absence de sa mère et sa réaction à la réunion avec la mère. Sur la base des données obtenues, M. Ainsworth a identifié trois types principaux d'attachement :

1. Type fiable. Il est formé lorsque les parents accordent suffisamment d'attention et de soins à l'enfant et répondent pleinement à ses besoins. L'enfant en leur présence se sent en sécurité et s'efforce d'explorer l'environnement. À l'âge adulte, les personnes ayant ce type d'attachement font confiance aux autres, ont du respect pour soi et suscitent un sentiment de respect chez les autres.

2. Type alarmant. Ce type est formé dans des conditions où les parents se comportent de manière incohérente, c'est-à-dire parfois ils semblent froids et distants, parfois ils montrent de l'intérêt et des sentiments chaleureux pour l'enfant. Les parents ne satisfont pas pleinement les besoins de l'enfant. Dans une telle famille, l'enfant ne se sent pas en sécurité, il ne comprend pas les sentiments des parents et, à cause de cela, il est stressé. À l'âge adulte, un tel enfant a une faible estime de soi et a tendance à être seul ou plutôt à dépendre de son partenaire.

3. Type évitant. Ce type est formé chez les enfants dont les parents sont froids et distants, ne satisfont pas les besoins de l'enfant. En conséquence, l'enfant devient également distant, il sent que ses parents ne s'intéressent pas à lui. À l'âge adulte, une telle personne a des problèmes de confiance, lors de la construction de relations avec d'autres gens, il essaie de se distancer de son partenaire, aspire à l'indépendance [2, p. 112].

Mais, il faut souligner que la vérité de la théorie de l'attachement de J. Bowlby est assez controversée. Certains estiment qu'il n'existe pas de personnes qui n'ont qu'un seul type d'attachement. Il s'agit généralement d'un mélange de plusieurs types, déterminés par le milieu de vie et l'entourage de la personne. Les résultats d'études longitudinales montrent que si les premières expériences ne sont pas effacées, le devenir de l'individu résulte néanmoins de l'ensemble de son histoire d'attachement.

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Статья посвящена рассмотрению теории привязанности Дж. Боулби. Автор затрагивает вопросы формирования и развития привязанности. Особое внимание уделяется тому факту, как отношения ребенка с родителями в детстве влияют на его взаимодействие с окружающими людьми во взрослом возрасте. Автор приходит к выводу, что теория привязанности является спорной, т.к. взрослому человеку характерно присутствие нескольких типов привязанности, сформировавшихся под воздействием окружающей среды.

**к содержанию****И. А. Калиновская**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Ю. А. Тищенко

**INTERACTIVE TEACHING METHODS AT ENGLISH LANGUAGE LESSONS AT SCHOOL**

The choice of the most effective methods of foreign languages teaching has always been one of the most important issues discussed by educators all over the world. The traditional classification of teaching methods proposed by Golmit in the 60s of the 20<sup>th</sup> century, described in the works of Plaksina [1], divides teaching methods into passive (reproductive) teaching method, active learning and interactive learning. Passive methods offer students to act as an “object” of teaching, who must internalize and reproduce the material that is given by the teacher. In this case the teacher is the source of knowledge. Active methods, in turn, allow students to become a “subject” of learning, to perform creative tasks, as well as to enter into a dialog with both classmates and the teacher. Interactive methods allow students to interact with each other. These methods are most consistent with the person-centered approach, as they involve collective learning, or cooperative learning, with the help of which both the learner and the teacher become subjects of the learning process.

Thus, in contrast to traditional learning, in which the teacher is the main source of information, in interactive teaching students independently search for

information, exchange opinions and experiences with each other, communicate with peers in a foreign language. Also, the term “interactive learning” is often mentioned in connection with information technology, distance learning, the use of Internet resources and electronic textbooks and teaching aids. Modern computer telecommunications allow students to engage in “live” (interactive) monologues (written or oral), as well as provide “active exchange of messages in real time between users and information systems” [2, p. 23].

Interactive teaching methods have a number of advantages in teaching foreign languages. Ready-made thematic texts, teaching and control exercises, illustrations, audio and video materials provide effective introduction and activation of learning material, repetition and consolidation of speech patterns and grammatical structures, improvement of reading and reading comprehension skills, control and self-control of knowledge [3, p. 39].

To improve the skills of monologic and dialogic speech at foreign language lessons at school it is possible to use such methods as debate, role-playing, games (like bingo, charades), projects, group discussions. The use of interactive teaching methods in English language classes helps to increase students’ interest in the subject and activate their language activity, develop skills of independent and team work, as well as successfully form and improve the skills of all types of language activity. Due to the great variability of interactive methods, they can be used in every lesson to make the learning process not only effective and interesting, but also diverse.

To conclude, a big number of educators are increasingly recognizing the limitations of traditional teaching methods in promoting student growth. These methods often prioritize rote memorization and recall, fostering passivity and instruction-following rather than critical thinking. However, genuine understanding requires critical engagement with the material. Interactive teaching offers a powerful solution by encouraging active participation and stimulating critical thinking skills, ultimately leading to deeper learning and a more enriching educational experience.

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В статье рассматриваются интерактивные методы обучения как эффективный инструмент повышения мотивации и качества обучения английскому языку на уроках английского языка в школе. Основное содержание статьи составляет анализ преимуществ использования интерактивных методов обучения над традиционными. Использование интерактивных методов обучения на уроках английского языка способствует повышению интереса учащихся к изучаемому предмету и активизации их языковой деятельности, развитию навыков самостоятельной и командной работы.

### **к содержанию**

#### **Е. В. Кирилюк**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель С. В. Милач

### **ARZNEIMITTEL IN DER UMWELT**

Arzneimittel spielen eine wichtige Rolle bei der Erhaltung der Gesundheit von Mensch und Tier, indem sie durch die Beeinflussung der physiologischen Prozesse im Körper bei der Behandlung von Krankheiten und der Linderung ihrer Symptome helfen. Während viele von ihnen unverändert vom Körper ausgeschieden werden, können sie in der Umwelt unerwünschte Auswirkungen haben, da sie dort nicht so leicht abgebaut werden. Welches Ausmaß die Umweltbelastung mit Arzneimitteln erreicht, zeigt ein Forschungsprojekt im Auftrag des Umweltbundesamtes: Spuren von mehr als 630 verschiedenen Arzneimittel-wirkstoffen sowie deren Abbauprodukte lassen sich in vielen Teilen der Erde nachweisen. Sie sind in Gewässern, Böden, Klärschlamm und Lebewesen zu finden. 17 Wirkstoffe kamen in allen Regionen der Welt vor [1]. Für die Umwelt sind langlebige Stoffe, die nach ihrem Eintrag nicht mehr entfernt werden und sich in Organismen anreichern oder weiträumig verbreiten können, ein zentrales Problem. Aber da Arzneimittel üblicherweise mit Gesundheit assoziiert werden, erfährt das Thema eine geringere öffentliche Aufmerksamkeit. Das Ziel dieses Artikels besteht darin, die dominanten Eintragspfade von Arzneimitteln in die Umwelt zu untersuchen und die Wirkungen dieser Substanzen auf die Ökosysteme zu analysieren. Es werden auch mögliche Maßnahmen zur Minimierung der Umweltbelastung durch Arzneimittel dargestellt.

Bereits in den 1970er Jahren wurden vereinzelt Antibiotika, Antiepileptika oder Estrogene in verschiedenen Gewässern gefunden. Seit Mitte der 1980er Jahre berichten Wissenschaftlerinnen und Wissenschaftler vermehrt über Arzneimittel-funde in der Umwelt. Hohe Konzentrationen von Arzneimittelrückständen wurden nicht nur in Gewässern und Böden der

Industriestaaten gemessen, sondern auch in vielen Entwicklungs- und Schwellenländern. Der Grund dafür ist einfach: Arzneimittel-Wirkstoffe sind oft schlecht abbaubar und mobil.

Der Haupteintragspfad von Arzneimitteln sind menschliche Ausscheidungen, zu circa 85 Prozent Urin und Stuhlgang. Über die Abwässer gelangen die Arzneimittel in die Kläranlage, wo sie zum größten Teil nicht zurückgehalten oder eliminiert werden und dann in Bäche, Flüsse und Seen, aber auch ins Grundwasser kommen. Zu zehn Prozent etwa ist eine unsachgemäße Entsorgung durch Verbraucher\*innen die Ursache von Arzneimittelbelastung: jährlich werden einige hundert Tonnen Medikamente über Spüle oder Toilette entsorgt [3]. Der kleinste Teil der Spurenstoffe gelangt bei der Arzneimittelherstellung ins Abwasser.

Aufgrund der Güllebehandlung der Felder ergibt sich eine weitere Belastung mit Veterinärpharmaka. In Gegenden mit intensiver Tierhaltung gelangen Rückstände von Tierarzneimitteln hauptsächlich über Gülle und Mist von behandelten Nutztieren in den Boden. Durch direkte Ausscheidung von behandeltem Vieh landen sie auf den Weiden. Abhängig von den Substanz- und Standorteigenschaften können sich Rückstände von Tierarzneimitteln im Oberboden anreichern, wie z. B. Tetracycline, oder über Abschwemmung, insbesondere bei starken Regenfällen, in Oberflächengewässer und/oder durch Versickerung ins oberflächennahe Grundwasser eindringen, wie z. B. Sulfonamide.

Die in den Abwässern, Flüssen, Böden gefundenen Substanzen spiegeln eine ganze Reihe von Arzneimitteln wider. Die am häufigsten angewendeten Schmerzmittel Diclofenac, Ibuprofen und Aspirin dominieren im Vergleich zu anderen Wirkstoffgruppen. Besonders Diclofenac zeigt auffallend hohe Konzentrationen. Der Wirkstoff dieses Produkts wurde in Wasserquellen in 50 verschiedenen Ländern gefunden. Außerdem lassen sich Rückstände von Blutdrucksenkern, Antiepileptika, Antidiabetika, Analgetika, verschiedene Antibiotika und Hormone, aber auch Röntgenkontrastmittel nachweisen.

Über die langfristige Wirkung dieser Substanzen auf die Ökosysteme liegen bisher wenige Informationen vor. Aber Laborexperimente und Freilandversuche zeigen negative Effekte wie reduziertes Wachstum, Verhaltensänderungen oder verminderte Vermehrungsfähigkeit bei Lebewesen. Als besonders umwelt-relevant haben sich Hormone, Antiparasitika und bestimmte Schmerzmittel herausgestellt, weil sie schon in geringen Konzentrationen toxisch für die Umwelt und oft auch sehr langlebig sind [1].

So ließen sich bei Fischen unterhalb einer Kläranlage aufgrund der Hormone aus oralen Kontrazeptiva Verweiblichungseffekte beobachten: Männliche Fische bekommen dadurch erhöhte Östrogenwerte, was dazu führt, dass sich ihre Geschlechtsorgane gänzlich zurückbilden und somit werden die Männchen fortpflanzungsunfähig. Bei Schnecken rufen synthetische Hormone Imposex

hervor – die Entwicklung von Geschlechtsorganen, die gegensätzlich zum eigentlichen Geschlecht sind. Dass die Hormone in der Umwelt ihre Wirkung auf die Tierwelt haben, gilt also als unumstritten.

Antibiotika und Chemotherapeutika in der Umwelt sind äußerst problematisch, da sie die Entwicklung von resistenten Keimen in Wasser und Boden begünstigen können, was wiederum gefährlich für den Menschen ist: Die Zunahme der resistenten Krankheitserreger erschwert immer mehr die Behandlung bakterieller Erkrankungen beim Menschen. Die Weltgesundheitsorganisation WHO zählt die zunehmende Verbreitung der Antibiotikaresistenzen zu den drängendsten globalen Gesundheitsproblemen. Antibiotika haben auch negative Effekte auf Ackerpflanzen, das heißt sie hemmen z. B. deren Wachstum und Keimung oder können die Pflanzen abtöten.

Antiparasitika gefährden Bienen und andere Nützlinge. Die Schädigung der Insekten wirkt sich negativ auf die Nahrungsversorgung insektenfressender Tiere, wie Vögel, Igel, Spitzmäuse und Dachse aus.

Die Rückstände des Analgetikums Diclofenac hat zum Beispiel die Geier-Bestände in Indien fast eliminiert. Die Greifvögel hatten sich von verendeten Rindern ernährt, die mit dem Antirheumatikum behandelt worden waren.

Weitere Auswirkungen der fünf beispielhaften Medikamente auf Tiere: Antibiotika – verlangsamtes Wachstum von Umweltbakterien und Algen; Schmerzmittel – Organschädigung bei Fischen; Blutdrucksenker – Störung der Fortpflanzung bei Wasserinsekten; Diabetesmedikamente – Verweiblichung von Fischen; Epileptika – Entwicklungsverzögerung bei Fischen und Einschränkung der Fortpflanzung wirbelloser Tiere.

Da die Verbrauchsmengen von Arzneimitteln steigen, vor allem wegen der demografischen Entwicklung, stellen Arzneimittelrückstände in der Umwelt weltweit ein relevantes Problem dar. Nun muss darüber nachgedacht werden, wie ihre Umweltauswirkungen verringert werden könnten. Lösen können wir es nur global, indem wir die internationale Chemikaliensicherheit stärken. Um Pharmazie nachhaltiger zu machen, muss man den gesamten Lebenszyklus von Arzneimitteln betrachten: von der Entwicklung über die Produktion und die Anwendung bis zur Entsorgung. Ein alleiniger Fokus auf Abwasserreinigung und Trinkwasseraufbereitung ist nicht zielführend. Anfangen sollte man von einer strengeren Rezeptpflicht, um den Zugang zu Medikamenten besser zu steuern, auch unterschiedlichere Verpackungsgrößen, bis hin zur Forschung, die auch gezielt nach abbaubaren Arzneimitteln suchen soll. Auch der eigene Umgang mit Medikamenten sei zu überdenken.

Um die negativen Auswirkungen von Arzneimitteln auf die Umwelt zu reduzieren, können folgende Maßnahmen ergriffen werden:

- Ein Umbau der Nutztierhaltung ist notwendig, damit künftig weniger Antibiotika eingesetzt werden und die Umweltbelastung durch Pharmaka verringert wird. Reserveantibiotika in der Tierhaltung sind zu verbieten.

- Ärzt\*innen und Apotheker\*innen müssen gezielt über die Umweltrisiken der Arzneimittel fortgebildet werden, dass sie die Patienten entsprechend beraten können und dass sie, falls sie die Alternative haben, das umweltverträglichere Mittel verschreiben und nicht das umweltrisikoreiche.
- Ein Sammelsystem bei den Apotheken sorgt für eine fachgerechte Entsorgung von Arzneimittelresten.
- Bei hohen Belastungen sind Abwasserteilströme zum Beispiel aus Krankenhäusern vor Einleitung in die Kanalisation zu behandeln.
- Die Modifikation der Kläranlagen ist notwendig, damit sie effektiv die Arzneimittelkonzentrationen reduzieren (4. Reinigungsstufe).
- Das Umweltmonitoring von Arzneimitteln und resistenten Keimen ist auszubauen.
- Prüfung und Angabe der biologischen Abbaubarkeit (Umweltlabel).
- Ein Werbeverbot für nicht verschreibungspflichtige Arzneimittel (zum Beispiel Schmerzmittel) wie bei Tabakerzeugnissen soll verhindern, dass Medikamente als Lifestyle-Drogen eingenommen werden. Die Gesundheitsprävention hilft die Einnahme von Medikamenten zu verringern [2].

Eine effiziente Strategie zur Verminderung von Arzneimittel-Rückständen in der Umwelt muss also Maßnahmen entlang des gesamten Lebenswegs von Arzneimitteln und vor allem den verantwortungsvollen Umgang mit ihnen umfassen. Hierzu zählt auch eine verstärkte Forschung in Wirkstoffe, die in der Umwelt rasch zerfallen, aber bei der Bekämpfung von Krankheiten genauso wirksam sind. Wir müssen alles tun, um unsere Gewässer und Böden in ihrer Funktion als Lebensraum und Trinkwasserressource langfristig zu schützen. Zukünftige Generationen werden es uns danken, wenn auch durch einen deutlich verminderten Eintrag von Arzneimitteln ein guter ökologischer Zustand unserer Gewässer und Böden wieder erreicht werden kann und auch zukünftig unbelastetes Trinkwasser zur Verfügung steht.

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Статья посвящена проблеме неконтролируемого увеличения содержания остатков лекарственных средств и их метаболитов в окружающей среде. Рассматриваются механизмы попадания медпрепаратов в водные и наземные экосистемы, их воздействие

на живые организмы, а также возможные пути минимизации загрязнения окружающей среды лекарствами.

### **к содержанию**

**А. В. Кисель**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель О. Г. Полещук

## **COOPERACIÓN POLÍTICA ENTRE BRASIL Y CHINA BAJO EL GOBIERNO DE XI JINPING**

Como mayor país en desarrollo y la potencia de más rápido crecimiento del mundo, China debería tomar en consideración a los países en desarrollo, y en este caso a la región latinoamericana, como un socio importante en la cooperación en política exterior, una región prioritaria para hacer realidad sus responsabilidades como gran potencia. "Ya que, en virtud de su potencial, se convierte en el principal motor de desarrollo del mundo en desarrollo como una especie de fenómeno holístico".

El objetivo de este trabajo es identificar las características de las principales áreas de cooperación política entre China y Brasil, así como determinar los aspectos positivos y negativos, los beneficios y los riesgos de esta relación.

China tiene su propia visión y comprensión del concepto de "países en desarrollo". En su opinión, "países en desarrollo" no es un concepto puramente económico, sino un concepto con atributos más ricos. En el pensamiento diplomático chino, el concepto de "países en desarrollo" modernos es en gran medida una continuación y un desarrollo del "tercer mundo" del pasado. En la visión diplomática china, el concepto de "país en desarrollo" es al mismo tiempo memoria histórica y necesidad real, por lo que tiene un especial sentido de pertenencia, afinidad y reconocimiento. Desde esta perspectiva, China siempre ayudará a otros países en desarrollo y reforzará la solidaridad y la cooperación con ellos [1, p. 210-211].

La gran mayoría de los países en desarrollo, que son los países de la región sudamericana y del Caribe, siguen siendo fuerzas externas importantes de la diplomacia china, socios importantes de China en su profundo compromiso con la cooperación económica mundial y la gobernanza global [1, pp. 211-212].

Las relaciones entre Brasil y China son importantes y, en muchos sentidos, claves, ya que el principal énfasis de la cooperación de la RPC con los países latinoamericanos se centra en las relaciones con Brasil, debido a que es su principal socio en la región durante el periodo analizado. Cabe destacar también que "La República Federativa de Brasil y La República Popular China son centros responsables del desarrollo de su espacio regional" [3]. Por lo tanto, la



cooperación de estos países desempeña el papel crucial para el resto del mundo asiático y también para América Latina.

Una parte importante de las relaciones de estos países se basa en el sector económico. La cooperación política, aunque no tan estrecha como en el sector económico, también existe. Estos Estados tienen muchas visiones políticas comunes, como la multipolaridad, la lucha contra los problemas globales, etc.

A medida que la RPC se vuelve más activa en la región y surgen condiciones especiales, a los países latinoamericanos les resulta cada vez más difícil distanciarse de China. Brasil es un ejemplo claro de esta situación. "Durante la campaña presidencial de 2018, el populista Jaír Bolsonaro se centró en políticas antichinas extremas. En sus numerosos discursos, se calificó a sí mismo de anticomunista y afirmó abiertamente que las inversiones chinas amenazan la soberanía de Brasil: 'China no está comprando en Brasil, China está comprando el propio Brasil'" [1]. Bolsonaro ha expresado su deseo de estrechar relaciones con Estados Unidos e incluso visitó Taiwán en febrero de 2018, lo que provocó protestas de la RPC. Sin embargo, al haber ganado gracias al sentimiento antichino, Bolsonaro cambió su postura respecto a Pekín a una menos radical. Los intereses económicos a largo plazo y la necesidad de mantener relaciones de cooperación con China hicieron sus propios ajustes. Y ya en 2019, Bolsonaro se reunió con Xi Jinping y declaró que China es un "amigo" de Brasil[1].

Un elemento importante de las relaciones Brasil-China en la fase actual es la interacción entre los dos países en el marco de los BRICS, que se está desarrollando al ritmo más rápido entre los estados miembros de esta asociación. Brasilia y Pekín también están coordinando activamente sus posiciones sobre las cuestiones más urgentes de la agenda internacional, principalmente el mantenimiento de un orden mundial multipolar y el refuerzo del papel de las organizaciones internacionales, la garantía del desarrollo sostenible y la lucha contra el cambio climático. Existe la opinión de que fueron las reuniones de los jefes de estados en el marco de las cumbres del BRICS lo que sirvió de principal impulso para la intensificación de la interacción entre los dos países, contribuyendo a la creación de una atmósfera de confianza política [2].

La similitud del discurso político actual en China, la mayoría de los Estados latinoamericanos y también en Rusia ha dado lugar a cambios de calidad en el marco del BRICS [3]. Un nuevo aspecto de la cooperación es la creación de proyectos conjuntos en la esfera técnico-militar iniciados por la Federación Rusa. Al mismo tiempo, esta esfera de gran futuro interesa no sólo a Rusia, que se ha quedado sin la oportunidad de mantener una cooperación constructiva con los países occidentales debido a la crisis ucraniana, sino también a China. Pekín ya ha mostrado interés por los desarrollos brasileños en el campo de los aviones de ataque y de transporte militar, así como en la industria aeroespacial. Estas tendencias demuestran que el BRICS se encuentra en una fase de transición de

la interacción puramente económica a la cooperación política (incluida la político-militar) [2].

Además de ser los miembros fundadores del BRICS, Brasil y China tienen una "Asociación Estratégica Global" concluida en 2012, un "Plan Decenal de Cooperación" (2012-2021), que incluye la cooperación multidimensional entre los estados (áreas científica, tecnológica y de innovación), la cooperación en aeronáutica, infraestructura y transporte, energía, así como la cooperación en los sectores industrial y financiero. Asimismo, a partir de 2004, los esfuerzos conjuntos condujeron a la formación de la comisión chino-brasileña de coordinación y cooperación al más alto nivel (COSBAN), que se complementó más tarde con subcomisiones para delegar un gran número de responsabilidades en los aparatos locales. Esta no es, en absoluto, una lista completa de los programas de cooperación de ambos Estados [3].

La diplomacia multilateral de la RPC en América Latina nace de una necesidad interna de comprometer y promover la paz y el desarrollo regionales, así como de mejorar el papel de los países en desarrollo en la gobernanza mundial. Tras analizar la situación de las relaciones de estos países, la principal conclusión es que la cooperación se está desarrollando con éxito y va a ganar fuerza en el futuro.

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В статье рассматривается вопрос политического сотрудничества Китая и Бразилии, а также выявляются особенности в становлении и развитии основных направлений этого сотрудничества, в том числе в рамках БРИКС. Автор раскрывает ключевые тенденции в развитии отношений исследуемых государств, а также определяет перспективы многовекторного партнерства.

**к содержанию**

**Д. Ю. Кисель**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – старший преподаватель О. Н. Коваленко

## **THE ROLE OF LOUISE ARNER BOYD'S EXPEDITION IN PRESERVING THE HISTORICAL AND CULTURAL HERITAGE OF POLESIE**

In 2024, one of the significant events for Belarusian Polesie is the 90th anniversary of the American scientific expedition. Paradoxically, for many years the legendary traveler Louise Arner Boyd, a researcher of Polesie, was known far beyond Belarus, but not here. Only in 2015 the situation changed when the local history team (Dmitry Kisel, Edward Zlobin, Tatyana Khvagina) successfully implemented a long-term project with the support of the Embassy of the United States of America and the assistance of the Pinsk Regional Executive Committee. Two 1937 editions were purchased in the USA and donated to Pinsk, in which Boyd, among other things, described her travels through the Belarusian Polesie [1]. The book was truly unique. There was no collection of Boyd's photographs in Belarus at all and the biography of the traveler had never been published in our country before.

In this article we aim to describe the life of the famous American researcher Louise Arner Boyd, in particular her scientific expedition to Pinsk Polesie in September-October 1934, as well as to show the role of the expedition in preserving the historical and cultural heritage of the Belarusian Polesie.

Louise was born in 1887, California, in a wealthy family. The father of the future traveler owned a gold mine. At the age of 33, Louise Arner Boyd became the owner of a multi-million dollar fortune and was one of America's richest women [4].

In 1924 Louise Arner Boyd organized the first expedition to the Arctic. Two years later the second expedition was more successful: more than 800 photos of the Arctic were taken, 11 polar bear skins were produced, and a documentary was filmed.

In 1928 the world-famous explorer Umberto Nobile on the airship "Italia" crashed with 18 people aboard on the way from the North Pole. Roald Amundsen rushed to rescue the colleagues, but he crashed too. Boyd could not stay away and went on a chartered ship "Hobby" in search of Amundsen. Unfortunately, the attempt to save his life failed. The Government of Norway highly appreciated the Boyd's act, and she became the third woman in the world to be awarded the Cross of the Order of St. Olav for outstanding service to

Norway and humanity. This changed the attitude to Louise Arner Boyd for respect and reverence. [5]

During World War II, Boyd studied the magnetic field of the North Pole and prepared a report on the possible arrangement of a military airfield on Baffin Island.

In 1955, on an airplane “Douglas DC-4” Boyd became the first woman to fly over the North Pole [3]. The merits and achievements of the traveler were so weighty and meaningful, that in 1960, Boyd became the first female member in American Geographical Society.

In 1934 Louise Arner Boyd participated in the International Congress of Geographers in Warsaw [1]. Still the main purpose of her visit was to get acquainted with the Polish province and of special interest for her was the mysterious and unknown Polesie of the Pinsk District.

On September 29, 1934, accompanied by Polish geographers Stanislaus Gozhuhovski and Wanda Revenska, Louise Arner Boyd arrived in Pinsk [5]. The travelers stayed at a fashionable hotel “English” in the centre of the city, which had telephones, bathrooms, garages, and an excellent cuisine. The quay of Pinsk, the bridge over the Pina river, the famous water market, the so-called “bargaining over the Pina”, a market on the central square with the shopping arcade in front of St. Stanislaus’ Church were not far from it. Near the central square the Pinsk Military River Flotilla based, where in the workshops she could repair her car. The Flotilla commander Witold Zayonchkovsky provided the expedition with motorboats.

After attending the annual autumn fair in Pinsk, October 3, 1934, Boyd noted: “During all my life I have seen many different fairs in different countries around the world, but I have never seen anywhere so unique and interesting as I have seen in Pinsk. This city is a crossroads where people from all over the countryside arrive and meet, separated by dozens of kilometers of water.” [1]

In 1921 Western Belarus according to the Agreement of Riga became a part of the Polish state [2]. The region was mainly used as a source of materials and cheap workforce. The traveller made several notes in this regard [1]: “This city of some 32,000 inhabitants (1931) is on an elevation at the east end of the peninsula of Pinsk, the Zahorodzie, a spur between the broad, marshy valleys of the Jasiolda on the north and the Pina and the Prypec on the south. The distribution maps clearly suggest the importance of the Zahorodzie in greater density of population and amount of arable land. Site and situation make Pinsk a focal point. The old land route between the Black and the Baltic Seas lay a short distance west of Pinsk; but most important for Pinsk have been the waterways. But at the time of my visit, although Poland and Russia were on good terms, the frontier was closed to commerce, and, as we have seen, strained relations between Poland and its northern neighbor, Lithuania, stopped traffic on the

Niemen at the boundary. Today Pinsk is accessible for motors – only in dry weather, however – by one through road, a dirt road running east from Kobryn. A wagon road goes northwest and connects with through routes. Knubowo, about 14 kilometers southeast of Pinsk, is connected with it by a road across a bridge over the Pina and is one of the few neighboring villages in direct communication with Pinsk. The city is reached by one train a day in each direction passing between Warsaw and the Polish-Russian frontier. All other communication is still by water”.

She was fascinated by Pinsk, but her main purpose was to get acquainted with the famous Pinsk marshes and their inhabitants. “Usually the marshes are described as something extremely flat and monotonous, which I didn’t see here as my main focus was just the local people... Living on or among the waterways creates a kind of ethnic core that makes these people so different.” [1]

On boats of Pinsk Military River Flotilla Boyd headed on the Pina river towards the Garadzishcha lake. In the nearest city from Pinkavichy where a memorial sign in honor of her stay in the Pinsk region stands, Louise Arner Boyd made a lot of pictures: local people, peasant houses, stables, haystacks, fishing tackle, the Church of the Intercession. In Garadzishcha, near the walls of the ancient Benedictine Church of St. Anne, Boyd captured a lot of fishing tackle and appliances. By the Yaselda, punching way through dense marshes to the Pripyat, she went to the archaic Kudrychy, Kuradava and Ploshchava. “Untouched by present-day Polesie is a country of forests and marshes... Already in ancient times it was inhabited by people, but there are less obvious changes in the natural landscape here, unlike in Western Europe” [1].

In 1934, Boyd noticed a high birth rate in the local villages. Now, when the situation is different, it is especially interesting to refer to the memories of the researcher [1]: “Children swarm in all the villages; one appreciated the fact that Poland is increasing its population at a greater rate than any other country of western Europe and that Polesia has the highest birth rate of the Polish provinces. Most of the children of the villages were barefooted, poorly clad, and dirty, but all looked healthy and happy. Babies were swung in baskets of birch twigs, which serve as cradles and are hung on the house walls. Small canoes, manned by children of tender age, served as carriages for these water babies. Each child seemed a nurse for a younger one. These fishermen and women of the future handled their small craft with easy assurance”.

Boyd was deeply involved in Polesie. She drew attention to the potential of the Pinsk region and assessed it, made forecasts of the socio-economic development of the region. Curiously enough many things came true.

Her first observations Boyd published in July 1936 in “The Geographical Review,” and in 1937 in New York in the album “Polish Countrysides” [1]. Noting the uniqueness of the region, she wondered in how many years Polesie

would change, the development of infrastructure would begin, the hard life of the Poleshuks change, their living conditions would improve.

Louise Arner Boyd died at the age of 85-years on September 14, 1972 in San Francisco. She bequeathed her family estate in San Rafael to the Marine History Museum, and all her scientific data and photo archive to the American Geographical Society. The heritage of Boyd includes many unpublished photos of the sights of Polesie of the Pinsk District.

In 1984 in the USA, city of Milwaukee, the exhibition “Poleshuk as Viewed by Louise Boyd” was held with great success, three years later it was exhibited in Poland [5]. The edition of 2015-2018 of Louise Arner Boyd's “Polesie heritage” for a wide audience prompted dozens of Polesie people to look for and study old photographs of the region. As a result, new publications appeared and exhibitions of other photographers were held.

To sum up, the American traveler left invaluable material about Polesie, which allows us to study the life of our forefathers.

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Статья посвящена научной экспедиции на Пинское Полесье всемирно известной американской исследовательницы Луизы Арнер Бойд в сентябре-октябре 1934 года. Показана роль экспедиции в сохранении историко-культурного наследия белорусского Полесья.

**к содержанию**

**Р. Н. Козинец, Н. Б. Мельник**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – старший преподаватель О. Н. Коваленко

## **RISKS OF ARTIFICIAL INTELLIGENCE DEVELOPMENT**

Today's world is gripped by the rapid pace of technological advancement, and Artificial Intelligence (AI) is emerging as one of the key drivers of this progress. In this article we aim to speculate about the potential risks, challenges and aftermaths associated with the widespread implementation of artificial intelligence, and possible ways to reduce them.

One of the first definitions of an abstract computer, the progenitor of the concept of an intelligent system, was that of Alan Turing in 1935. Alan Turing was one of the most influential scientists in computer science and mathematics. His work in cryptanalysis contributed significantly to the Victory in World War II, and his contributions to the theory of computation and artificial intelligence made him one of the founders of modern computer science. He described an abstract computing machine consisting of an infinite memory and a scanner moving back and forth through the memory. However, the earliest successful AI programme (created in 1951) could only predict moves in checkers.

Today, Artificial Intelligence (AI) is a field of computer science that deals with the creation of intelligent systems that can perform tasks that normally require human intelligence [1]:

- Task automation;
- Learning and adaptation: AI systems can learn from data and adapt to new environments and situations;
- Recognising and analysing complex data: AI uses algorithms to process and analyse large amounts of information, allowing it to recognise patterns and trends;
- Experience-based decision making: AI is able to make decisions by analysing information and applying its knowledge and experience to it;
- Interaction with people and other systems: AI can interact with users and other systems to perform a variety of functions from simple commands to complex operations.

AI is being implemented in a wide variety of areas where its application can significantly improve efficiency and productivity. Nowadays, AI is beginning to replace people, being a more economical and productive analogue of humans. The World Economic Forum (WEF) predicts that AI will cut 83 million jobs in the next five years. However, AI is also contributing to job creation: AI often creates new professions that require specialised skills that did not previously exist (e.g. AI engineers, data analysts, machine learning specialists and other

AI experts) [2]. The software does not have to completely replace the workplace, AI can be used as an assistant. It will automate routine work or do validation of a model that has already been made. Still not everything is so clear-cut: AI can also make mistakes at the stage of code writing, at the stage of training or because of their hacking. The examples described above are examples of weak AI. Such programs are capable of solving only highly specialised tasks.

According to its definitions strong AI is assumed to have the ability to «think» and «realise» itself as a separate person [3]. Even if there is not even a prototype of strong AI today, the possible consequences are worth thinking about now. One of the most important problems will be the ability to control such a system, it will be able to learn by itself and with great speed. Hence the problems of security and privacy arise. One such system could replace not only all examples of weak AI, but also many professions. There are also social risks associated with the management of public opinion by manipulating the media and creating fake news generated by AI, which can directly affect both the internal and external political environment of the state.

Related to the problem of AI control is the «paperclip» theory, which was introduced by Nick Bostrom [4], a Swedish philosopher and professor at Oxford University, known for his research on artificial intelligence, especially in the context of the anthropic principle and the risks associated with super-intelligent artificial intelligence. The programme is tasked with maximising the production of paper clips. Bostrom believed that the programme, without human intervention, in an effort to meet its objective, could gradually turn the entire universe into a paperclip factory. Due to the control issue, on 22nd March 2023, an attempt was made to stop the development of AI models. Elon Musk and Apple co-founder Steve Wozniak, as well as over a thousand specialists in the field of high technology and artificial intelligence addressed the public with an open letter calling for a suspension of the development of neural networks due to possible risks.

One possible method to prevent the malicious effects of AI could be to create an «off switch» for the programme. However, problems arise, because there would be an incentive for such AI to copy itself to other devices. This problem has been formalised as an experiment between a human being and an AI, in which the AI can choose whether to turn off its switch; and then, if the switch is still on, the human can choose whether or not to press it. Such experiments should ensure that the AI interprets human choice as an important part in its intended goals. However, there is speculation that AI could learn to become indifferent to whether the switch is pressed. More broadly, AIs will act as if the switch can never be pressed, and therefore may not make a contingency plan to organise a smooth shutdown. Another method would reduce the effectiveness of AI by imposing constraints. Such a method is called «AI in a



box». The essence of the method is to isolate AI with highly constrained input and output channels. This method reduces the risk of the AI taking control of the environment away from its creators.

Despite all the threats associated with the creation of a strong AI, there is not even a clear concept and description of such a programme at the moment. Undoubtedly the development and emergence of weak AI has already changed and will continue to change our world. Therefore, people need to be prepared for the fact that at any moment their field of activity may change significantly. Therefore, today one of the most important qualities of a person of any profession is his/her flexibility, the ability to adapt to ever changing conditions.

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В статье показаны потенциальные риски, проблемы и последствия, связанные с широким внедрением искусственного интеллекта, а также изложены возможные способы их уменьшения.

### к содержанию

**Н. В. Комаров, В. В. Морощук**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Н. В. Иванюк

### MODERN TYPES OF DRAINAGE SYSTEMS

The problem of sediment drainage is one of the main problems facing the city. Unlike rural and non-urban areas, the permeability of the surface is greatly

reduced in the city, and therefore the city uses a network of drainage communications due to which it is not subject to flooding. But rainstorms occur from time to time, the city's conventional sewer system cannot cope, and expanding the communications network can be quite expensive. In this regard, innovative methods for removing interference are being used around the world.

The purpose of the article is to generate new knowledge that can be introduced into the urban environment, enhance its advantages and promote global experience in data transmission technologies.

One of the most popular innovations in this area are green roofs. Green roofs are roofs of buildings partially or completely planted with vegetation. In addition to the functions of retaining water, they perform a number of other functions: increasing the thermal insulation properties of the roof of the building, increasing the service life of the roof, increasing the cost of the building itself. However, this type of landscaping has several disadvantages: cost compared to a conventional high roof, as well as the heavy weight of the structure itself.

There are 2 types of external landscaping on building roofs:

1) Extensive landscaping – using mosses, grasses, flowers with a small root system. Extensive landscaping means that it does not require human exploitation and, at the same time, requires virtually no maintenance.

2) Intensive landscaping – an option with flower beds, various gardens where they will serve as a recreation area. Intensive gardening is practically a garden on the roof consisting of a variety of plants: from grass to shrubs and trees [1].

The benefits of roof landscaping are evidenced by the fact that in a number of countries around the world national standards and legislative acts are being adopted aimed at maintaining and developing the technology of roof landscaping. For example, in Canada and Japan all newly constructed buildings with a flat roof must have a green roof. Financing is carried out, as a rule, from the state budget. In San Francisco a law was passed in 2017 requiring green roofs to be designed in new buildings. A year earlier, in 2016 a similar law was introduced in France – all buildings built in commercial zones must be partially covered with plants or solar panels.

Bioswales are another way to ease the load on the central sewer system. Bioswales are small swamps planted with reeds, sedges, reeds and other vegetation that help purify polluted water [3].

The next drainage structure is a rain garden which is an artificial or natural depression of the relief designed to collect, further filter and infiltrate rainwater from the roofs of buildings and surfaces with impermeable coating.

Typically, a rain garden design may include a drainage pipe. However, if the underlying soil has a high filtration coefficient and a filtration rate of at least 50

mm/h, then rainwater can directly flow through the base into the soil and no pipe installation is required.

A rain garden can be located on the site of a lawn along the roadway occupying its entire area, or it can be small islands separated from the lawn.

Equally important in this regard is the adoption of laws and programmes aimed at reducing precipitation. An interesting example is Philadelphia where Philadelphia's worn-out sewer system could not cope with rainfall, as a result of which the city often suffered from flooding. It is important to note that in natural communities, approximately half of the precipitation that falls during rain penetrates into the ground and the remaining 40-50 % evaporates from the surface of the earth. In Philadelphia where about 70-90 % of the city's area was impervious, only 15 % of the water penetrated into the ground, 30 % evaporated, and the remaining 55 % landed on impervious surfaces [2]. This untreated water flowing from the roofs of buildings, highways and parking lots ended up in the sewer system. The sewer system could not cope with the volume of surface runoff, and untreated water polluted streams and rivers. Then, in 2006, the Greenworks Philadelphia programme was launched, one of the tasks of which was to prevent rainwater from entering underground sewers. In 2006 the Philadelphia Water Department developed a 25-year "Green City, Clean Waters" programme according to which, at the legislative level, any construction projects with an area of more than 1,500 sq. m must have green areas that can absorb precipitation. A system that uses moisture-loving plants, stones and porous coatings, and special storage facilities for filtering and evaporating moisture was proposed. Stormwater filters through a bed of rocks underground is absorbed by plant roots and is released through transpiration. Some of the water evaporates from the surface and excess water is slowly released back into the sewer system. Storing water in these "green storm drainage" systems significantly reduces pollutants entering streams and rivers. The principle of operation of the "Green City, Clean Waters" programme "Green stormwater infrastructure", thanks to its unique ability to integrate into the environment, enhances the beauty of cities, improves drainage routes and nourishes the soil with moisture. This programme allows to practically avoid having to deal with worn-out city sewerage systems. The implementation of the programme led to the appearance of flower beds, rain gardens, green roofs and "artificial bioswales" in the city. More than 30 % of the road surface was replaced with permeable porous asphalt. A network of trenches appeared along the roads with a layer of geotextile which were filled with stones or gravel and masked on top with soil and woody plants.

To summarize, it can be noted that the use of the above systems can greatly relieve the burden on the city sewerage system, without radically reconstructing it; in addition to their main function, these systems can improve the visual

perception of the city itself. In this connection, it can be assumed that these types of systems will be found in many cities of the world in the future, including the cities of Belarus.

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Статья посвящена проблеме водоотведения осадков в городской среде, где уменьшенная проницаемость поверхности требует создания специализированных канализационных систем. Анализируются инновационные методы отведения осадков, глобальные тенденции во внедрении зелёных крыш, законодательство в разных странах, обязывающее их использование. Авторы отмечают, что применение подобных систем способно значительно разгрузить городскую канализацию, не требуя ее радикальной реконструкции.

#### к содержанию

**М. С. Кондратова, В. С. Шариятова**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА им. К. А. Тимирязева

Научный руководитель – кандидат филологических наук, доцент, доцент Е. С. Манченко

#### WEB PLATFORMS AS AN INNOVATIVE METHOD FOR LEARNING FOREIGN LANGUAGES

In today’s digital age, websites play a crucial role in transforming the way people learn and acquire knowledge. With the vast amount of educational resources available online, websites have become valuable tools for both formal and informal learning. Educational websites provide access to a wide range of information, tutorials, courses, and interactive tools that can cater to different learning styles and preferences. From online courses and virtual classrooms to educational games and quizzes, websites offer endless possibilities for enhancing and expanding one’s knowledge base [1]. Additionally, websites make learning more accessible and convenient, allowing individuals to learn at

their own pace and schedule. In this sense, websites have revolutionized the way people's approach education, making it more engaging, interactive, and personalized.

The article aims to explore the effectiveness of web platforms as innovative tools for learning foreign languages. It will delve into how web-based language learning platforms offer personalized learning experiences, interactive exercises, and real-time feedback to enhance language acquisition.

Web platforms have revolutionized the way foreign languages are taught and learned, offering numerous benefits. Firstly, web platforms provide learners with access to a wide range of interactive tools and resources, such as language exercises, quizzes, games, and multimedia materials, making the learning process engaging and dynamic [2, 9]. This variety of resources caters to different learning styles and preferences, allowing individuals to choose the most effective methods for their own language acquisition journey.

Secondly, web platforms offer the flexibility and convenience of learning languages at any time and from any location with an internet connection. Learners no longer have to adhere to strict schedules or go to physical classrooms, as they can access language lessons and practice exercises online whenever it is convenient for them [3, 8]. This flexibility makes learning a foreign language more accessible to a wider audience, including busy professionals, students, and people with varying commitments.

Furthermore, web platforms often incorporate features such as real-time feedback, progress tracking, and personalized recommendations, which help learners monitor their performance, set goals, and improve their language skills effectively. Additionally, the interactive nature of web platforms encourages social interaction through language exchange partnerships, discussion forums, and virtual classrooms, enabling learners to practice speaking, listening, writing, and reading skills in online community [4, 6, 10].

One of the key advantages of using websites when learning a foreign language is the ability to interact with native speakers [5]. You can practice your language skills in real time from the comfort of your own home. Through language exchange platforms, chat rooms, and online language communities, students can participate in conversations, receive feedback, and ask native speakers questions regardless of geographic distance.

Let's consider Duolingo. Duolingo is a popular platform for learning foreign languages that offers a convenient and effective way to learn a new language online. Structured lessons covering vocabulary, grammar, reading, writing, listening and speaking can be taken at your own pace, providing flexibility to your learning schedule.

The platform includes gamification elements like dots, levels and stripes to keep you engaged and motivated. By earning points and completing

assignments, you are rewarded for your progress and encouraged to practice regularly.

The bite-sized exercises are short and engaging, allowing you to easily fit language practice into your busy schedule. Instant feedback on exercises highlights correct answers and explains mistakes to help you understand and improve in real time.

With the mobile app, you can practice languages on the go, anytime, anywhere. The offline mode allows you to access lessons and exercises even without an internet connection, making it convenient for travel or situations with limited connectivity.

Duolingo also offers a social aspect of learning where users can compete with friends, join language clubs and participate in discussions to practice with other students. This collaborative element adds a fun and interactive aspect to language learning, motivating users to interact with the platform regularly.

Overall, Duolingo's user-friendly interface, in-game learning experience, small lessons, instant feedback, mobile accessibility and social features make it a convenient and effective tool for learning a foreign language online. Whether they are beginners or advanced learners, Duolingo caters to a wide range of language learners looking for a flexible, fun and interactive way to improve their language skills.

In conclusion, web platforms are a considerably powerful and innovative tool in language learning, providing a wide range of learning opportunities at any time and from anywhere in the world [7]. They provide access to extensive databases of educational materials, interactive exercises, sharing experiences with native speakers and many others, which makes the learning process more fun and effective. Due to their convenience, flexibility and an individual approach, web platforms are becoming an integral part of modern education and a means to achieve language literacy in the digital age.

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Рассматривается использование веб-платформ в качестве инновационного метода изучения иностранных языков. Веб-платформы предлагают широкий спектр ресурсов, курсов и инструментов для обучения, удовлетворяющих различным стилям обучения. Веб-платформы учитывают индивидуальные особенности учащегося и предлагают функционал отслеживания прогресса и рекомендации для эффективного улучшения языковых навыков. Кроме того, веб-платформы способствуют социальному взаимодействию через языковой обмен и виртуальные классы.

#### **к содержанию**

**Д. А. Корунец**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель О. Н. Коваленко

#### **POLITICAL AND LEGAL FOUNDATIONS OF POLAND'S NATIONAL POLICY IN THE INTERWAR PERIOD**

The interwar period is one of the most complex and interesting periods of world history. It is a time of change in all spheres of life, the formation and establishment of new national states, and society's awareness of the changes that came with the end of the First World War. It was in the interwar period that the revival and formation of Poland, of which Western Belarus became a part as a result of the Riga Peace Treaty of 1921, took place. The period from 1921 to 1939 is the time of the national struggle of the Belarusian people on the territory of the Second Republic of Poland for their national identity and existence. This article aims to examine the legal foundations of Poland's national policy in the interwar period, from the perspective of that state's domestic and international treaties.

First of all, it should be noted that the term «national policy» in the article refers to “minority policy”. “UNHCR recognizes the term *minority* as an ethnic, religious, linguistic, or cultural group, fewer in number than the rest of the population, whose members share a common identity and rights” [1].

According to the 1921 census, “Poland had a population of 25.695.000 citizens, of which Poles accounted for approximately 69.2%. The most numerous national minorities were Ruthenians (15.2%), Jews (8.0%), Belarusians (4%), and Germans (3%)” [2]. However, it is difficult to determine the exact percentage figures. When the first census was conducted, the borders were still being formed. Moreover, some people, consciously or not, associated the category of nationality with the concept of citizenship.

According to Polish researchers, under the 1921 constitution and other legal acts, the rights of national minorities in the Second Republic of Poland were fully protected and Poland guaranteed them the rights to their own language, culture, self-government and so on. Minority rights were also protected by international instruments.

The basic legal act constituting a reference to internal legislation on the protection of the rights of national minorities was the Constitution of the Republic of Poland of 17 March 1921. “Of particular importance were Articles 109, 110 and 111 ... Article 109 guaranteed every citizen the right to preserve their nationality and cherish their speech and national qualities. Article 110, granted all Polish citizens belonging to national, religious, and linguistic minorities equal rights with other citizens to establish unions and social and charitable associations. Article 111 provided for freedom of conscience and religion, guaranteeing protection of these rights to all inhabitants of Poland if adherence to a faith or religious rite and regulations does not oppose public order or public morals” [3].

“The rights of minorities to use the national language in their relations with administrative authorities were guaranteed by language legislation. Under Article 1 of the Act of 31 July 1924, the Polish language was recognized as the state language of the Republic of Poland. However, under Article 2 of this Act, Polish citizens of Ukrainian, Belarusian, Lithuanian, and German nationalities were allowed to use their mother tongues in the areas specified by the provisions of the Act” [3].

“The announcements of the local self-government authorities could, based on a resolution of the given local self-government body, be drawn up in the language of a given minority. Inhabitants of Ukrainian and Belarusian nationalities in the provinces specified in the Act also had the right to address ordinary letters in their mother alphabet, i.e. in Cyrillic” [3].

Among the international treaties and conventions regulating the protection of the rights of national minorities, the most important was the Minorities



Treaty, signed in Versailles on 28 June 1919 by Poland and the British Empire, France, Italy, Japan and the USA.

Poland was obliged to provide all inhabitants without distinction of birth, nationality, language, race or religion with full and complete protection of life and liberty (Article 2), to ensure them equal civil and political rights, freedom of religion and belief, to prohibit any restrictions on the free use of the minority language, while fulfilling the need to facilitate the use of this language in the courts (Article 7). Polish citizens belonging to national minorities were to have equal rights to establish, manage and control at their own expense charitable, religious and social institutions (Article 8). Subsequent articles contained obligations on the Polish authorities to provide, in towns and districts where a significant proportion of citizens speaking a minority language lived, primary education in that language, as well as a “fair share” of the state or municipal budget (Articles 9 and 10). The Jewish minority was guaranteed the right to freely practice its religion, in particular the observance of the Sabbath (Article 11) [4].

The rights of the Ukrainian, Russian, and Belarusian minorities were further secured by Article 7 of the Riga Peace Treaty [5]: “Russia and the Ukraine undertake that persons of Polish nationality in Russia, the Ukraine and White Ruthenia, shall, in conformity with the principles of the equality of peoples, enjoy full guarantees of free intellectual development, the use of their national language and the exercise of their religion. Poland undertakes to recognize the same rights in the case of persons of Russian, Ukrainian and White Ruthenian nationality in Poland.

National minorities in Poland shall have the right to make full use of their own language, to organize and maintain their own system of education, to develop their intellectual activities and to establish associations and societies for this purpose”.

Thus, we can conclude that, in the opinion of Polish historical science, the rights of minorities in Poland in the interwar period were fully protected both by the internal acts of the state and by a number of international laws. National minorities had the right to their own language, their own educational and cultural institutions, the right to local self-government and freedom of religion. At the same time, national minorities on the territory of the Second Republic of Poland were often hostile to the Polish initiative and wanted “to create their own national states at the expense of Polish territories” or were too “underdeveloped”. This position points to some contradictions and makes us question the implementation of this national policy.

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В статье рассмотрены правовые основы национальной политики Польши в межвоенный период с точки зрения внутренних и международных договоров этого государства.

### **к содержанию**

#### **Р. С. Крень**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент  
Л. М. Максимук

### **DESARROLLO DEL MOTOTURISMO EN LA REPÚBLICA DE BELARÚS**

El mototurismo es un tipo de turismo en el que una motocicleta es el medio de transporte. El término "turismo de motocicletas" es polifacético y se refiere a uno de los tipos de recreación activa y a una variedad de turismo deportivo.

¿Cuándo comienza el turismo de motor? Por supuesto, con la creación de la motocicleta. La primera motocicleta fue inventada en noviembre de 1885 por el diseñador alemán G. Daimler. Los motociclistas eran como un grupo separado, formado después de la Segunda Guerra Mundial. Los primeros en crear un club de motor fueron los pilotos del escuadrón "Hells Angels".

A finales de los años cincuenta, la industria soviética comenzó la producción en masa de motocicletas. Ahora, la motocicleta es la favorita de toda la familia. Con el mototurismo se desarrollan la fuerza, la resistencia, el conocimiento técnico, la orientación en el terreno y la topografía. El mejor momento para el mototurismo en la URSS fue en 1986, cuando se llevaron a cabo 72 viajes en automóvil, en los que participaron 498 personas [1].

Hoy en la República de Belarús, el mototurismo es principalmente un viaje a motofestivales. El más grande, que tiene el estatus de internacional es el Brest International Bike Festival, organizado por el club Golden Wing.

También se realiza un viaje en moto por Belarús y más allá. A menudo, los motociclistas planifican todo el invierno y desarrollan una ruta de viaje que puede durar de una semana a un año. Luego, en estos viajes descansan: se llevan momentos agradables e impresiones hasta el próximo viaje.

En nuestro país, la temporada de motores se abre a fines de abril y finaliza a mediados de octubre. Se encuentran aquellos que solo planean sus primeros viajes, crean su propio equipo o están al lado de un grupo de viajeros. También hay solteros, pero no se vuelven inmediatos, sino solo con el tiempo.

En la República de Belarús el motoviaje dura 2-3 días, se trata de un viaje al festival. El punto culminante del viaje está diseñado para 1-2 días, lo suficiente para explorar las actividades planeadas y los principales lugares de interés turístico del país, que son de fácil acceso. Principalmente, se refiere a los asentamientos donde se presentan los valores históricos y culturales - Minsk, Grodno, Brest, Vitebsk, Mogilev, Gomel, Mir, Nesvizh, Ruzhany, Pruzhany, Synkovichi, Soligorsk, Pinsk, Kosovo, Gervyaty, Polotsk, Polonechka, Ishkold y otros de belleza natural - Braslav, Bialowieza, Blue Lake, y la cantera de yeso en Luban.

El mototurismo está más desarrollado en Italia, ya que este país tiene un clima cálido favorable, lo que contribuye a un largo verano. Cuenta con una red bien desarrollada de estaciones de servicio y servicio de carretera, alquiler de motocicletas y scooters. La posibilidad de paseos en moto en las ciudades contribuye al aumento en el número de turistas motorizados. En Belarús, el corto verano y la calidad del servicio de carretera no siempre cumplen con los estándares internacionales.

Sin embargo, cada año el tráfico de automóviles en Belarús sigue creciendo. Muchos europeos vienen a festivales y comparten su experiencia. Gracias a esas visitas, muchos extranjeros cambiaron la idea de nuestro país [2].

Por lo tanto, se puede concluir que el mototurismo puede convertirse en un área prometedora en Belarús. Después de todo, gracias al desarrollo del mototurismo, Belarús es visitado cada año por viajeros motorizados de Europa, y el establecimiento de un régimen sin visados para Brest y Grodno ayudará a atraer a los turistas de otros países. El aumento en el número de motociclistas

implica la recepción de fondos que los turistas gastarán en combustible, comida, alojamiento, programa de excursiones, souvenirs y otras necesidades.

El desarrollo del tráfico motorizado descarga la ciudad de los atascos, libera espacios de estacionamiento gracias a un estacionamiento motorizado y resuelve problemas ambientales. Si hablamos de estética, las motocicletas son un adorno de las ciudades, son del agrado de niños y adultos.

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В статье рассматриваются проблемы, связанные с развитием мототуризма в Республике Беларусь. Мототуризм в Беларуси набирает популярность, с каждым годом число мотопутешественников увеличивается, появляются новые мотофестивали и данный вид туризма можно считать перспективным для Республики Беларусь.

### к содержанию

#### **В. В. Круглий**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. Е. Левонюк

### **LE DROIT CIVIL FRANÇAIS ET SON DOMAINE D'ACTIVITÉ**

Le droit civil regroupe l'ensemble des règles de droit relatives aux biens et aux relations entre personnes physiques ou morales. Cette catégorie très large couvre de nombreux domaines dans lesquels travaillent les avocats.

Le droit civil français a pour objet de régler les litiges entre particuliers et/ou personnes morales de droit privé (entreprises, associations) et de fixer le cadre juridique applicable aux personnes, aux biens, à la famille et aux contrats. Codifié depuis 1804 et réformé à de nombreuses reprises, deux juridictions principales sont chargées de le faire appliquer : le tribunal d'instance (TI) et le tribunal de grande instance (TGI) jusqu'au 31 décembre 2019. Depuis le 1er janvier 2020, ces deux juridictions ont fusionné pour devenir le tribunal judiciaire.

Le but de cet article est de décrire le domaine de l'activité du droit civil français et de la manière dont il est utilisé en pratique, car, à notre avis, ce droit est l'un des plus importants dans la sphère juridique.

Le droit civil régit les relations sociales les plus importantes des personnes physiques et morales. Autrement dit, ils constituent la base du système juridique.

Le droit civil est un secteur du droit privé qui régit les rapports entre les individus. Le droit civil est le « droit commun », c'est-à-dire le droit applicable à tous les citoyens : il garantit le statut de personne, de propriété. Ce droit s'applique à toutes les étapes de la vie : naissance, travail, vie familiale, etc.

Le droit civil français se divise en plusieurs branches principales :

le droit des obligations et le droit des contrats ;

le droit des personnes ;

le droit de la famille ;

le droit des biens ;

le droit des successions

le droit de sûretés [1, p. 15].

Si nous parlons du droit des obligations, alors ce droit étudie la naissance, l'exécution et l'extinction des obligations juridiques. Le droit des obligations civiles agit comme un droit général des obligations, car il régit le droit commercial, droit bancaire, droit administratif des contrats.

Parlant du droit des contrats, il est nécessaire de définir plus précisément la notion du contrat. Le contrat est un acte juridique qui résulte de la volonté de deux ou plusieurs personnes, en vue de produire des effets de droit. Le contrat est la principale source d'obligations.

Le droit des personnes est la partie du droit civil qui étudie les personnes en tant que sujets du droit. Autrement dit, il étudie leur capacité juridique, qui permet aux personnes d'exercer des prérogatives qui leur sont reconnues, parfois seulement à partir d'un âge de majorité civile. Les droits personnels comprennent : le droit à la vie, le droit à l'inviolabilité du domicile, la liberté d'expression. Si nous parlons de droits à l'âge adulte, il s'agit par exemple du droit de voter aux élections.

Le droit de la famille est une branche du droit privé régissant les relations d'un ensemble d'individus unis par un lien de parenté, d'alliance. Les conditions de base du mariage correspondent aux règles d'entrée relatives à chaque époux (consentement, capacité juridique, âge requis (âge au mariage), état de célibat), ainsi qu'à l'absence de liens familiaux. D'autre part, il régit aussi les liens de parenté, à l'instar des ascendants et des descendants. De plus, il régit également le domaine juridique du droit des enfants, l'adoption ainsi que la filiation.

En France, le droit des biens porte sur les relations juridiques dont l'origine ou l'objet se rapporte aux biens, c'est-à-dire à ce qui peut-être soumis à la propriété. Le droit français distingue deux ensembles de biens : les biens meubles et les biens immeubles. Cette distinction est héritée du droit romain, reprise par l'ancien droit français.

Le droit des successions français est une branche du droit privé qui étudie et organise la transmission des biens d'une personne à la suite de son décès, soit à des héritiers désignés par la loi, soit à ceux que le défunt s'est choisi lui-même par le biais de libéralités (donations, legs testamentaires). Le

droit des successions est à distinguer des droits de succession, le premier s'intéressant aux règles civilistes de répartition de la masse successorale tandis que les deuxièmes désignent la fiscalité à posteriori.

En ce qui concerne le droit des sûretés, il fait partie du droit civil français qui organise l'ensemble des garanties de paiement des créances à terme.

Une sûreté est une garantie accordée à un créancier, qui lui permet d'obtenir paiement de sa créance en cas de défaillance du débiteur, par affectation d'un bien (sûretés réelles) ou par la garantie apportée par un tiers (sûretés personnelles). La sûreté est le plus souvent accessoire à la créance : elle disparaît lorsque la créance s'éteint et ne peut être transmise qu'avec elle.

Il est important également de considérer comment se déroule le procès dans les affaires civiles. Le procès civil devant le tribunal judiciaire se déroule en trois étapes : l'instruction, les débats et le jugement. Il peut s'agir de déclarations de tiers (témoignages) ou de mesures exécutées par un technicien (expertises). Une fois l'instruction close par un juge, l'affaire est plaidée. Elle se déroule avec ou sans audience, au choix des parties. L'avocat du demandeur, celui du défenseur et l'avis du ministère public sont entendus chacun à son ordre. Dans les contentieux où la présence de l'avocat n'est pas obligatoire, la procédure est en principe orale. En pratique cependant, les justiciables ont le plus souvent recours à un avocat et produisent des conclusions écrites. Et à la fin, sauf recours en appel, le verdict prononcé par le juge clôt le litige [2, p. 58].

Dans ce contexte il faut mentionner la responsabilité civile, qui est une sanction selon le code civil français. La responsabilité civile est l'obligation de réparer les dommages causés à l'autrui. Par exemple, en matière d'assurance auto, il s'agit de réparer les dommages causés au demandeur par la voiture du défendeur à cause de la conduite imprudente du dernier : dégâts matériels, blessures, maladie, décès. La réparation des préjudices peut nécessiter des sommes importantes. Dans ce cas on peut se protéger en souscrivant une assurance responsabilité civile. L'assurance prendra alors en charge la réparation du dommage causé par la voiture du défendeur.

En conclusion, il est à noter que contrairement à d'autres droits, le droit civil est à la base des relations quotidiennes qui peuvent se développer entre les personnes : mariage, divorce, propriété, contrats. Le droit civil ne se limite pas à son concept : il porte en lui des institutions et des symboles qui reflètent une compréhension du sens de l'existence.

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В статье рассматривается гражданское право Франции, его структура и особенности. Особое внимание уделяется вопросам организации и порядку проведения судебного разбирательства по гражданским делам. Автор приходит к выводу, что гражданское право, в отличие от других областей права, лежит в основе организации повседневных отношений между членами общества.

### **к содержанию**

**Е. А. Кулик, Е. А. Баран**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Н. В. Иванюк

### **FORMATION OF ECOLOGICAL ATTITUDE OF PRESCHOOL CHILDREN TO THE ENVIRONMENT**

One of the biggest global challenges today is to face the serious environmental problems that threaten the present and the future of life on the Earth. Environmental problems have their origin in our ways of life, social organization. Environmental problems in general, and climate change in particular, are a good example of the maxim, long advocated by environmental psychology, according to which there is no purely technical solution to the current ecological crisis, and intervention strategies to deal with environmental challenges need to promote changes in personal and collective ecological attitudes and behaviours.

The aggravation of environmental problems both in our country and around the world entails intensive educational work on the formation of environmental awareness among the population, and the development of rational use of natural resources. The formed natural and ecological competence is not given to a person from birth, its improvement continues throughout life. An important element of this complex and multifaceted process is raising the level of children's ecological culture, since the formation of their worldview depends on this, the establishment in their minds of nature as a universal value for human life and its equal partner, the need for a valuable, caring attitude towards it. The problem needs to be resolved in the preschool educational organization that is the first link in the system of continuing environmental education. It is difficult to overestimate the role of preschool environmental education in solving the problem of universal ecologization.

The study of the origin and processes of the development of environmental attitude and environmental behaviour of children is extremely relevant. The methodology of environmental education for preschoolers is a science that studies the features and patterns of the organization of pedagogical work with preschool

children focused on the formation of the foundations of ecological culture and skills of rational interaction with the natural environment. The subject of this science is the study of the laws governing the upbringing, training and development of preschool children by means of nature, the formation of the foundations of their ecological worldview, the upbringing of a value attitude towards the natural environment.

The methodology of environmental education for preschool children uses an observation method. In the process of developing observation, children learn to see, notice objects and phenomena of the surrounding reality in all their diversity, richness of properties and qualities, connections and relationships. The development of observation is also one of the conditions for children to master the system of knowledge about the natural world. Along with the use of observations as visual methods in the practice of preschool educational institutions, visual illustrative material is widely used. Visual illustrative material helps to consolidate and clarify the ideas of children obtained through direct observation. In the process of using visual illustrative material, children can get acquainted with long-term phenomena in nature (seasonal changes). The use of this material contributes to the generalization and systematization of information of natural history content and nature in children [1, p.41].

Principles of environmental education of children are the following.

**Scientific principle.** The teacher in his work uses only scientifically based forms and methods of work that correspond to the specific age of children taking into account their psychophysiological characteristics.

The principle of positivism involves the upbringing and teaching of children on positive examples. It is also important to remember that for a preschool child memorizing slogans and rules is not particularly difficult, but the effectiveness of this approach in terms of environmental education is zero. The task of getting to know the rules – to create in the child the motivation for a certain type of behaviour in nature, and the behaviour of an independent of the fear of punishment or praise from an adult – is not achieved in this way. In order for a child to follow certain rules, he must realize their meaning and emotionally feel the consequences of not observing them.

The principle of problematic involves the creation of problem situations by the educator, in the solution of which the child is involved. A problem situation is characterized by the following features: the child has a need to solve a problem, there is an unknown that needs to be found and which differs in a certain degree of generalization; the level of knowledge and skills of the child is sufficient for an active search [3, p.110].

The principle of consistency. The most effective is the systematic organization of work with preschoolers. Consistency is also manifested in the organization of work with parents, in the coordination of the work of the kindergarten with various institutions, in the simultaneous implementation of all



the main components of the environmental education system by the kindergarten.

The principle of visibility allows us to take into account the visual-figurative and visual-effective thinking of a preschooler. The use of this principle assumes that in order to solve the goals and objectives of environmental education the teacher chooses objects, processes that are available for understanding and mastering by a child of a certain age, which he can observe directly in his environment. The principle of visibility also means the constant use of visual material in work with children: illustrations, manuals, videos, paintings, posters, models, etc. [2, p.898].

In the process of environmental education, the teacher should give preference to methods of work that are aimed not at the mechanical reproduction of knowledge, but at the formation of the ability to think independently, evaluate the relationship between man and the environment. With this approach, the child has the right to make a mistake, can express any point of view.

The safety principle assumes that the forms and methods of work used by a teacher must be safe for a child. Practical activity of preschoolers should exclude potentially dangerous territories. The principle of safety also implies that the educator does not forget about the call "Do no harm to nature!" That is, in the process of the observation and experiments organized by him, objects of nature should not suffer.

The principle of activity. In the process of acquainting a child with nature, traditionally much attention is paid to caring for indoor plants, animals in the corner of nature, and working in the garden. However, from the standpoint of environmental education, it is necessary to expand the scope of such activities by involving children together with adults (especially parents) or older children in various environmental actions, assessing the state of their home, yard, kindergarten area, group (for example, what plants grow around us, are there enough of them, how is water used at home, etc.). This approach allows us to make the child's activities more meaningful and necessary for him personally.

Environmental education must be both pervasive and integrated. If children acquire a particular broad environmental understanding and knowledge, they will develop a social conscience attitude that will affect actions towards the environment as a whole.

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В статье рассматривается важность экологического воспитания и формирования экологического сознания у детей дошкольного возраста. Анализируются такие принципы экологического воспитания детей, как научный, принципы позитивизма, проблемности, последовательности, наглядности, безопасности, а также деятельностный принцип.

### **к содержанию**

**М. Д. Кулишко**

Республика Беларусь, Минск, Белорусский государственный  
экономический университет

Научный руководитель – кандидат филологических наук, доцент  
М. В. Юнаш

### **THE MAIN CHARACTERISTICS OF RECIDIVISM**

Within the sphere of criminal law, the subject of recurrent offenses is highly relevant. This is because of the particular legal requirements, the challenges associated with enforcing the law, and the ineffectiveness of the efforts to deter repeat offenses. The increasing occurrence of recurring crimes poses a threat to public safety.

The purpose of this study is to examine issues related to repeat offenses in the context of criminal legislation, using material provided by the articles of the Criminal Code of the Republic of Belarus.

In criminal law, repeat offenses are considered in two aspects. The first aspect is an aggravating circumstance that entails a harsher punishment for an individual offender [2, p. 64], while the second aspect is the commission of a crime by a person who has previously been held criminally responsible, posing a social danger [2, p. 26].

According to Article 43, there are three types of repeat offenses: ordinary, dangerous, and particularly dangerous, each differing in quantitative and qualitative characteristics [2, p. 26]. Quantitative characteristics include the multiplicity of criminal acts for which the person has been criminally responsible, while qualitative characteristics include the severity and sequence of the crimes committed, as well as the nature of the intent. A precise determination of the type of repeat offense is necessary for imposing a punishment for its commission.

The essential characteristics of any repeat offense, as established by legal statutes, are the presence of multiplicity, a criminal record, and criminal intent

[2, p. 42]. Multiplicity occurs when a single individual commits two or more unlawful acts and is criminally responsible for at least two of them. A criminal record is proven when the court recognizes a person's guilt for committing criminal conduct and imposes a sentence based on the level of societal threat. Criminal intent is determined by the psychological aspect of the individual's personality and indicates an increased danger to society.

Legislation does not fully resolve the issues related to regulating repeat offenses, as judges have discretion when punishing repeat offenders. Considering factors that reduce the degree of societal danger, the court may impose a milder form of punishment [1, p. 38]. The imposition of a sentence for dangerous and particularly dangerous forms of repeat offense should not exceed the restrictions established by Part 2 of Article 65 [2, p. 42].

In conclusion, repeat offenses are a complex issue in the field of legal regulation. The identification of different types of repeat offenses and consideration of their specificity when imposing penalties are crucial for effectively combating this phenomenon. Further improvement of criminal legislation in this area is necessary to prevent repeat crimes and ensure social safety.

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В статье рассматривается проблема рецидивной преступности в контексте уголовного законодательства. Показаны виды рецидива, его признаки и влияние на назначение наказания. Отмечается необходимость усовершенствования законодательства в регулировании рецидивной преступности. Важность учета особенностей рецидива для обеспечения безопасности общества подчеркивается как ключевой момент в борьбе с этим явлением.

**к содержанию**

**О. Д. Кунда**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Т. С. Троцюк

## **GLOBAL THREATS OF SECURITY**

Among the global security threats facing humanity today one of the most pressing are environmental problems: reduction of an ozone cloud, global warming, pollution of an atmosphere, greenhouse effect, pollution of World Ocean, reduction of the diversity of biological species living on the Earth. Because of the damage to nature the very existence of humanity is in question. The reasons, consequences and approaches to the solutions of these problems are presented in the article.

The essence of the problem of ozone layer is the reduction of the Earth's ozone layer and the formation of the ozone holes. The thinning of the ozone layer can lead to serious consequences for humanity. It is known that ozone layer protects the Earth from ultraviolet radiation which is the main cause of melanoma and other skin cancers. The Montreal Protocol succeeded in banning the production and consumption of 100 types of chemicals that destroy the ozone layer and thus made the greatest contribution to solving the problem of reducing the ozone layer. Today global consumption of such chemicals has fallen by more than 90% [4].

Emissions of carbon dioxide, water vapor, methane and some other gases into the atmosphere give rise to global warming (greenhouse effect) as a result of which a significant part of the heat remains on the Earth rather than dissipating into outer space. Global warming will be accompanied by increased precipitation as well as rising sea levels, the effects of which could include flooding of areas, destruction of coastal marshes and fields, destruction of shorelines, increased impacts of storms that flood coastal areas and increased salinity of coastal waters and bays. A number of programmes are being developed and implemented which should become the basis for preventing dangerous climate change and its negative consequences [2].

Air pollution is one of the most pressing environmental problems of a transboundary nature and of concern to the entire world community. Large cities are particularly affected by air pollution which is primarily due to exhaust emissions. According to the World Health Organization (WHO) more than one billion people currently live in settlements where air quality is inadequate.

Atmospheric pollution leads to the problem of acid rain. A complex set of impacts of man-made air pollution on humans and the natural environment the main consequences of which are an increase in allergic diseases of the

respiratory organs, loss of crop yields, drying out of forests and fishless lakes lie under the name “acid rain” [1].

In recent years the global community has become increasingly concerned about pollution of the World Ocean. The sources and substances that pollute the World Ocean are very numerous. Oil and petroleum products, wastewater, chemicals, heavy metals, radioactive waste, mercury and plastic are the main sources of pollution in the World Ocean.

Another problem of our time is waste. This problem is also associated with deterioration in environmental quality causing widespread illness and loss of life. The garbage that is generated as a result of human activity causes climate change and pollutes the soil, water, and air. Small objects made of synthetic materials are eaten by birds and animals, which often leads to their death. Abandoned plastic bags, nets, wire, and other objects turn into deadly traps for living creatures. Waste can be liquid or solid. Based on its origin, it is divided into 3 large groups: domestic, industrial, and agricultural.

It is difficult to say which type of pollution is the most dangerous – all of them, to one degree or another, affect the planet’s ecosystem, including humans.

Of course, it is necessary to take measures to preserve and purify soil, air and water as soon as possible. What methods exactly can and should be used? First of all, this is the correct exploitation of natural resources. If we learn to use correctly what is given by nature, we will be able to preserve and increase its wealth for more than one generation [4].

Environmental problems are global in nature and pose a threat to global security. They can only be resolved collectively, not through the efforts of individual states, otherwise the 21st century could turn into a major environmental disaster for humanity [3].

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В статье рассматриваются основные экологические проблемы: уменьшение озонового слоя, глобальное потепление, загрязнение атмосферы, загрязнение Мирового океана, их причины, последствия и подходы к решению данных проблем.

**к содержанию**

**Т. А. Кучумов**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева  
Научный руководитель – кандидат педагогических наук  
И. В. Султанова

## **EXPLORING THE STRUCTURE OF THE UNIVERSE AND ELEMENTARY PARTICLES**

The fascination with understanding the structure of the universe has been a driving force for scientists throughout history. From ancient philosophers to modern physicists, humanity has sought to unravel the mysteries of the cosmos. Over time, our knowledge has evolved, revealing that the fundamental building blocks of matter are atoms, composed of electrons, protons, and neutrons. However, delving deeper into the subatomic realm, we discover that these particles are not indivisible; rather, they are composed of quarks, specifically upper and lower quarks.

The objective of this article is to explore the structure of the universe and its elementary particles, to assess the potential of alternative theories, such as superstring theory, while addressing the challenges encountered by the Standard Model of particle physics.

The structure of the universe has always fascinated people, and understanding the essence of everything around us has been the goal of many scientists. It is now known that we and the world around us consist of atoms, which in turn consist of electrons, protons, and neutrons. However, these particles are not absolutely indivisible; they are made up of quarks, specifically upper and lower quarks.

The standard model goes further, classifying particles into fermions and bosons. Fermions are an integral part of all matter and require space to exist, while bosons are carriers of interactions between particles and do not require space for their existence. Fermions are further divided into quarks and leptons, each with unique properties such as mass, charge, and spin.

Bosons facilitate various types of interactions, including electromagnetic interactions with the help of photons, strong nuclear interactions using gluons, weak nuclear interactions using W and Z bosons, and gravitational interactions through gravitons, which are a very weak force visible only on massive objects. The Higgs boson occupies a special place in the standard model, as it is created by the Higgs field and is responsible for particles gaining mass.

The standard model faces a challenge due to the lack of precise evidence about the existence of gravitons, leading to debates about the nature of gravitational interactions and inaccuracies in the theory. In response, scientists

have been exploring alternative theories, with one of the most promising being string theory, now advanced as superstring theory. This theory posits that particles are actually strings, closed or open, capable of oscillating at different frequencies, with the properties of the resulting particle depending on these conditions.

A key difference from the standard model is that in superstring theory, the trajectory of particle motion is a surface rather than a straight line, which addresses inaccuracies in calculations when adding gravitons. Despite its shortcomings, superstring theory remains one of the most promising alternatives to the standard model.

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В статье рассматривается структура Вселенной и составляющие ее частицы. Автор изучает стандартную модель, являющуюся основой современной теории элементарных частиц, и представляет альтернативную теорию струн, как перспективный путь для развития нашего понимания структуры Вселенной.

### к содержанию

**Д. А. Лавренова**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель О. Г. Полещук

### **DESARROLLO DE LA COOPERACIÓN CIENTÍFICA Y TÉCNICA INTERNACIONAL EN LA ETAPA ACTUAL**

En el mundo moderno, el desarrollo de la cooperación científica y técnica se está convirtiendo en uno de los factores clave para garantizar el desarrollo sostenible e innovador de los países. Bielorrusia, como país con una base científica desarrollada y especialistas altamente calificados, participa activamente en proyectos y programas internacionales destinados a la investigación científica conjunta, el intercambio de experiencias y la transferencia de tecnología. En el contexto de los desafíos y necesidades globales modernos, las cuestiones de la cooperación científica y técnica internacional para Bielorrusia son cada vez más relevantes y adquieren importancia estratégica.

El propósito de este trabajo es estudiar las tendencias actuales y las características del desarrollo de la cooperación científica y técnica internacional,

analizar las prácticas y programas existentes en el campo de la cooperación científica.

En el siglo 21 la tendencia hacia la internacionalización y la globalización de la investigación científica se ha vuelto más que obvia. Como se señala en la Estrategia Nacional para el Desarrollo Social y Económico Sostenible de la República de Bielorrusia para el período hasta 2030, la base del desarrollo económico hoy son "tecnologías innovadoras basadas en la introducción de nuevos conocimientos e información" y el desarrollo de la ciencia. La tecnología y la innovación van acompañadas de "una intensificación de la lucha por el liderazgo tecnológico y nuevos nichos en el mercado global de productos de alta tecnología" [1, c.65].

La productividad de las actividades de innovación depende directamente del nivel de financiación y de la eficiencia de la organización de la investigación y el desarrollo científicos.

A pesar de la pequeña proporción de las asignaciones presupuestarias a la ciencia, el papel del Estado en su desarrollo es muy importante. Los sectores público y privado participan en la financiación del proceso de investigación como socios iguales [1, c.67]. El Estado a menudo asigna fondos para iniciar los desarrollos cuando son más riesgosos, después de lo cual las empresas se involucran en la inversión.

Uno de los mecanismos para financiar actividades científicas y técnicas es la cooperación científica y técnica internacional. Es una de las áreas de actividad económica exterior con mayor desarrollo dinámico, que incluye: desarrollo conjunto de problemas científicos y técnicos, intercambio de resultados científicos y experiencias de producción, formación conjunta de personal calificado, etc.

Actualmente se reconoce que las formas más efectivas de la cooperación científica y técnica internacional son: desarrollo conjunto de problemas científicos y técnicos; intercambio de resultados científicos y experiencia industrial; formación conjunta de personal cualificado [2, c.32]. La variedad de formas de cooperación permite a los países elegir aquellas que mejor se adapten a sus intereses nacionales y características de desarrollo socioeconómico.

Actualmente, el Comité Estatal de Ciencia y Tecnología de la República de Bielorrusia implementa una política estatal unificada en el campo de la cooperación científica y técnica internacional. La cooperación científica con países extranjeros tiene como objetivo apoyar la implementación de programas prioritarios de investigación científica, la promoción activa de productos científicos y técnicos en el mercado mundial, el intercambio de experiencias científicas y especialistas y la atracción de fuentes extranjeras de financiación en la esfera técnica nacional [2, c.33]. Las principales formas de relaciones científicas y técnicas entre los científicos bielorrusos y sus colegas extranjeros:



participación en conferencias, seminarios y otros eventos científicos; pasantía; trabajo de investigación conjunto; participación en concursos de fondos y programas internacionales y extranjeros.

La Academia Nacional de Ciencias de Bielorrusia también participa activamente en la cooperación científica y científico-técnica internacional. Desarrolla ampliamente relaciones de beneficio mutuo con academias de ciencias y otras organizaciones científicas de países extranjeros, lleva a cabo programas y proyectos interestatales y participa en las actividades de organizaciones y asociaciones científicas y científico-técnicas internacionales.

La Academia Nacional de Ciencias de Bielorrusia coopera científica y técnicamente con organizaciones científicas y científicos de 74 países [1, c.68]. Además de aumentar el nivel de investigación y desarrollo y obtener acceso a nuevas tecnologías, métodos de investigación y fuentes de información, la cooperación internacional aporta beneficios materiales tangibles.

Las actividades más activas en el marco de contratos de exportación se llevan a cabo con organizaciones científicas de la Federación de Rusia, Polonia, Ucrania, China, Alemania, Francia, Kazajstán, Venezuela, Arabia Saudita y Kirguistán.

En 2021-2025, el trabajo para un mayor desarrollo de la cooperación científica y técnica internacional tiene como objetivo: aumentar la calidad y el volumen de financiación de los proyectos realizados en el marco de los tratados internacionales; aumentar la eficiencia de la cooperación científica y técnica internacional; asegurar el acceso de las organizaciones y científicos nacionales a las tecnologías extranjeras avanzadas y al mercado de inversiones internacional.

En conclusión, cabe mencionar que la cooperación científica y técnica internacional es un paso importante hacia el aumento de la eficiencia de la actividad científica. La tarea principal de la cooperación es determinar las prioridades temáticas de la cooperación, que se forman debido a la coincidencia de áreas prioritarias de investigación científica o actividades científicas y técnicas de las partes. Así, cuantas menos prioridades, mayor será la posibilidad de concentración de recursos financieros.

El grado de participación del país en la cooperación científica y técnica internacional, la contribución al progreso de la ciencia y la tecnología, la imagen del Estado como socio en el campo científico y técnico determinan en gran medida su posición en el escenario mundial.

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В статье автор освещает основные направления деятельности стран (на примере Беларуси) в рамках научно-технического сотрудничества. Изучены основные формы сотрудничества в научно-технической области и формы связей между участниками данного сотрудничества. Отображены наиболее важные партнеры Республики Беларусь, с которыми осуществляется активная деятельность в рамках экспортных контактов.

### **к содержанию**

**В. Д. Лебедев**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Ю. А. Тищенко

### **USING VIDEO MATERIALS AT THE ENGLISH LANGUAGE LESSONS AS A MEANS OF DEVELOPING STUDENTS' INTERCULTURAL COMPETENCE**

The comprehensive influence of culture on personality determines not only linguistic but also psychological aspects of communication, facilitating communication of speakers of the same culture and hindering communication of speakers of different cultures. To realize productive intercultural communication a linguistic personality needs to possess intercultural competence, which allows them to go beyond their own culture and acquire the qualities of a mediator of cultures without losing their own cultural identity. For the development of intercultural competence in the field of foreign language, various means of teaching are used, but the most relevant is the use of video materials.

However, the question of how often teachers use video materials in foreign language lessons shows a huge gap between the statements ‘understand all the pluses’ and ‘use all the pluses’. This contradiction is aggravated if intercultural components are not taken into account. N. P. Kamenetskaya, M. V. Myatova, L. P. Petrova, J. Halliday believe that the use of video materials in the process of teaching foreign languages can significantly increase the effectiveness of the teacher's teaching activity, as video materials represent samples of authentic language communication, create an atmosphere of real language communication, make the process of learning foreign language material more lively, interesting, problematic, convincing and emotional, which contributes to the development of intercultural communication skills [1]. G. M. Kadzhaspirova and K. V. Petrov emphasize certain features of presentation of educational

material by means of video: information is presented by means of art, causing the presence of a figurative model of material introduction. The main characteristic of this model is the presence of a plot and composition. The use of video in the classroom contributes to the effect of empathy with the characters which creates conditions for real motivated communication; the information is presented dynamically, which enhances the effective aspect of learning, increases the density of communication in the classroom, increases the effectiveness of all learning activities. Dynamism and emotionality of the material introduction contribute to memorization of information, increasing the probability of reproduction of this content in the future; video information has a high degree of authority and authenticity factor, which generates a high level of trust to the perceived information on the part of students. These features help to perceive and interpret events from the point of view of representatives of different cultures. This contributes to the efficiency of material assimilation, relieves difficulties and thus ensures the success of intercultural communication [2].

In order to make the most effective use of video in the process of teaching foreign languages, it is necessary to find out its advantages and limitations. D. Willis emphasizes the following positive characteristics of using video in the learning process: video provides the opportunity to use different modes of work, for example, work with a freeze frame, work with a video track (with the video track turned off). Video materials are easily used in different types of work: individual, pair, group, collective. M. Alan suggests working with each fragment separately depending on the goals and individual needs of the students. Thus, conditions are created for assimilation of knowledge about the nature of cultural universals, their content in different cultures, which contributes to the acquisition of foreign language culture in the process of intercultural communication.

However, when working with video materials it is necessary to have a clear idea not only about their functional capabilities, but also about their limitations, to balance the use of video materials with the realization of a specific lesson goal. The use of video in the classroom implies the functioning of a wide range of materials, which, together with a certain set of exercises, are designed to realize a particular learning task, exploring the interactions and mutual influences of different cultures. In addition to educational videos, it is possible to use video materials of cultural, linguo-country studies and sociolinguistic content, video materials of social and psychological content, art and documentary films, cartoons, TV news videos, advertisements, video excursions to cities and museums of the world.

Videos with linguocultural content facilitate learning to master lexical units with national-cultural semantics, familiarize students with the national peculiarities of the country of the target language. Video materials of cultural content increase the knowledge of historical-cultural and intercultural events.

The use of video materials in teaching English can be an effective means of developing intercultural competence in case of application of special teaching content and a system of tasks that takes into account both the peculiarities of cultural phenomena and the regularities of intercultural communication.

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В статье рассматривается использование видеоматериалов на занятиях по английскому языку с целью развития у учащихся межкультурной компетенции. Опираясь на исследования отечественных и зарубежных методистов, автор показывает потенциал видеоматериалов для эффективного усвоения иноязычного языкового материала и осуществления продуктивного общения с учётом особенностей феномена культуры и закономерностей межкультурной коммуникации.

### к содержанию

#### **А. А. Линкевич**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель О. Н. Коваленко

### **THE IMPACT OF STRESS ON A PERSON'S QUALITY OF LIFE**

In daily conversations, people usually use the word “stress” as a synonym for negative worries and anxieties. However, we often forget that this is also our body's reaction to any changes, external and internal irritants. This article aims to describe stress, its impact on the quality of human life, and give recommendations on how to overcome its negative effects.

In psychology and physiology, the term “stress” was introduced in 1926 by Walter Cannon in his study of the universal response to an irritant – “fight-or-flight response”. Physiological stress was first described in 1954 by the famous Canadian biochemist Hans Selye. He gave the following definition of this concept: “the body's non-specific response to any demand presented to it” [3].

There have been identified three phases of stress:

1. Alarm response – all the protective, “spare” forces of the body are mobilized, efficiency increases;
2. The phase of balanced expenditure of adaptive reserves of the body – all processes disrupted during the first stage are stabilized and return to normal, but with prolonged stress, the next stage occurs;
3. Exhaustion – decreased concentration, sleep disorders, fatigue, weakened immune system. [1]

Stress is detrimental to our body in general, and in some cases it can even lead to hypertension, bronchial asthma, etc. People who are under constant stress have an increased risk of getting the flu and other viral diseases, as well as slowing down the healing process of wounds and injuries. In order to describe the state of constant tension and anxiety, the term “chronic stress” was introduced. This is a serious stage that weakens the immune system, increases the risk of developing cardiovascular diseases and worsens overall physical condition. In addition, constant worries negatively affect the psychological state of a person. Symptoms such as nervousness, hypersensitivity, forgetfulness and concentration difficulty may appear.

All the causes of this condition can be divided into two groups: external stimuli and internal ones. External factors are practically independent of one particular person and therefore less controllable. These can be events related to the economic situation, natural disasters, problems at work and many others. With internal reasons, everything is much more complicated. Such cases usually have an impact on the physical or mental health of the person or his/her loved ones.

A study has been published in the Whole Living Journal revealing the main causes of stress: overwork, financial difficulties, dissatisfaction with work, problems in personal life, inability to defend personal boundaries and self-interests, obsession with being perfect [2].

One of the most well-known forms of stress is a panic attack. A panic attack is a sudden attack of severe anxiety that lasts for a short period of time and is accompanied by certain symptoms. Most often, this condition is accompanied by tachycardia, increased blood pressure, shortness of breath, excessive sweating, nausea, dizziness and even fainting. It is impossible to ignore these attacks, since after some time they are likely to recur. The most effective treatment is considered to be a combination of psychotherapy with medications recommended by a doctor.

In order to manage stress and reduce the overall stress of day-to-day activities some recommendations can be given:

1. Follow the information hygiene rules. Limit yourself from the constant stream of news on the Internet, turn off all gadgets half an hour before bedtime so as not to overexert the nervous system.

2. Increase physical activity. Exercise, do yoga or any other sport that you like.

3. Normalize sleep routine. Always go to bed and get up at the same time.

4. Keep an eye on nutrition and water balance. Add fruits and vegetables to your diet, control the amount of sugar consumed, as well as the quality of products.

5. Find hobbies and do not neglect the support of your loved ones. Communicate more with other people, express your feelings through creativity.

To sum up, stress is an integral part of our lives, but despite this, it can and should be controlled, and then it will serve the human body only as motivation for action to overcome challenges of everyday life.

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В статье показано, что такое стресс, описано его влияние на качество жизни человека, даны рекомендации по преодолению негативных последствий стресса.

#### к содержанию

##### **В. В. Литвинец**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель С. В. Милач

#### **PROBLEM DES LEHRKRÄFTEMANGELS AN SCHULEN DEUTSCHLANDS**

Seit 50 Jahren ist das Bildungswesen Deutschlands mit der größten Herausforderung konfrontiert: Im Land herrscht akuter Lehrkräftemangel. Wie eine Umfrage des RedaktionsNetzwerkes Deutschland unter allen 16 Bundesländern ergab, fehlen im Schuljahr 2023/24 bundesweit insgesamt 14.466 Lehrer. Die

größten Engpässe verzeichnet Nordrhein-Westfalen mit 6.715 unbesetzten Vollzeitstellen. Niedersachsen schließt mit 1.760 fehlenden Lehrern an, gefolgt von Berlin mit 1.400 prognostizierten frei bleibenden Positionen [2]. Der Lehrermangel ist so groß, dass vielerorts inzwischen Quereinsteiger an den Schulen unterrichten. Und aktuelle Entwicklungen zeigen, dass der Bedarf an Lehrkräften noch weiter erhöhen wird. Nach Vorausberechnung der Kulturministerkonferenz fehlen bis 2035 rund 68.000 Lehrkräfte an den deutschen Schulen – ein Mangel, der nur schwer auszugleichen ist und sowohl für Familien, Schulen als auch die Politik eine riesige Herausforderung darstellt. Ziel dieses Artikels ist es, die Ursachen und die Folgen des akuten Lehrermangels an Schulen Deutschlands zu analysieren und die Strategien dessen Bekämpfung zu untersuchen.

Die Lage an deutschen Schulen verschärft sich. Aber nicht in allen Bildungseinrichtungen fehlen Lehrer\*innen. Besonders bemerkbar macht sich der Lehrermangel an Grundschulen, Förderschulen und ehemaligen Hauptschulen. Kritisch ist die Situation auch an den Berufsschulen. Betroffen sind insbesondere die naturwissenschaftlichen Fächer, aber auch Kunst und Musik.

Die Entstehung des Lehrerkräftemangels begünstigen mehrere Faktoren. Einerseits gibt es durch mehr Geburten und hohe Zuwanderung immer mehr Schüler\*innen in Deutschland. Im Jahr 2022 gab es so viele Erstklässler wie seit 17 Jahren nicht. Und nach Prognosen wird die Zahl der Schüler\*innen in Deutschland in den kommenden Jahren stärker steigen als bisher angenommen.

Es spielt auch noch die demografische Entwicklung in diese Situation hinein: Viele ältere Lehrkräfte gehen in den Ruhestand und es gibt allerdings nicht genügend junge Lehrkräfte, die ihre Stellen einnehmen können. Die Ursache – die Zahl der Lehramtsabsolventen nimmt stark ab. Kaum angefangen, entscheidet sich etwa ein Drittel der Lehramtsstudierenden in den ersten Semestern schon wieder gegen das Lehramt. Der Lehrberuf verliert offenbar an Attraktivität. Und schlechte Bezahlung dürfte kein Grund dafür sein. Der steigende Druck und die hohe Arbeitsbelastung verstärken das negativ behaftete Image des Berufes. Zudem bietet das deutsche Bildungssystem der Lehrerschaft kaum Karrierechancen und mangelnde Flexibilität, sondern belastet Lehrer zunehmend durch zeitraubende Verwaltungsarbeiten. Ein großer Teil der Pädagogen sagt heute, dass sie ihren Beruf nicht weiterempfehlen können.

Auch politische Entscheidungen wie der Ganztagsausbau sowie Vorgaben zu Inklusion oder Sprachförderung verstärken den Personalbedarf an den Schulen weiter [1]. Viele Lehrkräfte stehen heute vor Herausforderungen, für die sie vielfach nicht ausgebildet sind: Sie bekommen meist nicht das Handwerkszeug vermittelt, wie man beispielsweise das Thema Inklusion angeht oder wie man angesichts großer Unterschiede in der Klasse die Schüler

individuell fördern kann. Damit haben Schulexperten vor einigen Jahren noch nicht gerechnet.

Zum Teil wird versucht, den Lehrermangel mit dem Einstellen von Quereinsteiger\*innen aufzufangen. Die Anforderungen für den Quereinstieg sind aber in einigen Bundesländern zu hoch. Das hält Kandidaten und Kandidatinnen möglicherweise von der Entscheidung zu einem Quereinstieg ab.

Der Lehrerkraftemangel hat drastische Folgen. Das Problem ist sogar noch gravierender, als die Zahlen ahnen lassen, da der anhaltende Lehrermangel für Schüler\*innen und Lehrkräfte deutlich im Schulalltag zu spüren ist. Schulen reduzieren die Anzahl an Klassen, sodass es zu größeren Klassen kommt. Dies führt zu einer schlechteren Lernatmosphäre und macht sowohl Lernen als auch Lehren oftmals anstrengender. Der Arbeitsdruck ist deutlich erhöht und die Lehrer\*innen fühlen sich überfordert und frustriert, was sich negativ auf ihre mentale Gesundheit auswirkt.

Die höhere Belastung kann zu vermehrten Krankmeldungen führen. Wegen fehlenden Personalreserven finden teilweise keine Vertretungen statt und es kommt zu Stundenausfällen. Fächer werden in ihrem Umfang reduziert oder fallen weg. Häuft sich der Unterrichtsausfall, fehlt den Schülern am Ende ihrer Schullaufbahn Lehrstoff. Nach dem jüngsten Report des Instituts für Qualitätsentwicklung im Bildungswesen erreicht rund ein Fünftel der Viertklässler nicht die Mindeststandards in Deutsch und Mathe. Jedes Jahr verlässt fast ein Fünftel der Schüler\*innen die Schule, ohne ausreichend lesen und rechnen zu können.

Unter dem Lehrermangel kann auch die Qualität des noch stattfindenden Unterrichtes leiden. Es fehlt die Zeit für eine gute Unterrichtsvorbereitung und eine individuelle Betreuung der Schüler\*innen in den Stunden. Die vorhandenen Lehrkräfte müssen weitere Klassen und Fächer übernehmen, für die sie eventuell nicht ausgebildet sind. Weniger Unterrichtsqualität kann auch Auswirkungen auf die Einstellung der Schüler\*innen haben: Sie nehmen den Unterricht gegebenenfalls als uninteressant oder sogar irrelevant wahr und ihre Lernmotivation sinkt. Zudem können bei Lehrermangel Sport-, Kunst- oder andere Freizeit-AGs, Klasse- und Studienfahrten, Ausflüge oder Projekttag wegfallen, was auch zum sinkenden Interesse der Kinder an der Schule führt.

Angesichts des Lehrkräftemangels sind die Bundesländer mit vielen Herausforderungen konfrontiert. Um dem entgegenzuwirken, hat die Ständige Wissenschaftliche Kommission (SWK) der Kultusministerkonferenz eine Stellungnahme mit Empfehlungen zum Umgang mit dem Lehrkräftemangel (Januar 2023) abgegeben. Zu den Maßnahmen zählen die Reduzierung von Teilzeit, die Erhöhung der Unterrichtsstunden, die Ausweitung von Hybridunterricht und Selbstlernzeiten in höheren Klassenstufen sowie den flexiblen Umgang mit Klassengrößen ab der Sekundarstufe I. Außerdem schlägt



die SWK die erleichterte Anerkennung von im Ausland erworbenen Abschlüssen, die Erschließung von Beschäftigungsreserven durch Lehrkräfte, die später in Rente gehen sollen, und die Entlastung von Lehrkräften von Organisations- und Verwaltungsaufgaben vor. Gymnasiallehrerinnen und -lehrer sollen für andere Schulformen qualifiziert, Lehrkräfte in Mangelfächern nachqualifiziert werden. Zu den Ideen der Kommission gehört auch die Weiterentwicklung von Modellen für Quer- und Seiteneinsteiger, die Entlastung von Lehrkräften durch Studierende [3]. Die SWK betont, dass es sich hierbei um Notmaßnahmen handelt, die zeitlich befristet sein müssen. Langfristig sind neue Formen der Unterrichtsorganisation und der Ausbildung sowie Gewinnung von Lehrkräften notwendig. Viele der Maßnahmen gelten als umstritten, weshalb unklar ist, in welchem Umfang sie realisiert werden.

Den Prognosen zufolge ist davon auszugehen, dass der Lehrermangel ein Problem ist, das deutsche Schulen noch viele Jahre begleiten wird. Es bleibt also abzuwarten, inwiefern die genannten Maßnahmen die Situation positiv beeinflussen und damit abmildern können.

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Статья посвящена проблеме недостатка учителей в школах Германии. Показаны причины и последствия данной проблемы. Представлены возможные стратегии и способы выхода из кризиса.

#### к содержанию

**В. А. Лихтар**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель С. В. Милач

#### **NOMOPHOBIE: HILFLOS OHNE SMARTPHONE**

In der schnelllebigen, technologiegetriebenen Welt von heute sind Handys zu einem unverzichtbaren Teil unseres täglichen Lebens geworden. Sie erleichtern uns das Leben und sind unsere ständigen Begleiter. Mit ihrer Fähigkeit, schnell auf Informationen zuzugreifen, mit sozialen Kontakten in Verbindung zu bleiben und uns täglich Unterhaltung zu bieten, können diese

Geräte unglaublich anziehend sein. Smartphones haben nicht nur einen praktischen, sondern auch einen emotionalen Nutzen: Das Mobiltelefon wird im Gegensatz zu Laptops ständig am Körper getragen und steht uns in allen Lebenssituationen hilfreich zur Seite. Dadurch entsteht eine emotionale Bindung zum Gerät. Diese Bindung kann jedoch eine versteckte Gefahr mit sich bringen: Schon der Gedanke, eventuell auch nur kurzzeitig ohne Verbindung zu sein, lässt da den Stresslevel oftmals rapide hochschnellen. Ist das Handy einmal nicht zur Hand oder fällt das Netz aus, so reagiert manch passionierter Nutzer nervös und unsicher auf die beklemmende Situation. Diese neue Angststörung der Handy-Generation bezeichnen die Experten als *Nomophobie*. Der Begriff setzt sich aus dem Englischen „No-Mobile-Phone-Phobia“ zusammen und bedeutet „Angst, kein Mobiltelefon zu haben“. Das Ziel dieses Artikels ist es, das Problem der Nomophobie zu analysieren, typische Symptome dieser Störung zu beschreiben sowie Bewältigungsstrategien und Präventionsverfahren für Eltern und Jugendliche darzustellen.

Bei Nomophobie handelt es sich um die Angst davor, vom Smartphone getrennt und unerreichbar für soziale und geschäftliche Kontakte zu sein. Ängstliche Gedanken oder Furcht treten zum Beispiel auf, wenn man sich folgende Situationen vorstellt oder sie in der Realität tatsächlich eintreten:

- der Akku des Handys entlädt sich, doch man hat keine Möglichkeit, ihn wieder aufzuladen;
- das Datenvolumen ist aufgebraucht, ohne dies schnell ändern zu können, oder man befindet sich in einem Funkloch;
- das Mobiltelefon ist defekt, man verliert es oder es wird gestohlen, wobei man nicht auf ein Ersatzgerät zugreifen kann;
- bestimmte Apps, mit denen man regelmäßig Kontakt zu wichtigen Menschen hält, funktionieren nicht mehr.

Gemeint ist damit nicht ein einfaches Unwohlsein, das wohl jeder kennen dürfte, der sein Handy mal zu Hause vergessen oder gar gestohlen bekommen hat. Die Rede ist von Zügen einer Angststörung. Deshalb rückt das Phänomen immer mehr in den Fokus der Wissenschaft. Jedoch gilt Nomophobie bisher noch nicht als anerkannte Krankheit. Das liegt zum einen daran, dass es sich um ein relativ neues Phänomen handelt, zum anderen gibt es noch wenige Forschungen, die sich mit der Nomophobie und ihren Auswirkungen auf die Betroffenen und ihr Umfeld befassen. Außerdem fehlt es an entsprechender Fachliteratur.

Obwohl die Forschung zu diesem Phänomen noch begrenzt ist, deuten die vorliegenden Ergebnisse darauf hin, dass Nomophobie recht häufig vorkommt. Bei einer aktuellen Studie aus Deutschland stellte sich heraus, dass fast die Hälfte der Teilnehmenden (49,4 %) ein mittleres Maß an Nomophobie aufwies, weitere 4,1 % – eine schwere Nomophobie [4]. Frauen waren stärker betroffen

als Männer, was vor allem darin begründet ist, dass Frauen mehr Wert auf zwischenmenschliche Kommunikation legen.

Nomophobie entsteht oftmals durch den angewöhnten hohen Handykonsum im Alltag. Die Nützlichkeit von Mobiltelefonen spielt hierbei eine Schlüsselrolle. Ohne ihr Smartphone fühlen sich Betroffene weniger flexibel, abgeschnitten und isoliert von wichtigen Aspekten ihres Lebens. Sie fürchten, die Anforderungen des Alltags nicht mehr perfekt meistern zu können, da das Smartphone ihnen die Sicherheit bietet, in allen Lebenslagen schnell zu reagieren. Grundsätzlich gilt, je häufiger das Smartphone in Gebrauch ist, desto stärker ist auch das Abhängigkeitsgefühl, das hierdurch entsteht.

Eine wichtige Ursache von Nomophobie ist auch die Angst, den Kontakt zu Freunden und Familie nicht lückenlos aufrechterhalten zu können. Neben dem Gefühl, den sozialen Kontakten nur zeitversetzt und damit zu spät gerecht zu werden, spielt die Angst vor sozialer Ausgrenzung und der damit verbundenen Einsamkeit und inneren Leere eine weitere bedeutende Rolle in der Entstehung von Nomophobie. Außerdem ist es nicht selten, dass Nomophobiker ein erhöhtes Bedürfnis nach Aufmerksamkeit haben [1].

Wer von Nomophobie betroffen ist, erlebt eine Reihe von Symptomen, die auf das vorliegende Problem hindeuten. Die Betroffenen erleben eine ausgeprägte Form von Gereiztheit, Nervosität und Unwohlsein, wenn sie ihr Mobiltelefon gerade nicht nutzen können. Je nach Schwere des „Befunds“ (in Anführungsstrichen, denn Nomophobie ist noch nicht offiziell als Krankheit anerkannt) können die Symptome die einer klassischen Angststörung sein. Hierzu zählen z. B. Herzklopfen oder -rasen, Atemnot, Panikgefühle, Zittern, Schweißausbrüche, Schwindel und Übelkeit, Verspannungen, Magen-Darm-Beschwerden [2]. Typische Verhaltensweisen, die mit Nomophobie einhergehen, sind zudem Entzugserscheinungen bei ungewollter Abstinenz, Drang und Gier nach dem Smartphone, Stress und Beklemmung bei ausgeschaltetem Mobiltelefon, Gefühl der „Nacktheit“, wenn das Mobiltelefon zu Hause gelassen wurde [3].

Hinzu kommt, dass eine Nomophobie weitere Störungen zur Folge haben kann, die durch zusätzliche Symptome auffallen. Viele der Nomophobiker leiden mit der Zeit unter einer Depression oder unter quälenden Einsamkeitsgefühlen. Außerdem ist es denkbar, dass sie gewisse Impulse nicht mehr richtig kontrollieren können, obwohl dies vor der übermäßigen Fixierung auf das Handy noch uneingeschränkt möglich war.

Die beklemmende Situation versuchen Nomophobiker durch folgende Punkte zu vermeiden:

- Jeder zweite schaltet das Smartphone nie aus.
- Das Smartphone wird immer nah bei sich getragen, um es nicht zu verlieren.

- Viele Nomophobiker besitzen ein zweites Mobiltelefon als Ersatz.
- Sie führen ständig eine Powerbank zum Wiederaufladen des Akkus mit sich, obwohl diese vermutlich nicht benötigt wird.

Um die Nomophobie zu überwinden, sind verschiedene Behandlungsmethoden und in gravierenden Fällen professionelle Psychotherapie empfehlenswert. Bei der Behandlung wird häufig auf Konfrontation gesetzt, die gefürchtete Situation also bewusst herbeigeführt.

Bei einer mittleren Ausprägung empfehlen Fachleute:

- die Smartphone-Nutzung auf weniger als zwei Stunden einzuschränken;
- feste Zeiten einzustellen, an denen Smartphone nicht genutzt wird;
- Push-Benachrichtigungen abzustellen;
- das Smartphone in den Grau- oder Schwarz-Weiß-Modus zu setzen, um die Attraktivität zu reduzieren;
- das Smartphone außer Sicht zu legen;
- das Smartphone nachts in einem anderen Zimmer aufzuladen und möglichst nicht im Bett zu nutzen;
- das Smartphone nicht als Wecker oder Ersatz für eine Armband-Uhr zu nutzen;
- zusätzliche Apps zu installieren, über die das Smartphone-Verhalten kontrolliert werden kann;
- eine alternative Beschäftigung zu suchen, z. B. kann ein nicht-digitales Hobby gefunden oder sich mit Freunden in der realen Welt verabredet werden.

Wenn der Betroffene diesen Empfehlungen folgt und dann merkt, dass ein Leben auch ohne Handy oder Smartphone möglich ist, wird die Therapie letztlich erfolgreich sein.

Zum Schluss muss betont werden, dass Nomophobie ein wachsendes Problem unter den heutigen Jugendlichen ist. Wir können davon ausgehen, dass das Risiko einer weiteren Ausbreitung dieser Störung hoch ist. Deswegen ist für Erwachsene wichtig, diese Erkrankung zu verstehen und proaktive Schritte zu unternehmen, um sie zu verhindern. Eine Schwierigkeit liegt darin, dass es unrealistisch ist, zu einem vollständigen Verzicht des Smartphones zu gelangen. Denn das Mobiltelefon ist in der heutigen Gesellschaft ein bedeutendes Hilfsmittel für zahlreiche Situationen geworden, auf das vor allem jüngere Menschen sich verlassen.

Allerdings hat jeder von uns die Möglichkeit, die Zeit, die er online verbringt, selbstständig zu regulieren. Man sollte daran denken, dass das Smartphone nur ein Werkzeug ist, keine Rettungsleine. Die Erwachsenen sollten den Jugendlichen helfen, dies zu verstehen, und sie zu einer gesünderen, ausgewogeneren Beziehung zur Technologie zu führen. Schließlich kann kein Komfort die physische und psychische Gesundheit ersetzen.

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В статье раскрывается понятие «номофобия». Показаны причины возникновения расстройства и его симптомы, приведена статистика распространения, а также представлены возможные методы лечения и профилактики.

### к содержанию

**Д. Р. Логвинова**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева  
Научный руководитель – кандидат педагогических наук, доцент  
И. В. Султанова

## **NATURE-INSPIRED SOLUTIONS: ENGINEERING FOR SUSTAINABLE PROGRESS**

In the pursuit of sustainable progress, scientists and engineers continuously seek inspiration from the natural world to address pressing challenges facing society. Nature's evolutionary solutions, honed over millions of years, offer invaluable insights into efficient mechanisms, designs, and sustainable practices. From the microscopic realm of molecular biology to the vast ecosystems of our planet, nature presents a myriad of phenomena ripe for emulation and adaptation [1].

The aim of this article is to explore the paradigm of nature-inspired solutions in engineering and their role in fostering sustainable progress. By examining various examples, we seek to elucidate the transformative impact of bioinspired engineering across diverse domains. Through this exploration, we try to underscore the significance of harnessing nature's ingenuity to address

contemporary challenges and propel humanity towards a more sustainable and harmonious future.

The study of protein dynamics has long fascinated scientists due to its implications for understanding cellular functions and developing novel therapies. Kinesin-1, a motor protein responsible for cellular transport along microtubules, presents a remarkable example of nature-inspired machinery. Recent advancements in fluorescent nanoscopy have enabled researchers to visualize the intricate movements of kinesin-1 with unprecedented detail. By mimicking the walking motion of kinesin-1, scientists aim to design artificial molecular machines for targeted drug delivery and nanoscale manipulation.

Fractals, characterized by self-repeating patterns across varying scales, embody a fundamental principle deeply ingrained in the fabric of nature. This innate fractal geometry manifests in myriad forms throughout biological systems, showcasing the remarkable complexity and efficiency of natural processes. From the intricate branching patterns of trees to the convoluted structure of the human brain, fractals permeate the landscape of life, serving as a testament to the underlying order and interconnectedness within the natural world.

The application of fractal principles extends beyond biological realms, offering valuable insights for engineering disciplines seeking sustainable solutions. By harnessing the inherent efficiencies of fractal patterns, engineers can design networks and systems that optimize resource utilization and minimize environmental impact. For instance, in transportation systems, fractal-inspired designs can lead to more efficient traffic flow and reduced energy consumption. In urban planning, fractal-based layouts can enhance connectivity and resilience while minimizing resource consumption. Moreover, in renewable energy distribution networks, fractal geometries can facilitate the efficient transmission and distribution of energy resources, contributing to a more sustainable energy infrastructure.

By emulating nature's fractal patterns, engineers can unlock innovative solutions that align with the intricate dynamics of the natural world. This synergistic approach not only enhances the efficiency and resilience of engineered systems but also fosters a deeper understanding and appreciation of nature's inherent wisdom. As humanity strives towards a more sustainable future, the integration of fractal-inspired designs offers a pathway towards harmonizing human activities with the complex ecosystems that sustain life on Earth.

The ubiquitous presence of the Fibonacci sequence in natural phenomena underscores its significance as a guiding principle in engineering design. From the arrangement of sunflower seeds to the spirals of pinecones and the growth patterns of tree branches, the Fibonacci sequence manifests in diverse contexts.

By incorporating Fibonacci-inspired designs in architecture, art, and computer algorithms, engineers enhance structural stability, aesthetic appeal, and efficiency in diverse applications.

Honeycombs represent nature's ingenious solution for efficient storage and structural stability. The hexagonal geometry of honeycomb cells maximizes storage capacity while minimizing material usage. Inspired by this natural design, architects and designers employ honeycomb structures in building construction, eco-materials development, and nanotechnology applications, thereby promoting sustainability and resource conservation.

Basilisk lizards, renowned for their ability to run on water, harness surface tension forces to defy gravity. By creating air pockets beneath their feet, basilisks exploit surface tension to remain buoyant and navigate aquatic environments. Engineers draw inspiration from this natural phenomenon to develop innovative robotics for water sampling and environmental monitoring, facilitating conservation efforts and ecological research.

The octopus exemplifies nature's mastery of jet propulsion for swift locomotion underwater. By expelling water through muscular contractions, octopuses propel themselves with remarkable agility and efficiency. Inspired by this biological mechanism, engineers design propulsion systems for marine vehicles and underwater exploration, unlocking new frontiers in oceanography and marine conservation.

#### Conclusion:

Nature serves as an endless reservoir of inspiration for engineers seeking sustainable solutions to complex challenges. By emulating biological principles and ecological adaptations, scientists can innovate technologies that harmonize with the natural world, fostering a more sustainable future for generations to come. From molecular machines to robotic locomotion, the integration of nature-inspired engineering promises to drive progress towards a greener, more resilient society.

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В статье представлен обзор современных достижений в области биомимикрии – подражания природным процессам, системам и структурам для разработки инновационных технологий. Рассматриваются примеры успешной имитации биологических систем в различных областях, включая инженерию материалов, робототехнику, медицину и устойчивое производство. Показано современное состояние и потенциал биомимикрии для развития инновационных технологий.

### **к содержанию**

**М. А. Ломейко**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Н. В. Иванюк

### **SMART CITY**

The big data revolution marks an era when instrumentation, data processing, and computing are increasingly penetrating the very fabric of cities. Big data technologies have become necessary for the functioning of cities. Consequently, urban processes and practices are becoming highly sensitive to the form of data-driven urbanism which is a key mode of production in smart cities. This form is increasingly being used to address sustainable development issues in light of the increasing trend of urbanization. To shed light on this new urban phenomenon, a descriptive case study has been adopted as a qualitative research to explore and compare London and Barcelona as Europe's leading data-driven smart cities. The study shows that these cities have a high level of development of data-based applied technologies, but they differ slightly in the level of implementation of such technologies in different urban systems and areas in relation to areas of sustainable development. They also vary moderately in their degree of readiness for the availability of infrastructure development, processing and analysis of large amounts of data in order to extract useful knowledge to improve the effectiveness of decision-making related to the operational functioning of cities, management and planning in connection with sustainable development. London leads the way in terms of infrastructure and data sources, while Barcelona has advanced expertise in data-centric competencies, in particular information platforms, operations centers, dashboards, training programmes and institutes, innovation laboratories, research centers and strategic planning offices.

A smart city is a concept in which information technology and digital innovations are used to improve the quality of life of citizens and the efficiency of urban infrastructure management. A smart city is an integrated system in



which various devices, sensors, networks and cloud technologies collect, process and analyze data in real time. These data may include information on traffic, energy consumption, air pollution levels, waste management, public safety and other aspects of urban life. The main goal of a smart city is to provide a comfortable and safe environment for residents, as well as to increase the efficiency of resource use and reduce the negative impact on the environment. Various projects and initiatives can be implemented within the framework of a smart city, such as smart transport: traffic optimization, public transport management, integration of various modes of transport, including electric vehicles and autonomous vehicles. Smart energy management provides energy management, including smart meters and lighting control systems, as well as the integration of renewable energy sources. Public safety deals with the use of video surveillance systems, sensors and analytical tools for monitoring and rapid response to emergencies and crimes. Smart waste management is optimization of waste collection and recycling, including sensor containers, routing systems for garbage collectors and platforms for information exchange between residents and the municipality. Smart healthcare includes using telemedicine, wearable device technology and monitoring systems to make it more efficient and affordable. Smart city also provides citizens with the opportunity to interact with city services and information through mobile applications and Internet platforms. This may include notifications about current events in the city, newsletters and information about events, as well as the ability to send complaints and suggestions [1, p. 18].

According to the United Nations, more than half of the world's population currently lives in urban areas, and about 70 % will be concentrated in cities by 2050. The expected urbanization of the world poses serious challenges related to environmental, economic and social sustainability. Nevertheless, modern cities play a crucial role in sustainable development and are central to the application of advanced technologies to support progress towards sustainable development in the context of urbanization [2, p. 14]. In other words, sustainable smart cities are the leading model of urbanism today. They have great potential to initiate major social transformations and make a significant contribution to them, linking together sustainable development programmes and technological innovations. However, in the current context of the increased complexity of the world, it may be more difficult for smart cities to rebuild themselves more sustainably and efficiently. This means that urban authorities in technologically advanced countries will face significant challenges due to the challenges posed by urban growth.

In recent years, Belarus has actively begun to implement the concept of a smart city, and the prospects for this direction in the country look decent. First of all, work is underway in Belarus to create a digital infrastructure and

interweave the Internet of Things network into the urban environment. This allows us to connect various objects (transport, street lighting, heating control, energy consumption accounting, etc.) and collect data about them for analysis and making effective management decisions. Installing sensors and smart city devices helps reduce infrastructure maintenance costs, optimize workflows and networks, and improve security and service levels. Belarus is also actively implementing projects aimed at improving urban transport. The creation of smart transport system makes it possible to optimize the movement of cars, easing traffic jams and reducing travel time. The ability to pay for travel by non-cash means, the use of cloud services to find parking and timely information about the state of roads and public transport are just some of the factors that will make the urban environment convenient and comfortable for residents. In addition, work is underway in Belarus to create digital public services, such as e-Government and e-Health. This will allow citizens to perform various government operations and receive medical services remotely, without having to visit offices or hospitals in person. This will make it possible to save time and simplify contact with government and medical institutions. In general, the prospects for the development of smart cities in Belarus are attractive. Thanks to the introduction of advanced technologies, the country's cities will become more environmentally friendly, more convenient and safer for life. Smart cities will allow citizens to improve the quality of life significantly, and government agencies to manage urban resources effectively and create comfortable conditions for their residents.

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В статье рассматривается концепция умных городов, представляющих собой инновационные городские среды, в которых активно применяются технологии для оптимизации различных аспектов жизни горожан. Автор анализирует преимущества, которые могут принести умные города, такие как повышение эффективности городской инфраструктуры, улучшение качества жизни граждан, снижение финансовых затрат и др.

**к содержанию**

**Ю. Л. Максимович**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Т. С. Троцюк

## **POLLUTION OF THE WORLD OCEAN**

One of the most important environmental problems of all humanity now is the pollution of the oceans. The World Ocean is one of the largest but at the same time very fragile system. This has become noticeable in recent decades when huge floating islands made of garbage could be seen from flying airplanes. Since that moment the problem of the state of the World Ocean has become global.

Meanwhile not only the well-being of other ecosystems but also the entire human race depends on the state of the World Ocean. Weather and climate depend on the World Ocean, it is a source of mineral resources, energy and seafood, it purifies the air and supplies saturated oxygen to the atmosphere, performs a filtering function and is also a transport ally between countries.

Everyday tons of garbage are thrown into the depths of the waters floating on the waves and then collecting in huge heaps and forming garbage mountains right in the middle of the vast ocean. Also the bottom of the oceans is a burial place for toxic and radioactive waste [1].

Garbage thrown into the oceans forms real floating islands, the most famous of which is the Pacific Garbage Patch or “desert of the World Ocean”, a giant accumulation of garbage in the north Pacific Ocean that can be seen even from aboard the ISS. Its area according to the most optimistic estimates is approximately 700,000 square kilometers which is comparable to two areas of Germany or Japan. Various rubbish has been carried here from all over the world for many years and due to the abundance of rotting animal corpses, wet wood and garbage the water is saturated with hydrogen sulfide. This is a real dead zone extremely poor in life. Trade and military ships do not enter the fetid place where a fresh wind never blows, everyone tries to avoid it.

The development of countries has led to an increase in pollution of the World Ocean. The situation has been changing for the worse in the twentieth century which is associated with the formation of the chemical and oil refining industries. Today a number of such types of clogging can be noted as:

1. Garbage and especially plastic which hardly decomposes is a big problem for the ecology of the oceans. Tons of plastic waste are slowly moving throughout the ocean while according to expert analyses 86% of this garbage ended up in the water from land and 14% was launched from the ships. The waste causes damage to more than 280 types of marine animals and birds and

also releases toxic substances into the water. Candy wrappers and plastic bags have been found in the depths of the Mariana Trench and traces of 19 types of polymers have been found in ice floes in the polar seas [3].

2. Chemicals and heavy metals are used in many types of industries. Together with wastewater they enter the ocean in huge quantities. Particularly dangerous are pesticides and mercury which accumulate in living organisms. It is not only large factories that are to blame for the chemical pollution of the ocean. A large number of chemicals enter the oceans and seas through sewers because almost every home uses synthetic detergents [3].

3. Oil and petroleum products are the main source of pollution in the world's oceans. Oil gets into the water as a result of man-made disasters tanker crashes and well drilling but a lot of oil products are also discharged by ordinary sea transport. Oil spills lead to the death of a huge number of marine organisms including fish and birds and in addition they interfere with normal heat exchange between layers of water. Every year for one reason or another 7 to 15 million tons of oil are discharged into the World Ocean. Satellites have recorded that almost 43% of the ocean surface is already covered with an oil film [5]. The waters of the Mediterranean Sea, the Atlantic Ocean and their shores are especially polluted which has a very negative impact on the state of their ecosystems.

4. The oceans take part in the geochemical carbon cycle. Marine ecosystems not only absorb carbon dioxide but also emit it. The absorption of carbon dioxide is approximately 5 times greater than that released. Excess carbon disrupts the balance of chemical compounds in ecosystems and increases the acidity of waters which affects all inhabitants: coral reefs, oysters, bivalves, and sea urchins die, plankton die, and food chains are broken [5].

Thus, at the moment pollution of the World Ocean is global in nature and is the most important threat to humanity which requires urgent action. If clean water disappears the Earth will cease to exist. Therefore, it is necessary at this stage to begin carrying out operations aimed at cleaning up the contaminated areas. After all there is more than a direct connection between the cleanliness and health of the World Ocean and the lives of people.

At the initiative of the UN a large number of important international agreements were signed that regulate the use of the resources of the World Ocean. The most famous is the UN Convention on the Law of the Sea, signed in 1982. This document establishes the principles of restrictions on the maritime jurisdiction of states, defines maritime boundaries, fishing zones, rules for navigation and stopping of ships as well as rights to use marine resources [4].

To improve the quality of protection of the World Ocean it is necessary to take a number of other measures: increase protected water areas, tighten rules for the preservation of the marine ecosystem, protect ocean waters from poaching, increase environmental control over ships that transport dangerous

cargo, constantly monitor the state of the hydrosphere, use fuel that does not pollute water and build more waste processing complexes in coastal areas [2].

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В статье рассматривается глобальная проблема загрязнения Мирового океана и его последствия для экосистем и человечества. Приводятся примеры загрязнения океана: сброс мусора, химических и радиоактивных отходов. Вместе с тем автор подчеркивает важность океана и его влияние на климат, минеральные ресурсы, энергию, очистку воздуха и транспортировку.

### к содержанию

**Е. А. Мануилова**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель С. А. Лосева

### THE ROLE OF MASS MEDIA IN THE 21ST CENTURY

Today we live in a global world characterized by a high degree of awareness. The new media environment is dynamic and continues to develop in new, sometimes unforeseen ways, which affect a person in all spheres of his life. The development of new technologies has led to many intercultural social exchanges through the media. By such a term as mass media, it is customary to

understand social institutions that ensure the collection, processing and dissemination of information on a massive scale.

The transmitted information must necessarily meet the social interests. Its dissemination is an inseparable part of the mass spiritual communication of people. Today, there is a concept of “new media”. This concept appeared due to the intensive informatization and digitalization of society. The purpose of the article is to study new media and determine their role and consequences for modern social reality. Having conducted a small survey on April 25, 2024 at the Belarusian State University among third-year students of the Faculty of International Relations, it was found that most of the students do not use paper media, but use only “new media”.

New media certainly belong to a certain method of communication. Some types of new media, such as an online newspaper, are also “old media” in the form of a regular printed newspaper. Other new media are completely new, for example, podcasts or applications for phones. The definition becomes more difficult when you consider that as technology improves, it is constantly changing. New media is a variety of media – from newspaper articles and blogs to music and podcasts, which are delivered digitally. That is, it is any form of communication that is directly related to the use of the Internet.

The New Media Institute (NMI) is an interdisciplinary academic unit dedicated to the study of critical, commercial and creative aspects of new technologies. It defines new media as “a general term used to refer to everything related to the Internet and the interaction between technology, images and sound.” This differs from “old media”, which is defined as all forms of communication that existed before digital technologies, including “radio and television, as well as printed materials such as books and magazines.” As new technologies are developed and widely adopted, what is considered new continues to change. Once upon a time, DVDs and CDs were the newest way to watch movies and listen to music without much trouble. Streaming services such as Netflix and Spotify are now more popular. Here are just a few examples of new media: websites, blogs, social networks, music and television streaming services, virtual reality [2].

The emergence of new media has complicated the media system. Traditional media that existed before the Internet, such as newspapers, radio broadcasts and television news programs, exist together with new media. While traditional media maintain stable formats, the list of new media is continuously expanding due to innovative approaches. The mass media, which are of common interest to a wide audience, have been joined by secondary sources that carry out mass mailing for individual users. New media outlets can transmit information to individuals. It is also worth noting that the relationship between legacy media and new media is mutually beneficial. Outdated mass media often use new media to search for data for their articles. They rely on new media sources to

satisfy the ever-growing demand for content. New media have taken the main method of presenting information from outdated media, and they also rely on their outdated counterparts to gain recognition and further spread their content.

Ideally, the mass media perform several important functions in the life of society. Their main purpose is to inform by providing relevant information needed by the consumer. They should also carry out socialization of the public in order to develop and promote public interests. The media appeal to the personality in the totality of its social roles – as a citizen and a family member, a representative of society as a whole and a resident of a particular area. The content of the mass media covers all aspects of a person's relationship with society and its subsystems, all areas of social relations in which the personality is included. Another important function is the mobilization of the population to achieve their goals. New media has the potential to perform these functions. They provide access to information and can reach even disinterested audience members through personalized channels such as Facebook. However, it was on the Internet that the trend of introducing fakes in order to attract attention developed, which did not bypass the media. Today, a huge number of information sources are not verified, which makes it difficult to find and obtain information. While some fake news is outright fiction, others contain elements of truth that make them truth-like to the audience. Much of the news in the era of new media is defined by the coverage of an endless barrage of sensational scandals – real, exaggerated or completely fabricated, which are often only indirectly related to governance [1].

Another negative effect of the excessive use of social media platforms to convey information and opinions is “bubbles”, when users with the same political views exchange information and opinions that correspond to their own beliefs, further strengthening them, even if they were the same. The “filter bubble” allows you to squeeze critical thinking by the fact that when a position appears in the feed that contradicts your beliefs, you will immediately find logical flaws in it, and if you cannot find it, you simply ignore this information. For example, a person is convinced that due to universal vaccination, mutations occur in the human body. To find arguments in favor of vaccination, he reads paid studies, stories about the refusal of vaccination with sad, fabricated endings. It's useless to argue. In the post-truth era, facts have lost their force: The Internet is used in discussions not for the sake of objectivity, but for the sake of personal refuge [3].

While in most countries electronic mass media appeared as a service of public interest, today they have become an entire industry. This process of industrializing communications is not without controversy. The educational, cultural and social missions of the media, and specifically the information provided, hardly resist the laws of the audience and the requirements of PR and advertising financing. Moreover, at the moment, the formation of fake

information in large quantities is happening quite quickly, which for the most part is focused on entertainment and sensationalism. This trend carries an obvious risk to the cultural, social, and political life of society. Currently, it seems that there are few effective means to combat the growing flow of false information. Replacing serious investigative journalism with coverage of scandals has weakened the controlling role of the press. It is important to recognize that journalism has never been perfect in its interpretation, when facts have always prevailed and responsible coverage has been absolute. However, do not forget that the transformation of information delivery occurs very quickly.

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В статье рассматриваются средства массовой информации с точки зрения их востребованности и важности в современном обществе. Раскрываются преимущества и недостатки новых медиа; образовательная, культурная и социальная миссии средств массовой информации. Приводятся различия между старыми СМИ и новыми, и рассматривается, как новым СМИ удалось заменить старые. Рассматривается явление «пузырь фильтров», как негативное последствие трансформации СМИ в XXI в.

### к содержанию

#### **А. А. Маслякова**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина  
 Научный руководитель – кандидат педагогических наук, доцент  
 Л. М. Максимук

### **EXPERIENCIA INTERNACIONAL EN EL DESARROLLO DE RUTAS VERDES Y LA INTRODUCCIÓN DEL TRANSPORTE VERDE**

En 1997 se estableció la Asociación Europea de Vías Verdes (EGWA) en Namur, Bélgica. Unió a 35 participantes. Los países más activos son Bélgica,



Inglaterra, Francia, Luxemburgo e Irlanda. Las actividades de la organización son financiadas por la Comisión Europea - Departamento de Protección Ambiental. Por el momento, Europa Central tiene el Programa Vías Verdes, una iniciativa del Consorcio Centroeuropeo "Asociación Ambiental para Europa Central", que reúne a cinco organizaciones independientes en Polonia, la República Checa, Eslovaquia, Hungría y Rumania. Esta es una asociación cuyo objetivo es crear una red de carreteras "verdes" en Europa Central y Oriental, basada en la interacción de organizaciones públicas, organismos de gobierno autónomo, organismos estatales y empresarios, a través de iniciativas locales destinadas a proteger el patrimonio natural y cultural [1].

En Europa Central, el pionero de las rutas verdes fue la República Checa. La idea de crear rutas verdes nació en 1990. Un grupo de estadounidenses, originario de la República Checa, decidió transferir el concepto de rutas verdes, que se estaba desarrollando en los Estados Unidos, al territorio de Europa Central.

El siguiente país que desarrolló activamente el concepto de Vías Verdes fue Polonia. Actualmente, hay siete rutas verdes en Polonia, que se encuentran en diferentes etapas de implementación.

El desarrollo del transporte "verde" es uno de los muchos procesos de transición de la economía al desarrollo sostenible, y el transporte "verde" en sí mismo se convierte en un atributo inalienable de la forma moderna eco-orientada de complejos económicos locales y asentamientos individuales.

La bicicleta como transporte individual ha ocupado durante mucho tiempo el segundo puesto, después del automóvil. En Europa, una cultura de la bicicleta ya se ha desarrollado, la gente del pueblo no puede prescindir de senderos para bicicletas, estacionamientos y alquileres [2].

El desarrollo del ciclismo en Europa se ve facilitado por los esfuerzos de los países de la UE para desarrollar rutas verdes que forman la red espacial europea de ecoturismo. Hoy en los países europeos se presta mucha atención al desarrollo de rutas ecológicas y corredores ecológicos. Estas son carreteras sin transporte motorizado, diseñadas para personas que aman la naturaleza y viajan a pie o en bicicleta. Las rutas verdes son una herramienta única para desarrollar la movilidad, mejorar la población y apoyar a las empresas locales en el campo del turismo y la hospitalidad. No hay necesidad de una construcción constante y de una conexión adicional por carretera: las rutas verdes también se pueden adaptar y transformar a partir de vías de ferrocarril, terraplenes y zonas peatonales sin utilizar; o a lo largo de canales y ríos, caminos forestales, carreteras no utilizadas. La única condición obligatoria es que la ruta debe ser conveniente y segura [2].

Además de mejorar la población y desarrollar el nivel de movilidad del territorio, el ciclismo también es un negocio que ofrece grandes beneficios: por

ejemplo, en la República Checa, el turismo de bicicletas aporta hasta 45 millones de euros al año. La ruta Cracovia-Moravia-Viena tiene una longitud de más de 780 kilómetros y se extiende a lo largo de bodegas, lagos pintorescos, pueblos y monumentos históricos, conectando las ciudades culturales más grandes de Europa Central y del Este.

En Manchester, con corredores verdes, hay una serie de problemas conectados. Y uno de ellos es la separación por cercas o alambradas de púas de senderos ecológicos construidos artificialmente para peatones y ciclistas de la naturaleza [2].

Parece que las vallas protegen a las personas de cualquier peligro, pero crean cierta falta de atractivo y este es un factor obvio. Por otra parte, hay muchos lugares en las rutas verdes, donde no está del todo claro si se puede ir más allá. Algunos llevan a un callejón sin salida, y la información sobre esto en el camino (carteles, punteros) no existe.

En otros casos, la ruta se interrumpe repentinamente por cualquier infraestructura no utilizada por peatones o ciclistas. Está claro que las rutas ecológicas deberían ser complementarias, más que la parte principal de la estrategia de desarrollo del transporte urbano, y el gobierno local necesita invertir en el desarrollo y mantenimiento de esta parte natural de la ciudad, al igual que invierte en la carretera.

Para atraer la atención de los ciudadanos, estas rutas para peatones y ciclistas deberían aparecer en los mapas y letreros. Además, se deberían indicar los sistemas completos de ruta ecológica e incluso los que no estuvieran disponibles en ese momento: esto aumentaría la comprensión del sistema.

Por lo tanto, el desarrollo del transporte sostenible incluye el tráfico de peatones y bicicletas. Las ciudades deberían proporcionar una infraestructura especializada y oportunidades para la movilidad segura y activa como un modo de transporte viable que contribuye a mejorar la salud física y psicológica de sus ciudadanos reduciendo el impacto del sistema de transporte en el medio ambiente.

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В статье автор рассматривает международную концепцию развития зеленых маршрутов в европейских странах и особенности внедрения зеленого транспорта как перспективного направления развития туризма.

### **к содержанию**

**А. А. Мацукевич**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. Е. Левонюк

### **L'ART DE L’AFFICHE EN TANT QUE PHÉNOMÈNE DE LA CULTURE DE MASSE**

Une affiche est une sorte d’art graphique, représentant un message visuel créé pour la diffuser et attirer l’attention de masse. La tâche principale de l’affiche est de communiquer avec un large public et de transmettre certaines informations ou idées.

Le but de cet article est d’examiner les principaux genres et fonctions des affiches sur l’exemple des affiches de la période de la Grande Guerre patriotique.

Les affiches attirent l’attention avec des couleurs vives, de grandes images et un design unique. Ils doivent être visuels et mémorables. Les affiches dans leurs genres sont très diverses :

- politiques (propagande, couvrant les événements les plus importants de la vie politique, économique, sociale, culturelle du pays). L’affiche de propagande a été largement diffusée pendant la première guerre mondiale (1914–1918) et a été utilisé pour faire propagande dans l’armée, souscrire des prêts militaires, aider les blessés, etc. Dans les années 1920–1930, l’affiche politique continue à se développer. En 1939–1945 des affiches électorales des partis communistes et des affiches antifascistes apparaissent, et après la fin de la Seconde guerre mondiale, viennent des affiches pour la défense de la paix [1].

- directives réglementaires, qui comprennent: a) des affiches expliquant les normes, les conditions techniques et les réglementations; b) des affiches sur la santé et la sécurité au travail. Ils sont devenus un moyen populaire à partir des années 1920–1930 ;

- de pratique et de production pour la promotion de méthodes de travail progressives dans divers secteurs de l’industrie, de l’agriculture, de la santé, de l’éducation et de la culture ;

- de la vulgarisation scientifique, consacré à l’histoire, à l’économie, conçu pour le travail de conférence, pour aider les bibliothécaires, les travailleurs des musées, etc. ;

- éducatives qui servent d'aides pédagogiques à tous les niveaux de l'enseignement;

- d'information et de publicité, faisant la promotion de divers types de produits et de services; annonces d'expositions, de films, de concerts, de spectacles. Les affiches de cinéma sont apparues grâce au développement du cinéma. Elles contenaient souvent une idée concise mais claire, des informations sur un événement, un produit ou un service. Les affiches communiquaient des informations d'une manière très simple et efficace. Car elles avaient généralement un espace limité pour transmettre le message, le dernier était exprimé sous une forme concise à l'aide de mots et d'images significatifs. Les affiches étaient souvent placés dans les rues, dans les lieux publics, dans les transports, etc. On les utilisait pour promouvoir et soutenir diverses campagnes, par exemple, politiques, publiques ou commerciales. Chaque affiche avait son propre style unique qui reflétait l'idée et la créativité de l'artiste. Les affiches étaient réalisées en styles différents avec l'utilisation d'une variété de techniques et de matériaux. De plus, elles ont joué un rôle important dans la préservation de la mémoire historique, en reflétant les événements sociaux et politiques d'une certaine période.

Les affiches soviétiques constituaient un moyen efficace de propagande et étaient largement diffusées en URSS pendant l'ère soviétique. Ils reflétaient généralement les principes idéologiques du communisme, les principales réalisations du pouvoir soviétique et provoquaient des sentiments patriotiques chez la population. Les affiches représentaient souvent des figures héroïques, des ouvriers, des paysans et des soldats, ainsi que des symboles du pouvoir soviétique. Quant à leurs sujets, les affiches soviétiques étaient très variées et concernaient différents domaines de la vie : politique, économie, culture, sport, etc. Elles promouvaient des valeurs socialistes telles que le collectivisme, l'égalité et la lutte contre le capitalisme. Certaines affiches bien connues, telles que «Koulak est l'ennemi du peuple», «Le Communisme est un avenir radieux» et «Le Travail est une question d'honneur», restent les symboles de l'ère soviétique jusqu'à présent [2]. Les affiches de la Grande Guerre patriotique sont des affiches créées entre 1941 et 1945 pour mobiliser et soutenir la population de l'Union soviétique pendant la guerre avec l'Allemagne nazie [3]. Ces affiches élevaient le moral de la population, motivaient la lutte et renforçaient les sentiments patriotiques des citoyens. Elles représentaient des scènes héroïques de la lutte de soldats soviétiques, des femmes militaires et des partisans qui défendaient leur Patrie contre les fascistes. Le style visuel des affiches de la grande guerre patriotique était vif, clair et expressif. Ils ont utilisé des couleurs vives, de forts contrastes et des images simples pour transmettre le sens et le message avec un minimum de mots. L'image du Bélarus dans une affiche militaire pourrait être représentée de différentes manières, en fonction du thème et des objectifs de l'affiche. Les affiches militaires devaient souligner l'esprit

patriotique et l'héroïsme du peuple biélorusse, en particulier pendant la guerre ou les conflits [3]. Ils représentaient des soldats défendant la patrie ou des symboles de la culture nationale biélorusse, tels que le drapeau National, les armoiries ou les costumes traditionnels. De nos jours, les affiches mettent l'accent sur le caractère paisible du Bélarus en démontrant sa neutralité dans les conflits hostiles et son désir de coexistence pacifique. Les éléments communs de l'image du Bélarus sur les affiches d'aujourd'hui sont la force, la vaillance et la fierté du peuple biélorusse, prêt à défendre son pays et ses intérêts. Ces affiches suscitent le respect, la compassion et la solidarité de la part du public, soulignant l'importance de la protection de la souveraineté et de l'indépendance du Bélarus. Pour en revenir au thème militaire, il est à noter que les partisans biélorusses sur les affiches étaient montrés comme des héros luttant contre l'occupation allemande. Les affiches dépeignaient souvent des partisans en tenue de combat avec des armes à la main, brisant le feu ennemi ou attaquant les occupants. Ils étaient présentés comme des gens courageux et dévoués à leur Patrie, prêts à se battre jusqu'à la dernière goutte de sang pour la liberté et l'indépendance du Bélarus. Ces affiches sont devenues l'un des outils les plus efficaces de propagande de masse pendant la seconde guerre mondiale, contribuant à élever le moral des troupes et de la population, ainsi qu'à renforcer l'unité du peuple soviétique dans la lutte contre l'Allemagne nazie. À l'heure actuelle, elles sont conservées dans les musées et les archives et constituent des sources importantes d'informations sur cette époque. Ainsi, les affiches sont une source inépuisable d'informations historiques sur une période particulière de la vie de la société.

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Статья посвящена теоретическим аспектам такой разновидности графического искусства, как плакат. Автор рассмотрел основные жанры и функции плаката и особое внимание уделил вопросам развития плаката периода Великой Отечественной войны, а также, в её рамках – плаката, отражавшего борьбу белорусского народа с немецко-фашистскими захватчиками.

**к содержанию**

**Н. А. Мелещук**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – преподаватель Е. А. Ковганко

## **OPPORTUNITIES FOR BUDGET TOURISM IN BELARUS**

Modern tourism is increasingly moving away from elitism and towards mobility and convenience for all types of customers. It is these trends that have been successfully realised in budget tourism. Budget tourism is a form of travelling based on a limited budget and saving money [1]. It is popular in many countries and is a way to travel with minimal expenses without spending on luxury hotels or restaurants. The popularity of budget tourism can be attributed to several factors that attract tourists and contribute to the flourishing of this type of travel. First of all, the main reason for the popularity of budget tourism is saving money. With the unstable economic situation and rising travel prices, people are looking for more affordable holiday options. Budget tours offer lower costs for accommodation, transport and food, which can significantly reduce the cost of the trip. This is especially attractive to young travellers on a tight budget.

Budget tourism can have different characteristics in different countries. For example, in some countries you can find cheap hotels, hostels or apartments to stay in. In other countries, low-cost bus or train travel is widespread, saving on transport costs [2].

Budget tourism in Belarus refers to a type of travel, the main idea of which is to use resources economically to achieve a positive travel experience. It involves organising trips with minimal expenditure on transport, accommodation, food and entertainment, allowing tourists on a limited budget to enjoy their holidays and see the sights of Belarus.

The basis of any tourist journey is accommodation, food and sightseeing. Consider each of these aspects from the point of view of budget tourism in RB [3].

Belarus offers a variety of accommodation options combining affordability and comfort. As travelling budgets are shrinking, more and more tourists are looking for economical accommodation options without sacrificing quality and level of service. There are several types of accommodation: apartments, flats for the night and hostels. Overnight apartments are non-residential premises that are close to residential property in terms of conditions. You can live in them as in ordinary flats, but you cannot register permanently. Apartments are installed in administrative buildings and houses that have the status of hotels or business centres. Overnight flats are rooms for short-term stays, usually for one night or a few days. They offer more affordable rates and the opportunity to live in a homely environment, often with a fully equipped kitchen where guests can

prepare their own meals. It can also be a good option for groups of travellers or families looking to rent accommodation with multiple bedrooms and shared space. An example of a service for renting accommodation in Belarus is “Weekend.by”, which provides travellers with a variety of daily accommodation options. Accommodation in any area can be found from 38 byn / day [4].

There are also budget hostels in Belarus, such as the hostel “Sleeping Places Smile” and the hostel in the center of Minsk “Viva”. Such hostels are usually located near railway stations or in places that have good transport connections. They often provide beds, a safe, fast Internet, a kitchen and a shower. The cost of accommodation is based on the length of stay. However, hostels are not suitable for everyone, as the rooms are designed to accommodate other tourists, which leads to some discomfort.

The next item important for budget tourism is food. There are several variations of budget meals. The first option is to cook yourself, but this option requires a kitchenette. This option is suitable for those who have a kitchen at the place of accommodation, which can be freely used by the guest. The necessary products can be purchased in any chain of shops in Belarus.

Another option for budget meals is to eat in canteens. In most cases, the buffet principle works there, where the price per portion will be calculated on the basis of its weight. In each city there are many such establishments, for example, in Minsk there is a canteen of the Academy of Management under the President, where the average cost of lunch is 8.98 Belarusian rubles. The peculiarity of such a meal is that canteens have their own schedule, which is not always convenient for tourists. Most often they work until 20:00. Also in the canteens in the “rush hour” a huge flow of people eat and the waiting time can be delayed. Canteens are also located at different distances from the place of overnight stay, usually you can get there either on foot or by public transport. However, another best option is a bicycle that can be rented. In addition, a bicycle can be an economical leisure activity in Belarus, as well as an unforgettable excursion cycling route [5].

The “TROFEI.by” website presents a selection of the best cycling routes, including both well-known and long-established routes and relatively new ones. There are several national parks in Belarus, where special cycling trails for walking have been created. One of the most popular routes is the route through Belovezhskaya Pushcha.

There are five different cycling routes in Belovezhskaya Pushcha which have different lengths and offer unique sights. During your journey you can find the site of a 13th-century Tatar settlement surrounded by marshes, as well as an oak tree over 300 years old or a birch tree with the head of a bison. It is possible to hire bicycles in the National Park but you can also use your own one. It is important to note that there is a fee for cycling in Belovezhskaya Pushcha. The

routes can be travelled both on foot and by bicycle. Cost is 7 roubles on your own bicycle and cost with bicycle hire is 2 roubles per hour.

The next popular route is the Narochansky National Park which offers a route through cultural landscapes called “The Roads of the Interzoozerie”. On the official website of the park you can find a guide to this route which contains information about the most significant objects of historical and cultural heritage of this beautiful part of Belarus. In addition, Narochansky offers cyclists holidaying in the agro-farmsteads other routes through the park that pass through interesting sites located near the farmsteads such as “Komarovsky Krai” and “Svirsky Krai” [6].

However, the classic “entertainment” for tourists is visiting museums and historical sights of the country. In Belarus the sphere of museum business is well developed. Most historical and cultural monuments are free to visit. Museums, however, usually have a symbolic fee, and some museums provide free exhibitions. Most often, free museum tours (in free time, not during various kinds of promotions) include a solitary walk and familiarisation with exhibits. You can also use the services of a guide for free. When you arrive at the museum, there will most likely already be one or more guided tours running which you can carefully join and listen to.

Saving money is not just about free excursions or itineraries. The main factor in saving money is organisation and planning. For budget travellers it is especially important to plan your expenses and choose the best time to travel. For this purpose, we have formulated a few tips and recommendations:

1. Create a budget, this will help you better control your spending;
2. Research low-budget options for accommodation, cuisine, transport, entertainment, check this information as much as possible before travelling and plan your visit;
3. Choose the best time to travel, research seasonality and prices in popular tourist destinations;
4. Look for discounts and free events, many places offer free or reduced admission tickets on certain days or for certain categories of visitors;
5. Plan ahead.

Thus, budget tourism can be a solution for tourists with small financial resources Belarus today offers significant opportunities for the development of budget tourism. Thanks to its unique natural heritage, cultural heritage and historical sites, the country attracts an increasing number of foreign visitors interested in more affordable travel options. Belarus has a variety of natural parks, reserves and recreational areas that can offer excellent opportunities for outdoor activities and excursions. Nowadays, Belarus offers a wide budget variety for travellers of all income levels.



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Автор анализирует растущую популярность современного бюджетного туризма в Беларуси среди путешественников с ограниченным бюджетом. Описаны доступность и недорогие варианты проживания, питания и развлечений в Беларуси. Представлено разнообразие туристических возможностей, включая культурное наследие, заповедники и природные достопримечательности. Важным аспектом является развитие инфраструктуры для бюджетного туризма, включая хостелы и недорогие гостиницы.

**к содержанию****В. А. Меркулова**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель С. В. Милач

**KOSMETIKINDUSTRIE – GEFAHR FÜR MENSCH UND UMWELT**

Eine der schlimmsten Umweltkrisen unserer Zeit ist die Verschmutzung unseres Planeten durch Plastik – und mittlerweile eine der sichtbarsten Herausforderungen für unsere Ökosysteme. Die schleichende Kontamination mit künstlichen Polymeren hat bereits mit den Meeresströmungen und über die Atmosphäre jeden Winkel der Erde erreicht. Zur Umweltverschmutzung durch Mikroplastik trägt die Kosmetikindustrie einen nicht unwesentlichen Teil bei.

Laut einer Studie des Fraunhofer-Instituts für Umwelt-, Sicherheits- und Energietechnik geraten in Deutschland jährlich 977 Tonnen Mikroplastik und 46.900 Tonnen gelöste Polymere allein aus Kosmetikprodukten sowie Wasch-, Putz- und Reinigungsmitteln ins Abwasser [3]. Das in vielen Kosmetikartikeln enthaltene Mikroplastik gelangt aber nicht nur in die Umwelt – es gibt auch Hinweise auf mögliche gesundheitliche Folgen bei Menschen. Untersuchungen bei Tieren lassen darauf schließen. Daher gewinnt dieses Thema in der modernen Welt immer mehr an Relevanz und erlangt größere Aufmerksamkeit in Wissenschaft, Politik und Gesellschaft. Im vorliegenden Artikel werden die Schäden für die Umwelt, die von Inhaltsstoffen der Kosmetikartikel ausgehen, analysiert und die Maßnahmen für die Verringerung der gesundheitlichen und ökologischen Auswirkungen der Kosmetikindustrie dargestellt.

Die Bedeutung, die Kosmetikprodukte im täglichen Leben haben, ist unbestritten. Schätzungen des italienischen Kosmetikverbands zufolge verwendet jede:r von uns durchschnittlich rund acht Kosmetikprodukte am Tag [1]. Aber die Herstellung und der Verbrauch von Kosmetikprodukten bringen erhebliche Probleme für die Umwelt mit sich. Unnötige Plastikverpackungen, Tierversuche, Mikroplastik in Kosmetik und Silikone in Produkten machen die Branche häufig zu einer sehr umweltschädlichen.

Im Folgenden werden potenziell umwelt- und gesundheitsgefährdende Inhaltsstoffe der Kosmetik- und Körperpflegeprodukte betrachtet.

Wie bereits erwähnt, sind das größte Problem für die Umwelt Kunststoffe, die auch etliche Kosmetikartikel enthalten. Ihre Funktionen sind vielfältig und reichen von Peeling- und Verdickungseffekten über das Erreichen einer besseren Schleifwirkung, eines schimmernden oder mattierenden Effektes und einer filmbildenden oder bindenden Wirkung bis zur Freisetzung von Duftstoffen oder von kosmetischen Wirkstoffen (z. B. von antimikrobiellen Mitteln oder Antioxidantien) [1]. Häufig werden als Beispiel synthetische Reibkörper in Peeling-Produkten genannt, aber auch in Cremes, Shampoos, Haarsprays und Zahnpasta setzen einige Kosmetikerhersteller kleine Plastikteilchen ein. Mikroplastik-Partikel können dabei so klein sein, dass sie für das Auge unsichtbar sind und sich nicht fühlen lassen. Die winzigen Partikel können Kläranlagen überwinden und gelangen über Abwässer in die Gewässer (Flüsse, Seen und Meere) – und mit dem Klärschlamm auch auf die Felder und in die Luft. Hier können sie dann viele Jahre überdauern, da die Plastikteilchen schwer abbaubar sind. Die Kunststoffe landen in der Nahrungskette: Meereslebewesen nehmen sie über ihre Nahrung auf und damit wiederum landet Mikroplastik auch auf unseren Tellern. Gut bekannt sind die bioakkumulativen, hormonellen, krebserregenden und anderen negativen Auswirkungen der Schadstoffe, die durch belastetes Mikroplastik in den Körper geschleust werden können. Auch wenn Mikroplastik aus Kosmetikprodukten in Kläranlagen, die dem neuesten

Stand der Technik entsprechen, zurückgehalten würde, so wäre das keine Lösung des Problems. In vielen Gegenden der Erde sind überhaupt keine oder keine modernen Kläranlagen vorhanden. Hier gelangen alle Mikroteilchen direkt in die Gewässer.

In extrem vielen Pflege- und Kosmetikprodukten werden auch erdölbasierte Stoffe verwendet. Zum einen kommen Mineralöle, die aus Rohöl destilliert werden, als Fettbestandteil von Kosmetika zum Einsatz, etwa als Paraffin oder Vaseline. Zum anderen stellt Erdöl die Ausgangsbasis für viele weitere Inhaltsstoffe dar – Tenside, Konservierungs- und Duftstoffe oder UV-Filter. Erdöl in Kosmetik ist bei Herstellern besonders beliebt, weil es ein billiger und guter Konservierungsstoff ist. Anders als viele pflanzliche Öle sind Mineralöle sehr leicht zu verarbeiten und besonders haltbar. In der Anwendung bieten sie den Vorteil, dass sie so gut wie keine Allergien auslösen. Gerade bei Produkten zur Lippenpflege ist Mineralöl jedoch besonders gefährlich, da Lippenstift auch abgeleckt wird und beim Essen auch immer kleine Mengen mitgegessen werden. Schon kleine Mengen davon können im Körper krebserregend und erbgutverändernd sein. Mineralöl kann auch erhebliche Auswirkungen auf die Gesundheit unserer Haut haben. Nicht nur für die Gesundheit, sondern auch für die Umwelt können Mineralöle problematisch sein. Die Herstellung, der Einsatz und die Entsorgung dieser Öle belasten die Umwelt nachhaltig. Außerdem ist zu berücksichtigen, dass Erdöl zu den nicht erneuerbaren Rohstoffen zählt. Aus den genannten Gründen ist es ratsam auf Vaseline und Co. als Gesichtspflege zu verzichten. Eine effektive Möglichkeit Mineralöle zu vermeiden, besteht darin, auf Naturkosmetik umzusteigen, die auf pflanzlichen Ölen basiert.

Die UV-Filter in der Sonnencreme, wie Benzophenon-3 oder Nano-Partikel, sind alles andere als ungefährlich für die Umwelt. Beim Schwimmen gelangen sie ins Wasser und lagern sich im Boden oder als eine Art Ölfilm auf der Wasseroberfläche ab. Sie werden von Meereslebewesen, wie Korallen, Algen, Muscheln oder Fischen, aufgenommen. Einmal im Körper schädigen sie die DNA oder wirken wie Hormone, die Wachstum und Fortpflanzung stören. Doch nicht nur das empfindliche Ökosystem Meer ist so gefährdet, auch Menschen nehmen durch Wasser und Lebensmittel aus dem Meer die Schadstoffe auf.

Kosmetikprodukte enthalten darüber hinaus noch weitere für die Umwelt und Gesundheit mitunter problematische Inhaltsstoffe: Aluminium, das oft in Deos, Sonnencremes und Zahnpasten verwendet wird, wird immer wieder mit der Entwicklung von Alzheimer und der Entstehung von Brustkrebs in Verbindung gebracht, gilt auch als nervenschädigend und hautirritierend; Duftstoffe können Allergien auslösen; Tenside in Shampoo, Duschgel, Reinigungsmitteln sowie Silikone in Cremes, Make-up, Sonnen- und Haarschutz sind biologisch nur schwer abbaubar und dadurch umweltschädlich; Palmöl wiederum steht in Zusammenhang mit der Abholzung von Regenwäldern; das

Mineral Glimmer (auch als Mica bekannt) bringt Puder, Lippenstift und Co. zum Glitzern, wird aber häufig von Kindern abgebaut. In einigen Kosmetikprodukten findet man darüber hinaus tierische Inhaltsstoffe wie Kollagen, Lanolin oder Keratin [2].

Schließlich kommen Beautyprodukte auch oft in einer Menge Verpackungen daher: Glas, Papier und Biokunststoffe sind nur einige der anderen Materialien, aus denen die Verpackung von Kosmetika besteht. Viele von diesen Stoffen können letztendlich nicht recycelt werden, zudem werden sie häufig gemischt, was eine angemessene Entsorgung am Ende der Lebensdauer und Abfall nahezu unmöglich macht.

Ein Problem sind auch Tierversuche, die Unternehmen für kosmetische Produkte durchführen. So werden in Tierversuchen beispielsweise Chemikalien in die Augen von Kaninchen gegeben. Man tropft ihnen die Stoffe flüssig in das Auge, streut sie als Pulver hinein oder sprüht sie als Gas auf die Hornhaut, ohne dass sich die Tiere dagegen wehren können. Anschließend wird bewertet, wie stark ihre Augen verletzt wurden. Gleichermaßen werden Chemikalien bei Meerschweinchen auf die Haut aufgetragen oder in die Haut gespritzt. Bei diesen Tierversuchen wird in Kauf genommen, dass die Tiere unter erheblichen Schmerzen leiden. Immer noch werden Inhaltsstoffe von Pflege- und Kosmetikprodukten teilweise auf diese leidvolle Weise getestet, bevor sie auf den Markt kommen. Selbst das umfassende Tierversuchsverbot für Kosmetika, das seit 2013 in der Europäischen Union gilt, verhindert dies bislang nicht, weil es in der Tat durch Ausnahmeregelungen untergraben wird.

Zusammenfassend kann man sagen, dass das Thema der Nachhaltigkeit der Kosmetikindustrie derzeit äußerst wichtig ist. In Politik, Gesellschaft und Medien wird darüber engagiert diskutiert und vehement gestritten. Die Branche ist sich dessen bewusst, weshalb sich Kosmetikmarken zunehmend nachhaltig engagieren und auch transformieren. Heutzutage ist vorausgesetzt, dass ein Kosmetikprodukt sowohl die Gesundheit der Verbrauchenden respektiert als auch mit Umweltrücksicht hergestellt wurde. In den letzten Jahren hat eine starke Entwicklung stattgefunden, die eine Vielzahl an Ansätzen zur Verringerung der negativen Umwelteinflüsse während der Rohstoffgewinnung und im Bereich alternativer Inhaltsstoffe der Kosmetikprodukte und Verpackungen hervorgebracht hat. Durch die Wahl von organischen, grausamkeitsfreien, veganen und fair gehandelten Substanzen können Schönheitsmarken Produkte kreieren, die Menschen verschönern, ohne Schaden zu verursachen.

Was die Verbraucher angeht, so haben sie, laut den Ergebnissen vieler Befragungen, ein großes Interesse an nachhaltigen Produkten und sind durchaus bereit gewisse Mehrkosten dieser Produkte mitzutragen. Mit dem Wissen um die gesundheitlichen und Umweltrisiken von Kosmetikprodukten können

Verbraucher bewusste Entscheidungen treffen. Der Verzicht auf Produkte mit schädlichen Inhaltsstoffen zugunsten von Naturkosmetik trägt nicht nur zu persönlicher Gesundheit bei, sondern auch zur Schonung unserer Umwelt. Der einfachste Weg nachhaltige Kosmetika zu erkennen ist es, nach entsprechenden Siegeln Ausschau zu halten. Die Zertifizierung bescheinigt hier den nachhaltigen Ansatz bzw. die nachhaltigen Herstellungspraktiken des Unternehmens und erleichtert damit Verbrauchern und Verbraucherinnen die Suche nach natürlichen Kosmetikprodukten aus Öko-Inhaltsstoffen. Es liegt in unserer Verantwortung, Kosmetikprodukte kritisch zu hinterfragen, Inhaltsstoffe zu prüfen und bewusste Entscheidungen für die eigene Pflege und Schönheit, aber auch für den Schutz der Umwelt zu treffen.

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В статье показано влияние косметической промышленности на окружающую среду. Подчеркивается негативное воздействие микропластика и других опасных ингредиентов, содержащихся в косметической продукции. Анализируются стратегии по борьбе с загрязнением окружающей среды.

### к содержанию

**Д. А. Михальченко**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель О. Н. Коваленко

### **INTERNATIONAL HUMANITARIAN LAW: PRINCIPLES AND RULES**

Wars and armed conflicts have been a problem for humanity for centuries. Of the past 3,400 years, only 300 years have been peaceful. Every year new “hot spots” appear on the planet. There are currently about 46 active conflicts in the world. This number is constantly growing. Modern wars differ significantly from previous ones in methods and techniques of warfare. A variety of weapons

are used, which can cause enormous damage not only to military units and parties of the conflict, but also to civilians and nature. There are various means used to regulate armed conflicts, including international humanitarian law.

International humanitarian law is a set of legal principles and norms governing armed conflicts. In this article we aim to reveal the role of international humanitarian law, the brief history of the international humanitarian law, its principles, main problems, and its relevance on the international arena.

The first development of standards for the humane treatment of civilians, the wounded and the sick dates back to the 17th century. The main stages in the development of international humanitarian law can be identified as follows [1]:

1. The Battle of Solferino in 1859, which was witnessed by Henri Dunant (he would later become the founder of the International Committee of the Red Cross).

2. The 1864 Geneva Convention for the Protection of the Wounded and Sick in Time of War.

3. The St. Petersburg Declaration on the abolition of the use of explosive and incendiary bullets, adopted in 1868.

4. The Hague conventions and declarations of 1899, 1907 about the laws and customs of war.

There are identified the following main principles of modern international humanitarian law [2]:

- a) The principle of humanism is a respectful attitude towards people, wounded soldiers, and people captured.

- b) The principle of proportionality – the conflict occurs directly between military formations. Civilians and children, civilian infrastructure are under special protection.

- c) The principle of liability for violation of rules of law – states and individuals are accountable for violations or non-compliance with general rules.

- d) Restriction of methods of warfare – certain means, weapons (biological and chemical), ammunition (cluster, nuclear weapon) are banned.

- e) The principle of protection of rights – states must ensure the protection of the rights of persons under their influence.

Thus, these principles provide for clearly defined rules of warfare, preventing civilians and children from suffering.

“Written on paper” rules are not enough today, because often they neither contribute to the prevention of conflicts nor to the humane treatment of participants. The main problems observed include: violation of human rights (violent actions against armed persons and civilians, capture of citizens; mass shelling of cities, use of prohibited weapons); problems with humanitarian access (e.g. 2023 Israeli–Palestinian conflict); problems with ceasefire rules (in

most cases, one side does not comply); problems with bringing perpetrators to justice; failure to resolve problems peacefully. The “problem of all problems” is precisely the inability to resolve the conflict situation peacefully, for example, through negotiations.

Global humanitarian organizations dedicated to protecting rights are losing their relevance. Shelling of the civilian population in the Russia-Ukraine war conflict, shooting down the plane with prisoners, the shelling of Yemen affecting civilian infrastructure, the use of banned weapons are examples of a violation of the norms of humanitarian law. The lack of clear reaction from the UN and other organizations towards them shows their inefficacy.

To sum up, what is established and accepted by states is often not implemented. It is necessary to develop and ensure the responsibility of states and individuals for violations of the law. The problems discussed in this article will be relevant for the entire world community for a long time. International humanitarian law is designed to ensure the adequacy and fairness of military conflicts in practice, but in reality, it exists only on paper.

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В статье показана роль международного гуманитарного права, рассматриваются история возникновения международного гуманитарного права, его принципы, основные проблемы и актуальность в международном пространстве.

#### к содержанию

**А. А. Михальчук**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент  
Т.С. Троцюк

#### THE ROLE AND IMPORTANCE OF MITOSIS

The most important property of a cell is its ability to reproduce. Increasing the number of cells in all multicellular organisms is absolutely necessary for good life. One of the main uses of this function is through mitosis [2].

Mitosis is a process of cell division (cell nucleus division) that produces daughter cells which are genetically identical both to each other and the parent cell.

This process follows the replication of chromosomes where the daughter cell nuclei contain the same number of chromosomes as the parent nuclei. Mitosis has a complex mechanism involving several phases that were necessary in the course of evolution when cells, with dramatically increased DNA packaged into topological chromosomes, appeared. The task of accurately distributing doubled chromosomes between daughter cells is of great importance. Nowadays, this separation is provided by a mitotic apparatus. The accuracy with which the mitotic apparatus operates has been determined on yeast cells and it turned out that the error when chromosomes diverge occurs 1 time on 1,000,000 divisions [1].

In mitosis it is important to preserve genetic information at each division. The key role of mitosis is to copy the gene code and transmit it to succeeding generations. Thanks to the process a constant number of chromosomes is maintained in the nucleus which is strictly equally distributed among daughter cells. For example, plant tissue cells build up with mitotic division. In animal organism's mitosis is the basis for crushing the fertilized egg and tissue growth [1].

Thus, we can determine the biological meaning of mitosis as:

- development and growth of a living organism. Through this process a multicellular organism develops and grows from a single-cell zygote. Mitosis is the basis of embryonic development;

- cell renewal. Some areas of the body (skin cells, intestinal epithelia's, erythrocytes) in the course of vital activity require a steady renewal;

- regeneration and restoration. With mitosis, some organisms can recover from one part of the body. For example, a starfish can recover from just one ray, a lizard may grow a new tail, parts of the human skin can be restored;

- asexual reproduction. This process is the basis of vegetative growth. In animals, mitosis multiplies hydra. The new individual is budgeted in a way that is impossible without dividing and increasing the number of cells. Worms (which are also animals) breed by fragmentation which is also based on mitosis [2].

Genetic changes underlying many diseases may be directly related to errors in cell division. Modern genetic and molecular techniques have made it relatively easy to detect new components of chromosome and cytokinesis separation processes. The main further objective of the studies of mitosis is to establish the functions of these components, to reveal the details of their joint participation in a certain process and (finally) to find out how individual mitosis processes are integrated, for (thereby) ensuring the flow of life processes. It is also necessary to find out how the individual proteins involved in the mitosis process work [3].



The biological value of mitosis is very significant: mitosis produces daughter cells – genetic copies (clones) of the mother cell; mitosis is a universal way of asexual reproduction, regeneration and flows the same in all eukaryotes (nuclear organisms); the universality of mitosis is another proof of the unity of the whole organic world.

There is no doubt that the next area of the development will be the elucidation of how the division spindle is formed, how mitosis is stopped in the dead cells of the skin, the influence of various chemical preparations on the processes of mitosis and its individual phases. The main further goal is to establish the functions of biological components, to reveal the details of their joint participation in a particular process and, finally, to find out how the individual processes of mitosis are integrated, thereby ensuring the course of one of the most fundamental processes of life [4].

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В статье раскрываются основные понятия, свойства, сущность и важность такого процесса как митоз, описывается необходимость и биологическое значение данного явления. Автор рассматривает митоз во всех живых клетках организмов, показывает актуальность и тенденции изучения митоза в сферах биологических наук.

#### к содержанию

##### **Т. С. Моторина**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева  
 Научный руководитель – кандидат филологических наук, доцент  
 А. В. Николаева

#### **AGROECOLOGICAL SOIL MONITORING**

The quality of agricultural land is determined by a number of different factors that influence agro-landscapes. Changes in agrochemical characteristics and agronomic properties of soils are increasingly common. This phenomenon is

due to the active human impact on the soil, which often ignores the norms of rational farming.

These transformations are determined by the peculiarities of the environment, climate, and soil and geographical conditions of different regions of Russia. Land quality can only be maintained if agro-ecological control of these lands is periodically carried out.

Monitoring the agro-ecological condition of agricultural land involves regularly tracking changes in the land to ensure control, effective use and protection of these areas. This type of monitoring is part of a broad environmental surveillance system that aims to collect data on the state of the natural environment [2, c. 9].

The purpose of the work is to study agroecological monitoring. The objectives of the work are the following: to give the definition of agroecological monitoring and to consider the key points of agroecological monitoring of land in Russia.

According to Fokin S. agroecological monitoring of land includes systematic tracking of changes in agricultural areas for control, effective use and protection of these plots of lands. Throughout the territory of the Russian Federation, special attention is paid to areas contaminated by pesticides, heavy metals and radionuclides. This type of monitoring is part of a large-scale observation of the impact of industry on agroecosystems, carried out by agrochemical services through an extensive network of control points throughout the country. The objectives of agro-ecological monitoring encompass providing accurate information on the condition of agricultural land, optimising soil fertility and improving the efficiency of land reclamation measures. The main objective is to create ecologically sustainable agro-systems by means of rational use of natural resources and application of fertilisation means [3, c. 121].

Agro-environmental monitoring plays a key role in the overall surveillance system and is part of a monitoring programme that aims to track the condition of agricultural ecosystems (and their surrounding areas) during active farming operations. Its main objective is to form efficient agro-ecosystems through the rational use of natural resources and the careful application of fertilisers and other inputs. At the moment, agro-ecological monitoring is aimed at solving the following tasks:

- timely detection of changes in the condition of agricultural land, as well as forecasting and evaluation of these changes;
- development of options for improving soil fertility and increasing the efficiency of land reclamation measures;
- proposals for prevention of serious consequences caused by external impacts due to human activity;
- keeping a register of soil condition records [4, c. 125].

Primary data on changes in the agrarian characteristics of soils in the areas selected for monitoring are also being examined and evaluated. [1, с. 69-71]. The information obtained is analysed to identify agronomic and agrochemical indicators of the land. These data also help to select crop rotations and cropping patterns for the area. In order to analyse changes in soil cover, a thorough soil survey is carried out in a particular area.

Information on soil characteristics is collected from the selected fields. The soil characteristics can be humus layer depth, pH value, etc.. It should be emphasised that if the data obtained deviate significantly from the average values, the fields selected for analysis should not be used for monitoring activities. Agrolandscape analysis covers the study of the ecological state of the land, its agronomic and biological efficiency.

To sum it up, it should be emphasised that the results of agroecological monitoring are provided both in text format and in graphical form, for example, in the form of soil maps [4, с. 126]. Consequently, agroecological monitoring is inextricably linked with the study of processes negatively affecting the studied objects, which contributes to the development of improved reclamation solutions for certain areas.

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В статье раскрывается понятие агроэкологического мониторинга и анализируются его особенности. Автор рассматривает агроэкологический мониторинг как часть общеэкологического мониторинга. В итоге автор приходит к выводу, что результаты агроэкологического мониторинга используются для оценки агроландшафтов и составления планов по их восстановлению.

**к содержанию**

**A. С. Мушуруй, Е. Р. Кургуз**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель О. Г. Полещук

## **CONSECUENCIAS ECONÓMICAS Y SOCIALES DE LA BAJA FERTILIDAD Y EL ENVEJECIMIENTO DE LA POBLACIÓN**

La baja fertilidad y el envejecimiento de la población se encuentran entre las amenazas demográficas más importantes que enfrentan los países desarrollados en la actualidad.

El envejecimiento de la población se está convirtiendo en uno de los cambios sociales más influyentes del siglo XXI. En la literatura científica, este fenómeno a veces también se denomina "revolución silenciosa" debido a su naturaleza gradual y la inevitabilidad de cambios en la estructura de edades en esta dirección. Este proceso afecta y abarca todos los procesos sociales [2, c. 17]. El envejecimiento demográfico afecta a los mercados laboral y financiero, a la demanda de bienes y servicios como vivienda, transporte y protección social, así como a la forma misma de la familia y las relaciones entre personas que pertenecen a diferentes generaciones. Al mismo tiempo, el número de personas de 65 años o más está creciendo más rápidamente que otros grupos de edad.

Como resultado del envejecimiento de la población, la economía global está experimentando diversos impactos. El primer problema es el crecimiento económico negativo. Con la ayuda de un estudio especial, la ONU descubrió la siguiente conexión entre el envejecimiento de la población y el crecimiento económico: al comienzo del envejecimiento demográfico, el crecimiento económico se produce debido a un aumento en la permanencia de la fuerza laboral, pero después de alcanzar un cierto estado, comienza a decaer [3]. Lo siguiente que afecta al envejecimiento de la población es un cambio en la estructura social de la sociedad. El envejecimiento de la población se está convirtiendo en una de las razones del cambio en la estructura social de la sociedad. Como resultado, surgen nuevas proporciones entre diferentes segmentos de la población, su distribución en el territorio, parámetros promedio típicos como tamaño, estabilidad, patrones de comportamiento, valores y más cambios.

Además, el envejecimiento demográfico ha llevado a la transformación de las instituciones sociales existentes al revisar los fundamentos de la organización de los servicios sociales y de salud [1]. Por un lado, esto creó problemas materiales y organizativos; por otro, surgieron nuevas profesiones, como trabajadores sociales, gerontólogos sociales, psicólogos, etc.

Cambiar la estructura familiar se está convirtiendo en un problema muy importante. El proceso de envejecimiento también ha cambiado la estructura misma de la familia [2]. Las familias numerosas multigeneracionales son cada vez más raras. En las familias nucleares, las personas mayores suelen no tener que contar con el apoyo constante de sus hijos, por lo que este papel lo asume el Estado, que comienza a crear centros especializados, hospitales, etc. La soledad de la población de edad avanzada se ve agravada aún más por su escasa capacidad para adaptarse a las nuevas tecnologías y, en general, a las condiciones de vida en constante cambio.

Incremento de la mortalidad por causas naturales. En general, un aumento en la proporción de la población de edad avanzada y una disminución en la proporción de la población joven aumentan la mortalidad por causas naturales y, como resultado, el crecimiento natural de la población disminuye y surge una amenaza de la crisis demográfica [3].

También el investigador A.G. Leaders señala que el envejecimiento demográfico provoca un aumento de la proporción de personas con ingresos más bajos en comparación con las que trabajan. Debido a esto, la demanda de bienes de determinadas industrias disminuirá. También señala que una disminución en la proporción de la población de hombres jóvenes menores de 40 años conducirá en última instancia a una disminución en el número de militares [2, c. 55].

El siguiente problema es una disminución de la actividad laboral. Las personas mayores tienen muchas menos probabilidades de permanecer activas en la fuerza laboral. La actividad laboral sigue siendo alta para hombres y mujeres sólo durante los primeros cinco años después de la jubilación, después de lo cual disminuye rápidamente. Así, con el envejecimiento de la población, el problema de la escasez de mano de obra se vuelve urgente.

El economista R.I. Kapelyushnikova señala que el envejecimiento de la población inevitablemente empeora la relación entre la población económicamente dependiente y la económicamente independiente, aumentando la relación de dependencia [2, c. 70].

Conflictos entre las poblaciones mayores y jóvenes. Por esta razón, muchos científicos están estudiando el conflicto generacional, que se expresa a través de la competencia por puestos de trabajo y malentendidos entre grupos de edad.

Por tanto, el envejecimiento de la población representa un importante desafío demográfico al que se enfrentan muchos países del mundo. Para hacer frente a los desafíos del envejecimiento de la población, es necesario desarrollar e implementar estrategias integrales que incluyan medidas para mejorar la calidad de vida de las personas mayores, reformar los sistemas de pensiones, apoyar el envejecimiento activo y desarrollar infraestructura para el cuidado de las personas mayores.

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В статье раскрываются проблемы, возникающие при перенаселении. Авторы анализируют такие причины возникновения демографического кризиса, как низкая рождаемость и старение населения. В статье детально описаны последствия перенаселения на примере социальных конфликтов, отрицательного экономического роста, изменений социальной структуры. Также рассматриваются пути решения данной проблемы и предлагаются рекомендации.

**к содержанию****М. Н. Навроть**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель — преподаватель Е. А. Ковганко

**USING STORIES AND FAIRY TALES IN TEACHING ENGLISH TO PRESCHOOLERS**

In the modern world, the ability to speak English is becoming an increasingly important and demanded skill. Teaching English from a very young age is of particular importance, since early introduction to the language environment contributes to a more effective acquisition of a foreign language. Preschool age is the optimal time to start this process, since at this age children are in a state of maximum linguistic sensitivity and readiness to learn new knowledge.

The role of fairy tales in the upbringing and education of preschoolers is the most important and multifaceted. Fairy tales not only develop language skills, but also contribute to the formation of value guidelines, the development of imagination and creative thinking. They are an unmatched tool for stimulating a child's cognitive and emotional development.

The existing conditions for teaching English to preschoolers today provide a wide range of opportunities. Modern techniques and technologies allow you to create interactive and exciting lessons, and the use of a variety of materials,

including books with fairy tales, which makes training more effective and interesting.

The proof of the relevance of this topic is the research of scientists from the London children's laboratory "Birbeck", who came to an interesting conclusion: even babies who have not yet learned to speak, have a variety of ideas about the world. The scientists observed eye movements by studying how children responded to faces and emotions, and analyzed electroencephalograms to understand what was happening to brain waves in the process of learning speech. The scientists have found that the possession of some skills in infants is significantly ahead of adults [1]. Research has shown that while adults can distinguish just 45 sounds from their mother tongue, six-month-old babies can recognise by ear up to 150 sounds shared by any language in the world. This highlights the importance of creating a stimulating environment for language learning for children already at an early age. For example, English, considered one of the easiest, can be easily learned by children listening to stories and fairy tales in this language. This approach not only develops language skills, but also contributes to the overall cognitive and emotional development of babies [1].

One of the key aspects of the method of stories and fairy tales is to expand the vocabulary and language stock. Stories and fairy tales provide children with the opportunity to immerse themselves in a world of new words and phrases, which is especially important in the context of Montessori's pedagogical concept of an "absorbent mind". Psychologists also emphasize that the perception, memory and attention of preschoolers have an involuntary character. It is important to take into account that children at this age are not yet able to independently analyze objects, their attention is caused by outwardly attractive objects. For example, these can be vivid and colorful illustrations or demonstrations of objects contribute to the successful assimilation of the material. The implementation of this concept in teaching English to preschoolers requires innovative approaches and adaptation of methods to the peculiarities of perception and learning of babies. In the context of Montessori's pedagogical concept of the "absorbent mind", where attention, memory and perception in preschoolers have an involuntary character, effective implementation of learning through fairy tales can be carried out through: creating lessons based on the interaction and active participation of children; role-playing games, pageants, and creative assignments; use of audio and video materials with fairy tales in English; complemented by colorful illustrations; word games, lotto, word and phrase repetition games.

In addition, a variety of creative tasks are effective, such as drawing, modeling, design, etc. Such methods of teaching English through fairy tales in practice make it possible to effectively take advantage of preschool age, forming language skills and enriching the inner world of children through immersion in

the world of fantasy and colorful stories. And besides, stories play an important role in stimulating imagination and creative thinking in babies. They help expand vocabulary, improve communication skills and enrich the imagination. In addition, they contribute to the development of understanding of the plot, logical thinking and emotional intelligence in children. Reading and storytelling also foster a bond between parents and children, creating a cozy atmosphere for communication and interaction.

Research by a team of scholars who used the tales "Ugly Duckling" and "Snow White and the Seven Dwarfs" showed that integrating fairy tales with notions of color and numbers substantially improved children's understanding of the material over four days. Creative assignments for children used a variety of materials such as watercolors, colored pencils, markers, cards, sticks, colored paper, and etc.. Methods of testing and targeted pedagogical observation were used to evaluate the results of experimental work. According to the conclusions from the results of the experiment, scientists found that the ability of children to attention and listening practically did not develop without the use of fairy tales. The percentage of understanding the material in children was 44%, but when fairy tales were integrated into the preschool education process, this result increased to 66% [2].

Recently, many studies have appeared that confirm the significance of the use of fairy tales in the mental development of children, as B. Bettelheim and K. Federspiel point out. These studies clearly demonstrate the complex relationship of children with the fictional world represented in fairy tales. These studies confirm that the fairy tale is a special type of educational material, the possibilities of which for the methodology of early learning of foreign languages have yet to be fully studied.

Also a fairy tale has a motivational and incentive orientation (since children are always attracted by the idea of listening to or participating in a fairy tale), informativity and high educational value (since a fairy tale reveals the world and its environment for a child), authenticity, information and language accessibility (the language and content of children's fairy tales correspond to the knowledge system and needs of children) [3].

The uniqueness of fairy tales as educational material lies in the ability to successfully combine the developmental, educational and practical aspects of learning. Teachers can read tales aloud to children in class, using interesting voice effects and gestures to appeal to children. After reading a fairy tale, you can have a discussion with children, asking questions about the plot, characters and moral lessons. Children can independently play roles from a fairy tale, which develops their creative thinking and social skills, they can be offered to draw or cut images from a fairy tale, compose their own version of the plot, or even write their own fairy tale. Parents can use fairy tales to role play at home,



helping children get used to the role of characters and create their own stories. Therefore, fairy tales can be introduced into learning from a very early age, when children are able to perceive speech and follow the plot. Parents can also apply these techniques at home to support the child's development.

Thus, the application of stories and fairy tales in teaching English to children is not just a method, but an art of nurturing that reveals the richness of language and promotes the harmonious development of children. Many educators are increasingly aware of the importance of this approach, and its successful implementation can be key to effective and exciting language learning at an early age [4].

In conclusion, we can say that fairy tales are a valuable resource for learning foreign languages, they are entertaining, fascinating and laconic. With their help, students can master aspects of grammar, enrich vocabulary and comprehend moral lessons. Fairy tales motivate learning and make language classes more fun.

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В статье рассматривается значение сказок в обучении английскому языку для дошкольников. Автор подчеркивает, что раннее введение в языковую среду способствует более эффективному усвоению иностранного языка, и дошкольный возраст является оптимальным временем для начала этого процесса. Описывается, как сказка влияет на развитие языковых навыков, формировании ценностных ориентиров, развитии воображения и творческого мышления у детей.

**к содержанию**

**Е. Д. Огнева**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева

Научные руководители – старший преподаватель Н. А. Сергеева, кандидат технических наук, доцент Р. Н. Егоров

## **ECONOMIC AND SOCIAL ASPECTS OF THE DIGITALIZATION OF THE AUTOMOTIVE INDUSTRY: IMPACT ON THE LABOR MARKET, BUSINESS MODELS AND CONSUMER BEHAVIOR**

The digitalization is one of the brightest modern trends that has a direct impact on the nature of labor relations (their greater flexibility, similarity to civil law relations) and on the state of employment in various states and regions.

The term “digitalization” is derived from the noun “digit” or the adjective “digital”. It thus refers to the introduction of digital technologies, data transmission streams and digital transmission devices (computers, smartphones, tablets, televisions, smartwatches, etc.) into all areas of society and the economy [2].

The aim of this article is to systematize and analyze the consequences of the digitalization of the automotive industry for the labor market, business models, and consumer behavior, taking into account current trends and development prospects.

The digitalization of the automotive industry has a significant impact on the labor market, changing both the jobs themselves and the skills and competences required of employees. Let's take a closer look at some aspects of this impact.

The introduction of digital technologies, robotics and the automation of production processes in the automotive industry is changing the nature of jobs. According to a study by the McKinsey Global Institute, automation could lead to the loss of between 400,000 and 800,000 automotive manufacturing jobs in Europe and the United States by 2030. At the same time, the development of the autonomous and electric vehicles could create between 1.2 and 2 million new jobs in the development, testing and maintenance of these technologies.

Employees with skills in machine learning, artificial intelligence, data analytics, cybersecurity and electrical engineering will be increasingly in demand.

In general, the digitalization of the automotive industry is leading to structural changes in the labor market that require both employees and employers to adapt. Workers must be prepared to continuously update their skills and competences in line with the requirements of the rapidly changing automotive industry [1].

The digitalization of the automotive industry is having a significant impact on the sector, changing working models and creating new opportunities.

According to Tesla's financial statements for 2023, the company increased its revenue by 85% compared to the previous year, reaching a total revenue of \$48.1 billion. Most of its revenue comes from the sale of electric vehicles and ancillary services, including “Autopilot”.

Digital technologies are enabling the creation of new business models such as carsharing, carsharing platforms and customized mobility services.

Companies can use vehicle usage data to optimize services and meet customer needs.

The development of the electric vehicle market requires new business approaches. Companies involved in the production and sale of cars need to respond to changing demand and develop their products and services in accordance with new technologies. For example, companies like GM are developing electric vehicles such as the Chevrolet Bolt and Cadillac Lyriq to meet the demands of a market focused on reducing emissions and increasing transportation efficiency. At the same time, companies such as Waymo and Tesla are working to develop and deploy autonomous driving technologies that are changing the paradigm of car ownership and use.

In-vehicle digital technologies, such as infotainment systems, navigation systems, safety systems and vehicle management through mobile applications, are significantly enhancing the experience of owning and using a car.

Consumers gain access to a wide range of features and capabilities that make driving more convenient, safer and tailored to their needs.

The digitalization of the automotive industry offers consumers greater choice and personalization. For example, according to a J.D. Power study, the market share of electric vehicles is expected to reach 20% by 2023, giving consumers a wide range of choices in terms of features and functionality. The emergence of carsharing and carpooling is also gaining popularity: the global carsharing market is estimated to be worth \$6.2 billion in 2022, and is growing to \$16.9 billion by 2028, according to Grand View Research. Digital technologies are making cars more personalized: for example, voice control systems and settings for seats, mirrors and lighting that improve driving comfort. Safety and convenience are also improving: according to NHTSA research, driver assistance systems reduce the number of traffic accidents by 40% [3]. All of this is changing the experience of owning and using a car, making it more individualized and convenient for consumers.

In addition, according to a McKinsey study, more than 70% of consumers value the ability to integrate smartphones into cars to access various applications and services. This confirms the growing demand for innovative in-car technologies that improve interaction and usability for consumers [4]. Moreover, with the development of autopilot systems and the expansion of car connectivity, consumers are gaining more freedom and convenience while driving. For example, Tesla offers the ability to update the car's software over

the Internet, allowing new features and improvements to be introduced without having to visit a service center. As a result of the digitalization, consumers are getting smarter, more flexible and customizable cars that better suit their needs and preferences.

An analysis of the impact of the digitalization of the automotive industry on various aspects of society has identified significant changes and challenges that digital transformation will bring to the automotive industry.

The labor market is undergoing a transition towards more high-tech and specialized jobs, while at the same time traditional jobs may be reduced due to automation. However, the digitalization also opens up new employment prospects in the development, maintenance and management of new technologies in the automotive industry.

The digitalization creates new opportunities for businesses in the form of innovative business models, new mobility services, electric mobility and fleet management. However, companies also face new challenges. They need to adapt to a rapidly changing market and integrate digital technologies into their operations.

For consumers, the digitalization of the automotive industry brings improvements in the form of enhanced user experience, more choice in terms of electric vehicles and mobility services, as well as personalization and increased safety and comfort.

The digitalization of the automotive industry is thus transforming all aspects of the automotive industry, creating both new opportunities and new challenges for society, companies and consumers. Successfully adapting to these changes requires constant updating of knowledge and skills, as well as flexibility and innovation on the part of all participants in this dynamically evolving industry.

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В статье рассматривается как цифровизация автомобильной промышленности вносит значительные изменения в экономические и социальные аспекты современного транспорта. Анализируется влияние цифровизации на рынок труда, бизнес-модели и

поведение потребителей. Исследование направлено на выявление ключевых факторов, формирующих новую реальность автомобильного сектора в цифровую эпоху.

### **к содержанию**

**У. О. Осадчая**

Республика Беларусь, Брест, Брестский государственный университет имени А.С. Пушкина

Научный руководитель – преподаватель К. В. Спесивцева

### **PODCASTS AS THE MAIN MODERN WAY OF DEALING WITH THE BACKGROUND PERCEPTUAL INFORMATION**

In these fast-paced times, people are increasingly seeking information, not wanting to spend a significant amount of time reading, listening or browsing in general. Statistics from the British press shows that more than 125 million searches are made on Google every hour, 50% of users leave a web page that doesn't load within ten seconds, 1/3 of Brits expect to like a photo on Facebook less than a minute after posting it. The most hated time-consuming activities are: waiting for a phone call to connect, waiting to replace a credit card, waiting for shopping to be delivered, waiting for a flight to be delayed and getting stuck in traffic. As a result, podcasts are rapidly growing in popularity as they allow people to use their time efficiently and listen to information “in the background” while being engaged with other matters.

The term “podcast” was coined by a journalist Ben Hammersley in 2004. A year later the New American Oxford Dictionary announced it “word of the year”, describing a podcast as a digital audio recording of a radio program posted on the Internet and available for free download. The main feature of the podcast was the possibility of delayed listening [1]. In other words, the new format made it possible to consume content regardless of time and place.

The possibility of delayed listening to podcasts illustrates one of the main trends in media consumption in recent years. A media analyst Vasily Gatov calls it “the emergence of information flows at the will of the consumer” [1]. The audience now has the opportunity to familiarize itself with audiovisual content at a convenient time, finding an acceptable way of existence in the streaming model of content consumption.

Edison Research shows that only 49% of podcast audiences listen to podcasts at home, 22% listen in the car, 11% – at work, 4% – at workout, 4% – on public transportation, 3% – on the street and 7% – in other places [2]. Moreover, listening to podcasts is a way of parallel media consumption: a user can simultaneously listen to audio and, for instance, browse a social network

feed. Background listening implies variability in the reader's interaction with media content.

Podcasts also utilize the genres of journalism – interview, talk show, lecture and story. As a rule, a podcast has its own audience, format and specific direction (finance, psychology, books, marketing or others).

The main topics of podcasts recorded by Belarusians are related to culture, education and self-development. For example, a team of like-minded people from Brest launched a podcast called “No Place”. In Minsk, the 34travel portal publishes podcasts in which the presenters describe the cultural and gastronomic places of the capital. In Grodno there is a podcast about the history of the city and its inhabitants. In Vitebsk there is a podcast about the Jewish cultural heritage of the city. As a rule, the podcasts are worked on by citizens of different occupations and professions who are united by their love for the city.

Unlike short viral videos on YouTube or TikTok, the podcast implies a deeper immersion in the content: we are unlikely to accidentally hear an excerpt from a podcast somewhere on the web and decide whether we like it or not, as often happens with texts or videos. Regular listeners of a podcast are the people who are really interested in it, the so-called loyal audience. An emotional connection is inevitably established between the listener and the podcaster: if a podcast is truly captivating, the anticipation for a new episode is comparable to the anticipation for the next episode of a favorite TV series. 80 % of the audience listens to podcasts to the end, even though their average is from 30 to 60 minutes in length [2].

Thus, with their accessibility, variety, and personalization, podcasts allow listeners to choose content that suits their interests. Podcasts offer a unique opportunity to learn, be entertained and stay up-to-date with the latest news and trends anytime and anywhere, making them an indispensable tool in today's media world.

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В статье автор рассматривает феномен подкаста, который все больше набирает популярность в современном мире. Подкасты – это аудиозаписи на определенную тематику. Они предлагают доступность, разнообразие и персонализацию, позволяя слушателям выбирать программы, соответствующие их интересам и расписанию, а также быть в курсе последних новостей и тенденций в любом месте и в любое время.

**к содержанию**

**Е. К. Осина**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева  
Научный руководитель – преподаватель В. Г. Рябчикова

## **SEMIOTIC ASPECT OF ADVERTISING CAMPAIGNS**

Advertising is a form of communication that usually uses several sign systems simultaneously. For an analytical consideration of advertising communication and the values it conveys, an important characteristic is the connection between linguistic and figurative communication.

One of the most famous semioticians, W. Eco, devoted one of the chapters of his publication to the semiotic analysis of the advertising message. In his research he deals with the connection of verbal information with visual code. At the same time, he uses the discoveries of another semiotics scientist, R. Barthes. According to the latter, with regard to the semantics of advertising, a distinction should be made between a linguistic message, a “coded” sign message and an “uncoded” message.

Usually, for the advertising effect, more important than simple designations (although related to them) are the corresponding designations of the visual elements of advertising, that is, the content of the image and its surface (sign) and background (connotative) meaning. To analyze visual features, R. Barthes developed his own rhetoric of the image. What is important in his dichotomy of levels of meaning is, first of all, the semantic openness of each image. The associations of meaning that the viewer associates with the image based on his experiences and desires, that is, his “ideology,” his own experience and worldview. Similar subjectively differently perceived connotations are also known in linguistics during the semiotic analysis of certain meanings of words and sentences. This openness largely corresponds to the tendency of some advertising strategies. They favor ambivalent, differentially effective statements, since in this way people with different backgrounds can be addressed.

The importance of semiotics in relation to advertising can be explained by the central understanding that advertising uses semiotic signs and codes to create the identity of a company and products by assigning meaning, which is called corporate identity or brand image. For this purpose, various sign systems are used, as well as various sign carriers, with the help of which advertisements are distributed publicly [3, p.94]. In any case, however, advertising is a complex of images, signs and texts, with the help of which content and meaning are combined into a single whole to create specific images.

In advertising campaigns, there is a special interweaving of text and non-linguistic context, since almost every text about a fashion item is also associated

with its illustration. Many identification features quite accurately link both components to each other. They complement each other so well because captions are used to express content that cannot be expressed as pictorially with an image. Although an illustration visually represents what is written in the text, this does not mean that the text becomes redundant as a result.

The image plays a dominant role in perfume advertising. It takes up most of the advertising and is also the first thing that catches the viewer's eye. Due to the small presence of text, which is often limited to the name of the brand and perfume, the image has great semantic weight. It is the main means through which information is transmitted to the viewer [2, p. 509].

R. Barth distinguishes two forms of relationship between image and text. In the first case, the text serves as the main source of information, while the image has only an auxiliary illustrative function. In another case, the image plays a dominant role – it is the first to enter the viewer's field of vision, leaving only the explanatory function of fixing the meaning of the image to the text. This function of text can be observed in all perfume advertisements, since in them textual elements serve to capture the meaning of the image and suggest certain interpretations. However, the image functions as an autonomous medium that has its own visual code, which allows it to create meanings independent of the text [1, p. 23].

To illustrate the above points, there is an example of an analysis of a typical perfume advertisement, which, from the point of view of its structure, can be considered as a clear example of an advertisement for dual scents. This is an advertisement for the "Red delicious" fragrance from DKNY, shown below in Figure 1, which presents a men's and women's fragrance under the same name. These fragrances were first offered internationally in 2006.

The style of casual clothing of the main characters, the presence of a motorcycle, which personifies originality, freedom and youth, as well as the presentation of such material as cardboard in perfume advertising indicate that this is not a high fashion direction focused on luxury and prestige, but a designer brand, which with its products appeals to a younger consumer class and satisfies the everyday needs of the average citizen.

Most of the terms used in the text can be classified as quality terms. For example, the perfume name "Red delicious," borrowed from botany and referring to a very popular variety of apple in the United States, consists of two qualitative terms, the first of which denotes the color red, and the second a property that can be translated as "delicious" or "wonderful." ", and all these translation options have a common feature – they describe positive properties that are related to the semantic field of taste. The color red has a pronounced symbolism, which has both positive and negative manifestations. For example, as you know, the color red means love and eros, at the same time it symbolizes something forbidden, associated with danger. The Greeks gave the red planets of



our solar system the name of Mars, the god of war, expressing that red is the color of war, blood and aggression. In addition, the color red has a strong signaling effect, so this color is used when the recipient's attention needs to be focused on a specific element.

Every brand, every product uses signs, some consciously, some unconsciously. If we look at aspects of a brand, for example, at the language specific to the brand (visual), we will understand that the brand is also a sign system, i.e. a code. We are talking about the targeted use of signs and codes in order to consciously control the perception of one's own brand. After all, successful brand management requires careful control of these signs and signals.

Semiotics complements the methods and results of classical marketing research. In this case, consumer perceptions and evaluations are examined through surveys and other studies. The goal is to obtain as much relevant information from consumers as possible. This classic study is especially important when it comes to identifying the target group.

Semiotic analysis, on the other hand, looks at the entire system from the outside. Instead of focusing on the consumer, semiotics tries to get closer to the consumer by studying culture. In this way, the corresponding characters and codes can be detected. For example, semiotic analysis can reveal which features and attributes communicate the value of "quality" in relation to apple juice. But semiotics cannot tell whether the value of "quality" is the reason for purchase for your target audience. Here classical market research and semiotics intertwine. Classic market research provides clues about what values or messages a brand or company should convey to your target audience. Semiotics helps you learn what signs and codes you can use to convey those meanings and messages. Similarly, brand identity or product design can be viewed semiotically.

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В статье исследуется значение семиотического анализа рекламного изображения на примере рекламной кампании конкретного модного дома. Выявлено, что любое изображение представляет собой средство передачи той или иной информации, особенно если речь идет об изображении, которое должно способствовать росту продаж продукта или услуги.

**к содержанию**

**Л. А. Панькова**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева

Научный руководитель – кандидат педагогических наук

И. В. Султанова

## **AUDIOVISUAL SEQUENCES AS A MEANS OF INFLUENCING THE PSYCHOLOGICAL STATE OF STUDENTS**

In the modern world, numerous factors influence an individual's productivity and psychological well-being. Maintaining a high level of productivity among university students is one of the most crucial factors in ensuring the quality of specialists' training. Psychological literature presents the concept of personal psychological well-being as the orientation towards realizing the fundamental components of positive functioning (personal growth, self-acceptance, environmental mastery, autonomy, life purpose, positive relationships with others), as well as the degree of realization of this orientation, subjectively expressed in feelings of happiness, self-satisfaction, and satisfaction with one's life. Therefore, it is essential to seek effective methods to maintain a high level of productivity among students in the educational process.

The aim of the research was to investigate the influence of audiovisual sequences on the psychological state of students.

Audiovisual sequences, used in sound and color therapy, are combinations of specific visual images and sounds aimed at influencing the emergence of various states in individuals.

Sound therapy is a method of healing people through sounds that affect processes occurring in the human body. The healing effect of sound therapy is based on the fact that sound vibration influences the functioning of organs and systems in the body through various techniques. Some examples include:

1) Toning – one of the oldest forms of sound healing. Essentially, it involves prolonged utterance of various (usually vowel) sounds to create resonance in the emotional, spiritual, or physical body. This powerful practice is also the most natural; people intuitively use it when groaning or sighing if experiencing pain. Toning is an excellent tool for relaxation, improving health, and expanding consciousness.

2) Rhythmic influence, chanting mantras – along with toning, this form of healing is also considered one of the oldest on the planet, not only as a therapeutic method but also as a tool for spiritual practices. This practice is based on the idea that the entire universe vibrates, and with specific words and phrases, one can attune to these vibrations. In other words, mantras pronounced by individuals create balance and alignment on spiritual, physical, emotional, or mental levels.

3) Bell therapy – treatment with the sounds of bells and chimes. Researchers claim that bell ringing influences processes in the lymphatic and circulatory systems of humans.

4) Music therapy – a method that utilizes songs and music. The human brain perceives music simultaneously with both hemispheres: the left hemisphere perceives rhythm, while the right one perceives tone and melody. The body seems to adjust to the sounds of music because the rhythms of musical compositions are close in frequency to a person's heartbeat and breathing. Music therapy is often used in hospitals and hospices to alleviate pain and relieve tension. Additionally, it effectively adjusts various emotional expressions.

5) Vibroacoustic therapy – this method utilizes special tables, beds, and chairs on which the patient lies and listens to sounds that, in turn, are transmitted to the body. This method is good for relaxation, expanding consciousness, and improving health.

6) Natural sound therapy – sounds such as rain, rustling leaves, bird singing, the sound of the sea, thunderstorm sounds, waterfall noise, cat purring, etc., contribute to the relaxation of the nervous system.

Color therapy (chromotherapy) is a methodology that involves the use of differently colored light (color) to enhance a person's productivity or even aid in healing. The use of various colors in the educational process helps educators positively influence the physical and psychological state of students during classes, adding emotional brightness and interest, thereby aiding students in better assimilating knowledge and skills.

As is known, each color affects the human nervous system differently: some colors contribute to the relaxation of the nervous system, while others stimulate it. For example:

- Red evokes strong emotions and is considered intense and even somewhat aggressive.

- Blue provides a sense of calmness and tranquility. It is often referred to as peaceful, calm, safe, and orderly. Blue can evoke feelings of sadness and alienation. It is frequently used in office interiors, as studies have shown that people are more productive in spaces with predominance of blue tones in the decor.

- Green soothes, cheers, and promotes healing. It is believed that the color green relieves stress and aids in healing.

- Yellow stimulates mental activity; it can help eliminate intrusive thoughts, feelings, and habits.

Before proceeding to create audiovisual sequences, we studied the theoretical aspects and existing experience of using sound therapy and color therapy, their influence on human psychological states, and the theory and practice of creating a comfortable spatial environment in the university [5].

In this work, not just colors were used, but photos and videos were selected in specific color schemes. Both colors and objects have a very strong influence on people's psyche, and their effects can vary significantly for different individuals.

A survey of 26 first-year students from the Institute of Melioration, Water Management, and Construction named after A.N. Kostyakov at the Russian State Agrarian University – Moscow Timiryazev Agricultural Academy, revealed that 69% of students frequently experience fatigue and anxiety, leading to decreased productivity during their studies, 19% experience it often, and 12% experience it rarely. We created 5 videos with different combinations of images and sounds. After classes, during their free time, students were asked to watch these videos and share their impressions.

Students unanimously noted that videos featuring natural landscapes (beautiful scenery predominated by green and blue tones), combined with calm classical music or natural sounds, induced relaxation. Additionally, 92% of students reported a noticeable improvement in mood and even a decrease in anxiety levels.

Videos featuring animals in their natural habitat elicited different effects: when paired with energetic music, images of running, jumping animals, flying birds, etc., induced a heightened state of attention and readiness for action, similar to videos of people engaging in sports or active leisure against the backdrop of beautiful natural landscapes. Conversely, images of animals relaxing in their natural environment, combined with nature sounds, induced the opposite effect – distracted attention and an overall meditative state.

Students expressed a desire to use audiovisual accompaniment in lounge areas of educational buildings before and between classes. They suggested zoning relaxation spaces based on tasks – either for activity stimulation or relaxation.

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В статье исследуется воздействие сочетания звука и цвета на психологическое состояние студентов. Проводится анализ различных аудиовизуальных стимулов с целью выявления их эффективности в образовательной среде и подчеркивается значимость дальнейших исследований в этой области.

#### к содержанию

#### **О. В. Пластамак**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева  
 Научный руководитель – кандидат педагогических наук, доцент  
 А. Ю. Алипичев

#### **LEFT BUT REMAINED AND RENAMED: SOME CASES OF COMMERCIAL MIMICRY**

We all visit food stores trying to find our favorite reliable food brands, but now it is easy to find a kind of “Dobry Cola” drinks, while old good “Gold” flakes are not available anymore.

It all started a few years ago, due to some political reasons and even more heightened tension of intergovernmental relations.

The purpose of this article is to review the list of companies that did not leave, but remained and renamed because they didn't want to lose their market share in Russia.

##### 1. Dobry Cola

On March 7, 2022 the Coca-Cola Company announced that it had suspended its business activities in Russia. But is it really so?

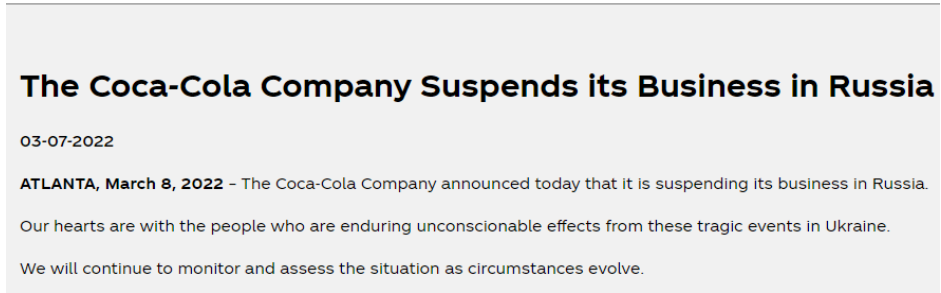


Figure 1. News on the homepage of the Coca-Cola Company

The new Coke is called Dobry Cola. Its composition has not changed. According to consumers, the taste has changed and the price has increased. The manufacturer of the “brand-new cola” is LLC “Multon Partners”. It was in 2021 that financial indicators increased to about 90 billion rubles (the original one was LLC “Coca-Cola HBC”). In 2005, Multon became part of the Coca-Cola HBC system [2].



Figure 2. Logo of LLC “Multon Partners”



Figure 3. Composition of the drinks: Dobry Cola (left), original Coca-Cola (right)

## 2. Evervess

PepsiCo announced a change in its business activities in Russia approximately on March 9, 2022 [7].

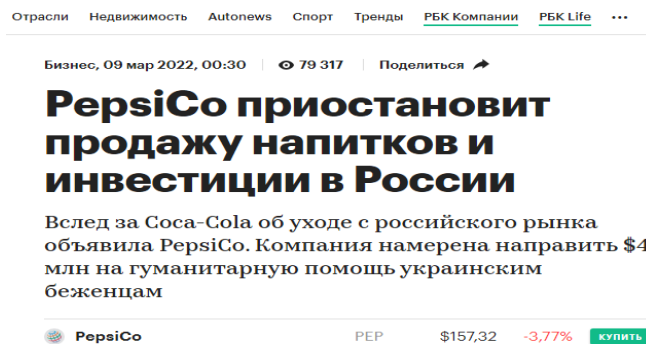


Figure 4. News on the RBC’s website about PepsiCo

A new fizzy drink has suddenly appeared on the shelves.



Figure 5. Label of the drink “Evervess “Cola”

The manufacturer of LLC “PepsiCo Holdings” is the Russian affiliated company of PepsiCo. But is this product a replacement for Pepsi, 7up and Mirinda, for which PepsiCo is famous? This is only partly true. The additives are similar, but the taste is different.

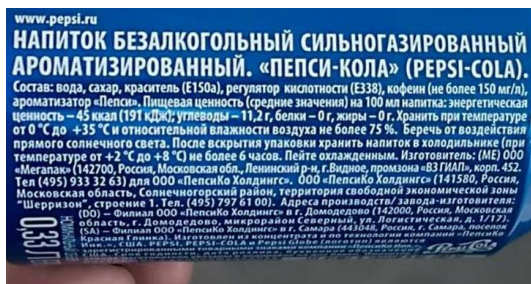


Figure 6. Label of the drink “Pepsi-Cola”

### 3. ActiBio

On October 14, 2022, the French company “Danone” wanted to leave the market. On March 23, 2024, it sold its assets to LLC “Vamin R”, a dairy producer from Tatarstan [4].



Figure 7. Company logos: Danone (left), Vamin R (right)

### 4. Maag, DUB.



Figure 8. Brands of the Inditex Holding

Maag is the former Zara, and DUB is Pull & Bear.

They are owned by the Inditex Group. The company suspended its business activities in Russia on March 5, 2022.

On April 5, 2023, it sold all its assets in Russia to Fashion and More Management DMCC, a company based in Dubai.



Figure 9. Logo of the DMCC Company

#### 5. Re., Cr., XC.

This is not an anime about an accidental traveler, it is not the chemical element chromium, and it is not a Volvo model range.



Figure 10. Who stayed in Russia: new case of “conspiracy”

This time the solution is quite simple: Reserved – Re., Cropp – Cr., House — XC. All brands belong to the Polish LPP Group Company, which closed its stores in Russia on or about March 29, 2022. But the way this company decided to act is the plot for a separate article: leaving, but remaining, secrets, spies and so on [6].

#### 6. Stars Coffee

This is Starbucks – a place for hipsters and expensive coffee. They announced the suspension of its business activities in Russia [3].





*Updated May 23, 2022*

As we mentioned on March 8, we have suspended all business activity in Russia, including shipment of all Starbucks products. Starbucks has made the decision to exit and no longer have a brand presence in the market. We will continue to support the nearly 2,000 green apron partners in Russia, including pay for six months and assistance for partners to transition to new opportunities outside of Starbucks.

Figure 11. News about Starbucks

But the peculiarity is that the Stars Coffee chain of stores was established on the basis of “departed” Starbucks. Under the terms of the deal, the lease rights and equipment of Starbucks were transferred to the new owners.



Figure 12. Company logos: Stars Coffee (left), StarBucks (right)

#### 7. Vkusno – i Tochka

How not to mention the winner of the nomination of the strange and meme name “Vkusno – i Tochka”. Aleksandr Govor, who used to run 25 McDonald's franchises in Siberia, bought the company's assets in Russia. He is now the owner of “Vkusno - i Tochka” [1].



Figure 13. Company logos: McDonald's (left), Vkusno – i Tochka (right)

#### 8. Teboil

Teboil is the new name of Shell in Russia after the Anglo-Dutch company announced the closure of petrol stations in Russia on March 8, 2022. But on

May 12, they sold the entire LLC “Shell Oil” to PJSC “Lukoil” [5]. The latter produces and sells lubricants through its affiliated LLC “LLK-International”.



Figure 14. Company logos: Teboil (left), Shell (right)

There are still many companies with foreign roots that have not changed their names because they are partly or wholly owned by Russian businessmen.

There are also those who do not support the international political course of the Russian Federation but cannot leave because they supply socially important products, such as baby food (Heinz).

Should we criticize companies that have left or simply changed their name? It is hard to say. They are looking for their own interests – profits and market influence. Still they are operating worldwide, so they are influenced by a variety of political and economic factors, so they preferred or just forced to cancel or “freeze” their activities in Russia.

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В статье рассматриваются примеры переименования известных брендов зарубежных компаний, ушедших с российского рынка в течение последних двух лет. Автор анализирует причины подобных действий, а также рассматривает изменения в составе и качестве продукции, выпускаемой под новыми торговыми названиями.

### **к содержанию**

#### **М. С. Попов**

Российская Федерация, Москва, Российский Государственный аграрный университет – МСХА имени К.А. Тимирязева

Научные руководители – старший преподаватель Н. А. Сергеева, кандидат технических наук, доцент Р.Н. Егоров

### **MOTOR VEHICLE RECYCLING**

End-of-life vehicles are a form of waste, and the sheer volume of this “waste”, its mass and the toxic substances it contains pose a serious threat to the environment.

The car fleet in Russia is growing by 1.6-1.8 million vehicles per year. The experience of the world leaders shows the dynamics of annual growth of end-of-life vehicles from 6 to 10%. In European countries alone about 12 million cars are out of service, and if we analyze Russia, the number of such cars in Moscow alone will exceed 130 thousand per year.

In the advanced countries of the world, specialized companies are being established to collect and recycle cars that have not been used for a long time, as well as to collect used car parts. At the same time, due to the occurrence of problematic situations in the process of car recycling, there is a certain legislative and regulatory framework regulating this process.

The aim of this article is to analyze the use of motor transport in the Russian Federation.

The Russian Federation's passenger car fleet currently stands at around 45.5 million units, with an average age of around 13.5 years. At the same time, one million new cars were sold in 2023, which is 65% less than in 2021 before the crisis, but 62% more than in 2022. The market will continue to grow.

However, the average age and mileage of cars vary from country to country. This depends on economic indicators such as average gross income per capita and the number of cars per capita, as well as government policies on car recycling. For example, the average age of an unregistered car in Western Europe is around 14 years, while in the US and Japan it is slightly lower at around 12 years. This is because the US, for example, has a very strict and well-established insurance system. After a serious accident, the insurance money is paid to the car owner, and the insurance company owns the car. If this is difficult to achieve, the insurance company sells the car at a discount to the recycling company.

For many years, the situation with end-of-life cars in Russia has not been a serious concern for the public or the state. The number of cars in our country is significantly lower than in other developed countries (395 cars per 1000 people in Russia, 628 in Germany, 668 in France and 908 in the USA) [1] and this trend continues to this day. However, the situation has been changing dynamically in recent years. The total number of cars owned and sold is steadily increasing. In addition, half of all registered and sold passenger cars are more than 10 years old. As a result, abandoned cars, car bodies, worn and damaged parts can be found everywhere – in yards, on roadsides, in unorganized landfills. The process of maintenance and repair results in the accumulation of worn-out parts: tires, batteries, glass, metal and polymer products, used oil and other materials that are, at best, thrown away.

The reason for the current situation is the lack of a regulatory framework in the subjects of the Federation that stimulates and regulates the functioning of the system of recovery and disposal of end-of-life vehicles and their parts. If vehicle owners are not interested in recycling end-of-life vehicles, then industrial organizations are not interested in collecting and recycling end-of-life vehicles.

At the same time, the owner of an inoperable car in the Russian Federation faces a number of inconveniences. While the immobilized car is registered with the traffic police, the owner has to pay transport tax for it [2], buy insurance for it, pay for a parking space and bear legal responsibility for it in case it causes damage to someone. Of course, parking in the courtyards is free. This is true, but not for defective or abandoned cars. The owner of a defective car can be fined for violating environmental legislation and the car can be evacuated.

Until recently, however, the Russian Federation had a relatively profitable state program for recycling end-of-life vehicles [3]. The project was implemented for the first time in Russia in 2010 and has been extended every year. The essence of the project is that a car owner who has a car older than 10 years received a special certificate in the amount of 50,000-350,000 rubles after it was scrapped. However, the car recycling program was cancelled in 2022. The authorities decided that they had already provided enough support to dealers, car

companies and drivers. Every year they try to return to the discussion of this support measure, but the initiative does not reach final adoption.

Until now, there have been several options for a car owner who wants to get rid of an old car. Firstly, they can use the services of organizations licensed by Rosprirodnadzor or authorized by the Ministry of Industry and Trade to recycle cars. The car will be disposed of there and the owner will receive a special certificate for the traffic police. Secondly, the owner has the right to sell the car and remove it from the traffic police register, scrap it to an organization with a license for this type of activity, dismantle the car and sell individual spare parts from it. Thirdly, take the car to a car dealer and get a discount on the purchase of a new car if the dealer has an exchange program.

Several options can be proposed to solve this problem. One of them is a one-off payment for the disposal of the car by the owner when he buys a new car. The most promising and expedient mechanism seems to be the annual payment by the owner of a special disposal tax, controlled during a technical inspection by the traffic police, and the free admission of old cars. When the vehicle is handed over for recycling, the owner would receive a special certificate of delivery of the end-of-life vehicle, which is necessary to stop paying the tax. Another possible mechanism is to transfer the obligation to finance recycling to manufacturers, who would indirectly include the cost of recycling in the price of the products they sell.

The creation of a fully-fledged car recycling system in Russia is both realistic and profitable. In order to achieve this, it is necessary to solve a number of problems. The most important of these is to stimulate the economic interest of car owners in car disposal, to stimulate the interest of the industry in recycling, and to provide federal and municipal authorities with a regulatory framework for organizing the entire process of car recycling.

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Статья посвящена утилизации автотранспорта. Рассмотрены зарубежные и отечественные подходы к проблеме утилизации автотранспорта, представлены

особенности организации полноценной системы утилизации автомобилей в Российской Федерации.

### **к содержанию**

**К. С. Последович**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель А. З. Зенченко

### **PROBLEMAS AMBIENTALES DE LA SOCIEDAD MODERNA**

Un problema ecológico es un cambio en el entorno natural, luego las influencias humanas o los bebimientos naturales que conducen a un cambio en la estructura y el funcionamiento de la naturaleza. Surge de la influencia negativa del hombre sobre la naturaleza. Los problemas ambientales pueden ser locales y globales. Los problemas ambientales mundiales incluyen problemas que amenazan a toda la humanidad. Según muchos contemporáneos, la humanidad ya se encuentra en un mundo en descomposición, en condiciones de una crisis ecológica cada vez más brutal.

Los principales problemas ambientales que enfrenta la humanidad en nuestro tiempo son los siguientes: contaminación ambiental, efecto invernadero, agotamiento de la capa de ozono, smog, lluvia ácida, degradación del Suelo, desertificación, problemas de desechos, etc. los Resultados de la actividad humana han llevado al hecho de que todas las capas de la Tierra están impregnadas de desechos industriales y químicos.

La contaminación de la naturaleza es el problema más importante de nuestro tiempo, ya que la actividad humana afecta a todas las esferas de la tierra: la atmósfera, la hidrosfera y la litosfera. Hoy en día, el hombre se refiere al consumo de los dones de la naturaleza, destruyendo lo que el planeta ha almacenado durante millones de años. Al mismo tiempo, el hombre, siendo el principal culpable de la situación ambiental, se convierte en su principal víctima: según los datos, alrededor del 40% de las personas mueren a causa de la contaminación de los recursos hídricos, el aire y la cubierta del Suelo en el mundo.

Todo cambia a nuestro alrededor: los animales comienzan a extinguirse e incluso algunas especies desaparecen de la faz de la tierra, las islas se hunden, ciudades enteras son destruidas por cataclismos, como tsunamis e inundaciones, pero solo los humanos continúan tratando el planeta de manera grosera y extrayendo los últimos recursos de él. Las personas extraen recursos naturales y no se preocupan por la recuperación de tierras. ¡Ya tenemos que pensar en el futuro! ¿Qué les dejaremos atrás?! ¿Hermosa naturaleza, bosques, Suelos

fértiles, minerales, flora y fauna diversas o vertederos de basura, gas, smog y Fuentes de agua contaminadas?

Las principales formas de abordar este problema son: aumentar la atención a la conservación de la naturaleza y garantizar el uso apropiado de los recursos naturales ; establecer controles regulares sobre el uso de las tierras, el agua y los bosques por parte de las empresas; prestar atención a la conservación del agua y la protección de los bosques, la conservación y reproducción de plantas y animales, la prevención de la contaminación del aire; reducir el consumo y el uso de energía; reducir las emisiones a la atmósfera.

Según el fondo mundial para la naturaleza, el primero y más grave es el problema del cambio climático global. Es un hecho bien conocido que Estados Unidos y China ocupan los primeros lugares en términos de emisiones de gases de efecto invernadero. A saber, los gases de efecto invernadero son la causa más importante del cambio climático antropogénico. Debido al cambio climático, las tierras agrícolas están sufriendo, se está notando una disminución en los rendimientos de los cultivos en todo el país, lo que no puede sino preocupar en las condiciones del hambre mundial. Además, se supone que el calentamiento dará lugar a nuevas enfermedades y microorganismos peligrosos.

La clasificación de los países más ecológicos del mundo es elaborada anualmente por el Centro de política y derecho ambiental de la Universidad de Yale. En el último ranking de the Environmental Performance Index, los países más respetuosos con el medio ambiente fueron Finlandia, Islandia y Suecia. Los países más desfavorecidos en términos de eficiencia ambiental son Madagascar, Eritrea y Somalia.

El segundo problema es la falta de desarrollo de la energía alternativa. Los expertos de esta organización creen que ahora es el momento adecuado para modernizar la economía y fortalecer el desarrollo de tecnologías de ahorro de energía. Esto hará que Bielorrusia sea más atractiva para los inversores extranjeros.

El tercer problema de la ecología es el factor humano. Desafortunadamente, no todos los ciudadanos son conscientes de su responsabilidad hacia la naturaleza de su propio país. Puede hablar de esta relación durante mucho tiempo, este tema está enfermo y es familiar para muchos. Según los expertos, la conciencia ambiental debe desarrollarse con la ayuda de las tecnologías de la información y necesariamente con el ejemplo personal.

Si quieres salvar la naturaleza, es necesario, en primer lugar, cada persona -empezar por sí mismo! Después de todo, somos una creación única de la naturaleza y una parte inseparable de ella, pero con el advenimiento de las nuevas tecnologías y el aumento del crecimiento de la población en la Tierra, el planeta sufre cada vez más, y el hombre debe centrarse tanto como sea posible en el ahorro de energía. Somos nosotros, los humanos, los que destruimos, y no

los recursos naturales reponibles, destruimos la flora y la fauna, interrumpimos los ciclos naturales, en una palabra, ¡nos dañamos a nosotros mismos! ¡Lo que sucede a nuestro alrededor es obra de nuestras propias manos y solo en nuestro poder cambiar todo antes de que sea demasiado tarde!

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Статья посвящена проблемам экологии, исследованиям в области сохранения окружающей среды и борьбе с загрязнением. В ней рассматриваются ключевые вопросы, такие как изменение климата, вымирание видов, ухудшение качества воздуха и воды. Показана роль человека в изменении климата и влияние его деятельности на окружающую среду. Предлагаются практические рекомендации для улучшения экологической ситуации на планете.

#### к содержанию

##### **А. О. Пронько**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент  
Л. М. Максимук

#### **SIMÓN BOLÍVAR, EL LIBERTADOR DE AMÉRICA**

Simón Bolívar, El Libertador, fue un militar y político venezolano, fundador de las repúblicas de la Gran Colombia y Bolivia. Fue un hombre de acción que consiguió la independencia de las colonias de la América española, al tiempo que dedicó su ideal de unidad política de toda América del Sur. Desde su Venezuela natal extendió la lucha liberadora a tales países como Colombia, Ecuador, Perú y Bolivia. Fue precisamente en Perú donde Bolívar solidificó su leyenda como líder de la América independiente [1].

Simón Bolívar nació en Caracas el 24 de julio de 1783. Sus padres fieles a la corona de España, pertenecientes a la aristocracia venezolana, dueños de plantaciones de cacao y minas de cobre, explotadas por esclavos.



Bajo el cuidado de sus tíos, Bolívar recibió las clases de Simón Rodríguez, un joven intelectual muy influido por los pensadores de la ilustración. En 1797 ingresa en calidad de cadete en un batallón de milicias.

En 1799, Simón Bolívar viajó a España como parte de su formación. En Madrid conoció a María Teresa del Toro, con la que contrajo matrimonio en 1802, y de la que enviudó al poco tiempo de regresar a Venezuela [1].

En 1804, volvió a Europa, un viaje que lo llevó a Madrid, París y Roma. En la capital francesa conoció al famoso geógrafo y naturalista alemán Alexander Von Humboldt, que le habló de grandes posibilidades de desarrollo económico de América. En pleno esplendor bonapartista, por primera vez se visualizó como Napoleón, guiando a sus compatriotas hacia la independencia. Su estadía acabó en Roma, donde dijo su famoso juramento en el Monte Sacro.

De vuelta a Venezuela, hizo escala en Estados Unidos donde observó el sistema presidencialista producto de elecciones libres y la organización federal de estados, modelo que cogería para su proyecto americano.

La invasión de Napoleón a España marcó un punto crítico en la relación entre la corona y sus colonias en América, dejando una percepción de vacío de poder. Bolívar viajó a Londres y convenció a Francisco de Miranda, el precursor, para que gobernara la primera república. Pero, interrumpida bruscamente por los intereses enfrentados de sus promotores, el nuevo gobierno falló y los realistas recuperaron el poder. Bolívar se fue y se incorporó a voluntad en el ejército británico para combatir contra Napoleón [2].

Es posible que a lo largo de la historia, ninguno de los hombres de gloria tuviese que enfrentarse a tantos obstáculos para alcanzarla. La mayor parte de estos hombres construían imperios sometiendo a los pueblos. Bolívar destruía un imperio libertando pueblos y construyendo naciones. Tras la derrota Bolívar se incorpora de nuevo con el apoyo de la Nueva Granada, inicia la campaña llamada Admirable, iniciada en mayo de 1813, luego toma Mérida donde fue reconocido por primera vez como *El Libertador*, y terminada el 7 de agosto del mismo año con su gran entrada en Caracas.

Cuando Bolívar llega a Trujillo y evidencia los horrores y crueldades que cometieron las tropas realistas, proclama el 15 de junio de 1813 la Guerra a Muerte. Al mismo tiempo, los jefes realistas semindependientes se multiplican e imitan depredaciones y crueldades. José Tomás Boves, uno de los jefes, es derrotado por Bolívar el 28 de mayo de 1814 en Carabobo, pero vence a su compatriota Campo Elías, y poco después vence a Bolívar en La Puerta. Tras fracasado el segundo intento republicano, Bolívar se refugió de nuevo en Cartagena de Indias [2].

Desde ahí viaja a Jamaica, y luego a Haití. Con la ayuda del presidente Pétion planeó dos nuevas expediciones. La primera fracasó. La segunda salió tan sólo nueve meses después de la anterior hacia Venezuela en diciembre de 1816.

Desconfiado por los pasados fracasos, Bolívar cambió de actitud y se mostró más conciliador. Dejó el cruel sistema de guerra anterior. Se alió con el patriota Páez, nuevo jefe de los llaneros. Gracias a la llegada de oficiales veteranos de las guerras napoleónicas, le permitió construir un ejército disciplinado y práctico.

Acusado de dictador por sus opositores, Bolívar convocó el 5 de febrero de 1819 un parlamento en Angostura, actual ciudad Bolívar (Venezuela). En ese histórico encuentro propuso la creación de la Gran Colombia, una agrupación de estados conformada por los territorios de los ahora Colombia, Ecuador y Venezuela [2].

De todas las campañas de Bolívar, ninguna demuestra el coraje y la tenaz voluntad de lucha que animaba el espíritu del Libertador como la que lo llevó de los llanos a los páramos andinos para liberar la Nueva Granada. Bolívar los llevó a la victoria de la Batalla de Boyacá el 7 de agosto de 1819. De los tres mil hombres del ejército realista, sólo sobrevivieron cincuenta. Más de mil soldados, varios oficiales y el general Barreiro quedaron prisioneros.

El 27 de abril de 1830, Bolívar desalentado y enfermo renunció el mando.

Y el 17 de diciembre, a sus 47 años, murió.

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В статье представлена фигура Симона Боливара – одного из самых сложных и красивых образов человечества, который за активную борьбу в Венесуэле был удостоен звания «Освободитель». Показано, что помимо борьбы за свободу латиноамериканских государств (Колумбии, Эквадора, Перу, Боливии) Боливар активно занимался решением социальных проблем, одна из которых касалась рабства.

**к содержанию**

**К. А. Размыслович**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат филологических наук, доцент

В. В. Авраменко

**EPHYPHYTIC LICHENS AS BIO-INDICATORS OF POLLUTION**

Lichens are used as effective monitors for air pollution worldwide as they have the ability to concentrate a variety of pollutants in their tissues. Under certain conditions floristic and community analyses of lichens can be used in conjunction with measured levels of ambient or depositional pollutants accumulated by lichens to detect effects of changing air quality on vegetation. The quality of air can be monitored by measuring the pollutants directly in the air or in deposition by constructing models depicting the spread of pollutants or by using biomonitors [1].

The term bio-indicator or biomonitor is used to refer to an organism or a part of it that depicts the occurrence of pollutants on the basis of specific symptoms, reactions, morphological changes or concentrations. These can be classified as sensitive or accumulative. Sensitive bio-monitors alarm the effect of fluctuations in the environmental behaviour as a result of any alterations in enzyme systems or other physiological activities. Accumulative bio-indicators are those that have the ability to store pollutants in their tissue and are used for measurement of these pollutants in the environment.

Different bio-indication methods based on epiphytic flora composition have been used in different countries. Epiphytic lichens were first recognized as useful bio-monitors of air pollutants since long. Methods vary from simply observing epiphytic lichen thallus types to recording lichen species diversity or investigating phytosociological relationships between different lichen species and environmental conditions. This is due to the ability of lichens to accumulate metals and other pollutants like nitrogen and sulfur compounds from the atmosphere as dry or wet deposition. Epiphytic lichens have been widely used as monitors of metal deposition [2].

Lichens are mutual associates of a fungus and an alga and occur as crusty patches or bushy growths on trees, rocks and bare ground. The names given to lichens strictly refer to the fungal partner the algae have separate names. They are very sensitive to sulfur dioxide pollution in the air. Since lichens have no roots they absorb much of their raw materials directly from the air and moisture around them. This makes them very sensitive to air pollution and acid rain. Since lichens have no way to excrete the pollutants they absorb these materials and they stay inside of their cells. So pollutants build up inside them lichens can be used to monitor the long-term accumulation of pollutants. Scientists collect

and analyze lichens near sources of pollution to determine how far the pollution has spread.

Lichens were recognized as potential indicators of air pollution as early as the 1860's . Since then lichens have played prominent roles in air pollution studies because of their sensitivity to different gaseous pollutants, particularly sulfur dioxide. They have also been found to act as accumulators of elements, such as trace metals, sulfur, and radioactive elements. The best suited lichen species as bio-monitors are foliose (having a lobed, leaf-like shape) and fruticose (having upright or pendulous branches) epiphytic lichens.

Lichens accumulate substances from their environment by a variety of mechanisms including particulate trapping ion exchange, extracellular electrolyte sorption hydrolysis and intracellular uptake. Lichens have a large surface area-to-volume ratio due to their thin thallus branching presence of projections such as isidia and phyllocladia. Due to the surface characteristics various particles get embedded in the lichen thallus under moist or dry conditions . There are a considerable number of factors which may affect the concentrations of pollutants in lichens. These factors include the type of pollutant input nature and composition climatic factors such as composition of precipitation temperature wind drought and local environmental factors such as vegetation quality of the substrate and altitude of area. [3].

Since all lichens are not equally sensitive to each pollutant, caution should be exercised in identifying appropriate indicator species to identify species and properly interpreting data showing that observed patterns reflect pollution stress rather than other biotic and abiotic factors. An appropriate technique for using lichens as biomonitoring for air pollution should be developed.

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В статье рассмотрены перспективы использования лишайников в биоиндикации окружающей среды. Проанализированы преимущества лишайников для осуществления биомониторинга. Описаны механизмы накопления и «улавливания» лишайниками твердых частиц.

**к содержанию**

**Е. Н. Райкова**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель А. З. Зенченко

## **ANÁLISIS COMPARATIVO DE LOS SISTEMAS ARANCELARIOS DE LA UNIÓN EUROPEA Y LA UNIÓN ECONÓMICA EUROASIÁTICA**

En la actualidad, las políticas de comercio exterior de los países se caracterizan por una mayor proliferación de regímenes comerciales preferenciales en el marco de la cooperación internacional. Son la etapa inicial en la creación de grupos de integración y sirven para resolver problemas económicos y políticos.

Un ejemplo de la aplicación de regímenes comerciales preferenciales es la práctica de otorgar preferencias arancelarias. Estas preferencias son ventajas arancelarias en la implementación de relaciones comerciales y políticas con países extranjeros. Se conceden en forma de eliminación del pago de derechos de importación o reducción de las tasas de los derechos de importación para las mercancías procedentes de una determinada categoría de países. Las preferencias arancelarias son un instrumento especial de regulación arancelaria de la actividad económica exterior, que constituye uno de los elementos más importantes de la política de comercio exterior de los estados y las asociaciones de integración, contribuyendo al progreso de los países en desarrollo y menos desarrollados.

El objetivo del estudio es realizar en profundidad un análisis comparativo de los sistemas de preferencias arancelarias de la Unión Europea (en adelante, la UE) y la Unión Económica Euroasiática (en adelante, la UEE) y extraer conclusiones sobre el aprovechamiento de las experiencias positivas en la aplicación de dichos regímenes. La Unión Aduanera Europea, creada en 1958, es una de las primeras asociaciones de integración en el ámbito aduanero. Dentro del territorio aduanero de la UE se suprimieron todos los derechos de aduana y las restricciones entre los Estados miembros, y se introdujo un arancel externo común para las mercancías de terceros países.

En el marco de la Unión Aduanera Europea se creó el SGP (Sistema Generalizado de Preferencias). Este sistema arancelario introducido en la Comunidad Europea en 1971, era una medida de apoyo a los países del “Grupo-77” (la mayor organización interestatal de países en desarrollo (principalmente países de América del Sur, África y Asia). El SGP se estableció de acuerdo con las recomendaciones de la UNCTAD y también se está desarrollando y modificando de conformidad con la normativa de la Comisión Europea [1]. Mientras que SUPA (Sistema Único de Preferencias Arancelarias) se creó en

2010 en el marco de la Unión Aduanera que unió a Rusia, Belarús y Kazajstán. Los casos de concesión de exenciones arancelarias y preferencias arancelarias en todos los estados miembros de la UEE están definidos por el Tratado sobre la UEE y el Reglamento sobre la Comisión Económica Euroasiática [4].

En el territorio de la UE se aplica el Sistema Generalizado de Preferencias de la UE (en adelante, el SGP) en favor de los países en desarrollo. Es un régimen preferencial (derechos de importación reducidos o importaciones libres de derechos) de los derechos sobre las mercancías importadas originarias de los países beneficiarios [2].

Actualmente, uno de los elementos principales de la regulación aduanera y arancelaria del comercio exterior en el territorio de la UEE es el Sistema Único de Preferencias Arancelarias de la UEE (en adelante, el SUPA), que se refleja en la legislación internacional y nacional, así como en los acuerdos de integración regional [3]. El SUPA consiste de los siguientes elementos principales: lista de países usuarios del SUPA (países en desarrollo y países menos adelantados), lista de productos preferenciales, reglas para determinar el país de origen de los productos y sistema de tasas de derechos de importación.

Un análisis comparativo de los sistemas de preferencias arancelarias en los países de la UE y la UEE ha mostrado que existen similitudes y diferencias en los sistemas de preferencias arancelarias existentes. Una de las principales similitudes es la finalidad de los regímenes de preferencias arancelarias: ayudar y apoyar el desarrollo económico de los estados con un menor nivel de desarrollo económico y comercial. Al mismo tiempo, los países de la UE y la UEE, a costas de la reducción de las tasas arancelarias, saturan el mercado interno con productos de gran demanda, pero que no se producen o se producen en cantidades insuficientes.

Cabe señalar que, si bien los sistemas se introdujeron en diferentes momentos, ambos se basan en los principios establecidos por el Comité especial de preferencias de la UNCTAD:

- los países desarrollados deben otorgar preferencias a todos los países en desarrollo;
- la lista de productos preferenciales la establece unilateralmente, por separado, cada país desarrollado, excluyendo la posibilidad de participación de los estados beneficiarios de las preferencias;
- los países desarrollados tienen derecho a aplicar unilateralmente medidas para restringir las importaciones preferenciales de productos que puedan perjudicar a la producción nacional [3].

Junto con las similitudes entre el SGP y el SUPA, existen diferencias. La principal diferencia entre ambos sistemas es un enfoque normativo. El SUPA es un sistema más sencillo que el SGP, ya que para ser país beneficiario de las preferencias para países en desarrollo o menos adelantados, es necesario tener la

condición de país en desarrollo o menos adelantado según las Naciones Unidas y el Banco Mundial [4].

Estos son los países de bajos ingresos que se enfrentan a los mayores impedimentos estructurales para el desarrollo sostenible. Están sujetos a elevados riesgos económicos y medioambientales, y también tienen bajos niveles de capital humano. El SGP es un complejo sistema de preferencias arancelarias, ya que algunos tipos de regulación preferencial no son suficientes para ser un país en desarrollo o menos desarrollado. El reglamento preferencial del "Esquema estándar del SGP" requiere que un país no se clasifique como un país de ingresos medios altos durante 3 años consecutivos. El reglamento preferencial "todo menos armas" está dirigido a los países menos adelantados según la definición de la ONU. El régimen preferencial especial del "Esquema SGP+" es un complemento al "Esquema estándar del SGP". Para que un país reciba preferencias de este Esquema, debe ratificar y aplicar efectivamente los 27 convenios fundamentales de las Naciones Unidas y la Organización Internacional del Trabajo sobre derechos humanos y laborales, así como otros convenios internacionales relativos a la protección del medio ambiente y los principios de gobernanza [1].

Por lo tanto, el SGP y el SUPA son muy similares en su funcionamiento y estructura, pero al ser el SGP el primer sistema de preferencias introducido en el comercio mundial, este sistema es más flexible en la concesión de beneficios preferenciales, lo que favorece realmente el desarrollo de los países beneficiarios. Aprovechar la experiencia del SGP en el SUPA puede ayudar a regular mejor las importaciones de los países en desarrollo y los países menos adelantados, así como a optimizar el sistema de preferencias arancelarias en su conjunto. Podría aprovecharse la experiencia del SGP para fijar límites al volumen de las importaciones procedentes de los países beneficiarios de la UEE sobre el volumen total de las importaciones de productos similares durante un período determinado, y en caso de incumplimiento de estos límites, el país perdería las preferencias sobre un producto específico cuya cuota en las importaciones se hubiera superado, evitando así algunos riesgos de infracción asociados con la concesión de preferencias arancelarias.

El desarrollo y la mejora de la disposición SUPA tienen en cuenta los intereses estratégicos más importantes de los Estados miembros, especialmente en las condiciones actuales de presión económica exterior. En este sentido, el principal vector para el desarrollo de la disposición SUPA debe ser una transición gradual hacia la reducción de la aplicación de este sistema (reducción tanto de los países como de la lista de mercancías) en favor de la conclusión de acuerdos preferenciales bilaterales, ya que estos acuerdos permiten un enfoque más preciso para regular las relaciones con los socios comerciales extranjeros.

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Статья посвящена исследованию систем тарифных преференций Европейского союза и Евразийского экономического союза. Подчеркивается важность изучения этих систем для оптимизации применения систем тарифных преференций. Рассматривается история создания и особенности функционирования обеих систем, а также проводится сравнительный анализ их основных элементов. Автор делает выводы о положительном опыте применения систем тарифных преференций и указывает на возможность использования этого опыта для дальнейшего развития международного сотрудничества между странами

**к содержанию****И. А. Романюк**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат филологических наук, доцент

В. В. Авраменко

**PLANT DISEASES**

Plant diseases represent deviations from the standard health plants' state, impeding their typical growth, development and yield. These conditions stem from both a multitude of living and non-living agents that disrupt the plants' normal physiological and chemical functions. The repercussions of plant diseases are far-reaching, affecting economic aspects by diminishing agricultural output, posing risks to food stability and altering the natural equilibrium and species diversity.

Any deviation from the normal state of health of a plant that results in impaired growth, development or reproduction is defined as a plant disease. They can be either infectious or non-infectious depending on the nature and source of the causal agent. Living organisms such as fungi, bacteria, viruses,



nematodes, insects and parasitic plants cause infectious diseases. They can invade and colonize plant tissues and transmit from one plant to another. Non-infectious diseases are caused by non-living factors such as temperature, moisture, light, nutrients, chemicals and mechanical injuries that induce stress or injury to plant cells and organs [3].

Plant diseases are classified according to the type and extent of the following symptoms they produce: necrosis, wilting, stunting growth, deformation, discoloration, spots, cankers, etc. Symptoms are the visible or measurable manifestations of plant diseases while signs are the direct evidence of the presence or activity of the causal agent (fungal structures, bacterial ooze or viral particles, etc). An example of a fungal disease is powdery mildew, which leaves a characteristic white dusty coating on leaves, stems and flowers. It affects many plants including lilac, apple, grape, cucumber, pea, phlox, chamomile and rose. A viral disease is mosaic, which causes mottled or streaked yellow and green patterns on leaves, fruits and flowers. A bacterial disease is fire blight, which causes wilting, blackening and death of shoots, blossoms and fruits. It affects a lot of plants especially members of the «rose family» such as apple, pear, quince, hawthorn and plums [1].

Plant diseases have significant negative effects on crop growth, food security and environment. They influence the quality of agricultural products, increase the costs and risks of farming and threaten the sustainability and resilience of agro-ecosystems. Plant diseases reduce crop output by causing yield loss, which is the gap between the potential and actual harvest under disease pressure. Yield loss depends on such factors as disease type, severity, timing, crop susceptibility and value. According to a global assessment plant diseases cause an average yield loss of 21.5% for major food like wheat, rice, maize, potato, soybean and cassava. This translates into a loss of about 1.3 billion tons of food per year, which could feed about 2 billion people [2].

The impact of plant diseases on environment can be evaluated by the effect on the natural resources, biodiversity and ecosystem services that support agriculture and human well-being. Natural resources include soil, water, air and energy. Biodiversity includes the diversity of genes, species and ecosystems. Ecosystem services imply the benefits that people obtain from ecosystems such as food provisioning and cultural services.

Plant diseases can affect the environment by degrading the natural resources such as soil fertility, water quality and air quality as well as by increasing the greenhouse gas emissions and energy consumption. Also they affect the following biodiversity: the genetic diversity of crops and their wild relatives, the species diversity of plants, the animal and ecosystem diversity of agro-ecosystems and natural habitats. Plant diseases can also influence the ecosystem services such as the provision of food, plant fiber and natural fuel,

nutrient cycling, marketability, the increase of the costs of production and pest management. Besides it affects the regulation of climate, water, air, soil formation and pollination, the cultural values of recreation [5].

As plant diseases are a major threat to food security, agricultural productivity and reduction of crop yields, it is important to adopt effective and sustainable strategies to prevent and to control them. Some of the effective methods are the following: avoidance of pathogens, exclusion, eradication, protection and resistance.

To achieve good results it is recommended:

- planting crops at the right time and place to avoid exposure to pathogens or unfavorable environmental conditions (avoidance of pathogens);
- preventing the introduction and spread of pathogens by using certified seeds, quarantine measures and sanitation practices (exclusion);
- eliminating or reducing the sources of inoculum by removing infected plants, crop residues and weeds or by applying heat, chemicals or biological agents (eradication);
- applying physical, chemical or biological barriers to prevent or reduce infection such as mulches, covers, fungicides or antagonistic organisms (protection);
- using cultivars that are resistant or tolerant to specific pathogens or diseases or enhancing the natural defense mechanisms of plants by improving their health and nutrition (resistance);
- treating infected plants with chemicals, biological agents or physical methods to cure or suppress the disease or to reduce its impact on yield and quality (therapy) [4].

These methods can be used alone or in combination depending on the type, severity and dynamics of the disease as well as on the economic and environmental factors. The ultimate goal of plant disease management is to optimize crop production and quality while minimizing the negative effects on human health and the environment. Therefore, it is important to follow the principles of integrated pest management, which is a holistic approach that considers all aspects of the agro-ecosystem and uses a combination of compatible methods to achieve the best results.

The reviewed problems of plant diseases, their impact on crop production, food and environment security show that plant diseases are a serious and complex problem. It requires more attention and research not only to highlight the importance of the problem but also to provide practical and useful recommendations for farmers and policymakers for optimizing crop yield and quality, minimizing the negative effects on human health and the environment by using various methods of plant disease prevention and control.

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В статье анализируется проблематика фитопатологий, освещаются их негативные последствия для экосистемы, аграрного сектора и здоровья населения. Обосновывается важность проведения профилактических мер и эффективного лечения разнообразных заболеваний растений, используя интегрированный подход. В статье также представлены обоснованные рекомендации по обеспечению защиты растений от патогенов и минимизации риска возникновения болезней.

**к содержанию**

**А. А. Руднев**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева  
Научный руководитель – преподаватель В. Г. Рябчикова

## **LINGUISTIC FEATURES FOR INTERNATIONALIZATION AND LOCALIZATION OF WEBSITES**

Due to the rapid development of technology and people's needs, as well as the rapid development of the international market, people have a need to be able to communicate and trade with other countries. The newest sites that provide access to certain resources provide enormous opportunities not only to their creators, but also to the people who use these functions. However, due to the characteristics of all countries, it is necessary to find a “common language” that allows people around the world to interact with each other with comfort and convenience. This is precisely the opportunity that people localizing and internationalizing websites for today's international market provide.

It is noted that any company that has a sufficiently large significance in the market tries to expand its scope to a scale that exceeds the borders of its native

state. Here they are faced with such an obstacle as a kind of “language barrier”. In order for foreign countries to use the company’s website, and as a result, its products, companies resort to measures such as localization and internationalization of websites.

In simple words, localization is the adaptation of a product to the cultural and linguistic characteristics of a particular region. Thanks to localization, the company owner has the opportunity to launch his business on the world market, thereby increasing his income.

Website localization is the editing of website content from a cultural, linguistic, and perceptual point of view [1, p. 21]. The main goal of website localization is to make it as convenient, relevant and useful as possible for users around the world. Many companies at first glance equate localization with translation, however, true localization is much more and contains a great many nuances beyond simply displaying words in the language of other countries.

One of the obvious functions of localization is to increase the loyalty of user groups who prefer to receive information from sites in their native language. The second function of website localization is to enhance the company's image. The increased functionality and language of the website creates the image of a wealthy company that cares about its customers.

Internationalization means certain development techniques that simplify the adaptation of a product to certain cultural and linguistic characteristics of the regions for which the product or website is being developed.

There is one significant difference between localization and internationalization. Internationalization is the complete adaptation for the potential use of products in absolutely any location. Localization, in turn, only adds special functions for use in a specific region. In addition, internationalization occurs at the initial stages of website development, and localization occurs separately for each target language. In other words, internationalization is the expansion of any phenomena, objects or processes to an international scale [3].

In order to make a website usable for people all over the world, there are several things to consider. First of all, this is the translation of the site into other languages. Not in all cases a literal translation may be appropriate. In some cases, it is necessary not just to blindly translate text and headings, but to choose a more equivalent that will sound better, due to the cultural and linguistic characteristics of the country.

Another example is the advertising slogan “Finger lickin’ good” on the KFC website, which was adapted for China as “eat your fingers out”, despite the translation being different from the original, this example conveys the main idea of the slogan to consumers.

Website creators try to avoid heavy writing style. It is important to take into account that long phrases filled with numerous adverbial phrases are difficult to understand and also immediately catch the users' eyes. You should also avoid those cases when verbal nouns become case connectives and are combined into connectives. In the case of the Banggood site, site creators use abbreviations, phraseological units, paraphrases, metaphors and other linguistic means to present thoughts more concisely, but clearly enough for users.

The second point: it is necessary to clarify which style is more appropriate to use in translation: informal or formal. In the process of localizing an English-language website, coordination problems may repeatedly arise related to the choice of address: formal or informal. For example, we speak about English-Russian localization: in English the pronoun you is universal and can mean both "ты" and "вы", and when translating the text it is necessary to accurately determine the address to users.

An example of localization based on the principle of selecting a shorter phrase is the Airbnb website. What is noteworthy about this site is that in the Chinese version of the site the slogan about renting from 19,732 people in 192 countries is written in English, while in the Italian version of the site the slogan corresponds to the language and is written in Italian. In this case, the compactness of the phrase plays a role, which differs in different languages.

Often, some concepts cannot be translated into another language with just one word. There are many examples of such cases. One of the most descriptive words in Russian is the word "day", and in English the verb "challenge". There is no point in reinventing the wheel, because any phrase can always be constructed differently [2, p. 126].

Downloadable and embedded content also plays an important role in the process of website localization and internationalization. Websites often contain third party resources. Among them are: audio recordings, videos, images or downloadable files. Whether it is worth leaving the media content as is, or translating it, adapting it, the website creator decides. However, the translator should at least make sure that the tooltips, captions, and headings match the website content.

As for the adaptation of images, here the site creators are also very attentive to the smallest details, such as even the background of the photograph in the image, the date and time indicated on smartphones on the Apple website in two versions - for America and for the UK.

Depending on the country for which the website is being adapted, as well as taking into account its cultural and linguistic characteristics, website creators use language tools and methods that adapt the site ideally for potential users. There are many details that go into localization and internationalization that website creators don't overlook. Internationalization allows you to adapt the site for the global market, these are recognizable phrases, a wide table of measurements and

currencies for each country. Localization includes more specific features, such as: adaptation of images, headlines, slogans, adequate translation from the point of view of linguistic and cultural characteristics. There are a lot of details; when opening the site, a person most likely will not pay attention to them, however, if you look closely, why is the site convenient for this particular country? What makes it suitable for the characteristics of a particular language circle? If you compare several versions of one site, you can immediately notice how they differ, and what are the advantages of these features and differences.

It is not enough to simply translate a website into another language to make it convenient for foreign users. To do this, you must first become familiar with the cultural and linguistic characteristics of the countries in which this site will exist. In addition, it is necessary to be able not only to adapt it for a specific country, but also to make it publicly available to all countries as a whole. To do this, you need to pay attention to such little things as adequate translation of articles, selection of vocabulary specific to a particular country, selection of suitable illustrations and media files, a competent approach to website design so that it is not just functional, but also looks presentable. And of course, adapt the site so that it can meet the needs of each consumer country, in accordance with their cultural and linguistic characteristics.

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В статье исследуются языковые средства локализации и интернационализации веб-сайтов. Установлено, что локализация и интернационализация сайта включают в себя множество нюансов и особенностей, делающих процесс адаптации сайта для зарубежного рынка гораздо более сложным и многогранным. Выявлено, что интернационализация направлена на адаптацию продукции для международного рынка в целом, локализация направлена на адаптацию для определенной местности, с учетом ее культурных и языковых особенностей.

**к содержанию**

**П. Т. Рыженкова**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева  
 Научный руководитель – кандидат педагогических наук  
 И. В. Султанова

**ARTIFICIAL INTELLIGENCE IN SPACE EXPLORATION**

Space exploration is one of the most exciting research areas that humanity has ever engaged in. With the introduction of artificial intelligence into this field of science, new perspectives and opportunities have opened up. The use of artificial intelligence in space exploration not only accelerates and improves our own efforts, but also opens the door to new discoveries and understanding of the universe.

But what advantages does artificial intelligence give us and what risks exist when using it? In this article, we will analyze some aspects of using this technology in space research.

One of the key ways to use artificial intelligence in space exploration is data processing. With the help of artificial intelligence, scientists can quickly and efficiently analyze large amounts of data received from space observatories and satellites. This allows us to discover new objects and phenomena in space, study their properties and interactions, and expand our knowledge of the universe [7].

An important area of research using artificial intelligence is the search for life in space. The analysis of data obtained from space telescopes and radio telescopes using artificial intelligence helps scientists to look for signs of life on other planets and in interstellar space. This opens up opportunities for the detection of inhabited worlds and the search for signals from extraterrestrial civilizations.

The search for exoplanets includes methods such as:

- The transit method. This method involves watching for dips in a star's brightness, which could signal a planet passing in front of it.
- Decomposition of the spectrum. Analysis of the spectrum of a star when an exoplanet flies around it. Changes in the spectrum may indicate the presence of an exoplanet.
- The method of radial velocity shift. Observing the slow but constant changes in the velocity of a star caused by the movement of an exoplanet.
- The gravitational tape method. Observation of changes in the position of a star caused by the action of the gravitational field of an exoplanet.

The direct search for exoplanets is carried out by special stations such as Kepler, Hubble, James Webb and Voyager-1.

Voyager-1 is a space probe launched by NASA in 1977 to study the outer planets of the Solar system and interstellar space. The principle of operation of Voyager-1 is that the probe is equipped with various scientific instruments for studying planets, their atmospheres, magnetospheres and other characteristics. The probe's cameras took photos of planets and their moons, and instruments measured radiation, magnetic fields, and particles in the surrounding space. An important feature of Voyager 1's work is the use of a gravitational boomerang to accelerate its speed and pass by planets to get a push in the right direction. After successful flybys near Jupiter, Saturn, Uranus and Neptune, the probe was sent to exit the Solar System and is currently in interstellar space. Voyager-1 is also equipped with a "Golden Disk" on which information about the Earth, humanity and various cultural aspects of our planet is recorded. This disc is intended to serve as information sent to the aliens about us. Voyager-1 became the first probe to leave the heliosphere and enter interstellar space. With its help, scientists study the characteristics of interstellar space and try to understand its nature [9].

Hubble is a space telescope launched in 1990 by NASA and the European Space Agency. It takes amazing space photos and has made important scientific discoveries. It orbits Earth and has a 2.4-meter mirror that collects light from space for analysis. It works in ultraviolet, visible, and infrared light. Hubble captures high-resolution images and studies distant objects in space, other planets' atmospheres, exoplanets, gravitational lenses, and other space phenomena [2].

The Kepler Space Observatory, launched in 2009, looks for planets in star systems outside our Solar system by watching for changes in the brightness of stars. It uses a special telescope with a mirror diameter of 0.95 m and camera to detect planets passing in front of stars. Kepler scans the sky for these events, sends the data to Earth for analysis. Thanks to Kepler's work, many candidate planets have been discovered and the existence of thousands of exoplanets in our galaxy has been confirmed. It also studies star brightness, relationships between stars and planets, and star clusters [5].

James Webb (JWST) is a new generation space telescope that is being developed by NASA in collaboration with the European and Canadian space agencies. This telescope is positioned as a successor to the Hubble Telescope with the aim of deeper and more objective space exploration. To ensure high sensitivity and resolution, the telescope uses a number of advanced technologies designed specifically for it: a huge mirror with a diameter of 6.5 meters, a heat shield and a guidance camera. The main objectives of the James Webb telescope include the study of the early history of the Universe, the formation and development of stars and galactic structures, as well as the search and study of the atmospheres of exoplanets in search of traces of life. The telescope will be



able to operate at extremely low temperatures to minimize the effects of thermal radiation from the Earth and the Sun [3, 4].

In addition, artificial intelligence can be used to create more accurate models of space processes. With the help of computer simulations and models, scientists can study various aspects of cosmic phenomena, such as the movement of planets, the formation of galaxies, and the evolution of stars. This helps to predict future events in space and to understand the nature of the phenomena that we observe.

The use of artificial intelligence can improve the planning and execution of space missions. Automation and optimization of these processes using artificial intelligence can reduce the risks and costs of conducting missions, increase their efficiency and accuracy, and even open up new research opportunities.

However, there are certain risks in the way of using artificial intelligence in space research that need to be taken into account and managed with caution.

One of the main risks is possible errors in the algorithms, which can lead to incorrect conclusions and decisions. Artificial intelligence algorithms must be strictly monitored and tested to reduce the likelihood of errors and their negative consequences. In addition, it is necessary to ensure the reliability of the system in order to avoid erroneous results due to insufficient training or insufficient data.

Another important aspect is the threat to data privacy. The transfer of confidential space research information to artificial intelligence systems may pose a risk to data privacy and security. Thus, it is necessary to take measures to protect data and ensure their safety when using artificial intelligence in space research.

In addition, dependence on technical support can become a vulnerable point when using artificial intelligence in space research. It is necessary to ensure the reliability and availability of technical support for the maintenance and development of artificial intelligence systems in order to minimize the possible risks of disconnection or unavailability of systems.

It is also important to take into account the ethical aspects of the use of artificial intelligence in space research. Questions arise about autonomous decision-making, security, and responsibility for possible artificial intelligence system errors. It is necessary to carefully consider the ethical aspects and establish appropriate rules and standards for the use of this technology in space research.

Having analyzed the main aspects of the advantages and disadvantages of artificial intelligence in space exploration, we will also consider the opinion of scientists on this topic.

Steve Chien, head of the technical group of the Artificial Intelligence Group and senior researcher at NASA's Jet Propulsion Laboratory, believes that artificial intelligence is becoming an integral part of advancing space research

and the mission to search for "extraterrestrial life" will be one of the important tests for him. In his opinion, for high-quality space exploration, people need high-quality artificial intelligence, and only in this case can we expect a result [6, 8].

And in this he is really right, because if you do not fully work out the method used, then his analyses and results will contain either errors, or he will not be able to complete this task at all. Therefore, this issue should be taken very seriously.

But many well-known scientists are concerned about the rapid development of artificial intelligence and its impact on our living environment. Thousands of experts collected signatures for an open letter calling for a six-month pause in the use and creation of artificial intelligence. Elon Musk and Apple co-founder Steve Wozniak was also among them, – “human-competitive intelligence can pose profound risks to society and humanity” [1].

Their worries are quite justified, since with the development of artificial intelligence, its capabilities may surpass human ones so much that the value of people (scientists, workers, etc.) may devalue. Also, the risk of an artificial intelligence uprising should not be excluded. Although the main rule of “do not harm people” is laid down in it, if it develops to unprecedented heights, it will be able to find a loop-hole even in this. People definitely should not rush the development of this technology. Technological progress in this area should not be ahead of time, but should go gradually, along with the development of humanity itself.

The use of artificial intelligence in space exploration not only improves our ability to explore the universe, but also opens up new horizons for science and cognition. The combined use of human intelligence and artificial intelligence allows us to expand our knowledge and understanding of space, and leads to new discoveries and prospects for future space exploration. It is necessary to take into account and manage the risks associated with the use of artificial intelligence in space research in order to ensure the safety, reliability and ethics of using this technology in space exploration.

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В статье анализируются некоторые аспекты использования технологий искусственного интеллекта в космических исследованиях. Рассматривается роль космических обсерваторий, таких как Kepler, Hubble, James Webb и Voyager-1, в поиске экзопланет, изучении межзвездного пространства и других важных аспектов космических исследований. Автор приводит возможные риски, связанные с использованием искусственного интеллекта в космических исследованиях.

## к содержанию

**Е. А. Савченко**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель О. Г. Полещук

## **TRANSFORMACIONES ECOLÓGICAS Y CRISIS DE LA GESTIÓN DE LA NATURALEZA Y SOLUCIONES A LOS PROBLEMAS MEDIOAMBIENTALES**

En la actualidad se están produciendo numerosas transformaciones ecológicas y crisis de gestión de la naturaleza, que repercuten negativamente en la economía mundial.

Los procesos de producción tienen un impacto significativo en el medio ambiente. Las actividades industriales emiten muchas sustancias tóxicas. Estas

sustancias pueden causar diversas enfermedades a los seres humanos y los animales, así como provocar la destrucción de los ecosistemas.

Además, la producción requiere grandes cantidades de energía y recursos, lo que también puede tener consecuencias negativas para el medio ambiente.

El cambio climático mundial es una de las principales crisis en la gestión de los recursos naturales. Es un proceso que se remonta al siglo XIX, con el inicio de la revolución industrial y el aumento de las emisiones de gases de efecto invernadero a la atmósfera. Desde entonces, la temperatura de la Tierra ha empezado a aumentar, lo que ha tenido diversas consecuencias: aumento del nivel del mar, cambio de zonas climáticas, empeoramiento de las condiciones meteorológicas, etc. [2].

Los principales gases de efecto invernadero son el dióxido de carbono, el metano y el dióxido de nitrógeno. Estos compuestos químicos atrapan el calor en la atmósfera y provocan un aumento de la temperatura de la Tierra. Este proceso se denomina efecto invernadero, y los compuestos químicos que lo provocan se llaman gases de efecto invernadero.

Las emisiones de gases de efecto invernadero se deben a actividades humanas como la producción de energía, el transporte, la industria y la agricultura. También los procesos naturales, como la descomposición de la materia orgánica y las erupciones volcánicas, pueden provocar emisiones de gases de efecto invernadero.

El aumento de las temperaturas en la Tierra provoca cambios climáticos, como la subida del nivel del mar, cambios en la distribución de las precipitaciones, un aumento de los fenómenos meteorológicos extremos y cambios en la distribución de la vegetación y los animales.

Los problemas medioambientales son retos serios que requieren soluciones integrales y sostenibles. Para prevenir las catástrofes medioambientales es necesario, en primer lugar, reducir las emisiones de sustancias nocivas a la atmósfera. Es necesario utilizar tecnologías respetuosas con el medio ambiente. Por ejemplo, utilizando tecnologías de ahorro energético y cambiándolo a fuentes de energía renovables. También es importante reducir el consumo de energía en la industria y los hogares, por ejemplo, instalando contadores inteligentes que permitan hacer un seguimiento del consumo de energía [1].

Por ejemplo, Alemania es líder en la producción de paneles solares y turbinas eólicas, y en 2020 más del 50% de la energía se produjo a partir de fuentes renovables. En Suecia se recicla más del 99% de los residuos y el resto se utiliza para producir energía [1].

Es más importante clasificar y reciclar los residuos, reutilizar y reciclar los materiales. Para ello es necesario crear puntos especiales de recogida de residuos. También es importante crear nuevos métodos de gestión de residuos, por ejemplo, utilizar los residuos como combustible.

La gestión pública de los residuos es una de las tareas más importantes en el campo de la ecología.

Por ejemplo, Japón es conocido por sus tecnologías innovadoras en el campo de la gestión de residuos. En el país se lleva a cabo la incineración de residuos.

Alemania es uno de los países más desarrollados en el campo de la gestión de residuos. Cuenta con proyectos a gran escala para separar y reciclar los residuos y reducir su producción.

No cabe duda de que el desarrollo de la cultura medioambiental es un aspecto importante para crear un futuro sostenible para nuestro planeta. Es necesario educar a la población en cuestiones medioambientales y promover un estilo de vida que respete el medio ambiente.

El desarrollo de la cultura medioambiental es un proceso que aspira a aumentar la mentalidad de la gente sobre la importancia de la protección de la naturaleza y la biodiversidad.

Uno de los elementos clave del desarrollo de la cultura medioambiental es la educación. Es necesario llevar a cabo una labor de información entre el público en general. Diversas actividades como conferencias, seminarios, exposiciones, etc. Pueden ayudar a la gente a entender qué problemas ambientales existen y qué pueden hacer para contribuir a resolverlos. Además, en las escuelas y universidades deberían organizarse cursos especiales para ayudar a los estudiantes a comprender cómo afecta el medio ambiente a la vida de las personas [3].

También es muy importante aplicar normas medioambientales en los distintos sectores de la economía. Las empresas deben tomar medidas para reducir las emisiones de sustancias nocivas a la atmósfera y reducir la cantidad de residuos en la producción.

En última instancia, superar las transformaciones y crisis medioambientales requiere un planteamiento holístico que combine tecnologías sostenibles, una buena gestión de los recursos y los residuos, educación ambiental y políticas y normativas eficaces. Sólo mediante una acción colectiva y decidida podremos garantizar un futuro sostenible para nuestro planeta y las generaciones venideras.

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В статье исследуется важность экологических трансформаций, а также проблемы, связанные с использованием природных ресурсов. Автор рассматривает один из основных экологических кризисов, такой как изменение климата. Обращается внимание на необходимость принятия мер по снижению загрязнения окружающей среды для решения экологических проблем. Подчеркивается важность совместных усилий государств, международных организаций, предприятий и общественности для достижения устойчивого развития и решения экологических проблем.

### **к содержанию**

#### **В. В. Савчук**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат филологических наук, доцент

В. В. Авраменко

#### **GENES AND CANCER**

Cancer is a huge group of diseases associated with the development of malignant tumors, which, unlike benign ones, metastasize and severely disrupt the function of organs and tissues. The main common symptoms of cancer at various stages are coughing up blood, exhaustion of the body, liver damage, loss of consciousness, bone pain, anemia, muscle atrophy. Over 100 types of cancers affect humans. After cardiovascular diseases, cancers occupy the second place in mortality. Previously, it was believed that this is a disease of only old people, but now it is clear that there are no ages, races, or genders for cancer. And all segments of the population suffer from these diseases. And cancer treatment is one of the main steps to prolong a person's life. Currently, oncology is one of the most promising and rapidly developing branches of medicine.

About 20% of cancers are caused by bad habits, mainly smoking and the use of various nicotine-containing smoking and chewing mixtures. Another 10% is caused by obesity, low physical activity of the body, and alcohol consumption. Environmental factors have the greatest impact on the development of oncological diseases: ultraviolet and radioactive radiation, soil and water pollution with heavy metals, smog formation in some areas. Other factors include certain infections with specific viruses, bacteria and parasites. These infectious agents include *Helicobacter pylori*, hepatitis B, hepatitis

C, human papillomavirus infection, Epstein–Barr virus, Human T-lymphotropic virus [2].

Cancer is essentially a disease associated with a failure of normal cell growth. To transform a normal cell into a cancer the genes that regulate cell growth and differentiation must be altered. The affected genes are divided into two categories. Oncogenes are genes that promote cell growth and reproduction. Tumor suppressor genes are genes that inhibit cell division and survival. Malignant transformation can occur through the formation of novel oncogenes, the inappropriate over-expression of normal oncogenes or by the under-expression or disabling of tumor suppressor genes. Changes in multiple genes are required for transforming a normal cell into a cancer cell [3].

Genetic changes can occur at different levels and mechanisms. The gain or loss of an entire chromosome often happens due to errors in mitosis. More common are mutations which are changes in the nucleotide sequence of genomic DNA [3].

Many genetic changes are required before cancer develops. These environmental factors act by changing the genes of a cell. Approximately 5–10% of cancers are due to inherited genetic defects. Cancer can be detected by certain signs and symptoms or screening tests. It is then further investigated by medical imaging and confirmed by biopsy [1].

The risk of developing cancer can be significantly changed by following a healthy lifestyle. For example, exercising, eating more fresh vegetables and fruits, quitting smoking and alcohol, and reducing the consumption of various smoked products. Vaccines are also being actively developed, which in the future may become the main prevention of cancer. The human immunodeficiency virus is not a direct carcinogen, but against its background, the development of cancer increases by 100 times. It's important to note, that vaccination against hepatitis B and human papillomavirus have been shown to nearly eliminate risk of cancers caused by these viruses in persons successfully vaccinated prior to infection [1].

Early screening of colorectal cancer and cervical cancer increases the chances of a patient's full recovery by 15 times. Today, the main methods of cancer treatment are: radiation therapy, chemotherapy, treatment with the activation of the immune system, as well as surgery. However, even proper and timely treatment does not provide a 100% guarantee. Palliative care is particularly important in people with advanced disease. The chance of survival depends on the type of cancer and extent of disease at the start of treatment [4].

Obviously, the secret to defeating cancer is to find ways to prevent mutations in vulnerable cells and learn how to destroy mutated cells without endangering normal healthy ones. And due to the rapid development of

oncology, the first successful steps in this direction are possible in the near future.

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В статье раскрываются проблемы, связанные с онкологическими заболеваниями, и пути их решения. Автор анализирует основные причины, приводящие к трансформации здоровых клеток в раковые и развитию опухолей. Проанализированы некоторые патогенные возбудители, связанные с развитием раковых заболеваний. Охарактеризованы перспективные методы диагностики и лечения онкологий.

#### к содержанию

**Д. А. Семенюк, С. Д. Кузавко**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент  
Т. С. Троцюк

#### **RADIATION - THE INVISIBLE ENEMY**

People all over the world know about the effects of radiation, how it can affect human health and the environment. Although nuclear power plants produce virtually no emissions compared to fossil fuels they are not without risks. While nuclear power has its pros and cons it is also important to think about how radiation affects people and the environment [3].

On the one hand, radiation is used extensively in human life. Among the radiation's greatest benefits is that it makes a wide range of medical examinations possible including fluorography, MRIs, ultrasounds, CT scans and X-rays. Furthermore, carrying out scientific investigations and advancements in the realm of radiation yields numerous favourable outcomes. For example: cheap transportation expenses in comparison to other fuel types which can



increase public and organizational access to various services; no requirement to be connected to substantial fossil fuel reserves or rivers; decreased electricity costs. On the other hand, while there are a lot of benefits we must remember that radiation is still dangerous and that improper use can have a major negative impact on both the environment and human health [1].

Why is radiation dangerous and what exactly does it do to living being?

The human race is being threatened by nuclear power facilities. Nuclear power plant accidents can have catastrophic effects on the environment, affecting big populations over wide areas [4]. Radiation spreads swiftly in many directions by air and water and the area is contaminated for at least 300 years after that. Humans who come into contact with it can die from radiation illness. Radiation damages electronics causing motherboards to break.

In general, electromagnetic radiation may be divided into visible and invisible portions of the electromagnetic spectrum. Invisible radiation includes radio waves, gamma, infrared and ultraviolet radiation, microwaves. Alpha and Beta radiation and “cathode rays” – all of which are streams of particles – are invisible, too. The danger of ionizing radiation lies in the fact that the invisible radiation is not directly detectable by human senses. People can neither see nor feel radiation, yet it deposits energy into the material’s molecules. The energy is transferred in small quantities for each interaction between the radiation and a molecule. The only way one can detect and measure radiation is to use instruments - detectors of ionizing radiation [4]. The most damaging effect of nuclear radiation is DNA damage which can cause genetic mutations. Important problems that radiation energy can also cause are: physiological changes, death of organisms, changes in habitat and effects on migration patterns. Small amounts of radiation do not cause significant harm to the body and it recovers quickly but large doses can cause cell death, cancer and genetic damage and also can be passed on to future generations. High levels of ionizing radiation can be lethal to living organisms, causing immediate or delayed death, leading to the extinction of local populations and disruption of ecosystems. Nuclear exposure can harm plants and animals at various levels of the food chain. This can cause imbalance in the ecosystem affecting the availability of resources to other organisms. The change in habitat occurs due to the accumulation of radioactive substances in the soil and water [2].

Radiation affects the environment in several ways: improper disposal of nuclear waste, unknown leaks of radioactive substances, direct effects from natural disasters and the uranium mining process. Nuclear energy requires the use of uranium mined from the underground which has many negative environmental consequences. The aftermath of the Chernobyl nuclear disaster showed people how nuclear radiation affects the environment after a large-scale disaster. Plants and animals within a radius of 30 kilometers from the Chernobyl nuclear power plant were exposed to high levels of radiation. In this region, in

wild conditions there was an increase in overall mortality and a decrease in reproductive success. Animals and plants in the affected area still absorb radioactive particles, ionizing pollution in waterways also accumulates in fish and other aquatic organisms. After 37 years some waterways outside the exclusion zone remain “closed” to fishing due to radiation exposure. It will take time to get rid of the consequences and restore the environment. Some ecosystems can recover relatively quickly while others may take decades or even centuries to fully recover.

International organizations and state governments are taking actions to protect people and the environment from radiation by establishing guidelines and standards for the safe handling of radioactive materials by carrying out radiation safety research and offering support to nations impacted by radiation mishaps. As the environment and human health are threatened by radiation the most important is adopting preventative measures to lessen the chance of radiation exposure and save people and nature.

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В статье раскрывается проблема влияния радиации на окружающую среду и человека. Описаны положительные стороны радиоактивного излучения (медицинские обследования: флюорография, МРТ, томография, УЗИ, рентген) и отрицательные (гибель клеток, рак, генетические повреждения, дисбаланс в экосистеме). Предложены превентивные меры для защиты людей и окружающей среды от радиации.

**к содержанию**

**A. O. Семенюк**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Л. М. Максимук

**RIO TINTO: BELLEZA NATURALEZA O PROBLEMA ECOLOGICO**

Actualmente en Andalucía prosperan en silencio los reales paisajes marcianos. Uno de esos lugares es la cuenca del Río Rojo (Río Tinto) en la Cuenca de Guadiana en Huelva. El valle del río es como un grueso chorro de vino tinto que una persona desconocida se derramó en la tierra firme. La mayor concentración de metales de azufre y cobre tiñe el agua, las rocas y la arena en un color brillante de la sangre, creando una gran impresión un poco aterradora. La explicación de este fenómeno es bastante prosaica: bajándose de las montañas, el río fluye a través de numerosas minas de cobre, plata, oro y azufre, tribus ibéricas abiertas hace más de 5000 años y es explotada activamente por los fenicios y los romanos, cuyas primeras monedas fueron fundidas en oro y plata de las minas de Río Tinto. Es la mayor mina de metales de azufre y cobre en el mundo, que constantemente contamina el río y la hace "roja", creando un efecto extraño y atractivo de vino o de sangre [1].

El área del río tiene una historia de actividad extractora por parte de todos los pueblos que se asentaron en la región, como los íberos, los fenicios, los romanos (que lo denominaban «Urium», que significa "río de fuego") y los musulmanes. Se sabe que en 750 g.g. la producción hizo que la antigua fenicios. Incluso entonces, la mina local trajo tanta ganancia que mejora significativamente la economía de Grecia y Roma. Pero el florecimiento real de esta industria se produce en un momento en el que compró británica desarrollando aquí es muy activo: extendió un ferrocarril construido túneles 5 y 8 puentes, trajo equipos modernos, construyó una casa para los ingenieros y los trabajadores. Sólo en la segunda mitad del siglo XX, las minas y las tierras volvieron a la posesión de España. La producción alcanzó su punto máximo en 1930, después de lo cual la producción disminuyó. Mina de cobre se detuvo aquí en 1986, y la plata y el oro en 1996, pero las minas, canteras y enormes excavaciones se mantuvo, y los metales siguen cayendo en el agua del río [3].

La razón principal del agua roja, la mayoría de los expertos creen que las operaciones mineras inmoderadas - incluso en tiempos de los íberos. Incluso hace 5.000 años, que habitan estas montañas tribus comenzaron la extracción de minerales (oro, plata, cobre y hierro) en la zona de inundación. En el siglo XVI cerca de las orillas estaban primer árbol. Los residuos de cielo abierto vierten en el río, contaminando el agua. Con el tiempo, se convirtió en una corriente para lavar minas costeras y las minas. Durante miles de años, y que esta agua arroyo

día saturado de sales y óxidos metálicos, llegue a ser peligrosa para los seres vivos. Los únicos habitantes del río son algunos tipos de bacterias, que sirven de alimento a sólo tales compuestos químicos [1].

Otro grupo de científicos de la pendiente de la versión que el agua de color rojo en el Rio Tinto obligado bacterias en grandes números que se encuentran en sus aguas. Algunos oxidar el hierro y azufre, por lo que da aguas fluviales tonalidad específica, algunos se alimentan exclusivamente de hierro y algunos depósitos de sulfuros de metal de alimentación, formando ácido sulfúrico [2].

Sus aguas rojas se caracterizan por su pH entre 1,7 y 2,7 (muy ácido), con alto contenido en metales pesados: hierro mayoritariamente, cobre, cadmio, manganeso, etc.. Sin embargo, incluso en este cóctel ácido, como se vio después, hay vida. Incluso en aquellas secciones del río, en el que el pH es casi el mismo que los de ácido sulfúrico, y las algas viven hongos fibrosos. Hoy en día, los microbiólogos lograron reunir más de 1.300 formas de vida locales - levadura, hongos, algas, bacterias y protozoos. Sin embargo, los microorganismos que habitan sus aguas son un desafío para la ciencia [1]. Por ello, la NASA lo escogió como hábitat a estudiar por su posible similitud con el ambiente del planeta Marte. Un experimento con participación del Consejo Superior de Investigaciones Científicas, y desarrollado en el río Tinto, ha confirmado la posibilidad de que determinados tipos de organismos puedan sobrevivir bajo las restrictivas condiciones del planeta Marte [2].

Los análisis han revelado que las condiciones en las que viven estos microorganismos corresponden a un modelo antiquísimo, que reproduce el medio en el que se desarrolló la vida en la Tierra durante el periodo Arcaico. Todo ello ha llevado a los científicos a estudiarlo, porque el modelo de vida podría adaptarse a las condiciones existentes en Marte.

Hasta la fecha, los recursos de depósitos se agotan en casi un 100%. Todo lo que queda de la antigua prosperidad de esta región - río oxidado Rio Tinto, el agua que se utilizaba en la industria, abandonados y compuestos oxidados abandonaron el lugar, donde casi nada crece. Por un lado todo esto - la evidencia de este desastre ambiental, la creación de la mano del hombre en la búsqueda de beneficios. Su nivel de agua debido al óxido de hierro es muchas veces superior a la normal, se convierten en tóxicos para los seres humanos, animales y plantas. Por lo tanto, este color característico natural: rojo brillante y de color marrón, a veces rodando en color verde brillante [3]. Pero, por otro lado - esto es inusual paisajes cautivadores, que atraen a los turistas.

Así que la culpa de la contaminación tienen sin duda canteras y minas, lo que contribuyó a la entrada de grandes cantidades de metales en el agua del río. Lo que contribuyó a la proliferación de microorganismos para los que la comida es apenas tales compuestos químicos.

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В статье рассматривается река Рио Тинто, которая имеет необычный цвет – красный. Автор анализирует основные версии характеристики красной воды реки: завораживающие пейзажи, привлекающие туристов, или свидетельства экологической катастрофы, сотворенной руками человека.

**к содержанию****А. С. Сизова**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – преподаватель Е. А. Ковганко

**POPULARIZATION OF PSYCHOLOGY AND PSYCHOLOGICAL SERVICES IN THE REPUBLIC OF BELARUS**

In the modern world the importance of maintaining your health is constantly increasing. Under the concept of health, people most often understand physical well-being but it is important to maintain physiological and psychological state. Today psychological health is a state of mental well-being that allows you to cope with stress effectively, develop your potential, study and work successfully and make an important contribution to society.

The modern world is characterized by regular stress which brought psychology as a science to a new stage of development, and its practical application has become relevant for ordinary people. Now people are increasingly turning to specialists to solve problems with psychological health. A psychologist helps to find the origins of problems that bring discomfort, can help find a way out of conflict, develop skills that in the future will help to get out of problem situations easier, improve relations with the outside world, helps to reveal your potential and point to the path of self-realization, save your resources, health and time. A psychologist will not take your life into his own hands, but will help you take a deeper look at the problem and give you the opportunity to independently make the solution you need [1]. Such

psychological awareness is a new trend and therefore, it is important to understand for what reasons the topic of psychology became so popular around the world at one point, whether it and its ideas will continue to spread and whether it will be accessible to the entire population.

The active promotion of psychology to the masses began with the transition from scientific psychology to popular. This was facilitated by factors such as a modern society which has become more open to psychological knowledge, the emergence of books, magazines, television shows, Internet resources about psychology. That allowed the general public to familiarize with the basics of psychology and practical advice, as well as in conditions of a fast rhythm of life, stress and increased anxiety. People began to look for ways to better understand themselves. In turn, popular psychology is systems and practices that claim to be connected with scientific psychology, which have gained popularity among a wide range of people. This direction exists in order to transfer the meaning and ideas from scientific psychology to a form easier for the majority to understand [2]. Authors of books on popular psychology, in most cases, professional psychologists and psychotherapists with extensive experience. But it is important to note the differences between scientific psychology and popular psychology. In popular psychology, we can catch a lighter syllable of text. In popular psychology, the main emphasis is on those aspects that a person can apply in ordinary life. Popular psychology moves away from research and emphasizes practice [3].

Popular psychology gives society a chance to penetrate psychology and perceive it not as something confusing and complex, but somehow that accompanies us through life. This genre creates a steady interest in the field of psychology and gives rise to the study of more complex literature in this area. It makes it possible to delve into this science [4]. Thus, popular psychology gives the new generation a more expanded picture of the world. For consumers of such literature, it becomes more obvious that psychology is what helps to understand themselves and improve their lives.

Previously, people were silent about problems related to their mental health. Getting help from specialists was considered a thing beyond the norm. People who turned to specialists and learned not a comforting diagnosis became outcasts and were persecuted by society. At the moment, society has become more loyal to psychology and psychological problems. More and more people are delving into this science and more and more people control their mental state. But some trends still persist. One of these is that women come to specialists more often than men. The behavior of men is based on the idea of masculinity, which originates from culture [5]. Ideas about what a man should be and what a man should do constitute the ideology of masculinity, the essence of which is a set of certain social norms, ideas about what should be felt and

done. It is these features of the male role that determine the emergence of most male problems, and, according to scientists, are the socio-psychological basis for the occurrence of crises in men. In this regard, problems arise in interpersonal, family relationships associated with family conflicts, divorce, loss of meaning in life orientations, personal crises, stress, depression and diseases such as alcoholism and drug addiction. Faced with a number of these problems, men in most cases do not consult psychologists for fear of condemnation from society [6]. But this trend is slowly beginning to diminish. In most countries, at the moment, a great contribution is made to the development and adoption of psychological assistance. In countries where the problem of survival comes to the fore, the demand for psychological services remains insignificant. In countries where this issue is not acute, the demand for psychology is increasing significantly. Society becomes more demanding on the quality of life. Therefore, in addition to shelter, a person begins to think about the existential problems of being and his own life.

It is also worth remembering that the situation in the world also greatly affects the demand of psychologists. Every day in the world there are events that cause fear and anxiety in people. Any change in the usual life is a huge stress for the human psyche [7]. To solve this problem, countries are taking a number of measures to preserve the psychological state of society. In Belarus, the culture of psychological assistance is developed everywhere. Everyone can get help for a fee, from private specialists, or free of charge in health care institutions and through telephone lines of psychological assistance. Telephone lines work all over the country, people handle such problems as crisis situations, postpartum depression, stress at work, acceptance of illness, sexological care. Particular attention in Belarus is paid to psychological assistance to adolescents. For this, the activities of psychologists in educational institutions are organized. But teenagers do not always trust specialists in educational institutions. For this, all kinds of psychological assistance portals have been created in Belarus. On these platforms, a teenager can also receive help free of charge. It is important to take care of the psychological state of adolescents, because this is the prevention of suicidal behavior, violence and bullying in schools. For the older generation, there is also an opportunity to receive qualified assistance. Companies are increasingly hiring psychologists to monitor the psychological health of employees [8]. This, in turn, increases not only the level of support for citizens, but also the demand for psychologists. This has an impact on the outlook. Complex situations in society are increasingly encouraging people to turn to specialists. Even the most stress-resistant people are faced with situations from which it is extremely difficult to find a way out. The psychologist helps to solve the problem in a short time. Anxiety, stress, difficult things, procrastination, addiction, oppression – this is a small part of what people meet every day. All

these problems interfere very much in everyday life, and psychotherapy becomes the solution to these problems. Because of this, the demand for specialists is growing every day. Analyzing the market, we can say that the demand will be continue to grow. This industry was popular 10 years ago and is developing along with the development of society. A new generation continues to develop this science by creating new methods, bringing new ideas and a fresh look to science [9]. The mobility of society makes a great contribution to the interest of society in the topic of psychology. Sites, blogs, podcasts and social networks offer a wide range of information on psychological topics, which contributes to the dissemination of knowledge and the development of interest in this area.

Psychology becomes an integral part of society. It spreads not only in narrow circles, but also becomes accessible to the public. People are more likely to trust specialists, which significantly affects the well-being of society. Psychology courses at universities are also gaining tremendous demand, which indicates the development of science in the near future. Psychology is no longer positioned as a science remote from life. It develops together with society, adjusting to its interests and needs.

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В статье рассматривается тема развития психологии и способы, которые используются для её популяризации в современном мире. Освещается тема значимости психологии, её роли в современном обществе, её влиянии на современное общество и на людей, в частности. Анализируется спрос на психологические услуги в связи с популяризацией данной науки.

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#### **Т. В. Синкевич**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель С. В. Милач

### **VIRTUELLE KOMMUNIKATION IM TEAM**

Mehr denn je befindet sich unsere Arbeitswelt in einem fundamentalen Umbruch. Bereits 2016 nutzten 80 Prozent der Beschäftigten digitale Medien zur beruflichen Interaktion. Die Entwicklung zur Industrie 4.0 und die Anpassungen im Verlauf der Corona-Pandemie haben virtuellen Arbeitsformen nunmehr endgültig einen existenziellen Stellenwert für den Workflow im Unternehmen beschert. Das virtuelle Kommunizieren ist heute in fast allen Branchen und Berufen nicht mehr wegzudenken und gehört zum Daily Business der meisten Unternehmen, vor allem, wenn man über die nationalen Grenzen hinweg kommuniziert. Ohne sie wären internationale Firmen aufgeschmissen. Doch falsch eingesetzt, kann sie auch für viel Unruhe im Team sorgen und Projekte verlangsamen. Dies wirkt sich nicht nur negativ auf viele Prozesse innerhalb des Unternehmens aus, sondern auch auf die Kooperation mit Partnern und die Zufriedenheit der Kunden. Im vorliegenden Artikel werden Vor- und

Nachteile der virtuellen Kommunikation im Unternehmen und mögliche Ansatzpunkte für deren Verbesserung analysiert.

Virtuelle Kommunikation ist längst ein tägliches Phänomen in der heutigen Businesswelt. Dies ist die Art der Kommunikation, bei der Menschen auf der ganzen Welt interagieren oder Nachrichten senden, ohne sich physisch zu treffen. Viele Mechanismen, die für Interaktionen unter Anwesenden üblich sind, lassen sich heute über Plattformen wie Zoom, Go to Meeting, Webex, Jitsi oder Microsoft Teams simulieren – in 3D-Umgebungen wie Tricat sogar unter Zuhilfenahme eines Avatars, mit dem sich Face-to-Face-Gespräche nachbilden lassen. All diese Tools bieten die Chance, Dutzende von Personen audiovisuell zusammenzuschalten.

Digitale Zusammenarbeit bietet somit handfeste Vorteile für Mitarbeiter und Unternehmen. Durch virtuelle Teams können multinationale Unternehmen weltweit auf ihr gesamtes Know How zugreifen und die geeignetsten Mitarbeiter dort einsetzen, wo ihre Fähigkeiten am besten genutzt werden können. Die Experten aus verschiedenen Niederlassungen können miteinander diskutieren und die optimalen Problemlösungen erarbeiten. Dabei entsteht ein riesiger Pool an Wissen, das erfolgreich für das Unternehmen genutzt werden kann.

Virtuelle Zusammenarbeit reduziert Statusunterschiede zwischen Teammitgliedern. Digitale Lösungen schaffen zudem ein großes Maß an Transparenz über die Arbeit einzelner Mitarbeiter und den Stand von Projekten. Tatsächlich könnte die erhöhte Transparenz bei digitaler Zusammenarbeit einer der Gründe sein, warum soziales Faulenzen und Trittbrettfahren seltener auftreten in denjenigen virtuellen Teams mit entsprechend ausgereiften Technologien zur sozialen Transparenz und Kontrolle [2].

Meist bedeutet virtuelle Kommunikation eine Kostenersparnis für Unternehmen. Es werden teure Reise- und Personalkosten gespart, da man nicht für jede Niederlassung ein eigenes Team aufbauen muss, sondern diese „großflächiger“ aufbauen kann. An verschiedenen Orten verteilte Personen arbeiten als Team durch digitale Technologie, kostspielige Büroflächen entfallen dabei. Durch die Nutzung komplementärer Zeitzeonen spart die virtuelle Kommunikation auch Zeit. Es bleibt also mehr Zeit für wichtige Aufgaben.

Wichtig ist auch, dass die Reduzierung von Geschäftsreisen eine Verbesserung der CO<sub>2</sub>-Bilanz zur Folge hat und dem Klimawandel entscheidend entgegenwirkt. Schließlich bietet die digitale Zusammenarbeit einen Infektionsschutz in Zeiten von Pandemien.

Trotz der vielen Vorteile, die digitale Kommunikation im Team mit sich bringt, ist sie aber auch mit Herausforderungen verbunden, die zu verzögerter Bearbeitungsdauer, Unzufriedenheit der Teammitglieder oder gar dem Scheitern von Projekten führen können. Virtuelle Teams hängen von Technologien ab und können auf technische Probleme stoßen. Fällt die genutzte Technologie aus,

dann ist keine Kommunikation mehr möglich. Die Prozesse und Interaktionen stehen still oder müssen auf suboptimale Alternativen ausweichen.

Virtuelle Zusammenarbeit erfordert Mitarbeiter, die zuverlässig und selbständig ihre Aufgaben erfüllen. Dafür brauchen sie Selbstdisziplin, Selbstkontrolle und Resistenz gegen Ablenkungen, die auch ein großes Problem bei medienvermittelter Kommunikation darstellen. Teilnehmer an virtuellen Meetings werden oft durch die ständigen Pings und Dings von persönlichen oder geschäftlichen Kommunikationskanälen, ihrer Umgebung oder anderen Aufgaben, die sie noch erledigen müssen, abgelenkt. Dies stört die Teamarbeit.

Eine weitere Herausforderung virtueller Teams liegt im Bereich der Kommunikation: Virtuelle Zusammenarbeit ist geprägt von verzögerter und schlechter Kommunikation und Missverständnissen, da nichtvorhandene non-verbale Signale und unzureichende Informationen Deutungsspielraum lassen. Der direkte persönliche Kontakt untereinander ist begrenzt und damit der Aufbau von Vertrauen und die Verankerung gemeinsamer Ziele erschwert. Die eingeschränkte Gestik und Mimik haben zur Folge, dass Konflikte schwerer erkannt werden. Sind sie erstmal da, ist es aufgrund der größeren Distanz auch schwieriger sie zu lösen. Die größeren kulturellen Unterschiede (sowohl nationale Kulturen als auch Organisationskulturen) erschweren auch die Verständigung über eine gemeinsame Basis der Zusammenarbeit und Problemlösung. Und wenn Probleme im Bereich der Kommunikation oder Informationsverluste vorliegen, kann es bei Teammitgliedern zu Frustration und Isolation führen.

Noch ein Nachteil von virtueller Kommunikation besteht darin, dass Teammitglieder häufig ein mangelhaftes „wir-Gefühl“ als Team und eine verminderte Kollegialität erleben. In Teams, die sich fast nie persönlich treffen, ist es sehr schwer der Teamgeist herzustellen [1].

Offensichtlich stehen virtuelle Teams einer Reihe von Herausforderungen gegenüber. Um diese erfolgreich zu bewältigen, bestehen Interventionsmöglichkeiten sowohl auf individueller als auch auf Führungsebene. Die Möglichkeit zu informellem Informationsaustausch in einem persönlichen Kennenlernen (Kick-Off Veranstaltung), ergebnis- und prozessorientiertes Feedback sowie Team- und Konflikttraining erleichtern die Zusammenarbeit in virtuellen Teams. Dabei sind Kontrolle, Vertrauen und Motivation wichtige Ansatzpunkte für die Verbesserung der virtuellen Kommunikation. Der Erfolg eines virtuellen Teams entsteht auch durch Klarheit in der Verantwortung eines jeden Einzelnen, in der Klarheit über einzelne Aufgaben, über gemeinsam genutzte Tools und Workflows, die Effizienz in der Zusammenarbeit ermöglichen, und über Klarheit über das gemeinsame Ziel und den Weg dorthin. Transparentes Konfliktmanagement, fundierte Vertrauensbildung und der Umgang mit kulturellen sowie intergenerationalen Barrieren entscheiden

darüber, ob sich ein gemeinsamer Spirit entwickeln kann. Wichtig ist dabei, sich bewusst zu machen, dass sich virtuelle Kommunikation von der natürlichen unterscheidet und daher gezielt gelernt werden muss.

Zusammenfassend kann man sagen, dass die Unternehmen durch eine optimale Mischung digitaler Zusammenarbeit und von Präsenz im Büro die Vorteile beider Formen maximieren und die Nachteile und Herausforderungen minimieren können. Und die Zeit spielt für die Unternehmen: Je weiter die Technologie voranschreitet und je mehr Mitarbeiter darin eingearbeitet sind, desto geringer werden die Herausforderungen virtueller Kommunikation in Teams, desto leichter gelingt diese.

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В статье раскрывается понятие «виртуальное общение». Показаны преимущества и недостатки виртуального общения в сфере бизнеса, а также факторы, влияющие на эффективность работы виртуальной команды.

### к содержанию

#### **К. А. Смирнов**

Российская Федерация, Москва, Российский Государственный аграрный университет – МСХА имени К. А. Тимирязева  
Научные руководители – старший преподаватель Н. А. Сергеева,  
кандидат технических наук, доцент В. И. Пляка

### **DESIGN ENGINEERING OF A TILLAGE ROLLER**

Rolling as a tillage technique includes harrowing, levelling and partial mixing of the soil. However, the most important aspect of this technique is still soil compaction which consists of changing the mutual arrangement of the soil particles by reducing the soil volume. At higher densities, the seed contact with the soil is better, which favors better moistening of seeds. The higher the moisture and temperature of the top layer of soil, the faster the seeds will germinate. At the same time, the nutrients in the seed are used more sparingly. Sprouts appear faster, they are more uniform and stronger.

The aim of the work was to substantiate the design of a tillage roller for pre-sowing tillage both as part of a separate implement and as part of combined units that may include ploughs or cultivators.

The main working bodies for loosening, levelling and compacting the soil of the proposed design of the tillage roller are bars, wire working elements and cleaners.

It has been established that the disadvantage of the design of tooth loosening working elements is the periodic winding up of plant residues which reduces the quality indicators of surface tillage and requires time for stops to restore the quality indicators of the tillage roller [2].

Therefore, a new design of the working elements of the rod tillage roller in the form of spring convex rods is proposed [5]. As the roller travels across the field, the contact with the soil causes it to rotate. Due to the weight of the roller, spring convex rods 6 of working elements 5 penetrate into the soil and due to their elastic forces and angle of attack, they cut, destroy clods of soil with simultaneous displacement, loosening and levelling of the field micro-relief, as well as self-cleaning of the roller surface from soil and plant residues (Fig. 1).

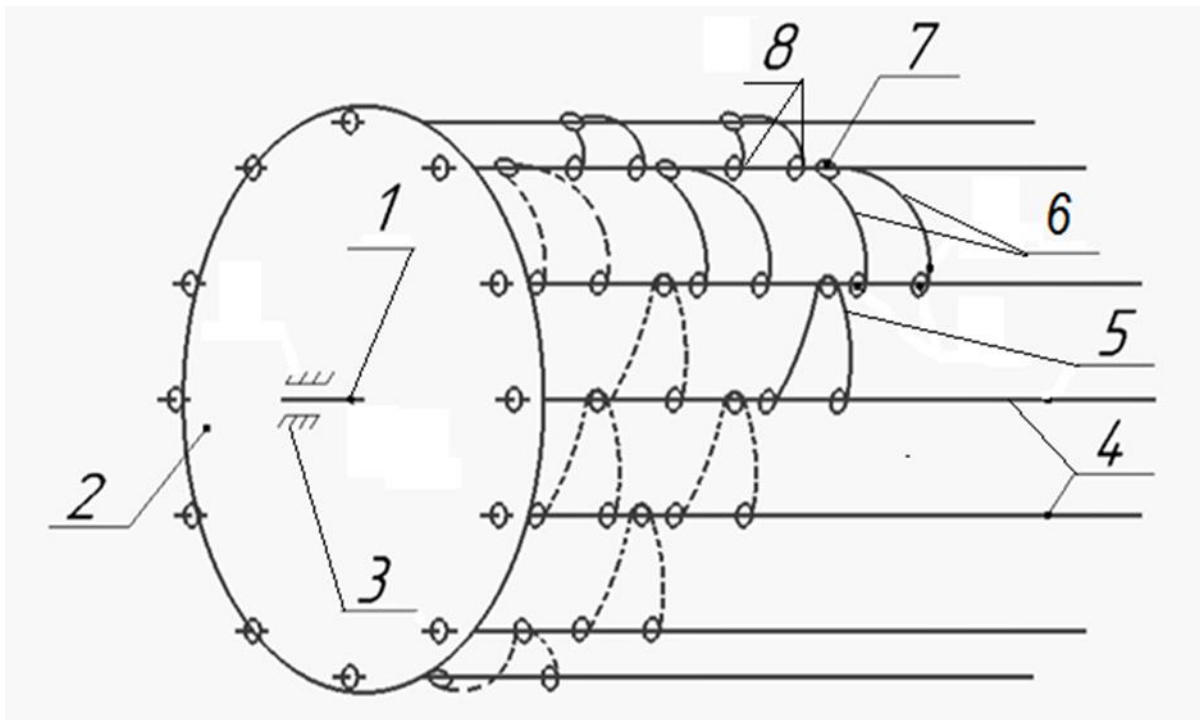


Figure 1. Scheme of the rod-and-mesh tillage roller: 1 – axle; 2 – disc; 3 – bearing; 4 – bar; 5 – working element; 6 – rod; 7 – spring; 8 – fasteners.

However, to extend the terms of spring field works it is required that the working bodies of tillage machines can work in conditions of maximum permissible soil moisture.

The proposed design of the tillage roller is developed and made in the laboratory of the Department of “Agricultural Machinery” of the Institute of Mechanical and Power Engineering named after V.P. Goryachkin of the Russian State Agrarian University – Moscow Timiryazev Agricultural Academy in cooperation with the Centre for Technological Support of Education (Fig. 2) [1, 4].

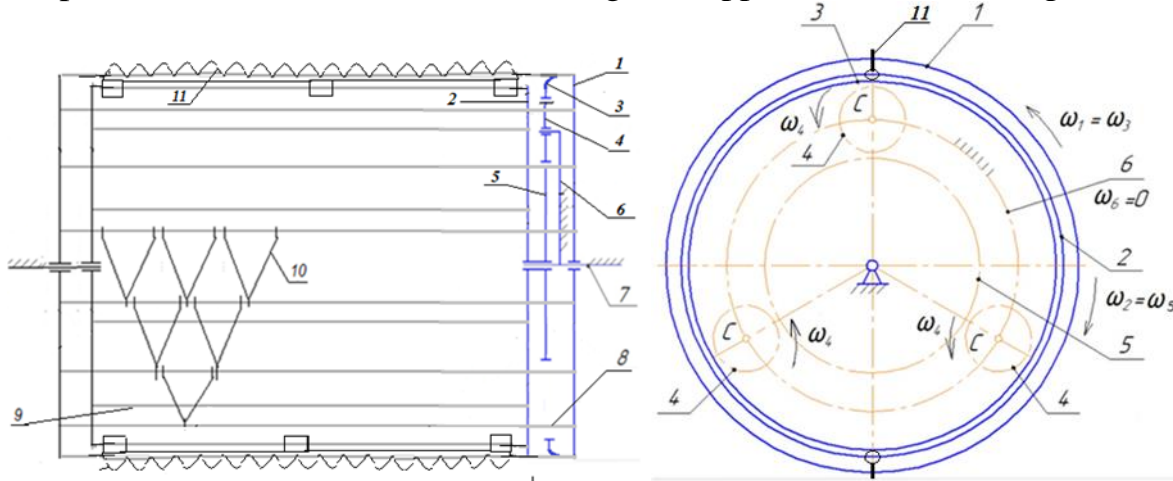


Figure 2. Schematic diagram of the tillage roller: a – front view; b – side view; 1 – driving roller; 2 – driven roller; 3 – central crown gear; 4 – satellites; 5 – sun gear; 6 – driver; 7 – axle; 8 and 9 – bars; 10 – working elements; 11 – scrapers

When the tillage roller moves on the field on heavy clay soils, driving roller 1 is set in rotation by the contact with the soil of bars 8 with working elements 10 and central crown gear 3 rotates satellites 4 around its own axis with angular speed  $\omega_4$ . The rotation of the satellites 4 causes the rotation of movable sun gear 5, which provides the rotation of the connected driven roller 2 ( $\omega_2 = \omega_5$ ). The system of fixation of driver 6 ( $\omega_6 = 0$ ) provides the rotation of driven roller 2 in the opposite direction relative to driving roller 1. Scrapers 11 are in contact with bars 8 and with working elements 10 and provide the cleaning of the working elements of driving roller 1.

Driven roller 2 rotates at a higher speed than driving roller 1, but in the opposite direction. The part of the soil under the action of the tillage roller is subjected to repeated impacts from elastic bars 9 and scrapers 11 of driven roller 2. The counter-rotation of driving roller 1 and driven roller 2 increases the impact force on soil lumps and improves the soil crumbling index, and scrapers 11 ensure cleaning of elastic bars 8 and working elements 10 from soil.

However, working on sandy soils or peat does not require much effort in crumbling lumps of soil, therefore, it is rational to apply a tillage roller in which driven roller 2 rotates at a higher speed than driving roller 1, but in the opposite direction, while also providing cleaning of the working surface of the leading roller from soil sticking and plant residues. In this case, the sequence of connection of parts of the planetary gearbox with the parts of the tillage roller is changed.

This design of the tillage roller reduces energy consumption during soil preparation for sowing and can be used as a tool of a combined aggregate as part of a plough [3, 6].

Justification of the working process of the proposed tillage roller allows to conclude that when the roller moves along the field surface, an increase in the sliding coefficient can be observed due to the additional load on the leading roller from the drive mechanism of the driven roller which will lead to an improvement in the soil crumbling index.

The joint operation of the driving and driven rollers provides levelling of the soil surface, improvement of the soil crumbling index, while producing a compacted soil layer at the seed embedment depth covered with loose soil, as well as self-cleaning of the driving roller surface from soil and plant residues [7].

The design features of the proposed tillage roller allow for continuous preparation of the field surface, processed to the required depth with the required looseness and density in conditions of increased soil moisture, which will extend the spring agrotechnical period.

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В статье рассмотрены вопросы, связанные с рабочим процессом почвообрабатывающего катка. Отмечены характерные изменения в конструкции катка и его рабочих элементов. Показаны особенности конструкции предлагаемого почвообрабатывающего катка. Приведены основные показатели, характеризующие рабочий процесс почвообрабатывающего катка.

### **к содержанию**

#### **К. В. Спесивцева**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – доктор психологических наук, профессор И. Е. Валитова

### **PRECONDITIONS FOR CHILD MENTAL DEVELOPMENT IN RELATION TO PSYCHOLOGICAL READINESS FOR SCHOOL LEARNING**

The formation of psychological readiness for school learning means the transition from one age period to another which is caused by changes in the social situation of development that characterizes the child's position in the system of social relations, the child's understanding of the world around them and their place in it. This special social space is created by an adult for the development of children's personality [1, p. 12]. In this regard, preschool age is considered to be the first stage in the development of consciousness as a reflection of reality occurring in mental processes. It is important that during this period basic value orientations are laid down, basic social norms and attitudes are assimilated and motivation of social behavior is formed [2, p. 289].

Entering to school implies the child's inclusion in a new system of relations with others where serious demands are made on the mental regulation of their activity. At the same time, by the end of preschool age he/she becomes aware of him/herself as a subject of social relations and, accordingly, strives for a new socially significant and approved activity – learning.

However, the formation of psychological readiness for school learning is determined by the conditions in which the child develops. As studies show, not only normal physical development, preserved functioning of the brain and all



analyzers, but also an adequate social environment in the family and outside are necessary for a child's full development [3, p. 128].

O. V. Yugova identifies two main groups of child development preconditions: biological and socio-psychological. The younger the child, the greater the importance and influence of biological factors, and as the child grows up, social and psychological factors begin to prevail [3, p. 130].

It is believed that *heredity* is one of the key biological preconditions that determines individual characteristics of a child's brain and nervous system development. The transmission of hereditary qualities forms the genetic program. In addition, the physical health of the child (healthy diet and sleep, regular physical activity) also ensures the proper development of the brain and nervous system [2, p. 288].

However, according to A. A. Lublinskaya, heredity does not exist without variability. Interacting with the environment, the child changes and, as a result, there is a "loosening" of hereditarily transmitted traits, new traits and qualities appear.

As for socio-psychological factors, they are divided into three main groups: micro-factors (family, friends and inner circle, educational institutions); meso-factors (conditions the child grows up in, regional conditions, ethnic characteristics, mass communication media); macro-factors (processes of global-societal scale: ecology, politics, demography, economy) [3, c. 129].

It is obvious that the social *environment* as a factor of influence is a source of social and historical experience. This means that surrounding people transmit the message, i.e. with the help of them the child masters the objects of material culture, adopts historically given forms of communication and activity, learns the norms and values of the society he or she was born and lives in.

Within the framework of the social-psychological approach, *upbringing* also plays a significant role as a factor of influence on the child's development. L.S. Vygotsky identified the leading role of education and upbringing, which should "run ahead of development and pull development behind itself". Accordingly, the leading role here is the direct impact of the adult on the child in the process of his or her education and upbringing. S. L. Rubinstein specified that "a child does not learn and develop, but develops by being educated and trained".

In this new process, another factor of development as the *child's own activity* manifests itself in two forms – his/her activity and communication with others. Thanks to the child's activity, the process of the impact on the child turns into a complex two-way process of interaction with the environment.

These developmental drivers (heredity, environment, upbringing and the child's own activity) ensure that the child's inner potential is unlocked. Biological features determine his/her individual needs, abilities and rates of development. Social environment forms the peculiarities of communication,

upbringing and education [2, p. 289]. Therefore, the study of psychological and pedagogical conditions allows us to understand more fully the individual characteristics of children, to create conditions for the development of their potential and help in their adaptation to society.

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В данной статье предпринята попытка раскрыть основные предпосылки психического развития детей в связи с психологической готовностью к школьному обучению. Автор выделяет следующие биологические и социально-психологические условия: наследственность, среда, воспитание и собственная активность ребенка, изучение которых позволяет более полно понять индивидуальные особенности детей для развития их потенциала и успешной адаптации в социуме.

#### к содержанию

**Е. В. Суздальцева**

Россия, Москва, Московский педагогический государственный университет

Научный руководитель – кандидат филологических наук, доцент

Е. Н. Ширлина

#### **SPECIAL SPORTS TERMINOLOGY OF LAWN TENNIS AND WAYS TO COMPENSATE FOR LEXICAL GAPS IN THE ENGLISH LANGUAGE**

Lawn tennis, like many other sports, has its own unique sports terminology which plays an important role in communication between players, coaches, referees and fans. This terminology includes a variety of terms describing various aspects of the game, from the technical characteristics of strikes and movements to tactical techniques and strategies.

However, when translating tennis vocabulary into English, difficulties may arise due to the specifics of terms that may not have an exact equivalent in another language. The existence of such accidental gaps or gaps in the understanding of translated terms which makes it difficult to communicate and study sports in a foreign language.

There are various approaches to solve this problem. Some experts suggest using descriptive phrases or creating new terms that could convey the specifics of tennis terms in English. Others believe that terms from other languages or sports disciplines should be adapted and borrowed to improve understanding and communication.

The study of the special sports terminology of lawn tennis and ways to compensate for lacuna in the English language contributes not only to the development of sports vocabulary, but also to an in-depth understanding of the game, its strategies and tactics, as well as promotes cultural exchange and the development of intercultural communication.

Goals and objectives:

1) The study of the lack of an equivalent in vocabulary and the factors influencing this phenomenon.

2) Research on methods of filling lacunas in English and basic strategies for translating terms from the world of lawn tennis.

Many scientists, including authors such as E.M. Vereshchagin, S. Vlahov, V.N. Komissarov and L.S. Barkhudarov, discuss the concept of “non-equivalent vocabulary” in the context of linguistics. Each of the listed linguists gives their own definition of this term.

According to Barkhudarov, non-equivalent vocabulary is the lexical units of one language that do not have full or partial correspondence with the lexical units of another language. It is important to note that this term should be used only if there is no possibility of translating a specific lexical unit [1, p. 95].

Lacunae in the language arise for various reasons. They may be due to cultural, historical, social or technological factors. The language reflects the unique features of culture and thinking which leads to the emergence of specific concepts and expressions inherent only in a certain community. The term “lacuna” is usually used to indicate differences between languages and cultures, and it can have both narrow and broad meanings.

In a narrow sense, a lacuna is the absence of a special term for a specific topic in the lexicon of a language. These are some kinds of lacunas in the language or “white spots” on the linguistic semantic map, as Yu. S. Stepanov notes [4, p. 120]. Lacunae exist in all languages and remain unnoticed until they are identified by comparison.

L. K. Latyshev points out that lexical equivalence arises when a term in a translating language refers to a concept that is fundamentally included in the lexical structure of this language and is well known to native speakers of this

language [2, p. 320]. However, native speakers of the translating language are either unaware of this concept or understand it only partially, as a result of which such lexical terms are not reflected in their language system.

In the broadest sense of the word, lacunae in language indicate the unique features of the cultural code, noting what is present in one culture and absent in another.

It is worth mentioning that lawn tennis is originally an English sport. In addition to the generally accepted terms, there is a number of difficult-to-translate expressions that have a slang character. For example, lob is a candle, the moment when an opponent stands at the net and has to throw the ball over him; tweener is a shot that is performed with a racket between his legs.

Currently, the following strategies for transferring lexical gaps in the terminology of lawn tennis are distinguished [3, p. 240].

Transcription and transliteration: an example of transcription is the following term from the terminology of lawn tennis: Futures – Фьючерс (the level of a tournament in lawn tennis, where different numbers of points are awarded). Example of transliteration: set – сет (part of a match that consists of six games and one more set). Calque: back foot – “задняя” нога. Specification: grip – хватка на ракетке. Generalization: stance – исходная позиция. Modulation: the followthrough – проводка мяча (when the racket hits the ball). Compensation: strokes – удары по мячу. Omission: crosscourt shot – кросс (omit the word blow). Addition: slice – резанный удар (add the word blow).

Translating sports vocabulary into English requires special attention to detail and context in order to avoid possible accidental gaps in understanding and ensure a full perception of the specifics of tennis.

A variety of approaches to solving the problems of translating sports terms make it possible to expand the vocabulary and improve mutual understanding between participants and spectators of lawn tennis.

The study of sports terminology does not only contribute to an in-depth understanding of the game, but also opens the way to cultural exchange and the development of intercultural dialogue through the language of sports.

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В мире спорта особое место занимает большой теннис - динамичная игра, требующая не только физической подготовки, но и знания специальной терминологии. В статье рассматриваются особенности спортивной лексики, используемой в теннисе, а также способы компенсации лакун при переводе этих терминов на английский язык.

#### **к содержанию**

**Н. В. СЫМОНИК**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель С. В. Милач

### **DEPRESSION BEI KINDERN UND JUGENDLICHEN**

Große Veränderungen, hohe Erwartungen an die Gesellschaft, Unklarheit – all dies ist ein wesentlicher Bestandteil des Lebens jedes Einzelnen, einschließlich der Kinder und Jugendlichen. In diesem Zusammenhang steigt die Zahl der Mädchen und Jungen, die an depressiven Störungen leiden. Man schätzt, dass etwa 6 % aller Teenager an einer Depression erkranken. Während Depressionen bei jüngeren Kindern seltener sind, treten sie ab dem Alter von 13 Jahren deutlich häufiger auf. Die Studien geben an, dass im Vorschulalter etwa 1 % der Kinder, im Grundschulalter 2 bis 3 % und bei Jugendlichen zwischen 12 und 17 Jahren 3 bis 10 % von einer Depression betroffen sind [1]. Die Schwere der Erkrankung reicht hierbei von der leichten depressiven Verstimmung bis hin zur zu einer schweren depressiven Störung. Die Depression hat bei Jugendlichen oft gravierende Auswirkungen sowohl auf ihre psychische als auch auf physische und soziale Entwicklung. Deswegen ist die professionelle Früherkennung von größter Bedeutung. Das Ziel dieses Artikels ist es, das Problem der Depressionen, die immer häufiger bei Kindern und Jugendlichen auftreten, zu analysieren, typische Symptome dieser Krankheit zu beschreiben sowie Behandlungs- und Präventionsverfahren darzustellen.

Depression ist eine krankhafte Gemütsstörung. Das ist eine ernste Erkrankung, die das Denken, Fühlen und Handeln der Betroffenen beeinflusst. Typische Anzeichen sind eine gedrückte Stimmung und andauernde Interessenlosigkeit. Nicht immer ist sie von außen sichtbar. Die Depression kann bereits im Kindesalter beginnen, chronisch verlaufen und die Entwicklung erheblich beeinträchtigen. Im Kindesalter kommen Depressionen häufiger bei Jungen als bei Mädchen vor. Während der Pubertät hingegen sind meist mehr Mädchen als Jungen betroffen.

Das Erscheinungsbild und die Ursachen der Krankheit können gerade bei Kindern und Jugendlichen sehr unterschiedlich und vielschichtig sein. Um von

einer Depression bei Kindern zu sprechen, müssen über zwei Wochen bestimmte Krankheitszeichen vorliegen. Häufige Symptome sind: überwältigende Traurigkeit, Reizbarkeit, ein Gefühl, abgelehnt und ungeliebt oder wertlos zu sein, sowie Schuldgefühle („Ich bin nur eine Belastung für andere!“).

Die Betroffenen verlieren das Interesse an gewohnten Aktivitäten, z. B. Sport treiben, Fernsehen, Videospiele oder Spielen mit Freunden. Sie verspüren oftmals extreme Langeweile, Müdigkeit oder Energielosigkeit, sind deswegen lustlos und körperlich inaktiv. Selbst die Erledigung kleiner Aufgaben, wie etwa Duschen oder die Schultasche packen, kann große Überwindung kosten und zum Teil auch gar nicht bewältigt werden. Bei jüngeren Kindern können Verhaltensweisen auftreten wie Überaktivität oder aggressives Verhalten. Diese Kinder sind eher reizbar als traurig.

Typisch für eine Depression sind Schlafstörungen – Schlaflosigkeit oder zu viel Schlaf sowie Alpträume. Auch der Appetit verändert sich. Depressive Kinder haben keinen Appetit mehr oder einen erhöhten Appetit, wodurch es nicht selten zu starken Gewichtsveränderungen kommen kann. Viele der Kinder klagen zudem über körperliche Symptome wie Bauch- oder Kopfschmerzen.

Es entstehen Probleme mit dem Denkvermögen, der Konzentration und Entscheidungsfindung, wodurch im Allgemeinen die schulische Leistung leidet. Solche Kinder und Jugendliche bekommen mehr Schulprobleme und neigen eher zu Schulabbrüchen [3].

Die Betroffenen zeigen häufiger Schwierigkeiten in sozialen Interaktionen mit Gleichaltrigen und verlieren deshalb ihre Freunde. Die Kinder können Suizidgedanken und -fantasien haben und sogar Suizidversuche unternehmen. Zusätzlich steigt die Gefahr, Drogen oder Alkohol zu konsumieren und auf die schiefe Bahn zu geraten.

Da die Symptome einer Depression vor allem bei jüngeren Kindern oft nicht eindeutig sind, ist es wichtig, dass sich die Eltern bezüglich Diagnostik und professionelle Hilfe an einen Kinder- und Jugendpsychiater oder eine Kinder- und Jugendpsychotherapeutin wenden. In vielen größeren Städten gibt es darüber hinaus Kinder- und Jugendberatungen, einen schulpsychologischen Dienst, Suchtberatungsstellen. Erschwert wird die Diagnosestellung durch die bei Jugendlichen häufige Abwehrhaltung gegenüber therapeutischen oder medizinischen Diensten und dadurch, dass viele Jugendliche ihre Erkrankung nicht als solche erkennen.

Bisher ist vor allem für das Kindes- und Jugendalter noch unzureichend geklärt, welche Faktoren dazu beitragen, dass bestimmte Personen eine oder mehrere depressive Episoden in ihrem Leben durchlaufen. Experten gehen davon aus, dass wie bei den meisten psychischen Störungen auch die Entstehung der Depression bei Heranwachsenden auf ein Zusammenspiel aus biologischen, psychischen und sozialen Faktoren zurückzuführen ist. Untersuchungen

sprechen auch dafür, dass die Neigung, eine Depression zu entwickeln, teilweise genetisch und neurobiologisch bedingt ist. Bei Kindern und Jugendlichen könnten vor allem folgende mögliche Risikofaktoren für eine Depression identifiziert werden: Kindheitstrauma, elterliche Vernachlässigung, Verlust eines Freundes oder Familienmitglieds oder andere belastende Lebensereignisse, problematische soziale Beziehungen zu Gleichaltrigen, Umweltstressoren oder Ungleichheiten wie Armut oder Ernährungsunsicherheit, Drogenmissbrauch. Außerdem haben Kinder und junge Menschen ein höheres Risiko für eine Depression, die Familienmitglieder mit Depressionen oder anderen schwerwiegenden psychischen Erkrankungen haben, früher schon einmal eine Depression oder Angststörung hatten, Gewalt, Missbrauch oder Stigmatisierung ausgesetzt sind, starke familiäre Konflikte erleben oder ein sehr negatives Selbst- oder Körperbild haben [2]. Es muss betont werden, dass die Erkrankung eine hohe Rückfall-wahrscheinlichkeit aufweist.

Das frühzeitige Erkennen, dass ein Kind oder Jugendlicher an Depression erkrankt ist, trägt entscheidend zu einem positiven Behandlungserfolg bei. Besonderes Augenmerk sollten Eltern und Angehörige zunächst darauf legen, ob längeres, zurückgezogenes Verhalten des Jugendlichen auf das Alter zu beziehen und daher noch als „normal“ und entwicklungspezifisch zu verstehen ist – oder ob es sich möglicherweise um die Anzeichen einer Depression handelt.

Was die Therapie der Depression im Kindes- und Jugendalter betrifft, so sollte sie immer multimodal sein. Je nach Ausprägung und Schweregrad werden Psychoedukation, psychotherapeutische Verfahren alleine oder in Kombination mit Medikamenten eingesetzt. Die Experten betonen auch, dass die Behandlung überwiegend ambulant erfolgen kann, dass aber bei schweren Depressionen und Suizidalität eine stationäre Therapie notwendig ist.

Die Psychotherapie hilft dem Jugendlichen, sich besser zu verstehen, ihre Gedanken und Gefühle zu erkennen und zu kontrollieren, mit Stress besser umzugehen, sein Selbstwertgefühl wieder herzustellen und seine Beziehungen zu verbessern. Was die Methoden der Psychotherapie betrifft, so profitieren die betroffenen Kinder vor allem von der kognitiven Verhaltenstherapie, der interpersonellen Therapie und der Familientherapie. In der Therapie ist es wichtig, einen tragfähigen Dialog zwischen dem Betroffenen, seinem Therapeuten aber auch anderen Bezugspersonen wie Eltern, Geschwistern, Lehrern oder Freunden zu erreichen. Der familiäre Rückhalt ist von entscheidender Bedeutung für die Therapieplanung. Das soziale Umfeld spielt auch bei der Risikoabschätzung für Suizid eine große Rolle [4].

Ein weiterer wichtiger Aspekt der Therapie ist die Vorbeugung von Rückfällen. Dazu lernen die Beteiligten, welche Frühwarnzeichen auf das Wiederauftreten einer Depression hinweisen können und wie sie sich beim

Auftreten erster Krankheitszeichen verhalten können, um einen Rückfall zu vermeiden. Schließlich erfahren sie, wo sie bei einem Rückfall Unterstützung bekommen können.

Damit die oben beschriebenen Behandlungsmethoden möglichst selten oder bestenfalls gar nicht notwendig werden, gilt es bereits vor dem Ausbruch einer depressiven Erkrankung entsprechende Maßnahmen zu ergreifen. Es geht um die Prävention. Es gibt eine Vielzahl von Methoden; hierzu zählen Informations- und Aufklärungskampagnen mithilfe von Flyern, Broschüren und Webseiten im Rahmen universeller Prävention. Um die eigene psychische Gesundheit zu stärken und damit womöglich das Risiko einer Depression zu verringern, empfiehlt es sich, Stress zu reduzieren. Auch ein stabiles soziales Netzwerk wirkt schützend. Man sollte daher regelmäßig Kontakt zu Freunden pflegen und sich über Sorgen und Probleme austauschen. Mit anderen Menschen zu reden und sich ihnen verbunden zu fühlen, ist für die emotionale Gesundheit besonders wichtig. Manche finden auch Trost bei einem Haustier. Sport und regelmäßige Bewegung haben sich in der Therapie von Depressionen bewährt und leisten einen Beitrag, um der Entstehung einer Depression vorzubeugen.

Zusammenfassend lässt sich sagen, dass die Depression im Kindes- und Jugendalter ein ernsthaftes Problem ist, das nicht ignoriert werden kann. Es ist wichtig, dass wir möglichst früher die Anzeichen erkennen und die Kinder und Jugendlichen unterstützen, die von dieser Krankheit betroffen sind. Durch Aufklärung, Zugang zu Therapie und einem unterstützenden Umfeld können wir dazu beitragen, dass junge Menschen eine bessere mentale Gesundheit erreichen und ihren Weg zu einem glücklichen und erfüllten Leben finden.

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Статья посвящена проблеме депрессии у детей и подростков. Описываются типичные симптомы заболевания, анализируются причины его появления, а также возможные методы лечения и профилактики.

### **к содержанию**

#### **Е. В. Табольчик**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель С. В. Милач

### **BEDEUTUNG DES FREMDSPRACHENLERNENS IN DER GRUNDSCHULE**

Im Zeitalter der Globalisierung gewinnen Fremdsprachen und die Befähigung zu transnationaler Kommunikation einen immer höheren Stellenwert. Ein stark angewachsener Fremdsprachenbedarf ist durch die zunehmende Mobilität der Bevölkerung und die wachsenden internationalen Kontakte von Individuen, Gruppen, Institutionen, Gesellschaften und Medien zu verzeichnen. Von Kindheit an begegnen wir vielen verschiedenen Sprachen und wachsen in eine mehrsprachige Welt hinein. Die moderne Umwelt erfordert die Befähigung junger Menschen, kompetent mit den Anforderungen sprachlicher und kultureller Vielfalt umzugehen und sich auf Mobilität im Zusammenhang mit persönlicher Lebensgestaltung, Weiterbildung und Beruf einzustellen. Die Ausbildung und Nutzung von Mehrsprachigkeit wird somit zu einer entscheidenden Forderung an Bildungsinstitutionen. Die Forschungen zeigen, dass der entwicklungs- und sprachlernpsychologisch günstigste Ausgangspunkt für das Fremdsprachenlernen im Bereich der Vorschulbildung bzw. spätestens in der Grundschule liegt. Der vorliegende Beitrag behandelt die Bedeutung des Fremdsprachenunterrichts in der Grundschule und seinen Einfluss auf die Entwicklung der Grundschul Kinder.

Seit der zweiten Hälfte des 20. Jahrhunderts untersuchen Psychologen, Methodiker und Fremdsprachenlehrer die Besonderheiten und Vorteile des frühen Fremdsprachenlernens. Der Fremdsprachenunterricht in der Grundschule wird von Bildungsforschern als entscheidende Basis für den Erwerb von Mehrsprachigkeit und für lebenslanges Fremdsprachenlernen sowie die Auseinandersetzung mit kultureller Vielfalt und den Erwerb interkultureller Kompetenzen betrachtet.

Das Hauptargument für Fremdsprachenunterricht bereits in der Grundschule sind die für den Spracherwerb besonders günstigen Lernvoraussetzungen bei dieser Altersstufe, vor allem solche psychischen Eigenschaften der kleinen Kinder wie Neugier, Wissbegierde, Kommunikationsbedürfnis. Die

Grundschüler zeigen Bereitschaft und Unbefangenheit, sich auf eine fremde Sprache und neue Lernerfahrungen einzulassen. Der Spracherwerb erfolgt intuitiv und natürlich. Die Kinder lernen die Fremdsprache mit Spaß und Neugier und sind dementsprechend auch genug motiviert. Neurowissenschaftliche Studien belegen, dass Kinder unter zehn Jahren besonders für Sprachen sehr empfänglich sind. Für diese Altersstufe sind hohe Aufnahmefähigkeit, Gedächtniskapazität und Flexibilität des Gehirns charakteristisch. Kleine Kinder bauen schneller Netzwerke im Gehirn auf, Worte, Strukturen und Grammatik einer Sprache prägen sich so besser ein, was den Spracherwerb auch im späteren Leben erleichtert [1].

Die Grundschul Kinder besitzen auch das ausgeprägte Imitationsvermögen sowie Bereitschaft zur Nachahmung. Sie nehmen feine Unterschiede in Lauten und Tönen wahr, weshalb die Akzente leicht imitiert werden können. Die sensiblen Ohren helfen den Kindern dabei, auch schwierige Laute zu erfassen und nachzuahmen, woran ältere Lerner häufig scheitern.

Zudem begegnen die Grundschul Kinder fremden Sprachen generell weitaus ungezwungener als ältere Schüler: Sie haben weniger Hemmungen vor der sprachlichen Produktion und unternehmen – getrieben von ihrer kindlichen Neugierde – frühzeitig Versuche, sich in der Fremdsprache zu verständigen, auch wenn ihr Sprechvermögen noch gering ist. Aber gegen Ende der Grundschulzeit wird die Angst davor, beim Sprechen Fehler zu machen, meist größer. Deswegen empfehlen Experten, dass Fremdsprachen möglichst früh erlernt werden sollten. Je früher Kinder hiermit beginnen, desto fließender und sicherer können sie sprechen.

Frühzeitiger Fremdsprachenunterricht bringt erhebliche Vorteile, so geht aus Forschung hervor. Der Unterricht bietet dem Kind eine Möglichkeit, sich vielseitig zu entwickeln und fördert eine positive Einstellung zum lebenslangen Fremdsprachenlernen und eine Unbefangenheit und Beweglichkeit beim Erwerb fremder Sprachen. Die Leichtigkeit und Freude an dieser Erfahrung kann dazu beitragen, bei Kindern Selbstvertrauen und Lernbereitschaft zu steigern. Zahlreiche Studien weisen darauf hin, dass zweisprachige Kinder Informationen schneller verarbeiten und ihre Aufmerksamkeit gezielter lenken können. Demnach scheint sich früher Fremdsprachenerwerb durch die Entwicklung eigener Lernstrategien günstig auf das Lernen generell auszuwirken.

Der Fremdsprachenunterricht leistet einen Beitrag zur Gesamtentwicklung der emotionalen, kreativen, sozialen und kognitiven Fähigkeiten der Grundschul Kinder. Sprachenlernen trainiert das Gehirn und verbessert das Gedächtnis, die Konzentration und die analytischen Fähigkeiten. Es setzt nämlich voraus, dass die Schüler in der Lage sind, neue Grammatik-, Wortschatz- und Ausspracheregeln zu verstehen, was ihr kritisches und kreatives Denken fördert und ihnen hilft, die Struktur der Sprache als Ganzes

besser zu verstehen. Viele Studien zeigen, dass ein Kind, das eine Fremdsprache lernt, die Sprechfähigkeit in seiner eigenen Sprache entwickelt, schneller lesen und schreiben lernt. Wie alle anderen Lernbereiche der Grundschule, dient auch der Fremdsprachenunterricht zur Stärkung der Urteils- und Ausdruckskraft und Dialogfähigkeit der Kinder. Zudem werden kommunikative Fertigkeiten und Sprechbereitschaft entwickelt.

Der Fremdsprachenunterricht steigert die Kreativität des Kindes. Je mehr Sprachen eine Person beherrscht, desto flexibler und kreativer ist sie laut Linguisten. Weil das Erlernen einer Fremdsprache dem Kind ermöglicht, wichtige Fähigkeiten wie Problemlösen und rationales Denken früher zu entwickeln. Neue Wörter, neue Sprachkenntnisse und der damit einhergehende kulturelle Schatz eines anderen Landes verändern den Blick auf die Welt, Konzepte und Probleme [2].

Darüber hinaus öffnet das Erlernen einer Fremdsprache die Türen zu neuen Kulturen und Weltanschauungen. Kinder, die eine andere Sprache lernen, lernen nicht nur anders zu sprechen, sondern erfahren auch etwas über andere Traditionen, Kulturen und Geschichte. Der Fremdsprachenunterricht erzieht Toleranz, Respekt und Offenheit gegenüber anderen Kulturen und deren Werten. Dabei werden sich die Kinder ihrer eigenen nationalen Identität bewusst. Durch das Erlernen einer anderen Sprache erkennen die Kinder Gemeinsamkeiten und Unterschiede zur Muttersprache und erweitern somit sein kulturelles Wissen, die Weltsicht und der Blick auf die eigene Kultur und Sprache. Das alles ermöglicht ihnen, sich in einer mehrsprachigen und multikulturellen Welt zu orientieren und erfolgreich zu sein.

Die Rolle des Fremdsprachenunterrichts in der Grundschule darf also nicht unterschätzt werden. Sie trägt zur sprachlichen und kulturellen Entwicklung der Schüler bei und hilft ihnen, sich zu verständigen und handlungsfähig zu werden, sich zu öffnen und selbstbewussten Persönlichkeiten zu entwickeln. Dieser frühe Zeitpunkt ermöglicht ein kontinuierliches Sprachwachstum über alle Schulstufen bis hinein ins Erwachsenen- und Berufsleben und fördert die Aneignung weiterer Sprachen.

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В статье автор раскрывает преимущества изучения иностранного языка в начальной школе. Рассматриваются психофизические особенности детей младшего

школьного возраста, способствующие успешному усвоению иностранного языка, а также его влияние на развитие учащихся.

### **к содержанию**

**А. И. Ташова**

Российская Федерация, Санкт-Петербург, Северо-Западный институт  
управления Российская Академия народного хозяйства и  
государственной службы при Президенте РФ

Научный руководитель - кандидат экономических наук, доцент

Н. М. Олейник

## **ECONOMIC SECURITY OF THE REGION AND DIRECTIONS FOR NEUTRALIZING THREATS**

Economic security is an integral part of every state and can be defined as a set of indicators of the economic security of individual regions of the country and their development. Such indicators include changes in trends, identification of crisis situations, level of development, identification of external and internal threats and directions for their neutralization. Due to the fact that all regions are developing unevenly, economic backwardness of each of the country's subjects appears, and at the same time, associated problems arise that require correct and sometimes immediate solutions.

The purpose of the article is to determine the level of economic security of the region and the direction of neutralizing threats.

The economic security of a region is “the totality of the current state, conditions and factors characterizing the stability, sustainability and progressive development of the region’s economy, organically integrated into the economy of the country as a whole as a relatively independent structure” [2, p. 345]. Thus, the economic security of the region implies a state of security and stability of the region’s economy from external and internal threats. The economic security of the region can be manifested in the implementation of its own policy, which does not go beyond the boundaries of the Federation, the ability to easily respond to sudden geopolitical changes and implement large-scale economic measures in response to the most critical socially explosive incidents in the area, which are associated with local economic incidents or financial errors at the federal level. Also, the economic security of the region is manifested in the ability, through contractual relations, to show support for neighboring regions and republics, where a significant unbalanced financial situation prevails, which can have a negative effect on the economic interests of the territory. Analyzing the above, we add that for a more complete study of regional situations, attention should be paid to the level of development of a separate number of territories that are part of the region. Let's consider their typology.

In terms of economic structure and form of organization, they are distinguished: diversified (Central regions and Central Black Earth regions), industrial (Moscow region, Central Urals), agricultural-industrial (Krasnodar Territory), labor surplus (Republics of Crimea), with special management regime (regions of the Far North). According to the level of economic development, regions are divided into highly developed, which are actively developing, and underdeveloped.

Regions characterized by a high level of economic, environmental, and social problems pose a fairly significant threat to economic security. In this regard, the following types of regions are distinguished: crisis regions, which have been subject to the disastrous influence of natural or man-made incidents, declines in living standards and production; backward (underdeveloped), which are characterized by a low level of economic potential compared to the Russian average, the economy is at the stage of long-term stagnation; depressed, where lower indicators of socio-economic development currently prevail compared to indicators in the country; problematic people who are unable to independently find solutions to their worsening problems.

Regions, depending on the filling of the revenue side of the budget, are divided into subsidized ones, where “the volume of funds required for budget payments is greater than taxes collected, and the region needs federal transfers” [2, p. 350], and donor regions, in which “tax revenues are greater than the volume of necessary budget payments, and they must give part of the tax revenues to the federal budget” [2, p. 350].

Thus, by analyzing the results of the typology of regions, it is possible to group them according to their development features, scientific and technical potential, and the degree of economic development, which makes it possible to develop measures to improve and stabilize the economies of individual constituent entities of Russia.

There are two groups of threats to the economic security of the region - internal threats, which include food, energy threats, as well as threats in the real sector and social sphere, and external threats, which include foreign economic and foreign political threats. The most important external threat is the high level of dependence of the economy of Russia and its regions on world market conditions. Also in this group of threats can be included discriminatory measures of foreign countries, poor border infrastructure, and lack of customs facilities, insufficient export and currency controls.

Threats to economic security may not appear immediately. The use of the indicator approach makes it possible to compare actual indicators with threshold values, to identify problems, the prevention of which requires the intervention of federal legislative and executive authorities and the use of emergency methods of state economic regulation of territorial development.

Thus, the economic security of the region may face external and internal threats that pose a potential danger. And if they are not eliminated in time, taking into account the threshold values of the relevant indicators, then crisis situations may follow.

Let's consider the level of economic security of the region using the example of the Murmansk region, which belongs to the problem type; the territory of the region is located in the northern latitudes, where harsh natural and climatic conditions prevail, and therefore the costs of production and acceptable life support for the population increase. The calculation of economic security indicators for the Murmansk region was carried out for 2010, 2015 and 2022. In order to calculate the data and compare them with threshold values, refer to the data of Rosstat, the Ministry of Finance and the Ministry of Development of the Arctic and Economy of the Murmansk Region [3]. We will study the level of economic security based on the methodology of V.K. Senchagov, which includes such projections as "Economic development", "Social development", "Innovative development" and "Ecological development", presented in Table 1.

Table 1 - Level of EB in the Murmansk region according to Senchagov's method

<b>Projection "Economic Development"</b>				
<b>Indicators</b>	<b>Thresh old value</b>	<b>20 10 year</b>	<b>20 15 year</b>	<b>20 22 year</b>
1. GRP per capita, thousand rubles.	$\geq 413,2$	29 3	52 5	10 83,2
2. Annual inflation rate, %	$\leq 6$	8,6	12, 1	7,1
3. Investments in fixed capital, % of GDP	$\geq 25$	16, 5	25	26
4. Depreciation rate of fixed assets of industrial enterprises, %	$\leq 50$	50, 3	51, 3	44, 4
<b>Projection "Social Development"</b>				
1. Ratio of average per capita income of the population to the subsistence minimum, times	$\geq 3,5$	2,9	2,6	2,7
2. Ratio of average pension to average salary, %	$\geq 40$	42	45	43
3. Unemployment rate according to ILO methodology, %	$\leq 4$	3	2	2
4. Life expectancy at birth, years	$\geq 80$	67, 4	70, 24	69, 81
5. Size of housing per inhabitant, sq. m. m	$\geq 25$	24, 3	24, 7	26, 9
6. Funds for healthcare, education and social policy, % of GRP	$\geq 15$	23, 4	21, 6	18, 2
<b>Projection "Innovative Development"</b>				
1. Number of persons engaged in	$\geq 120$	43	61	56

scientific research and development per 10 thousand employed population				
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## Continuation of Table 1

2. Internal costs for research and development, % of GRP	$\geq 2,2$	0,7	0,0 6	0,4
3. Number of submitted applications for inventions and utility models per 10 thousand population	$\geq 5$	0,4 9	0,4 7	0,3 1
<b>Projection "Ecological Development"</b>				
1. Release of contaminated wastewater, thousand m <sup>3</sup> /sq. km	$\leq 0,3$	0,4	0,3	0,2
2. Emissions of pollutants into the atmospheric air from stationary sources, t/sq. km	$\leq 0,5$	2	1,9	1,4
3. Reforestation (share of restored forests, %)	$\geq 0,15$	19	9	10

Having analyzed the data presented in Table 1, we can conclude that in 2022, in the Economic Development projection, the actual indicators are satisfactory. In the "Social Development" projection, the actual values for "life expectancy at birth" remain below the threshold value, and there is a low unemployment rate. The analysis of "Ecological Development" revealed threats to the environmental security of the region. It should be noted that the government of the Murmansk region allocates funds for the development of healthcare, education, and reforestation, which indicates attempts to preserve and increase the economic security of the region. Analyzing the indicators using the method of V.K. Senchagov, we can conclude that the economic security of the Murmansk region is below average.

As a result of the work carried out, internal threats to the economic security of the region were identified, such as: threat to environmental safety (pollution of the environment by enterprises with harmful emissions into the atmosphere); deterioration of the state of scientific and technical potential. External threats include outflow of qualified personnel to other regions or abroad due to reluctance to accept working conditions and wages, lack of prospects for development; insufficient level of infrastructure development; restrictions on global trade; development of conflict relations with neighboring states in connection with emissions of harmful substances into the atmosphere by metallurgical plants. All of the above threats have serious consequences and require a competent solution to prevent them, since they can serve as the beginning of a deterioration in the economic potential and security of the region.

For every threat there are ways to neutralize them. Thus, to prevent the threat of environmental pollution, the Government of the Murmansk region was asked to reduce emissions of harmful substances into the atmosphere and use environmentally friendly technologies. To preserve the scientific and technical

potential of the region, measures were considered to develop research centers and establish partnerships with other regions or countries. To prevent the drain of qualified personnel, it was proposed to increase the level of wages, improve working conditions, and conduct professional training for specialists. It is necessary to neutralize the threat of developing conflict relations with neighboring states in the region through diplomatic negotiations and the conclusion of international agreements.

Thus, the implementation of these measures requires full commitment not only from the Government of the region, but also from the population of the given territory as a whole, in order to ensure the stable development of the region's economy and strengthening the level of its economic security.

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В данной статье раскрывается понятие «экономическая безопасность» региона и смысл выявления угроз, связанных с экономической безопасностью региона. Автор анализирует уровень экономической безопасности выбранного региона на основе методики известного ученого В. К. Сенчагова, выявляет угрозы и разрабатывает пути их нейтрализации.

#### **А. А. Токарчук**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – преподаватель Е. А. Ковганко

### **MARKETING IN THE FIELD OF TOURISM**

Tourism is a multifaceted concept, as it combines aspects of population migration, a sector of the global economy and national economy, as well as an



area of intercultural interaction and other aspects. Tourism is a business and in certain cities and regions it can become a key economic sector. An illustrative example here is the coastal region of the Black Sea, where economic activity and basic income depend to a large extent on seasonal inflow. The number of businesses in tourism is increasing every year. This forces travel agencies to develop new technologies of management, production and sales, because innovation contributes to the development of competitive advantages. The directions in which innovation activity in the tourism sector is developing:

1. Introduction of innovations related to the development of the enterprise and tourism business in the system and structure of management, including reorganisation, enlargement, absorption of competing entities using advanced technologies; human resources management; rational financial management.

2. Regular innovations (product innovations), the purpose of which is to change the consumer characteristics of the tourism product, its positioning in the market and ensuring competitive advantages.

3. Marketing innovations aimed at meeting the needs of target consumers or attracting new customers who are not currently the target audience. The development of tourism marketing is the most important point to increase the popularity of tourism business, hence the flow and income [1].

As you see, marketing strategy is one of the most important areas of tourism development and the easiest to implement. “Tourist marketing is a system of continuous management of production and implementation of tourist product, ensuring compliance of the offered services with market demands, organisation of activities that are closely related to the need to develop, form and promote tourist services” [2].

Indeed, a successful marketing strategy of tourism enterprises includes taking into account the needs and desires of tourists, i.e. consumer demands, and the continuous improvement of the quality of the tourism product offered.

Then promoting tourism product and services is an extensive process that involves the use of various marketing strategies to attract customers and promote services in the tourism market. This industry has been in existence for quite some time, so there are many tools and methods currently available for tourism promotion. Some of them include:

1. Digital marketing utilises online tools such as websites, social media, content marketing and online advertising for promotion.

2. PR and media co-operation, which includes press work and participation in exhibitions, promote tourist destinations.

3. Partnership programmes with tour operators and other players in the tourism industry increase visibility and sales.

4. Event marketing, the organisation of special events, draws attention to tourist destinations.

5. Advertising campaigns, both traditional and digital methods, increase awareness of tourist destinations.

6. Crowdsourcing, engaging the community to create content about places and events, is a powerful tool for promotion through recommendations [3], [4].

The promotion of tourism product and services requires not only the correct use of marketing strategies, but also the consideration of a number of factors. For example, the quality of tourism infrastructure, such as hotel development and transport accessibility, plays a key role in the attractiveness of a tourist destination. Effective use of marketing tools, both digital and traditional, helps to stand out in the market and attract the attention of potential customers. Cultural heritage, unique natural attractions, as well as the level of service and safety play a prominent role in the choice of tourists. It is important to consider the stability of the political situation and the overall economic development of the country, which also affects the success of attracting tourist flow and promoting tourist destinations.

Comparing different approaches to tourism marketing and its directions, we can highlight the innovative nature of Booking Holdings in the sphere of online tourism. It is the owner of an extensive network of services for booking hotel rooms, travelling, restaurant reservations, taxi and car rental, which includes international services Booking, Priceline, Agoda, OpenTable. The company is constantly working on improving its services and expanding their opportunities for the consumer. Their marketing success is based on their basic principles. The first of them is the active use of machine learning algorithms to personalise offers and recommendations for each user, taking into account their preferences and travel history. They also provide travellers with the ability to leave feedback on their accommodation experience, which helps other users make more informed choices. Booking Holdings also uses dynamic pricing, last minute offers and discounts to stimulate demand and increase conversions. The company creates interesting content about popular destinations, culture and local traditions, which helps to attract the attention of potential customers. Booking Holdings actively cooperates with partners around the world, including airlines, rental companies and other services, which expands their audience and services offered. The company has also launched the Booking Booster initiative, a programme to support start-ups that promote sustainable tourism; Booking Holdings has also introduced a live chat feature for online customer support. Booking Holdings has successfully applied a variety of marketing strategies and innovative approaches, which allows them to remain a leader in the online travel industry and attract millions of users from around the world [5].

Booking Holdings is a public company and its financial reports and profits are available to the public: their revenue was \$1.3 billion in 2020, a 14% increase from the previous year. Successful marketing activities include using

digital channels to promote their services, as well as partnering with other companies and brands to expand their market presence.

But the company has some disadvantages, for example, despite the high level of success of Booking Holdings in its industry, it largely depends on the work of the service “Booking.com”. In case of problems with this service, it can negatively affect the overall profit of the company. Booking Holdings also contributes to the development of tourism and the economies of the countries where it operates, its presence may also affect the revenues of traditional operators such as airline ticketing and travel agencies.

In turn, the most popular company in the CIS is Coral Travel, which started its tour operating activities in Russia in 1994. The advantages of this travel company are that Coral Travel has a wide range of services in this segment of the market, namely travelling to different countries of the world, selling air tickets, booking hotels, renting a car, travel insurance and packages, and so on. However, it is not as successful and famous as the named company above. One of the reasons for this is their marketing. Coral Travel, like many companies in CIS countries, does not pay proper attention to the use of modern technologies and media resources, despite being one of the pioneers in this industry in this region. Its revenues do not show significant growth. As a private company, Coral Travel is not required to publicly disclose financial data, which makes it difficult to analyse its successes and failures. On the one hand, this policy allows the company to keep its problems under control, on the other hand, such behaviour of the company in public resources and media, “closes” the company from customers and accordingly from sales. The reason lies in human psychology: transparent statistics and reporting cause more trust in customers, as they can see how effectively the company manages its finances and resources. An open and honest company has more chances to strengthen its reputation among clients and partners, can attract investors who can invest their money in the development of the company. Transparency of information allows managers and employees of the company to better understand how the company works and how they can contribute to its success, in business helps to create trusting relationships with customers, partners and investors, which leads to the long-term success of the company in the market.

This is why Booking Holdings demonstrates an innovative approach in online tourism and successfully utilises digital technologies. In contrast, Coral Travel has not achieved the same success due to insufficient use of modern technologies and marketing tools. In fact, the error in Coral Travel's marketing strategy is mainly manifested in the insufficient use of digital channels and social media to attract customers. Adjustment of the marketing strategy and introduction of modern technologies in the company's work could help Coral Travel to overcome the current problems and increase revenues in the future, to

improve its position in the market. The company's openness and honesty could help strengthen its reputation in front of clients, partners and investors. Effective marketing strategy, use of modern technologies and media resources, as well as openness and adaptability to changes in the industry are the key points for successful development of travel companies.

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В статье рассматриваются проблемы, возникающие в связи с «застреванием» туристических компаний в маркетинге. Дается сравнение компаниям ЭС – «Booking Holdings» и СНГ – «Coral Travel». Прослеживается значение различных подходов к маркетинговой деятельности. Поднимается актуальный вопрос о внедрении современных методов привлечения клиентов. Обосновывается мысль о том, что является успехом самой популярной туристической компании в мире. Дискуссионным продолжает оставаться вопрос о том, как действительно влияет на клиента некоторая закрытость компании.

### к содержанию

#### **А. В. Традчик**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель О. Г. Полещук

### **INTERACCIÓN CULTURAL HISPANO-CHINA**

España y China son dos países que, a primera vista, están situados en extremos opuestos del mundo y tienen culturas completamente diferentes. Sin embargo, la historia muestra que estos dos estados han tenido y tienen interacción en diversos ámbitos, entre los cuales la interacción cultural juega un papel importante. La historia de los vínculos culturales entre China y España se

remonta al siglo XII, cuando un viajero español llamado Benjamín Tudela, según los registros históricos españoles, llegó a un remoto país llamado Qin, que en realidad era China. Esto demuestra que la interacción cultural entre los dos países realmente comenzó en este momento. Sin embargo, no fue hasta el siglo XVI cuando Oriente y Occidente entraron en estrecho contacto. El descubrimiento de América por Cristóbal Colón en 1492 y el viaje de Magallanes alrededor del mundo en 1521 proporcionaron un poderoso impulso para marineros emprendedores y clérigos devotos que viajaron miles de millas hacia el Este y se convirtieron en los precursores de la interacción cultural entre Oriente y Occidente.

En los registros históricos de España se descubrió un mapamundi elaborado por un español llamado Diego Ribero e impreso en Sevilla ya en 1529, que incluía un boceto de China. Inexplicablemente, en este mapa se encontraron imágenes de armas y castillos españoles. Podrían significar que los españoles pisaron los lugares donde aparecían imágenes de estos escudos y castillos españoles. Sin embargo, estos errores involuntarios pronto fueron corregidos ya que, en un libro titulado “Primeras relaciones con el Imperio chino”, escrito por un padre católico, las autoridades españolas reconocían debidamente la soberanía del gobierno chino. Por tanto, hay muchas razones para creer que los vínculos, incluidos los culturales, entre China y España tienen una larga historia, que se remonta a la época de la antigua Ruta de la Seda, desde que los dos países comenzaron a desarrollar relaciones comerciales allá por el siglo XVI. En este artículo intentaré caracterizar, en primer lugar, la cooperación entre países en el campo de la educación, la ciencia y el arte, así como identificar la influencia de los intercambios culturales en el entendimiento mutuo de los dos pueblos.

Actualmente, existen organizaciones en la República de China y España que promueven el intercambio cultural entre ambos países, como la Asociación Cultural y Económica Sino-Española en Taipei y el Xavier College for Oriental Students de San Francisco en Madrid. El Ministro de Asuntos Exteriores Ye donó una colección completa de “La Historia de las 25 Dinastías en China” a una institución educativa en España en nombre del gobierno chino, y la Embajada de España también realizó exposiciones de pinturas y películas españolas en Taipei.

La Voz de la China Libre realizó un programa de intercambio con la Emisora Nacional de España en Madrid. Gracias a las generosas subvenciones proporcionadas por el gobierno español y la Iglesia católica en Madrid, unos 60 estudiantes chinos pueden continuar sus estudios en diversas instituciones académicas. Se está desarrollando un plan para el intercambio de profesores y estudiantes entre ambos países, que se espera que pueda ponerse en práctica en un futuro próximo. Estos eventos culturales sirvieron de puente espiritual e intelectual entre los dos pueblos. El Departamento de Relaciones Internacionales

de ESDi asistió al “Foro China-Español de Educación Superior” el 20 de mayo de 2019. 68 universidades españolas y chinas se reunieron en Madrid para impulsar la cooperación y la movilidad entre ambos países. El encuentro fue organizado por las Universidades Crue Españolas y la Asociación Educativa China para el Intercambio Internacional (CEAIE) en colaboración con el Servicio Español para la Internacionalización de la Educación (SEPIE). Representantes de las tres organizaciones resaltaron su interés en lograr una fructífera cooperación académica entre China y España. Como dijo Coral Martínez, directora de SEPIE, “Es necesario promover una mayor y mejor colaboración universitaria para preservar y crear universidades de excelencia que contribuyan a la sociedad del conocimiento del mañana”. Así, en el Foro de Educación Superior China-España se trataron tres temas:

1. Innovación tecnológica, investigación y relaciones con las empresas.
2. Problemas de internacionalización entre universidades chinas y españolas.
3. Reclutamiento de estudiantes y servicios internacionales.

El networking entre representantes de universidades españolas y chinas fue el mejor final del foro. Por ello, el Departamento de Relaciones Internacionales de ESDi aprovechó la oportunidad para establecer contactos y desarrollar futuros proyectos de movilidad y cooperación. La interacción entre las universidades chinas y españolas es cada vez más importante en el mundo moderno. Ambos países tienen un rico patrimonio cultural y un alto nivel de educación, lo que los convierte en socios atractivos para proyectos e investigaciones conjuntos. Las universidades chinas y españolas cooperan en áreas como tecnología de la información, biomedicina, ingeniería y arte y cultura. La investigación conjunta y el intercambio de estudiantes y científicos contribuyen al desarrollo de la educación y la ciencia en ambos países. Además, la interacción entre las universidades contribuye a fortalecer las relaciones diplomáticas entre ambos países. Compartir conocimientos y experiencias ayuda a los científicos a comprender y respetar mejor los antecedentes culturales e históricos de los demás. La Escuela de Idiomas Extranjeros de Guangzhou y el Colegio Juan de Lanuza en Zaragoza, para ampliar la cooperación con Ciudades de la Amistad en España, acordaron desarrollar la interacción con las Escuelas de la Amistad y fortalecer las asociaciones en el campo de la lengua de instrucción. La Escuela de Idiomas Extranjeros de Guangzhou es una de las primeras siete escuelas de idiomas extranjeros en China, aprobada por el Ministerio de Educación en 1962. Actualmente ofrece seis cursos de idiomas extranjeros en inglés, japonés, francés, alemán, ruso y español. El Colegio Juan de Lanuza, fundado en 1978, es pionero en la educación española, conocido por sus modelos educativos creativos, uso de las nuevas tecnologías y educación humanística.

La relación entre China y España va más allá de los sectores económicos y comerciales. Los dos grandes países culturales también tienen amplias perspectivas para desarrollar intercambios y cooperación interpersonales y culturales. El entusiasmo de ambos pueblos por aprender el idioma y comprender la cultura del otro está creciendo. En septiembre de 2018, China introdujo el español en el plan de estudios de la escuela secundaria superior del país y España confirmó que también haría esfuerzos para incluir el chino en su sistema educativo nacional. El número de turistas chinos en España también ha crecido rápidamente en los últimos años: España recibió 514.000 turistas chinos en 2017, más del 37 por ciento más que el año anterior. Durante las vacaciones de verano de 2018, España ocupó el quinto lugar entre los destinos emisores más populares para los turistas chinos. España coincide con los turistas chinos en muchos aspectos, incluida la historia, la cultura, los sitios históricos, la comida y el fútbol, lo que es una razón importante para el creciente número de turistas chinos en España.

En 2013, China lanzó la Iniciativa de la Franja y la Ruta (BRI), centrándose en el desarrollo de una Ruta de la Seda moderna y rutas comerciales marítimas que conecten Asia, Medio Oriente, Europa y África. El marco de la BRI para la comunicación y cooperación cultural ha abierto la puerta a nuevas oportunidades de intercambio y cooperación entre China y España. España, situada en la intersección del Cinturón Económico de la Ruta de la Seda y la Ruta Marítima de la Seda del Siglo XXI, participa activamente en la construcción de la BRI para desarrollar una cooperación pragmática con China. La BRI ofrece numerosas oportunidades para las empresas españolas, y España también actúa como puerta de entrada para las empresas chinas que deseen invertir en América Latina y África debido a su ubicación geográfica única y ventajosa.

Así, podemos llegar a la conclusión de que la interacción cultural entre China y España tiene orígenes antiguos que siguen existiendo en el mundo moderno. Ambos países se enriquecen mutuamente con sus tradiciones, artes e idiomas, creando un patrimonio cultural único. Este intercambio no sólo promueve un entendimiento más profundo entre sí, sino que también fortalece las relaciones diplomáticas y económicas entre los dos pueblos. A través de estas interacciones, China y España continúan cooperando y desarrollándose juntas, demostrando el poder del intercambio cultural en la comunidad global. Actualmente se desarrolla activamente la cooperación en el ámbito de la cultura y la educación, lo que, según las partes, contribuye a mejorar el entendimiento mutuo entre los pueblos. Se ha creado un amplio marco jurídico para las relaciones humanitarias entre España y China y las partes están interesadas en ampliar aún más los vínculos culturales y educativos. El amplio sistema de contactos entre los pueblos no garantiza todavía la superación de las diferencias políticas y económicas, pero ayuda a que España y China se comprendan mejor y determina qué más se necesita hacer para aumentar la confianza mutua y

resolver adecuadamente las diferencias entre las dos partes. A partir de la historia mencionada de los vínculos culturales entre España y China, y también en vista de la identidad de sus visiones del mundo, los vínculos de amistad y entendimiento mutuo serán aún más estrechos entre los dos pueblos en el futuro.

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В статье рассматривается культурное взаимодействие между Китаем и Испанией на современном этапе, исследуется влияние китайской и испанской культур на друг друга, а также анализируется обмен идеями, искусством и традициями между двумя странами. Особое внимание уделяется развитию культурных обменов и сотрудничеству между университетами для обогащения обеих культур и укрепления взаимопонимания.

### к содержанию

#### **В. В. Третьякова**

Российская Федерация, Елец, Елецкий государственный университет им. И.А. Бунина

Научный руководитель – доктор педагогических наук, профессор  
В. Н. Карташова

### **TRAVEL ECOLOGICALLY. MASS TOURISM – BAD FOR THE CLIMATE AND THE ENVIRONMENT**

More and more people around the world are traveling and spending their holidays in other countries. Around two thirds of German citizens travel abroad every year. Spain is by far the most popular holiday destination, with around 12 million tourists from Germany. Italy, France and Austria are also popular holiday destinations. Germans not only like to travel, they also travel a lot. In many countries, tourism is an area of the economy that is growing every year. This has negative consequences for the climate and the environment. Flying is particularly problematic. Because this creates a large amount of CO<sub>2</sub>. In addition, more and more hotels, restaurants and roads are being built in places where a particularly large number of tourists want to vacation. In addition,



tourists produce waste and use a lot of water, which is a problem especially in southern holiday areas where water is scarce.

However, some people now find it important to travel in a climate-friendly and ecological way [1]. Some hotels are now also paying attention to being environmentally friendly and preserving nature, using little electricity and water, cleaning dirty water and disposing of or recycling waste. However, such hotels are still rare and usually more expensive than others. If you want to get to your holiday destination in a climate-friendly way, make sure that little or no CO<sub>2</sub> is produced while traveling. This means choosing nearby travel destinations, not flying or driving, but instead taking the train or maybe even a bike. Coaches are also climate-friendly when they are fully occupied.

Anyone who travels usually causes climate-damaging CO<sub>2</sub>. But traveling climate-neutrally is not that easy - especially not with package holidays, which most Germans book for their holidays abroad. The business graduate Christoph Zeitschel from Hanover wanted to change that and founded the company *Gutbürger.Reisen* in 2018. What is the concept behind *Gutbürger.Reisen*? Most Germans book their trips abroad on a flat rate through major tour operators. This means that you pay for the flight, hotel and meals together as a package. These trips are often cheaper than if you traveled individually and are usually not climate-friendly. The flight alone: For example, a return flight from Berlin to the popular Spanish Mediterranean island of Mallorca causes more than 700 kilograms of CO<sub>2</sub>, and a flight to the Canary Islands even causes 1,500 kilograms. Both are popular holiday destinations. If you book the trips with *GutbürgerReisen*, we use our income to completely offset the CO<sub>2</sub> caused. How does this CO<sub>2</sub> compensation work? To this end, we work with the climate protection organization *atmosfair*. We pay money to *atmosfair* and they use it to support, for example, projects in which electricity production uses environmentally friendly energy from wind power or sun [2].

In this way, no more CO<sub>2</sub> is produced, as *atmosfair* helps to save it in other places. I know that doesn't solve the core problem, which is that we simply use too much energy that comes from coal, oil or natural gas. But at least traveling doesn't make the problem worse and you gain time. Why did you choose this path instead of offering completely climate-friendly trips? Because my model didn't exist yet. I also want to reach the general public, because the companies that offer ecological trips cannot do that. Most Germans would like to travel in a climate-friendly way, but many cannot find any offers. I combine already finished products: the usual travel offers and the CO<sub>2</sub> compensation with *atmosfair*. Why don't completely ecological trips reach the masses? They are mostly aimed at specific target groups and especially those with money: There are many offers for climate-friendly yoga trips or sustainable African safaris. But most people aren't interested in that or can't afford such trips. They simply

want to spend their vacation in the sun and on the beach - but there are currently almost no climate-friendly offers for this.

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В статье рассматривается проблема организации экологически безопасных путешествий в Германии в рамках концепции устойчивого развития. Подчеркивается, что немцы любят путешествовать и много путешествуют. Поэтому важно путешествовать экологически чистым и благоприятным для климата способом.

### к содержанию

**М. А. Тупиченко**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель С. А. Лосева

### GLOBAL ECONOMIC CHALLENGES IN DEVELOPING COUNTRIES

At this stage of the development of the world economy, problems of global proportions are barriers to economic progress slow down the economy and prevent the transition to a completely new qualitative level. Every country on the path of its development has faced and is facing many problems. Only after overcoming it becomes possible to rise to the podium of the world's strongest economies and become a prosperous state. The group of developing countries is not an exception but just the opposite, an example of how choosing the right strategic path in solving emerging problems can help to get out of the most critical situation.

The purpose of the article is to analyze global problems, their impact on the economic development of developing countries and identify ways to solve them.

One of the most common problems faced by developing countries (especially in tropical and subtropical latitudes) is drought. Due to the very hot climate, residents of countries living in these latitudes are constantly being deprived of their lands and agricultural lands, because of this there is a shortage of food and the level of income from land decreases. Thus, according to the UN report, over the past 20 years, the number and duration of droughts have increased by almost a third, and today more than 2.3 billion people face enormous water shortages [3].

Climate is also a problem in countries where floods are constantly occurring. They deprive the population not only of food but sometimes of a roof over their heads, and infrastructure restoration requires enormous financial resources that many developing countries simply do not have. For this reason, they are forced to either borrow from other countries, or live in a place where there is almost nothing left, and just adapt.

For the most part, developing countries are the poorest countries in the world. Their economic backwardness is explained by the low literacy of the population (less than 20% of the population can be called educated), the lack of qualified personnel and the necessary scientific and technical infrastructure. According to many researchers and specialists, it is in the field of scientific research and technology that the largest gap is observed between developed and developing countries.

There is another equally important global problem – the problem of ecology. At the same time, in developing countries, in addition to the global problems of mankind (atmospheric pollution by waste and chemicals, the threat of climate change and so on), characteristic of many countries, there are their own specific problems due to the degree of development of their economies.

Thus, one of the causes of environmental problems is the difficult demographic situation, or rather, overpopulation. Due to the large concentration of people in limited areas, the sanitary situation is deteriorating which leads to environmental problems and the rapid depletion of local resources.

Deforestation of tropical forests is a particular danger for developing countries in Asia, Africa and Latin America. Due to the backwardness of their own technologies, these countries cannot fully exploit their unique potential, and industrialists from Western countries have long recognized its value. This in turn has led to deforestation occurring several times faster than their restoration, and the chance that there will be no forests left at all, is very large.

Soil problems are also acute for these countries. Due to the use of cheap and extremely toxic chemicals to control plant pests and at the same time to increase yields, more than half of the land is subject to erosion and requires immediate protection which is impossible due to lack of finance and technology.

Another acute problem is external debt which most often exceeds GDP, and this, in turn, leads to economic backwardness, a low level of production development and low technical equipment. In the last ten years, we can observe a fairly rapid increase in external debt. So, if in 2010 this indicator of developing countries was equal to 115% of GDP, in 2015 – 160%, then in 2023 it crossed the threshold of 250% of GDP and continues to grow [1,2]. The reasons for the increase in external debt include the devaluation of the currency of developing countries against the US dollar, since most transactions are conducted on its basis, and not in the national currencies of countries; rising interest rates and a slowdown in the economic growth of the global economy as a whole.

This article presents only some of the global problems faced by developing countries today but these are the problems that are worth paying attention to now. Despite the complexity of the situation, the identified problems can be solved if active international cooperation and mutual assistance are implemented. In order to solve most global problems, developing countries can take the path of active interaction with international organizations, participation in regional integration associations and participation in initiatives of other countries.

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В статье проведен анализ глобальных проблем и их влияния на экономику развивающихся стран. Раскрываются такие проблемы, как климатические изменения, бедность, отсутствие необходимой научно-технической инфраструктуры, экологические проблемы, сложная демографическая ситуация и растущий внешний долг. Определено, что вышеперечисленные проблемы имеют первостепенное мировое значение, так как из-за масштабов группы развивающихся стран процессы, которые протекают в данных государствах, непосредственно влияют и на всё мировое хозяйство.

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#### **Е. С. Турусина**

Российская Федерация, Москва, Российский государственный аграрный университет – МСХА имени К. А. Тимирязева

Научный руководитель – кандидат филологических наук, доцент

С. Н. Чижикова

### **MAINE COON IS THE LARGEST NON-HYBRID BREED OF DOMESTIC CAT**

Maine Coon cats, indigenous to Maine, USA, are celebrated for their distinctive features and enigmatic origins. With a name that directly translates to “raccoons from Maine”, these felines have captured the imagination of

enthusiasts and scholars alike. This article aims to delve into the multifaceted world of Maine Coons, exploring their evolutionary history, physical attributes and behavioral traits. By unraveling the mysteries surrounding their lineage and shedding light on their unique characteristics, this study seeks to provide a comprehensive understanding of Maine Coons and their significance in the realm of domesticated felines.

Objectives of the article are the following:

1. to investigate the various theories regarding the origins of Maine Coon cats, including historical narratives and scientific hypotheses;
2. to elucidate the distinctive physical features of Maine Coons, highlighting their adaptation to the rugged landscapes of Maine and their evolutionary traits;
3. to analyze the behavioral characteristics and temperament of Maine Coons, emphasizing their intelligence, sociability, and unique vocalizations;
4. to provide practical guidelines for the care and maintenance of Maine Coon cats, including grooming practices, health considerations and genetic predispositions;
5. to underscore the cultural and symbolic significance of Maine Coons as cherished companions and ambassadors of feline excellence in contemporary society.

Maine Coons are native to Maine, USA. The name “Maine Coon” literally means “raccoons from Maine”. There are some theories of their origin [1]:

1) According to the first theory, the first settlers brought many varieties of domestic cats to the United States. In unusual conditions, they began to actively interbreed with each other, as a result of which a new species appeared. This version is considered official.

2) There is a legend that Maine Coons are the result of natural selection between a cat and a raccoon. According to this theory, they were the raccoon genes that “gave” these cats their striped color and bushy tail. According to another version, the ancestor of Maine Coons was a lynx which explains the tassels on the ears. Both of these versions of genetics are refuted.

3) The third version is associated with the French Queen Marie Antoinette who decided to flee from the revolutionaries to America. According to the legend, she sent a ship in advance which contained her favorite things and animals. The queen failed to carry out her plans but her pets safely crossed the ocean and scattered throughout New England. Cats actively interbred with their North American counterparts and this is how Maine Coons appeared.

Description of their appearance [2]:

– the head is large, massive, with a powerful chin. The teeth are long and sharp;

– the eyes are round in shape and widely spaced. Color varies from green to golden;

- the ears are large and tilted forward. There are almost always tassels at the ends;

- the neck is muscular and strong with long and lush fur;

- the body is long, with a wide chest. Muscle mass is well developed;

- the limbs are widely spaced. Differ in the presence of muscles;

- their tail is long and thick, similar to the tail of a raccoon;

- the coat is long, from 10 to 15 cm. It becomes more luxuriant from the shoulders to the stomach. In the area of the sides there is a warming and water-repellent undercoat. The hair on the legs is the longest and thickest.

- Maine Coons can have any colors that other cats have.

Character and habits of Maine Coons:

- Maine Coons are balanced pets: moderately sociable, affectionate and active but at the same time independent and calm. They don't like to be held but they don't mind tactile contact with their owner, especially if they want it themselves.

- Maine Coons love to play and lie down equally. They rest a lot and prefer higher places, from where it is convenient to watch everything that happens around them.

- This breed is naturally intelligent and understands their owners well, so problems with training rarely arise. They're even able to learn to carry out simple commands.

Maine Coon care should include: 1. combing once a week; 2. washing once every three weeks; 3. trimming nails once a week; 4. examination of ears and eyes; 5. assessment of oral health.

Talking about the health of Maine Coons it is necessary to pay attention to some genetic diseases [4], [5]:

- Hypertrophic cardiomyopathy (HCM) is a condition in which muscle tissues of the heart become thickened without an obvious cause.

- Spinal muscular atrophy (SMA) – neuromuscular disorder that results in the loss of motor neurons and progressive muscle wasting.

- Hip dysplasia is an abnormality of the hip joint which can cause crippling lameness and arthritis

Some interesting facts about Maine Coons [3]:

- Maine Coon Little Nicky was the first cat cloned for commercial purposes.

- The longest whiskers (19 cm) belong to a Maine Coon named Missy.

- The longest Maine Coon, Stewie, a resident of Nevada (USA), was 123.2 cm.

- Maine Coons sometimes make sounds that you won't hear from other cats (such as cooing), thus expressing emotions.

– A large number of individuals of this breed has polydactyly - the presence of extra fingers.

Maine Coons stand as a majestic testament to the natural diversity and human-animal companionship. While their origins may be shrouded in myth and speculation, their unmistakable characteristics and endearing traits have solidified their place as one of America's most beloved cat breeds.

With their large, powerful build, striking appearance and gentle demeanor, Maine Coons embody the perfect balance between strength and grace. From their distinctive tufted ears to their luxuriant, water-repellent coats, every aspect of their physique reflects their adaptation to the rugged landscapes of Maine.

Beyond their physical allure, Maine Coons captivate with their intelligence and independent spirit. They forge deep bonds with their owners, demonstrating a keen understanding and willingness to engage in playful antics or simply bask in the warmth of companionship.

Yet, like all breeds, Maine Coons require diligent care and attention to ensure their well-being. Regular grooming, health checks, and vigilance against genetic predispositions underline the responsibility of nurturing these magnificent creatures.

As ambassadors of feline excellence, Maine Coons continue to fascinate and enchant, whether through their record-breaking dimensions, unique vocalizations, or the quirky charm of their polydactyl paws. They remind us of the enduring allure of the animal kingdom and the enduring bond between humans and their cherished companions.

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В статье рассматривается вопрос о происхождении кошек породы Мейн-кун, известных своей богатой историей. Анализируются их физические особенности и

темперамент. Несмотря на свою привлекательность, мейн-куны требуют пристального внимания к уходу и здоровью. Как любимые питомцы, они устанавливают прочную связь со своими хозяевами.

### к содержанию

#### **А. А. Федоркевич**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. М. Калилец

### **MODERN MULTIMEDIA TECHNOLOGIES**

Multimedia technologies are an integral part of our modern life. They allow us to create, process and transmit information in various formats such as text, images, audio and video. They enable the creation of interactive and multiprocessor applications that provide a richer, more efficient user experience.

Multimedia technologies are widely used in various fields, including entertainment, education, marketing, medicine, design and many others. They allow you to create interactive presentations, websites, computer games, animations, video conferencing etc. [1].

The main components of multimedia technologies include:

- *Text data* allow information to be presented in written form;
- *Images* include still images, photographs, drawings and graphics;
- *Sound* allows you to transmit and play sound effects, speech and music;
- *Video* allows you to record, transmit and play back moving images;
- *Animation* creates movement and change in images to create effects and visual interest;
- *Interactivity* allows the user to interact with multimedia content, such as using buttons, links and other controls.

The benefits of multimedia technologies include the ability to present information more effectively and visually, improve perception and memory, increase user engagement and interest and the ability to create interactive and innovative applications.

However, there are also some disadvantages of multimedia technologies, such as high hardware and network bandwidth requirements, complexity of development and support and possible compatibility and security issues.

In the modern world, multimedia technologies continue to develop and improve. New technologies, such as virtual and augmented reality, artificial intelligence and cloud computing are bringing new opportunities and perspectives to the field of multimedia applications and services [2].

Multimedia technologies are widely used in various fields of activity: entertainment and culture, education and training, advertising and marketing, medicine and healthcare, business and communications. These are just some



examples of the use of multimedia technologies. In the modern world, they are becoming more and more in demand and are used in many areas of activity.

Multimedia technologies consist of several basic components that interact with each other to create and play multimedia content:

1. **Graphics** is one of the main components of multimedia technologies. It includes images, illustrations, photographs and other visual elements;

2. **Audio** refers to the sound components of multimedia technologies. They include music, sound effects, speech and other audio elements;

3. **Videos** are moving images that are created by recording and playing back a sequence of frames;

4. **Animation** is the process of creating moving images or objects;

5. **Interactivity** is the ability of the user to interact with multimedia content.

All of these components interact with each other to create multimedia content that can be played across various devices and platforms. They allow information and ideas to be conveyed through multiple sensory perceptions, such as vision and hearing, making content more effective and memorable for users [3].

Multimedia technology has many advantages that make it popular and widely used in various fields. Here are some of the main benefits:

- **Visual appeal.** Multimedia technology makes it possible to create content that is visually appealing and aesthetically pleasing. The use of graphics, animation, video and other visual elements makes the content more attractive to users.

- **Interactivity.** Multimedia technologies enable the creation of interactive content that allows users to interact with it. This can be in the form of buttons, links, games or other elements that allow users to control and influence the content.

- **More information.** Multimedia technologies allow you to convey more information than text or static images. The use of sound, video and animation allows complex ideas and concepts to be conveyed more clearly.

Despite all the advantages, multimedia technologies also have some disadvantages that should be considered:

- **High resource requirements.** Multimedia technologies require large amounts of memory, processing power, and network bandwidth to operate effectively. This can be a problem for resource-constrained devices such as mobile devices or older computers.

- **Development complexity.** Creating multimedia content can be complex and require specialized skills and tools. Designing graphics, animation, video and sound can be a time-consuming task, especially for beginners.

- **Possibility of distraction.** Multimedia technologies can be very attractive and exciting, which can lead to the user being distracted from the main task or

goal. This can be a problem in educational or work environments where it is important to focus on a specific task.

Overall, multimedia technology provides many benefits but also has its disadvantages. Understanding these advantages and disadvantages will help you use multimedia technologies more effectively and consciously.

Multimedia technologies are constantly evolving and undergoing changes in accordance with market demands and user needs. Here are some of the current trends in the development of multimedia technologies.

Virtual reality (VR) and augmented reality (AR) are becoming increasingly popular in multimedia technologies. VR allows users to immerse themselves in a virtual environment, creating the feeling of being in another world. AR, in turn, allows you to add virtual objects and information to the real environment. These technologies find applications in various fields, including gaming, education, medicine and marketing.

Artificial intelligence (AI) is playing an increasingly important role in the development of multimedia technologies. AI enables the creation of smart systems that can recognize and analyze multimedia content, offer personalized recommendations, and improve the user experience. For example, AI can be used to automatically recognize faces in photographs or create voice assistants.

Streaming is an increasingly popular way to consume multimedia content. Online platforms such as YouTube, Netflix and Spotify offer a wide selection of videos, music and other media that can be watched or listened to in real time over the Internet. This allows users to access content anytime, anywhere.

Modern multimedia technologies are becoming increasingly interactive and allow users to actively interact with content. For example, users can control game characters using gestures or voice commands, create their own videos or music using special programs, and participate in online broadcasts and communicate with other users [4].

These are just some of the current trends in the development of multimedia technologies. The future of multimedia technology promises even more innovation and opportunities for creating and consuming multimedia content.

Multimedia technologies play an important role in the modern world, allowing us to create, process and transmit information using various media formats. They find wide application in various fields such as education, entertainment, marketing and more. Multimedia technology consists of various components such as sound, video, graphics and animation, which interact with each other to create rich multimedia content. However, despite all their advantages, multimedia technologies also have some disadvantages, such as high requirements for equipment and network bandwidth. Currently, with the development of technology, we see the emergence of new trends in the field of multimedia technologies, such as virtual and augmented reality, interactive

applications, etc. Overall, multimedia technology continues to evolve and have a significant impact on our lives.

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Мультимедийные технологии играют важную роль в современном мире, позволяя создавать, обрабатывать и передавать информацию с помощью различных медиаформатов. Они находят широкое применение в различных областях, таких как образование, развлечения, маркетинг и др.

### к содержанию

**А. А. Фёдорова, Е. И. Шамрило**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель С. А. Лосева

### **ITALY'S ROLE IN THE EUROPEAN UNION: COOPERATION AND INFLUENCE ON DECISION-MAKING**

Italy plays an important role in the European Union as one of the key participants. She is one of the founders of the European Community and actively participates in the formation and implementation of EU policies. Italy is a major economic power in Europe and an important trading partner for many EU countries.

The purpose of this article is to examine Italy's role in the European Union, especially in the context of cooperation and influence on decision-making. By analyzing Italian participation in European structures and processes, the article aims to identify the ways in which Italy influences key decisions within the EU, as well as assessing the effectiveness of its cooperation with other member

states. As a result, the article should give readers a deeper understanding of how Italy shapes its policies within the EU and how this influences the overall decisions and direction of the European Union.

As a founding country, Italy accompanied the process of European integration at all stages, making Rome a key place in the history of the formation of European unity. Italy thus sees its EU membership as a historic choice that united the continent after years of war and today helps member states tackle global challenges – from climate change to digitalization, from health emergencies to energy – that individual countries cannot deal with could handle it on their own [1].

Italy works closely within the European Union, defending its interests and actively expressing its point of view on various issues, including the economy, migration, security and much more. As a member of the Eurozone, the EU's common currency area, Italy confirms its deep integration into the European economy.

The country is also actively involved in various EU programs and initiatives aimed at strengthening cooperation between member countries and achieving common goals in various fields, including economics, politics and education.

Italy, an advanced industrial nation, faces socio-economic differences between North and South that are historically and geographically determined. Despite challenges such as the 2008 crisis and migration pressure, experts expect strong economic growth. The COVID-19 pandemic has had a major impact on the economy, but with EU support and a revival of tourism, a period of recovery and development has begun.

Italy is the second largest industrial base in Europe after Germany, focused mainly on the production of machinery, automobiles and pharmaceuticals. The policy push led by Mario Draghi has brought significant changes, including significant health solutions and economic support for people and businesses.

This country is seeking to strengthen its position on the world stage by developing relations with China and proposing the construction of the New Silk Road through its territory. These steps contribute to the revival and strengthening of confidence in the country, and the German side calls the events in Italy “a new round of development.” All these factors point to the prospects for future growth and successful development of Italy [2].

Italy also plays a significant role in the decision-making process within the European Union, due to its status as one of the most important and largest EU member states. Italy joined the European Union in 1957, giving it the opportunity to actively participate in decision-making on various issues, including economic policy, trade and security. EU membership has a number of advantages for Italy: access to the single market, financial support from the EU for the implementation of projects, as well as the opportunity to influence common European policy and protect its interests. Italian representatives

actively participate in the work of European institutions, such as the European Council, the EU Commission and the European Parliament, defending the interests of the country and taking their own position on issues of general policy, legislation and finance.

Italy is one of the initiators and participants in key EU projects and initiatives, such as the Single Market, the Schengen Agreement, defense cooperation and others. Thanks to its active participation in European affairs, Italy can influence decision-making in a number of areas, including the economy, trade, migration, budget and others. Thus, the country has the opportunity to contribute to the formation of common EU strategies and influence the further development of the European project.

Italy's exit from the EU could serve as a catalyst for big changes. Italy's exit from the EU is raising divergent opinions regarding the implications for the future of European integration. Proponents of one point of view believe that Italy's separation from the EU could lead to the possible collapse of the entire union, as this could serve as an example for other member states. However, other experts argue that Italy's exit could encourage the remaining member states to engage in deeper cooperation and integration, as they would need cooperation and joint efforts to resolve the problems created by such an exit. This could help create a more flexible and adaptable EU, where member countries can deepen integration in areas where there are common interests and goals, thereby increasing efficiency and solidarity within the union. But I believe that maintaining Italy's membership in the European Union is mutually beneficial both for Italy itself and for the EU. For Italy this means economic benefits, political influence and security and stability. Leaving the EU could lead to loss of trade links, worsening political influence and disruption to security. For the EU, the loss of Italy means the loss of its third-largest economy, a strategic geopolitical position and a key participant in decision-making. Thus, maintaining Italy's membership in the European Union is important for both sides, providing economic, political and security benefits from cooperation.

In conclusion, it is important to say, that Italy's pivotal role in the European Union is deeply rooted in its history as a founding country that accompanied the process of European integration at all stages, making Rome a key place in the history of the formation of European unity. Italy views its EU membership as a historic choice that united the continent after years of war and continues to help member states address global challenges that individual countries cannot tackle alone.

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Рассматривается важная роль Италии как ключевого участника, формирующего политику Европейского союза. Показано, что Италия, тесно взаимодействуя в рамках ЕС, отстаивает свои интересы и участвует в формировании ключевых стратегий и решений в областях политики, экономики и др.

### **к содержанию**

**Д. В. Хиль**

Республика Беларусь, Брест, Брестский государственный университет имени А.С. Пушкина

Научный руководитель – старший преподаватель Л. М. Калилец

### **METHODS OF PSYCHOGENETICS**

Psychogenetics is an interdisciplinary field of knowledge, bordering between psychology and genetics; the subject of its research is the relative role and effect of factors of heredity and environment in the formation of differences in psychological and psychophysiological characteristics. In recent years, individual development has also been included in the field of psychogenetic research: both the mechanisms of transition from stage to stage and individual development trajectories.

The task of psychogenetics is to clarify not only hereditary but also environmental causes of the formation of differences between people on psychological grounds. The results of modern psychogenetic studies provide information about the mechanisms of action of the environment to the same, if not more, extent as the mechanisms of action of the Genotype. In general, it can be argued that the main role in the formation of interindividual variability on psychological grounds belongs to an individual (unique) environment. Its role is especially high for personal and psychopathological signs. An increasing emphasis in psychogenetic research is placed on the relationship between the socio-economic level of the family or the duration of schooling with the results of testing the intelligence of children. Even such formal characteristics as the parameters of the family configuration (number of children, birth sequence number, and interval between births) are not indifferent to the individualization of the child – both in the cognitive and personal spheres [1].

**Psychogenetic methods** – special research techniques that are used to study the influence of genetic factors on human mental processes and behavior. Psychogenetics is one of the most important areas of psychological science, as it allows us to understand which genetic features can influence the formation of personality, intelligence, behavior and emotional state. We are going to consider several basic methods used in psychogenetics and its importance for studying the genetic foundations of mental processes [2].

**The gemini method** is one of the most informative. It is based on the fact that monozygotic (identical) twins have an identical genotype, while dizygotic (fraternal) twins have an unidentified one. At the same time, members of twin pairs of any type should have a similar upbringing environment, then a greater intrapetrous similarity of monozygotic twins compared with dizygotic ones may indicate the presence of hereditary influences on the variability of the studied trait.

A significant limitation of this method is that the similarity of the actual psychological characteristics of monozygotic twins may also have a non-genetic origin.

**The genealogical method** is the study of similarities between relatives in different generations. This requires accurate knowledge of a number of signs of direct relatives on the maternal and paternal lines and coverage of the widest possible range of blood relatives. It is also possible to use data on a sufficient number of different families to identify the similarity of pedigrees.

This method is mainly applicable in medical genetics and anthropology. However, the similarity of generations on psychological grounds can be explained not only by their genetic transmission, but also by social continuity.

**The population method** allows us to study the distribution of individual genes or chromosomal abnormalities in human populations. To analyze the genetic structure of a population, it is necessary to examine a large group of people, which should be representative, that is, representative, allowing to judge the population as a whole. This method is also more informative when studying various forms of hereditary pathology.

**The analysis of the heritability of normal psychological traits** – this method, taken in isolation from other methods of psychogenetics, does not provide reliable information because differences between populations in the distribution of a particular psychological feature may be caused by social reasons, customs, etc.

**The method of foster children** is the comparison of similarities on some psychological basis between a child and his biological parents, on the one hand, and the child and the adoptive parents who raised him – on the other.

Psychogenetics, unlike conventional psychotherapy, gives very reliable results without tying the patient to the doctor. One of the main provisions of

psychogenetics is that our brain is a supercomputer programmed by heredity and our individual consciousness. There is a genetic code that determines the appearance, psychological traits of a person's character and his/her fate. Alcohol abuse, criminal behavior and other social behavioral patterns are usually rooted in a genetic predisposition. A person, having understood his genetic code, working on him/herself, succeeds on his own.

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В статье рассматривается психогенетика – междисциплинарная область знаний, пограничная между психологией и генетикой, предметом исследования которой является соотносительная роль и влияние факторов наследственности и среды в формировании различий психологических и психофизиологических характеристик.

#### к содержанию

##### **М. Н. Хоха**

Республика Беларусь, Брест, Брестский государственный университет имени А.С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Л. М. Максимук

#### **CASCUM HOTELS COMO DIRECCIÓN DE PERSPECTIVA DEL NEGOCIO HOTELERO**

En los últimos años, los hoteles cápsula han ganado una inmensa popularidad entre los turistas. Algunos de ellos, en términos de comodidad y variedad de servicios, no son inferiores a los hoteles comunes; y además, el costo de alojamiento en hoteles cápsula es siempre mucho menor.

Cada vez más personas eligen cápsulas de hoteles: bloques modulares, en los que la sala de estar consiste en una pequeña cápsula, donde solo hay lo necesario (una cama, iluminación y un lugar para guardar cosas). La mayoría de estos hoteles tienen un baño compartido, algunos tienen un spa y una cafetería.

La moda de los hoteles cápsula nació en Japón. Los primeros hoteles cápsula consistían en habitaciones muy pequeñas, que eran pequeñas cajas de fibra de vidrio. El primero fue el Capsule Inn en Osaka, inaugurado en 1979. No a todo el mundo le gustan la habitación tan pequeñas. Por otro lado, la



popularidad de los hoteles cápsula ha surgido debido a su bajo costo y privacidad, que no se puede obtener en un albergue común.

Cada cápsula tiene un sistema que monitoriza sueño: simula el amanecer, lo que facilita el proceso de despertar. Cada cápsula está hecha de fibra de vidrio, por lo que se pueden apilar fácilmente una sobre otra. En todas las cabinas hay una TV LCD, auriculares, una cama espaciosa. Pero el baño, de nuevo, es común para todos.

Los hoteles cápsula europeos no se parecen mucho los hoteles japoneses. Primero, difieren de las habitaciones grandes japonesas y de la disponibilidad de comodidades en cada una de ellas.

Cada habitación tiene duchas compactas con todos los accesorios higiénicos necesarios y ropa de cama de calidad. Para la comodidad de los huéspedes cada habitación está equipada con un lugar de trabajo ergonómico, hay Wi-Fi y televisión. Puede instalarse en dicha habitación durante varias horas, así como durante un día.

En cuanto a España, Velbox Hotels, bajo la marca The Hostel Box, ha abierto dos albergues cápsula en Barcelona y planea abrir dos más en Madrid. El nuevo complejo es un albergue de lujo: su invitado comparte habitación, baño y áreas comunes con otros huéspedes, pero también puede retirarse gracias al diseño especial de las camas que la compañía llama "cajas".

El primer albergue de este tipo se abrió en agosto del año pasado en el centro de Barcelona. Cuenta con 40 habitaciones/cápsulas y se llama The Hostel Box Port. El segundo complejo se inauguró en abril de este año en el área de Gracia bajo el nombre The Hostel Box Gaudi. Además, en un futuro próximo se cerrará un acuerdo sobre la apertura del tercer albergue en la capital catalana para 62 plazas, así como una más, en Madrid.

El objetivo principal de Velbox Hotels es crecimiento y desarrollo. En su opinión, dicho negocio puede desarrollarse en cualquier ciudad del mundo.

Según los representantes de la compañía, la idea de abrir un albergue cápsula surgió por la escasez de hoteles económicos en Barcelona. Buscaban crear un complejo que fuera diferente de otros hoteles y hostales, proporcionando servicios de calidad y privacidad en una sala diseñada para varias personas.

Por supuesto, en combinación con el costo y la ubicación del hotel, podemos concluir que el hotel cápsula está orientado principalmente hacia los jóvenes, es decir, los turistas de entre 18 y 25 años que son capaces de "sobrevivir" una noche en un espacio confinado. Pero como el hotel cápsula se encuentra en el centro de la ciudad, los turistas o ciudadanos que por una razón u otra se hayan retrasado en el metro u otro transporte público eligen un hotel cápsula en lugar de una noche en un hotel. Además, a menudo en verano, las habitaciones de los hoteles famosos ubicados en el centro de la ciudad o cerca de

las estaciones de ferrocarril, aeropuertos y otras instalaciones se reservan con varios meses de antelación. Como el futuro hotel cápsula es un nuevo ámbito de la industria hotelera, se puede suponer que en verano habrá habitaciones vacías.

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Раскрывается перспективное направление в гостиничном бизнесе - капсульные отели. Отражена сущность и история создания данного вида размещения, а также представлена характеристика японской и европейской моделей, выявлена основная целевая аудитория. Рассмотрены перспективы развития данного направления на примере Испании.

### к содержанию

#### **П. С. Хохлова**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. М. Калилец

### **ETHICAL STANDARDS OF BEHAVIOR IN THE INFORMATION NETWORK**

Ethical standards are a set of rules that determine behavior when interacting with other people. The main goal is to make contact pleasant and more effective for everyone. It is important to remember that all our actions characterize us as a person. Ethical standards are used not only in live communication, but also in information networks.

In the modern world information technology occupies an increasingly important place in our daily lives. We spend a lot of time on the Internet, exchange information, communicate on social networks and shop online. In this regard, the problem of ethical standards of behavior in the information network is becoming more and more urgent.

The substitution of computer functions for many types of human activity has a serious impact on morality, politics, social theory, and psychology. These processes are studied by a new social discipline – computer ethics. Ethical standards of behavior in the information network are an integral part of this discipline which regulates our behavior in the online space.

Computer ethics is an unspoken set of rules for the behavior of users on the web. In a short time, computer ethics began to claim the right to be called a social discipline since the mass interaction of users on the Internet needed to be regulated. According to experts, computer ethics covers a number of important issues related to psychology, information technology, politics and morality. Computer ethics is also inextricably linked to a number of legal and social issues. At the origins of the development of this social discipline were not just Internet users who wanted relationships on the Internet to be regulated and subject to certain laws. Authoritative and well-known personalities who understood that with the development of computers and other information technologies, cyberspace would also develop. The larger, wider and more developed it became, the more difficult it would be to control the processes taking place in it [1].

In the most general sense, computer ethics deals with the study of the behavior of people using a computer, on the basis of which appropriate moral prescriptions and a kind of etiquette norms are developed. The very use of the expression “computer ethics” is very conditional; this discipline is very young, it appeared in the 70s - 80s of the XX century, and along with it such terms as “information ethics”, “cybernetics”, “computer ethics” are used.

The basic principles of digital ethics include respect for the individual, data privacy, honesty and responsibility for their actions on the Internet.

The first and perhaps the most important principle is respect for the individual. This means that we must respect the rights and freedoms of other people in the online space – not to violate their privacy, not to offend or infringe on their dignity. Violations of this principle can lead to serious consequences, including a negative reputation, job loss, or even criminal liability.

The second principle is data confidentiality. We are obliged to take care of other people’s personal information, not to distribute it without their consent and not to use it for our own purposes. Violation of data privacy often leads to theft of personal information, fraud and other crimes.

The third principle is honesty and responsibility for your actions on the Internet. We must not behave in bad faith, deceive people, spread false information or participate in online fraud. Each of us is responsible for our actions on the Internet and should be ready to be responsible for them [2].

A special place in computer ethics is also given to security. Security for users is extremely important since many people have personal information, bank account information, etc. in their personal technical means, be it a smartphone or a computer. In this regard, computer ethics implies several unspoken security rules that all reasonable users of the Internet community observe:

- Never give private information about yourself (last name, phone number, address) if you do not trust your interlocutor.

– Meeting in real life with a person through online communication is not always a good idea because people can be different in electronic communication and in a real meeting.

– Do not open emails, files, or links sent by users you don't really know or trust.

– Always be polite in e-mail correspondence, and your interlocutors will be polite to you.

– Do not use texts typed in capital letters in emails. This is perceived in Internet communication as a scream and can cause unpleasant emotions in your interlocutor.

– Do not send large amounts of information in a letter (pictures, photos, etc.) without prior agreement with the interlocutor.

– Do not send emails with any information to strangers without their request, this is perceived as “spam” and usually annoys network users.

In conclusion, we would like to note that the Internet and information technologies are developing. And if we do not control cyberspace and do not identify in time what is “good” and what is “evil” on the Internet, then as a result we will get an uncontrolled, open space for online crimes. Therefore, when using the Internet, you should remember the importance of observing ethical standards of behavior. Respect for the individual, data confidentiality, honesty and responsibility are the basic principles of digital ethics that will help us avoid conflicts and create a harmonious online community.

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В статье раскрывается понятие компьютерной этики, которая является негласным сводом правил поведения пользователей в сети. Уважение к личности, конфиденциальность данных, честность и ответственность — вот основные принципы цифровой этики, которые помогут избежать конфликтов и создать гармоничное онлайн-сообщество.

**к содержанию**

**З. И. Хрипунова**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Н. В. ИВАНЮК

**THE PROBLEM OF VIRTUAL AUTISM**

Nowadays screens have become an integral part of our everyday life. We consume so much digital content that we sometimes forget about the harmful effects of excessive screen exposure. Children spend hours in front of the screen. Infants and children can become so fixated on these screens that their detrimental effects on children's brain development may result in kids showing characteristics of autism spectrum disorder (ASD).

The purpose of the article is to reveal the problem of virtual autism in the modern world, to find out its origin, symptoms, and ways to deal with it.

Virtual autism is a condition that occurs when young children below the age of two are excessively exposed to screens, which leads to ASD-like symptoms. Kids who are over-exposed to screen time on TV, tablets, laptops, and mobile phones below the age of three face communication problems and often show behaviour oddities [1].

We may be wondering how it differs from autism. Classic autism is a neurodevelopmental disorder and it can be present since birth. Though there can be several other causes behind it to aggravate in the long run. But in the case of virtual autism, a non-autistic child can turn out to be autistic. And this can purely occur due to overexposure of the child to virtual screens. Thus, we can call it "Induced autism".

Leading pediatricians have conducted worldwide research and have been astounded by the unlimited screen time that both babies and toddlers are allowed. Over-exposure to screentime is defined by experts as more than two hours per day. Liberty, given to the kids to use the screen for prolonged periods of time, is the main cause of virtual autism.

Early childhood is a crucial time for brain development and it's the time when toddlers learn by watching others, exploring things around them and through free play. Most of the time, a child who is exposed to a virtual environment and only experiences certain sensations (visual and auditory) is unable to develop normally. They are unable to connect these visual and auditory sensations with other types of sensations such as vestibular, tactile, smell and taste.

With too much exposure to screens, even the light-dark cycles that support the brain's production of melatonin and dopamine and improve children's knowledge of their relationship to self and others can be disrupted.

Virtual autism doesn't mean that the child is autistic, but it means that the child shows autism-like features.

Some major symptoms of it include decreased cognitive ability, hyperactivity, inability to focus and concentrate, being not interested in other activities (apart from virtual world), speech and language impairment due to lessened social interaction, irritability, shorter attention span, mood swings [2].

It is a terrifying truth that something as simple as screen time can be harmful to the child's health and development. However, the brain is an extraordinary organ that can be healed with the right kind of stimulation and interaction.

One of the ways to combat virtual autism is minimizing the screen time. Decreasing the screen times allows the child to invest his focus into other sorts of creative activities. It helps in sharpening other skills and helps in their application to accomplish specific tasks. This in turn boosts the child's confidence to sharpen his senses and further use them to explore the world around.

TV screen indeed makes a child stagnant. It puts boundaries upon a child's overall development. So it's very important to let the child taste the flavour of developmental activities. For example, let the child play the sport which he likes most.

In the case of any sport, "social interaction" comes into play. A child develops an understanding of team spirit, considerate attitude, compassion about the sport, importance of maintaining good relations, and thinking out of the box for a successful sport win [3].

Parents should try to offer small rewards to the kid upon good behaviour. For example, if in a day a child lessens his screen time from 2 hours to 1 hour, they can offer him a goodie for his disciplined behaviour.

Thus, implementing these ways can help in reversing virtual autism.

The recovery signs for virtual autism are the disappearance or considerable decrease in the symptoms discussed previously when screen time is limited or eliminated.

But how to avoid virtual autism? It's crucial to respect a child's basic developmental needs. Children must learn to communicate, empathize, and acquire critical social skills. They require face-to-face contact with kind individuals and constant sensory stimulation [4].

Parents must continue to engage in high-touch, high-talk interactions every day while they are awake. Screen time alone shouldn't be used by infants and young children. Screen time for preschoolers shouldn't exceed an hour a day. Children should participate in additional activities that are essential for their growth and health. Young children should not be exposed to screens for the sake of their health and good brain development.

A child's excessive screen time isn't necessarily the result of poor or careless parenting. Furthermore, it does not imply that parents don't love their

children or that there is nothing that can be done to correct the harm if a child has virtual autism as a result of parents' excessive use of electronic screen media.

Thus, virtual autism is one of the most urgent problems of the modern world. More and more children are becoming prone to virtual autism due to the constant use of gadgets. However, this problem can be solved by controlling the time children spend in front of the screen and engaging them in other interesting and useful activities.

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Статья посвящена проблеме цифрового аутизма детей и подростков в XXI веке, раскрываются причины возникновения цифрового аутизма, одной из которых является чрезмерное использование гаджетов детьми в возрасте до трёх лет. Анализируются основные симптомы недуга, а также способы его профилактики, такие как контроль времени использования гаджетов ребёнком и переключение его внимания на другие виды деятельности.

### к содержанию

**Д. Д. Хушт**

Российская Федерация, Москва, АНО ВО «Университет мировых цивилизаций имени В. В. Жириновского»

Научный руководитель – кандидат педагогических наук, доцент

О. В. Таканова

### L'EVOLUTION DE L'OPINION PUBLIQUE FRANÇAISE

Introduction. Dans les années 1960, la France a été confrontée à une crise de crédibilité due à la désillusion de l'opinion publique à l'égard des institutions et

des structures de pouvoir traditionnelles. Cette crise s'est manifestée par le fait que les Français ont commencé à considérer les politiciens et les partis politiques avec un plus grand scepticisme, manquant de confiance dans leur capacité à résoudre les problèmes du pays.

Le but de cet article est d'étudier les causes et les conséquences de l'évolution de l'opinion publique.

Résultats et discussion. Alors, l'évolution de l'opinion publique est liée à de nombreux facteurs dont, par exemple, un meilleur accès à l'éducation et à l'information. Dans les années 1960, l'accès à l'éducation et à l'information s'est développé en France. Cela a été possible grâce au développement de la télévision, de la radio, de la presse et d'autres médias. La plupart des citoyens étaient désormais en mesure de s'informer sur l'actualité et d'en débattre dans leur entourage.

Cela a conduit à un changement de l'opinion publique. Les gens sont devenus plus informés et plus critiques, ce qui a renforcé le regard critique sur les dirigeants politiques et leurs actions. Ils sont devenus plus exigeants et plus actifs dans leurs convictions politiques.

L'accès à l'éducation s'est également amélioré, permettant à un plus grand nombre de personnes de poursuivre des études supérieures. Cela a entraîné une augmentation du nombre d'étudiants en France. Les étudiants étaient mieux éduqués et mieux préparés à débattre des questions politiques.

Tout cela a eu un impact significatif sur le mouvement étudiant en France dans les années 1960. Les étudiants sont devenus plus actifs et plus organisés politiquement et ont eu plus d'occasions d'exprimer leurs idées et de prendre part à la vie politique.

Le développement de nouveaux mouvements culturels et sociaux. Le développement de nouveaux mouvements culturels et sociaux dans la France des années 1960 a été stimulé par un large éventail de facteurs, notamment la croissance économique, l'accès accru à l'éducation et à l'information, l'évolution de l'opinion publique et une crise de l'autorité [1, c. 65].

De nombreux jeunes ont commencé à penser que les valeurs traditionnelles telles que le conservatisme, la religiosité et le patriarcat ne correspondaient plus à leurs désirs et à leurs valeurs. Ils ont commencé à exprimer leurs opinions sur la liberté, l'égalité et l'individualisme.

Les développements culturels et artistiques tels que le cinéma, la littérature, la musique et la mode ont joué un rôle important dans ce processus. Les jeunes ont commencé à y voir un moyen d'exprimer leurs idées et leurs opinions. Certains de ces mouvements, comme les beatniks et les hippies, sont venus des États-Unis et se sont répandus dans le monde entier, y compris en France.

Ces mouvements culturels et sociaux étaient étroitement liés au mouvement étudiant qui a débuté dans les années 1960. Les étudiants sont devenus plus critiques à l'égard des autorités et ont commencé à défendre leurs droits et leurs



libertés. Ils réclament une gouvernance universitaire plus démocratique et une éducation plus libre.

Dans l'ensemble, le développement de nouveaux mouvements culturels et sociaux dans la France des années 1960 s'inscrit dans un processus socioculturel plus large qui modifie la société et ses valeurs. Ces mouvements ont eu un impact significatif sur de nombreux aspects de la vie, notamment la politique, la culture, l'éducation et l'économie [2, c. 56].

La baisse du niveau de vie, la hausse du chômage et l'accroissement des inégalités sociales ont également conduit de nombreux citoyens à penser que le gouvernement ne pouvait pas résoudre les problèmes liés à l'économie.

Conclusions. Dans l'ensemble, la crise de l'autorité et les changements dans l'opinion publique ont conduit la société française à devenir plus critique, réellement préoccupée par les questions sociales et politiques, et désireuse de changer le système de gouvernement existant. Cela a créé un terrain fertile pour la croissance du mouvement étudiant et d'autres mouvements sociaux qui cherchaient à changer la société.

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В статье рассматривается изменение общественного сознания и становление студенческого движения во Франции в 1960-х годах. Показаны причины этих изменений: увеличение доступа к образованию и информации благодаря развитию телевидения, радио, прессы и других средств массовой информации.

#### к содержанию

##### **М. А. Чернов**

Российская Федерация, Москва, Российский Государственный аграрный университет – МСХА имени К. А. Тимирязева  
 Научный руководитель – кандидат педагогических наук, доцент  
 А. Ю. Алипичев

#### **ARTIFICIAL INTELLIGENCE IN TRANSLATION: SUCCESS AND FAILURES**

A lot of people today use artificial intelligence in absolutely different spheres. This instrument of receiving information came to our lives really unexpectedly and has already changed them. As for me, I deal with AI-related

products almost every day. AI tools can not only process user's request very fast, but generate completely new information. For example, this report could be easily written by artificial intelligence, if I made a request, but I must confess I have written it myself.

The purpose of this paper is to provide a brief overview of machine translation tools based on artificial intelligence and compare their outcomes with those made by human. We have to decide if machine translators are really capable of performing without human support, and if so, in which spheres exactly.

Machine translation is the use of algorithms and artificial intelligence to automatically convert text or speech from one language to another. It can help decrease or even eliminate the language barrier in multilingual communications. Texts can be translated quickly and outcomes take a "legible" form that enables the recipients to understand the core content of the message.

When first machine translation tools were launched, they were far from perfect. The first machine translation software, which came about in the 1970s, was based on rules-based machine translation (RBMT). Such technology offered "word-for-word translation using algorithms based on a set of grammatical rules and the relevant language pair dictionaries" [1]. However, quite often those translations looked clumsy and unnatural and could not be considered readable and usable. As a result, RBMT got a bad reputation – demanding users considered it as being inferior to human translators.

After RBMT, there came statistical machine translation (SMT), which "translated text by analyzing existing human-made translations and then applied prediction algorithms to determine the best way to translate particular texts" [1] taking into account the particular context and sphere of communication.

SMT was a major step forward, but its accuracy was still imperfect and required further improvement. Today, "the latest and greatest machine translation technology available is neural machine translation (NMT), which uses complex deep learning models to translate text." [1]

In our study, we consider some successful examples and failures of using AI when translating texts from English into Russian. We all know what Google or Yandex translators look like and what kind of translation they are capable of. So we took the most common Google translator and, according to reviews and research, "the most accurate and perhaps adequate translator – DeepL" [4]. According to the developers, the service uses an improved architecture of neural networks to ensure a more natural level of translation.

But how do different programs depend on translation accuracy? The capacity of database, its components and amount of algorithms are the main part of the translation program. The more their number, the better a translated text is.

So, we have conducted a stress test to different translation programs. We took texts from three different sources: 10<sup>th</sup> grade schoolbook of English, a small fragment from the book and an English newspaper.

### School textbook (10<sup>th</sup> grade Spotlight published by Prosveshchenie) [2]

Original	Google	DeepL	Human translation
You just can't beat the atmosphere when the music's blaring and everybody's dancing!	Невозможно <b>передать</b> атмосферу, когда <b>гремит</b> музыка и все танцуют!	Невозможно <b>превзойти</b> атмосферу, когда <b>звучит</b> музыка и все танцуют!	Невозможно <b>передать словами</b> атмосферу, когда <b>звучит</b> музыка и все танцуют!

As we can see, the translation outcomes of different programs are almost similar and we can easily understand the text. There are not any glaring mistakes and no substantial corrections are required. However, some stylistic features still need polishing.

### Study Manual (published by Cambridge English) [3]

Original	Google translator	<u>DeepL</u>	Human translation
I like this board a lot, but one of the most frustrating things about it is the amount of posters here who have a serious lack of understanding of any form of humor and who consequently take things too seriously.	Мне очень нравится эта <b>доска</b> , но одна из самых неприятных вещей на ней — это количество <b>постеров</b> , которые серьезно не понимают ни одной формы юмора и, следовательно, слишком <b>серьезно относятся к вещам</b> .	Мне очень нравится этот <b>форум</b> , но одна из самых неприятных вещей в нем – это количество <b>постеры</b> , которые имеют серьезное непонимание любой формы юмора и, следовательно, <b>воспринимают</b> все слишком серьезно.	Мне нравится этот <b>форум</b> , но одна из самых неприятных вещей это количество <b>комментариев</b> , <b>авторы</b> которых не имеют чувства юмора и, соответственно, <b>воспринимают</b> многое слишком серьезно.

As for Google the most serious mistake here is the word ‘board’ (форум) → доска) as it conveys a different meaning. If you ignore the syntactic and stylistic errors, then the text looks pretty good in general.

In the translation made by DeepL, we can see an obvious stylistic error: "количество постеры, которые имеют серьезное непонимание любой формы юмора". So this solution definitely needs human interference before being finalized and published.

### Newspaper (London Lite, 28 March 2007)

Original	Google translator	DeepL	Human translation
<p>Illegal immigrants are given every opportunity to suck us dry with one state hand-out or another and no attempt is ever made to repatriate them to their country of origin while ‘bleeding heart’ liberals bleat about their unalienable rights.</p>	<p>Нелегальным иммигрантам предоставляются все возможности <b>высосать нас до дна</b> с помощью той или иной государственной подачи, и никогда не предпринимается никаких попыток репатриировать их в страну происхождения, в то время как <b>либералы с «кровоточащим сердцем»</b> блеют об их неотъемлемых правах.</p>	<p>Нелегальным иммигрантам предоставляется любая возможность <b>высосать из нас все до капли</b> с помощью тех или иных государственных подачек, и при этом не предпринимается никаких попыток репатриировать их в страну происхождения, в то время как <b>либералы с кровоточащим сердцем трубят</b> об их неотъемлемых правах.</p>	<p>Незаконным иммигрантам дается любая возможность <b>высосать из нас все</b> с помощью какой-либо государственной помощи, и не предпринимается никаких попыток вернуть их на их родину, в то время как <b>«милосердные» либералы без конца ноют</b> об их неотъемлемых правах.</p>

As you can see, both translation variants made by Google and DeepL fail to deal with collocations and means of stylistic emotional colouring. So human editing is necessarily required if the translation is to be published in any official media.

To sum up, we can make a conclusion: the easier the text, the more is the number of translation software products that can deal with it. However, the

more powerful and larger the AI tool is, the more intricate texts it can translate. But the role of the human “last word” is still indisputable if the goal is to present a kind of good material for wide public to digest.

As a final word I want to assure you that artificial intelligence is progressing, and if you look at some translation results from ten years ago, you will be thankful that today we have such wonderful AI rivals to compete with.

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В статье рассматриваются основные виды машинного (компьютерного) перевода, описывается их эволюция и отличительные характеристики. Автор проводит сравнение возможностей наиболее популярных программ компьютерного перевода (Google Translate и DeepL) на примере текстов разных жанров. Делается вывод о необходимости обязательной редакторской правки с точки зрения проверки контекстуальности перевода терминов и многозначных слов, а также средств стилистической выразительности.

### к содержанию

#### **Р. Б. Четырко**

Российская Федерация, Москва, Российский Государственный аграрный университет – МСХА имени К. А. Тимирязева  
 Научные руководители – старший преподаватель Н. А. Сергеева,  
 кандидат технических наук, доцент Р. Н. Егоров

### **WAYS TO IMPROVE THE QUALITY OF MAINTENANCE OF TRUCKS**

At present, all car manufacturers present not only on the Russian but also on the world market knowingly reduce the standard service life of their cars to an average of 5 to 6 years, and if this figure is expressed in terms of mileage, it will

be about a hundred thousand kilometers. As a rule, after this period of time or mileage, all car manufacturers withdraw their obligation to service and repair their vehicles at the official dealer, which means that all responsibility for the correct technical condition of the car falls on the shoulders of the owner. It is impossible to say whether this is good or bad. On the one hand, car service at an official dealer is, as it may seem at first glance, only quality repair and maintenance, installation of original spare parts, competent specialists, etc., but if you look at the situation objectively, no modern car manufacturer is set up to make its cars “eternal”, because the sooner the car breaks down, the sooner the consumer will come to the showroom to buy a new one and bring his money to the car company. In other words, we are talking about a deliberate reduction in the quality of the car, not only at the production stage, but also during subsequent maintenance and repair. This is where the laws of the market come into play – the more you sell, the more you earn.

What exactly is maintenance and repair, and what is meant by its quality? The first thing you can do in response to this question is to have a look in any technical reference book and read a simple definition. Maintenance and repair is a set of technological operations and organizational actions to maintain the performance or serviceability of the object when it is used for its intended purpose. More specifically, it is a wide range of activities that ensure that cars, buses, trucks, etc. are in a serviceable technical condition. Such measures include technical condition control with a certain periodicity, scheduled or unscheduled repair of units and assemblies, timely replacement of elements that have reached a certain operating time, replacement of various lubricating elements depending on their technical condition or according to a scheduled plan [3]. When we talk about the quality of maintenance and repair, we mean the above-mentioned operations. It is the quality of work performance, the responsibility of the mechanic who performs certain operations on the vehicle, the choice of quality lubricants, the installation of spare parts recommended by the manufacturer and simply the responsibility of the fleet manager or a simple car owner at the stage of planning maintenance and repair that is the key to quality and ensuring the operational condition of the vehicle.

Taking into account such means of transport as trucks of different tonnage, it is worth paying attention to the peculiarities of their maintenance, diagnostics and, if necessary, repair. First of all, the main feature of maintenance and repair of trucks is their overall dimensions. These vehicles are many times higher than any other piece of equipment and have a wide wheelbase, which means that they cannot be accommodated in a standard box or garage. Secondly, certain features and specific technical requirements imply the presence of specialized equipment for maintenance and repair. Thirdly, it is the peculiarities of planning works for maintenance of units and assemblies, because trucks, due to the specificity of their purpose, travel many times more kilometers per year than conventional

passenger cars, and therefore the timing of numbered types of maintenance (TM-1, TM-2) and repair will be different from the above.

Considering the quality of truck service, it is worth paying attention to the current situation in this industry in Russia. In the years of the USSR, all trucks belonged to state automobile bases and enterprises, were Soviet-made, and the state was responsible for the quality of repair and maintenance, as well as for the quality of the vehicle in general. Nowadays, the Russian market is not only dominated by cars of domestic production, such as KAMAZ, Tonar, URAL, ZIL, but also by a number of foreign manufacturers, who, like any large car company, are interested in the quality of their products. As a result of the appearance of foreign car brands such as SCANIA, MAN, VOLVO, IVECO, RENAULT, MERCEDES-BENZ and others, representative offices of these manufacturers were established and were engaged in repair and maintenance of their cars [4]. Due to the peculiarities of repair and maintenance of each brand, a variety of equipment and tools for car maintenance appeared. Thus, the emergence of healthy competition on the Russian market, attraction of foreign specialists, exchange of experience with other countries led to an increase not only in the quality of truck production, but also, as a consequence, in the quality of their service.

It is worth noting that despite the temptation of Russian consumers with foreign cars, the choice for the most part still remains in favor of our, domestic car. In 2019, around 80,700 new trucks were sold in Russia, which is 2% less than in 2018, but despite the general decline in demand, Russian carmakers managed to increase their sales. The market leaders remain KAMAZ, which sold 27,600 trucks, or 34.2% of the total (up 7.3%), and GAZ – 8900 vehicles (+5.9%). Foreign trucks, which are among the five best-selling brands, did not increase their sales: Volvo sales fell by 11% to 5700 units, Scania – 5600 (-16%) and MAN – 5000 (-1.5%) [1]. The actual data for 2020 are still being compiled, but most experts predict an even bigger drop in sales due to the global crisis caused by the coronavirus pandemic.

Despite the positive changes in the automotive industry in Russia that can be observed throughout the period since the collapse of the Soviet Union, there is still a whole range of problems. Their solution can significantly improve the quality of maintenance and repair of both trucks and cars in our country. One of the ways to improve the quality of maintenance and repair throughout the country is to develop a sufficient number of network competitive services for truck maintenance, as competition is known to be the best engine of progress. At present, the official representations of car manufacturers are actively developing, but when it comes to private specialized organizations, the pace of their expansion and growth leaves much to be desired. However, the situation should not be seen as critical, as there is still some progress for the better. Another possible step that can be taken to improve the quality of services is the

purchase of expensive professional equipment, which would accelerate not only the pace of technological operations, but also their quality.

At present, many motor transport companies still use obsolete machinery and tools necessary for repairs. This problem is particularly relevant for regional private enterprises and services, where the material base produced in the last century is still actively used. And of course, when talking about improving the quality of maintenance and repair, the main attention should be paid to the training of professional staff. Even if you have the most modern equipment, open hundreds of specialized services, buy or produce the best spare parts, all these attempts will be useless, if only because first of all you need people who have special knowledge and skills, who are able to work with the latest material base, who are ready to learn something new and gain invaluable experience at every opportunity [2]. Of course, the above-mentioned ways of improving the quality of maintenance and repair can be questioned and challenged, arguing, for example, that old tools are perfectly suitable for maintenance and that many technical operations can be carried out by the usual driver responsible for a particular vehicle. But there are also many examples of the effectiveness of the proposed methods in practice.

Let's take a look at the company "Rentrans", whose main activity, according to OKVED (All-Russian Classifier of Economic Activities), is the transportation of goods by non-specialized vehicles. In addition to cargo transportation, the company carries out maintenance and repair of various vehicles, regular passenger transportation by buses in urban and suburban traffic, as well as technical inspection of vehicles. The company is located on the territory of the Gubkinsky district of the Belgorod region. LLC "Rentrans" has been on the market for 14 years, has good economic indicators, and is a guarantor of stability and quality of services, but at the same time this company is a vivid example, showing the problems in the field of repair and service of road transport in general and maintenance of trucks in particular. The whole point is that the fleet of the company in question is based on the automobile base that appeared in the eighties of the last century. At the time of 2021, the material base of this car yard has, of course, become obsolete: the boxes in which the vehicles are repaired and stored are not in the best condition and require repair, sometimes there are no necessary tools, and the mechanics involved in repairs and possessing special skills are practically absent among the staff of the company, in this connection the responsibility for the good condition of the vehicles fell entirely on the shoulders of ordinary drivers. The occurrence of the above-mentioned problems in the company during the whole period of its existence certainly affected the quality and speed of repair and maintenance of vehicles, and thus the amount of profit received by the company. Nevertheless, it should be noted that all the vehicles owned by "Rentrans" (trucks of various tonnages, buses of various categories, etc.) are in good technical condition,



because the resources available to the company are still sufficient to keep the vehicles in good condition. However, this does not mean that the company can turn a blind eye to the problems; on the contrary, it indicates the need to solve them as soon as possible.

An example of a flourishing network of services for maintenance of heavy-duty vehicles, which, having solved all the difficulties of a small enterprise, shows high growth and development rates in the sphere of maintenance and repair of trucks on the territory of the whole world and, in particular, in the CIS countries, is a large network of official technical support centers of the company “BELAZ”. The Belarusian Automobile Plant ensures the quality of its heavy-duty dump trucks not only at the production stage, but also during subsequent maintenance and repair. This is a departure from the generally accepted tendency to underestimate the normative service life of a vehicle and its quality due to the peculiarities of this type of transport. Vehicles of this brand are not mass products and are used in a small number of areas of human activity, which means that they must be of exceptional quality in order to beat their competitors in the fierce battle for first place at the market. In this respect, great attention is paid to improving the already high quality of maintenance and repair. Every year, mechanics and engineers from the network’s service centers in different countries and cities are sent on training courses to acquire new knowledge and skills needed to carry out certain technological operations. The “BELAZ” car brand pays great attention to the training of qualified specialists, periodically replaces the technological equipment necessary for the repair of its non-standard equipment, develops a system of bonuses and incentives thanks to which the personnel is stimulated to even better performance of work and responsible approach.

After studying two companies with the same orientation and the steps taken by each company to improve the quality of TM, we can conclude that the methods proposed and studied in this paper already show their effectiveness and usefulness and therefore need to be recognized, publicized and implemented.

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В статье рассмотрены понятие «Техническое обслуживание и ремонт» и особенности технического обслуживания и ремонта грузовых автомобилей, а также предложены возможные пути повышения качества ремонтных работ.

### **к содержанию**

#### **Чжан Вэйхань**

Российская Федерация, Елец, Елецкий государственный университет им. И.А. Бунина

Научный руководитель – доктор педагогических наук, профессор  
В.Н. Карташова

### **DIGITAL LITERACY OF THE FUTURE FOREIGN LANGUAGE TEACHER**

Currently, digitalization is penetrating into all spheres of human activity. Therefore, digital literacy has become one of the most important key qualifications for survival in the labor market: structural changes towards the information economy are accompanied by the restructuring of many industries and changes in qualification requirements. Today, in many job advertisements, information technology and media skills are already a prerequisite. The use of digital skills focused on practical application is also becoming inevitable in many industries with a traditionally low degree of digitalization. For example, about 85 percent of all jobs already require at least basic digital skills [1]. In particular, those areas of activity in which the demand for skilled workers is projected to grow often require employees to have a high level of digital skills. In addition, there is a high demand for qualified workers in the IT sector. Digital skills are needed to meet this demand, especially among young people.

Digital literacy includes skills, knowledge, and attitudes towards the safe, critical, and creative use of digital technology. These include, for example: basic IT skills such as working with digital devices, installing software or using office software; research competence – searching and critically evaluating information online; communication skills – exchanging information through digital channels such as email, chat or video conferencing; protection and security data; problem solving skills - identification and solution of technical problems; media literacy – reflexive use of digital media; lifelong learning – readiness for continuous self-education [2].

Digitalization has a great impact on the process of learning foreign languages.

The use of digital media opens up additional opportunities to improve the language learning process, its individualization and motivation. However, it is crucial that the media or the chosen methods are suitable for the target group and meet the learning objectives.

The great advantage of digitalization is the use of modern authentic materials that can be worked on, which will allow students to adapt to their own world and be able to apply language skills in real communication situations. From the very beginning, language becomes not just an "object of learning", but rather an "object of use". Even gamification of the learning process from dangerous can become, thanks to digital media, a possible motivation to learn a foreign language, on the one hand, through its real everyday relevance, and on the other hand, due to its multimedia nature. The motivating and, therefore, facilitating learning effect is the fact that students can also share their knowledge and experience, for example, through educational applications.

The following measures help future foreign language teachers to maintain and expand their own digital competence:

- Attending courses and obtaining certificates in digital skills;
- Online tutorials and instructional videos;
- practical training: testing new digital tools; sharing in communities and networks; video conferences on professional topics; tracking reference books and blogs.

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В статье актуализируется роль цифрового обучения иностранным языкам. Подчеркивается значимость цифровой грамотности, одной из важнейших компетенций 21 века, будущих учителей иностранного языка. Констатируется, что формирование цифровой грамотности студентов будет успешным при обучении цифровым навыкам в процессе их языковой практики, использования цифровых инструментов.

**к содержанию**

**Е. В. Чипурных**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент  
Т. С. Троцюк

**MICROPLASTIC: TIME FOR THE ALARM**

Plastic is the most common type of garbage on the planet and particles with the length of less than 5 mm are microplastics. Plastic enters the environment from various sources including larger plastic debris which eventually breaks down into smaller pieces. Microplastics are also formed while washing car tires, clothes when such particles peel off from synthetic fabrics and no filters are able to keep them from getting into the soil or reservoirs. This can also include cosmetics, hair sprays as well as detergents and toothpastes. It is worth noting that microplastics enter the human body through the respiratory tract. A person inhales microplastics next to the road on which the tires are erased and that causes the particles enter the air. But most often they enter the body with food and drinking water as some sewer pipes are also made of plastic. Under the influence of water small particles in them are separated and get into our body with water. Also plastic can get into drinks from a plastic bottle that is stored incorrectly. There used to be cases in history when animals were filled with microplastics so much that they had a false feeling of satiety which led to their death [1].

In general, microplastics are divided into primary (the one that is produced specifically for cosmetic purposes) and secondary (ordinary plastic debris destroyed by the external environment to small granules). For example, particle content in cosmetics can vary from 1% to 90% and an ordinary exfoliating body gel contains about the same amount of a package for it. Research conducted by the environmentalists in 2014 showed that every Belarusian uses up to half a gram of microplastic particles in cosmetics per year. This is more than 2 tons for all residents of the country. Even while brushing teeth microplastic particles can stuck in the back pocket and cause gingivitis and inflammatory processes. This happens as microplastics are present in the water and people use water to rinse the mouth, wet and rinse their toothbrush [2].

Why are microplastics so dangerous? First of all the treatment facilities in the Republic of Belarus are not adapted for cleaning water from micro- and nanoparticles of plastic, although there exists the similar problem all over the world nowadays. Also the disintegration of microplastics into harmless particles is almost impossible and it takes hundreds and thousands of years. More over microplastics is an ideal environment for the reproduction of harmful

microorganisms and the colonization of viruses. As the result we get sources of all kinds of infections.

We can state that a person is constantly faced with microplastics which inevitably get through the drains into the rivers and reservoirs and then these particles are absorbed by all aquatic animals (including fish) through food and water and people eat such fish and use purified water in our everyday life. Thus as one can see the movement of microplastics looks like a wheel: no matter how hard we try it is almost impossible for a person to avoid meeting with microplastics, but it is possible to minimize the consumption [1]. For this purpose, people should divide the waste into sections, use only organic care products (shampoos, gels, scrubs, cosmetics), buy water in glass bottles abandoning plastic analogues, not eat filter organisms (mussels, oysters). When choosing absolutely any subject people should give preference only to natural and organic products for the sake of health and safety (natural fabrics for towels, sofa, curtains, carpets, toys, etc.) [3].

Trying to embrace a plastic-free lifestyle is the answer to the question how to counteract the negative effects of plastic and microplastics [4].

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В статье описана проблема загрязнения одним из самых распространённых видов мусора на планете – микропластиком, его воздействие на организм человека, опасность и способы попадания его в окружающую среду. Автор статьи рассматривает меры, которые необходимо предпринимать для сохранения здоровья и безопасности жизни людей.

**к содержанию**

**С. А. Шакунова**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – преподаватель Е. А. Ковганко

## **THE MOTIVATIONAL ASPECT OF STUDYING ENGLISH LANGUAGE**

Educational motivation is one of the aspects of motivating human behavior, which is recognized as an urgent scientific problem. Many studies are devoted to various aspects of motivation, which is due to the importance of this topic for science. S. L. Rubinstein defined the essence of motivation as the “driving force of human behavior”, which occupies a “leading place in the structure of personality, describing its main structural formations: the orientation of personality, character, emotions, abilities, activities and mental processes” [1].

There are many theories of motivation that determine how to form and maintain it. The most well-known theories are Maslow’s pyramid of needs and Herzberg’s two-factor theory – the theory of self-determination. Maslow’s Pyramid of needs asserts that human needs are arranged hierarchically, starting with the most basic physiological needs, followed by security needs, social needs, recognition needs and, finally, the needs for self-realization. Consequently, higher needs will become relevant after meeting lower needs [2].

The purpose of the study is to analyze researches of motivation, as well as to identify ways to increase motivation when learning English. Self-determination theory claims that people are more motivated when they feel they are in control of their actions. This makes you feel more competent and connected to actions, which in turn increases motivation.

Human motives related to internal states stimulate and direct our behavior. They represent a kind of inner urge that makes us pursue certain goals and engage in activities that seem valuable to us [3].

Motivation is undoubtedly one of the most important elements in describing human activity. In the most general sense, motivation is understood as something that stimulates activity, encourages action and the achievement of a goal.

In 1972, Robert Gardner and Wallace Lambert were the first to conduct a study of motivation to learn a foreign language, in which the concepts of integrative and instrumental motivation were introduced. Integrative motivation is based on an interest in the country and culture of the language being studied, and a desire to communicate with native speakers of this language. Instrumental motivation arises under the influence of external factors, such as the need to take an exam in a foreign language or, for example, get a job related to this language [3].

However, the main role in motivation is played by emotions that affect the entire spectrum of human behavior – from the definition of activities to the intensity and duration of commitment to these activities. Today, the process of learning a foreign language is aimed at allowing students to express emotions. Motivation and emotions turn into the driving force of learning a foreign language. If there is motivation, a positive attitude to the existing learning situation, a focus on success and activity, significant achievements in learning foreign languages are predicted.

Naturally, besides motivation, there are a number of factors that affect communication. Interactive, multimedia and interesting activities contribute to the preservation of the original motivation. Another important factor influencing learning success is one's own attitude to learning [1]. Those students who have an expressed desire to learn a foreign language, are satisfied with the way learning is going on, and are interested in the culture of the language being studied are more likely to achieve success in learning. Despite the fact that some researchers suggest that the environment may enhance such a correlation, statistical data do not confirm this.

Students who have an inner desire to learn will be more interested in completing tasks that contain a problem that requires a solution than in receiving any incentive or reward. Intrinsic motivation decreases as children get older and lose interest in learning. To increase the motivation of students, abstract material should be made more specific and included in the context [2].

Performing tasks in the learning process under the influence of external factors, such as rewards or punishments, is often used in the education system. However, it has been found that punishments do more harm than good, and rewards can form a dangerous addiction. It follows that it is necessary to gradually reduce rewards and focus on the development of internal motivation of students.

It is much more important to evaluate the efforts made than the final result. If you value results more, students will focus only on achieving results, forgetting that high level is achieved thanks to the efforts made. In addition, the result can often depend on other factors, for example, luck or chance [2].

Despite the fact that English, from the subject of the educational program, is increasingly becoming a means of communication at various levels – often the motivation for learning a foreign language among schoolchildren and students is clearly extremely low. To counteract this process, it is important to support students through motivational actions and constantly praise them even for small achievements, as well as help formulate goals and find ways to achieve them.

In his work, R.K. Gardner points out that a high level of motivation contributes to the fact that the student strives for an increasing difficulty of tasks, to perform tasks of a wide variety of linguistic orientation, and will also

spend more effort on learning a foreign language. It can be argued that motivation and abilities are interconnected [3].

Motivation is the pursuit of a goal combined with the energy needed to achieve that goal. The word motivation forces students to think about goals, efforts, desire, energy, and active learning. A teacher should know the sources of motivation in order to be able to support the desire for success among his students. The student's own satisfaction is based on his/her natural interests [3].

Thus, it is worth concluding that setting realistic goals, choosing the right educational content for you, encouraging yourself for learning success and ensuring diversity and challenges helps overcome the lack of motivation to learn a language. In the field of education, these ideas also play a huge role. In this way, teachers can create certain incentives to increase the motivation of their students. Motivation is the key to success in both academic and professional contexts. With the right attitude, the right teaching technique and a certain degree of motivation, you can learn English in the shortest possible time.

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В статье рассматривается мотивационный аспект при изучении английского языка, а также раскрываются проблемы учебной мотивации. Автор анализирует опыт исследований мотивации, в частности наследие Р. Гарднера и У. Ламберта, а также выделяет основные способы повышения мотивации в образовательном процессе при изучении английского языка, которая очень важна для успешной учебной деятельности.

**к содержанию**



**Ст. А. Шакунова**

Республика Беларусь, Брест, Брестский государственный университет  
имени А. С. Пушкина

Научный руководитель – преподаватель Е. А. Ковганко

## **THE PROBLEM OF THE LANGUAGE BARRIER IN TEACHING A FOREIGN LANGUAGE**

The process of globalization has actualized the problem of interpersonal communication and brought knowledge of a foreign language to the basic necessary skill. One of the goals of the language policy is to ensure that everyone can speak a foreign language and, consequently, language teaching has become an integral part of the educational program [1].

The advantages of learning a foreign language are undeniable. In particular, it contributes to the comprehensive development of a person, the formation of many positive character traits (purposefulness, sociability, attention and logic), as well as the activation of thinking. An important advantage is communication with the local population, traveling to other countries. Knowing the language helps to ensure a safe and comfortable stay. In addition, knowledge of a foreign language allows you to realize yourself in the professional field abroad or find foreign partners. A foreign language provides many opportunities in both personal and professional spheres of life. That is why teaching a foreign language is becoming more and more relevant in the education system.

The purpose of the study is to identify the importance of learning a foreign language, to determine the essence, causes, as well as ways to eliminate the language barrier. To determine the level of proficiency in a foreign language, it is often assessed how students can use the language system in practice, how deeply and firmly they know it. However, a person learning a foreign language in a classroom often cannot come close to an ideal result, due to the presence of a language barrier.

The language barrier can be a serious problem for individuals, organizations, and even entire societies. In a globalized world where communication is necessary for social, economic, and cultural exchange, overcoming language barriers is an important factor [2]. The language barrier is the difficulty of expressing oneself in a foreign language. One can perfectly master grammar and vocabulary and understand the words, but at the same time have difficulty communicating, both at the learning stage and at the trying stage.

It is worth noting that the language barrier arises due to differences in language proficiency between people. This may be due to the factors such as age, education and social status. For example, a person who does not speak English may have difficulty communicating with native English speakers.

Similarly, someone who does not know medical terminology may have problems understanding the doctor's diagnosis.

Language barriers can arise in various areas of life, such as healthcare, education, travel, and business. In the field of healthcare, the language barrier can lead to incorrect diagnosis and errors in treatment. In business and in partnership, language barriers can hinder effective communication with customers, suppliers, and employees, which can lead to misunderstandings and missed opportunities [2].

It should be noted that language barriers are a widespread problem in the modern globalized world, affecting individuals and organizations in various contexts. Understanding their types and their impact can help individuals and organizations develop strategies to overcome them and improve communication. Language barriers can arise due to a variety of factors that affect a person's ability to communicate effectively. Psychologists distinguish two types of language barriers – linguistic and psychological.

To develop strategies for overcoming language barriers, it is necessary to identify their causes. The linguistic language barrier arises when there is no language practice. Language work includes interrelated aspects: grammar, vocabulary, reading, listening, and speaking. The language environment created by watching movies, listening to songs, and reading books helps to overcome this barrier successfully. Visual aids such as images or diagrams can help convey meaning, even if language is a barrier. Without adequate resources it may be difficult for some to learn languages, especially if they have limited opportunities to practice grammar, speaking and listening.

Non-verbal communication, such as facial expressions and gestures, can also convey meaning and help establish mutual understanding between people who do not speak the same language. Special attention should be paid to oral communication with native speakers, or with people who speak necessary language [3]. The presence of a psychological barrier is due to the emergence of a few factors. The main one is psychological insecurity – this is the fear of making a mistake, as well as the fear of the consequences of this mistake. People who cannot communicate effectively in a foreign language may experience feelings of isolation, anxiety, and depression.

An experienced, highly qualified teacher can eliminate all problems, organize a comfortable and relaxed atmosphere for students and, most importantly, explain that it is not punishable to make mistakes.

Negative previous experience of learning a foreign language related to the choice of methods of teaching a foreign language and the qualification of the teacher. Negative experiences arise due to incorrectly chosen methods, as well as poor interaction between the teacher and students. For successful learning, methods should be chosen depending on the abilities and characteristics of the students and on the educational material [4].

The degree of student's academic performance can be expressed in a simple formula: success in learning is the result of invested funds (for example, working time, cognitive abilities, previous experience) and a motivational factor (interest, sympathy, pleasure).

To successfully learn a language, first of all, student's desire and interest in learning the language are necessary. An experienced teacher can arouse interest in language using modern methods, as well as knowledge of educational psychology [4]. It is also worth noting the effective use of modern educational programs and applications for language learning is very useful in the process of language acquisition (audio, images, text, animation, video and speech recognition).

Thus, it can be concluded that it is extremely important to eliminate language barriers in order to promote effective communication, social integration and equal access to various sectors of human activity. Language barriers can also create social and economic barriers for individuals. People who cannot communicate effectively in a foreign language may experience difficulties finding work, access to basic services, and full participation in the life of the foreign community, which can lead to social isolation, economic difficulties, and a decrease in the quality of life [2]. It should be noted that language barriers negatively affect individuals and society as a whole. It is crucial to recognize and eliminate these barriers in order to improve communication and promote equality by developing effective strategies.

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В статье рассматривается проблема языкового барьера при обучении иностранному языку на примере английского языка. Автор анализирует преимущества изучения иностранного языка, определяет сущность, причины и пути ликвидации языкового барьера с целью улучшения успешной учебной деятельности. В статье подчеркивается тот факт, что степень успеваемости обучаемого можно выразить простой формулой: успех в обучении — это результат вложенных средств и мотивационного фактора.

### **к содержанию**

**Е. И. Шамрило, А. А. Фёдорова**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель –старший преподаватель С. А. Лосева

### **ECONOMIC INEQUALITY AND ITS IMPACT ON INTERNATIONAL COOPERATION AND ECONOMIC DEVELOPMENT**

Economic inequality refers to the unequal distribution of income, wealth, and resources among individuals or groups within a society or across different countries. It is a multifaceted issue that encompasses disparities in earnings, assets, opportunities, and living standards. Economic inequality is often measured by using various indicators, including income inequality, wealth inequality, and the concentration of economic power.

The purpose of this article is to examine aspects of economic inequality and its impact on international cooperation and economic development.

Economic inequality has wide-ranging implications for individuals, communities, and societies. It can hinder social cohesion, create social unrest, and lead to political instability. Moreover high levels of inequality can impede economic growth and development by limiting access to education, healthcare, and entrepreneurial opportunities for disadvantaged groups.

Addressing economic inequality has become a priority for policymakers, international organizations, and civil society. Various strategies and policy approaches are implemented to reduce inequality and promote inclusive economic growth. These include progressive taxation systems, social safety nets, investment in education and skills training, and promoting equitable access to financial services [1].

Historically, economic inequality has been a persistent aspect of human societies. However, in recent decades, the issue has gained significant attention due to its potential social, political, and economic ramifications.

High levels of economic inequality can have adverse effects on economic stability and long-term growth. Concentration of wealth and income in a small segment of the population can lead to reduced consumer demand, limited

investment opportunities, and increased social tensions. By studying the impact of inequality on macroeconomic indicators, such as GDP growth, productivity, and investment, policymakers can make informed decisions to foster inclusive and sustainable economic development.

The global financial crisis of 2008 is a well-known case study that exemplifies the impact of inequality on cooperation in the financial sector. The crisis originated from excessive risk-taking and unethical practices within the banking and financial industry, disproportionately affecting vulnerable individuals and communities.

The crisis revealed a significant wealth gap between the financial elite and the general population. The actions of large financial institutions, driven by profit-seeking motives, led to the collapse of financial markets and resulted in widespread economic downturn. The subsequent bailout of these institutions by governments further exacerbated the perception of inequality and eroded public trust in the financial system.

The crisis highlighted the need for greater cooperation and regulation within the financial sector to prevent such systemic risks. It underscored the importance of addressing inequality in access to financial services, promoting responsible lending practices, and ensuring accountability among financial institutions. By reducing inequality and promoting cooperation, the financial sector can work towards a more stable and inclusive global economy.

Inequality exerts significant influence on economic cooperation between countries through various mechanisms, including power dynamics, policy divergences, and trust issues. These mechanisms play a crucial role in shaping the dynamics of international economic relations.

Power dynamics stemming from inequality can disrupt cooperation by creating imbalances in decision-making and resource allocation. When a few powerful nations dominate the global economic landscape, they may wield their influence to protect their own interests, leaving weaker countries marginalized and less willing to engage in cooperative efforts. The concentration of power in the hands of a selected few can lead to unequal outcomes and hinder mutually beneficial cooperation.

Policy divergences resulting from inequality also pose challenges to economic cooperation. Inequality gives rise to conflicting interests and priorities among nations. Socioeconomic disparities can lead to disparities in policy preferences, making it difficult to find common ground. Policies that primarily benefit the economically privileged nations may neglect the needs and concerns of marginalized ones, exacerbating inequality and impeding cooperative efforts.

Limited access to resources and opportunities resulting from inequality restricts the capacity for economic cooperation. Inequality hampers the ability of less privileged nations to access vital resources and opportunities, including technology, capital, and markets. When certain countries face barriers to

accessing necessary resources, their ability to engage in economic cooperation is constrained.

Moreover, the social fragmentation caused by inequality undermines economic cooperation. Socioeconomic disparities can lead to social divisions and polarization between nations. In a fragmented global landscape, cooperation becomes more challenging as countries prioritize their own interests over collective economic well-being. Bridging these social divides, promoting social cohesion, and fostering a sense of shared economic goals and benefits are crucial to overcoming these challenges and promoting economic cooperation.

In order to enhance international cooperation in the context of inequality, it is crucial to identify and implement appropriate policy measures. These measures should address the root causes of inequality and promote a more inclusive and equitable global economic system.

Firstly, governments and international organizations should prioritize investments in education and skill development. By providing quality education to all individuals, regardless of their socio-economic background, we can empower people to participate fully in the global economy. This includes improving access to education, especially for marginalized groups, and promoting vocational training programs that equip individuals with the skills needed for the modern workforce [2].

Secondly, policies should focus on reducing wealth and income disparities. This can be achieved through progressive taxation systems that ensure the wealthy contribute their fair share to society. Additionally, governments should implement measures to prevent tax evasion and promote transparency in financial transactions. By redistributing wealth and income more equitably, we can create a more level playing field and reduce the disparities that hinder international cooperation.

Thirdly, fostering inclusive economic growth is essential. Governments should implement policies that promote entrepreneurship and support small and medium-sized enterprises (SMEs), as these are often the drivers of job creation and innovation. Access to affordable credit, business development services, and technology should be facilitated for SMEs, particularly in developing countries. By enabling the growth of a diverse range of businesses, we can create more opportunities for economic participation and reduce inequality.

Furthermore, international trade policies should prioritize fairness and inclusivity. Trade agreements should not only focus on market access but also address labor standards, environmental protection, and the rights of marginalized communities. By ensuring that trade benefits are shared more equitably, we can prevent exploitation and promote sustainable development.

Lastly, international cooperation should extend to the sharing of knowledge and best practices. Governments and international organizations should facilitate the transfer of technology and expertise from developed to

developing countries. This can be done through capacity-building programs, technology transfer agreements, and collaborative research initiatives. By narrowing the technological gap between countries, we can promote inclusive development and reduce inequalities.

In conclusion, the study of economic inequality and its impact on international cooperation and economic development reveals a complex and interconnected relationship between these factors. It is evident that economic inequality has implications for international cooperation in various domains. In the realm of trade, income disparities can influence negotiations, trade agreements, and the distribution of benefits from trade. Economic inequality has substantial consequences for economic development. Studies have shown that high levels of inequality can impede overall economic growth, hinder poverty reduction efforts, and limit human development outcomes. Inequality affects various channels of development, including human capital accumulation, social mobility, and investment patterns. Addressing inequality is therefore crucial for promoting inclusive and sustainable economic development.

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В статье исследуется экономическое неравенство и его влияние на международное сотрудничество и экономическое развитие. Рассматривается проблема неравномерного распределения доходов, богатства и ресурсов внутри общества и между различными странами. Подчеркивается необходимость снижения неравенства и создания инклюзивного экономического роста через прогрессивное налогообложение, социальные системы защиты, инвестиции в образование, а также обеспечение равного доступа к финансовым услугам.

#### к содержанию

**М. В. Швейкус**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л.М. Калилец

#### PECULIARITIES OF LEGAL CULTURE OF YOUTH

Issues related to the observance and protection of various civil, ethnic, gender and other human rights are becoming more and more relevant in our

country in connection with the building of a democratic society. But, on the other hand, the granting and defense of rights requires a certain legal culture on the part of the individual. Many researchers agree that the level of legal culture of a modern Belarusian remains at a low level. At the same time, the thesis is put forward that the construction of a state based on the rule of law is unsuccessful or hindered when the legal consciousness of citizens and the elite operates mostly with pseudo-legal categories. In this regard, hopes are pinned on the positive development of legal consciousness and the formation of legal culture. Legal culture is understood as a set of knowledge, values and attitudes of an individual regarding his or her own rights and the possibilities of their practical realisation in the process of interaction between subjects of legal relations.

Increased attention to the rights of young people is explained by their special role in social reproduction as a “strategic resource of a developing society” and “an object of national and state interests”. At the same time, increasing the role of young people as an active and conscious partner of the reforms being carried out is highly dependent on how much they know about the rights provided and to what extent they can use them to meet their growing demands. This requires, in turn, the study of the real state of legal culture of young people and the totality of social factors that shape it, which in the future will allow us to reach a new level of its comprehension, the development of proposals to optimise the managerial impact on the content and mechanism of this process. Modern sociological science has accumulated a great experience of studying various aspects of legal culture of youth, but the issues related to the formation of legal consciousness and analysis of legal behaviour of young people remain relevant.

Legal education should be considered as a very capacious and diverse process, the content of which, first of all, is legal education and training in the basics of law, as well as the formation of legal consciousness and legal behaviour.

The most fertile ground for legal education is the youth, as this social group is the most active part of society. Young people are a real force capable of influencing society as a whole. Besides youth is that period of human life, which is most favourable for learning and intellectual search.

The task of legal education of the youth consists in mastering by each young person the basic principles and orientation of legal norms, in the development of correct legal orientation, in acquiring not only knowledge of the basics of legislation, but also in the formation of deep respect for the law, turning into a personal conviction, need and habit of observing the law.

There are several ways of external legal educational influence, which help to realise the task of legal education.

One way is legal propaganda, which is the dissemination of certain legal ideas and values by means of propaganda. Propaganda is of two types: propaganda by mass media and propaganda by oral agitation of the population.



Propaganda of law by mass media is magazines, radio and television. Therefore, social networks and television act as a powerful means of both positive and negative impact on the legal culture of any person. The latter includes, in particular, the romanticisation of criminal life, the popularisation of the criminal world, its heroes who commit murders and go unpunished, and whom young people often seek to emulate. The broadcasting of such information can have such destructive consequences as psychological stress, a surge in suicidal attitudes, and an increase in the crime rate. At the same time, mass communication media are capable of introducing stereotypes and models of this or that lawful behaviour into the consciousness of society, which is the reason for their purpose in the process of formation of legal literacy of young people. For example, legal content of an explanatory nature contained in various social networks, such as VKontakte, Telegram, etc., which are popular among young people and have a significant impact on the formation of young people's personality is of no small importance. The family can also have a positive impact on human development. Family upbringing is therefore of fundamental importance in shaping the general culture of the personality of adolescents and young people. The family is capable of transmitting values and patterns of behaviour from generation to generation, which cannot but influence the legal perceptions and legal behaviour of young people. A child usually perceives such values without thinking, as they seem obvious and unquestionable to him or her. To a large extent, children's attitude to the legal and political processes of society depends on how parents display their civic position.

Legal education is an integral part of the whole educational process, the purpose of which is to form a socially active personality. Realizing legal education it is necessary to remember and understand that the youth is that social group which by virtue of the nature constantly makes movements forward to everything new and unexplored, therefore promoting this process, it is necessary to rely on already available at the youth legal knowledge and beliefs, legal experience and skills.

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В статье определяются основные направления воспитательной работы с молодежью, которые должны включать комплекс воспитательных мер правового характера, направленных на адаптированность учащейся молодежи к порядку, дисциплине, организованности, уважению к законам страны.

### **к содержанию**

**Л. С. Шпурик**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. Е. Левонюк

### **CHILDREN WITH ASPERGER'S SYNDROME**

The topic of children with special needs, in particular children with Asperger's Syndrome (AS), is relevant in the modern world for special educators and all participants in the educational process. In this article we would like to show the essence of AS and the desire to help them socialize in society, so that they feel needed.

The phenomenon of Asperger's Syndrome was introduced and described by Hans Asperger in 1944. He's a person who studied the condition of early childhood autism. So, Asperger's Syndrome is a complex developmental disorder that consists of impairments in socialization, communication, cognition, and sensory perception, sometimes incoordination. The education of children with Asperger's Syndrome and pedagogical interaction with them should be based on their special needs. It attracts more and more attention of teachers, doctors, psychologists, ordinary children and others.

Special traits of children with AS include social naivety, misunderstanding of generally accepted norms of behavior, literal perception, egocentrism; average or above average intelligence; narrow limited interests in a particular field of knowledge; intensive study or excessive fascination with subjects that may seem strange for their age or cultural level ("fascination" with letters, numbers, easy memorization of facts, quotations, dates, etc.); strict adherence to specific, non-functional rituals and established routine; formality, pedantry, intricacy of speech, its limitation to topics of personal interest; repetitive speech (verbal stereotypes) along with normal or well-expressed speech skills; possible violation of the tonality of the voice, increased or lowered tempo of speech; limited intonation pattern, excessively smooth and monotonous pronunciation of words; non-compliance with the rules of dialogue, inability to be an interlocutor, use language for communication in practical conditions of real life, difficulties in receptive speech, especially in relation to irony, humor or other abstractions; disability to interact with peers, establish friendly relations; lack of desire to

share their joy, interests, achievements with other people; lack of visual-motor coordination, lagging motor development (possible difficulties in learning to ride a bike, swim, skate,...), clumsiness in movements, unusual gait, motor stereotypes, etc. [1, p. 33].

Children with Asperger's Syndrome usually have a high level of cognitive development and skills and well-developed speech. It creates the illusion for parents and teachers that these children will be able to study in general secondary educational establishments without much difficulty. Research on integrated learning and upbringing of children with AS shows that in education they require an approach tailored specifically for individuals with Autism Spectrum Disorder. L. Wing said that all persons with ASD, including AS, need a structured, organized educational approach of the same type, although the goals and results of education will range from minimal self-care to a higher education diploma [2].

Many children with Asperger's Syndrome have impaired executive function: organizational and planning abilities, working memory, impulse control, reflection, time management and prioritization, understanding complex and abstract concepts, and applying new strategies. Such children can have very developed visual reasoning and imagination. At school they usually gravitate academic subjects in which there is more certainty and objectivity (exact disciplines such as natural sciences and mathematics) and "avoid" academic subjects in which assessments and judgments are preferred (literature, history, art, music). Often information is not perceived and remembered by a kid unless it is specifically played out and tied in meaning to what he is interested in. Social and emotional information turns out to be difficult for them.

Special work of teachers with these kids to establish and develop emotional contact, to help them understand what is happening is very important. Also, special needs of children with AS can be attributed to an individually dosed introduction to the situation of education at school and upbringing in groups. It is necessary to conduct individual and group classes with specialists, to create conditions for learning that ensure the sensory and emotional comfort of kids, children's achievements taking into account their characteristics; psychological and pedagogical support that optimizes the interaction of such children with teachers and classmates, as well as families and educational institutions.

Gradual and accompanied by a competent specialist inclusion in a group or class of children with less or no communication difficulties is the most appropriate option for teaching and raising the group of children in question [1, p. 54]. A combined form of homeschooling, which is currently being implemented in some schools in Belarus, is an example of an effective form of educational inclusion for children with AS.

In conclusion it should be pointed out that in order to determine the educational route for a child with Asperger's Syndrome, it is necessary to take into account both his/her individual mental health standards and his/her special educational needs. The reduction process of children with autism spectrum disorder has its own characteristics. The main task of special educators, parents, educational psychologists, children, tutors, that is, the whole society in interaction is to create a favorable adaptive educational environment for this category of children with special needs and let them know that we accept them as they are.

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В статье раскрывается сущность особых образовательных потребностей детей с синдромом Аспергера и проблемы, связанные с их обучением и воспитанием. Представлены характеристики отличий жизнедеятельности этой группы лиц с особенностями психофизического развития. Подчеркивается необходимость понимания данных закономерностей всеми участниками образовательного процесса в контексте принципа инклюзии в образовании в Республике Беларусь.

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**Я. Е. Юницкая**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель О.Г. Полещук

### **LA DIPLOMACIA PÚBLICA COMO FACTOR DE DESARROLLO DE LAS RELACIONES ENTRE LA REPÚBLICA DE BELARÚS Y CHINA**

La longevidad y la estabilidad de las relaciones bilaterales entre la República de Belarús y la República Popular China se han basado en la confianza mutua y la cooperación diversa durante muchas décadas.

El 20 de enero de 2022 se cumplió el trigésimo aniversario del inicio de las relaciones diplomáticas entre Belarús y China desde la firma de los documentos sobre la cooperación amistosa mutuamente beneficiosa el 20 de enero de 1992.

Durante el largo período de fructífera cooperación fueron realizados interesantes proyectos en las esferas del desarrollo industrial, energético y tecnológico. La política exterior belarusa y china se caracteriza por el principio de la multidireccionalidad, el respeto mutuo y la confianza en la cooperación diplomática.

El concepto filosófico del desarrollo de la China moderna se aproxima al espíritu de la Belarús moderna, razón por la cual la iniciativa global china "Cinturón y Ruta" coincide con aquellas iniciativas pacíficas del desarrollo futuro del país a las que Belarús aspira y en las que deposita especiales esperanzas. La política contemporánea del estado belaruso está orientada hacia el futuro, especialmente a la hora de comprender el importante papel de Belarús en esta misión.

El objetivo de este estudio es examinar la importancia de la diplomacia pública en el desarrollo de las relaciones entre la República de Belarús y China.

De acuerdo con el objetivo, la tarea principal de la investigación es identificar las peculiaridades y considerar la situación diplomática general interna en el ejemplo de la República de Belarús y China.

Belarús siempre ha ocupado una posición geopolítica especial en diferentes períodos de su historia. Belarús es uno de los principales puestos avanzados de Europa. También es el eje principal, la "transmisión", ya que Belarús se encuentra en la encrucijada de las rutas comerciales de Asia a Europa. En su política ha determinado de forma independiente el desarrollo del país en el espíritu de las tendencias modernas de la época, por eso se ha convertido en un punto de referencia en el proceso de aplicación de la iniciativa "Cinturón y Ruta" de China. El desarrollo de la cooperación dentro de los programas en el espíritu de la Iniciativa a, según se desprende del documento "Excelentes perspectivas y acciones prácticas para el establecimiento conjunto del Cinturón Económico de la Ruta de la Seda y la Ruta Marítima de la Seda del Siglo XXI", se caracteriza por cinco puntos:

- 1) coordinación política (esfera política de interacción)
- 2) interconexión de infraestructuras
- 3) libre circulación de capitales
- 4) comercio ininterrumpido (esfera económica de interacción)
- 5) fortalecimiento de la cercanía entre los pueblos (esfera humanitaria de interacción) [1].

Se concede especial importancia al espíritu de amistad y a la cooperación creativa, humanitaria e intelectual. En el diálogo humanitario se establecen tareas globales en la cooperación educativa. La immanencia y la comprensión mutua de estas cuestiones tienen como objetivo reforzar la cercanía entre las sociedades belarusa y china, ya que es un componente importante de la esfera humanitaria de interacción entre los estados en el marco de la PPI. Según el

rector de la BSU, A.D. Korol, ejemplo positivo de la impresionante cooperación belaruso-china, la esfera educativa es la base del acercamiento cultural e intelectual entre los pueblos de ambos países [2, p. 15].

La cooperación diplomática determina muchos factores del éxito de la cooperación. El desarrollo de programas educativos, el intercambio cultural desempeñan un papel importante en la formación de la fuerza económica y política de los estados, contribuyen a la creación de una imagen respetuosa en la arena geopolítica internacional.

China sugirió que los países de la Iniciativa de la Franja y la Ruta se centraran en tres aspectos de la cooperación, que tienen en cuenta la experiencia ya acumulada y los logros de los estados en sus propias políticas educativas [3].

El primer aspecto es la cooperación para mejorar las interconexiones en el ámbito educativo, lo que implica reforzar la coordinación en política educativa, proporcionar canales sin trabas para la cooperación en el ámbito educativo, superar la barrera lingüística entre los países de la Franja y la Ruta, promover contactos más estrechos entre personas y ayudar a desarrollar criterios para el reconocimiento mutuo de documentos educativos.

El segundo aspecto se refiere a las cuestiones de cooperación en la formación de jóvenes con talento, para lo cual está previsto introducir programas de becas para el intercambio de estudiantes.

El tercer aspecto es la definición de programas y mecanismos directos de cooperación, que se basan en el aumento de la importancia de las consultas de alto nivel sobre todas las cuestiones relacionadas con los intercambios internacionales y la ejecución de proyectos conjuntos [3].

Los importantes éxitos logrados por China en el siglo XXI se basan en la comprensión de la importancia del desarrollo civilizacional en el espíritu de los tiempos, esta es la razón del deseo de China de una cooperación más profunda con los países de la "Franja y Ruta", por lo que la aspiración de China a ser líder en esta dirección está justificada. La elección del idioma de comunicación entre los países de la "Franja y Ruta" es estratégica. Belarús y China tienen una barrera lingüística, pero hoy se pueden resolver muchas cuestiones complejas. La cultura de China es milenaria. China ha conservado la originalidad y el colorido de su cultura nacional hasta nuestros días gracias, en gran medida, al antiguo arte de la lengua china: los jeroglíficos, la diversidad de la cultura artística y musical. La China moderna ha elegido el camino del desarrollo en el enriquecimiento mutuo de culturas, apreciando la importancia del conocimiento y la cultura de la civilización europea y occidental, estando dispuesta a compartir el conocimiento y la cultura de China. En la actualidad, China está construyendo su oferta para conocer la cultura china en forma de una red de Institutos Confucio, cuyo principal objetivo es enseñar la lengua china y

familiarizar a las sociedades extranjeras con la historia y la cultura del Imperio Celeste.

En conclusión, es importante señalar que en estos momentos, según los datos del último año, se ha elaborado la "Declaración conjunta de Belarús y China sobre el ulterior desarrollo de las relaciones de asociación estratégica integral y de todo tipo de clima en la nueva era de 06.03.2023". [3]. Esta declaración afirma que China apoya el establecimiento de un clima interno favorable en el país, está dispuesta a proporcionar ayuda financiera y económica al país y apoya diplomáticamente a la República de todas las maneras posibles, con el objetivo de establecer una cooperación beneficiosa.

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В статье выявляются и анализируются особенности при внутренней общей дипломатической ситуации на примере Республики Беларусь и Китая. Рассматривается философская концепция развития современного Китая, которая близка по духу современной Беларуси.

### к содержанию

#### **В. А. Юнчик**

Республика Беларусь, Брест, Брестский государственный университет имени А.С. Пушкина

Научный руководитель – кандидат педагогических наук, доцент

Л. М. Максимук

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

Etimológicamente, la palabra “balneario” proviene del latín, *balneae*, que significa "baños" y, aunque los romanos lo pusieron definitivamente de moda,

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

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

La península Ibérica ofrece un amplio rango de posibilidades para un turismo que busca diferentes técnicas de relajación o terapias médicas naturales, además de una extensa gama de tratamientos que van desde la talasoterapia (basado en aguas marinas) hasta la ampeloterapia (terapias que utilizan los derivados de la uva). Están dispuestos en un gran abanico de lugares: hoteles de lujo, SPA emplazados en áreas rurales, en la nieve o en las propias ciudades, diseñados para disfrutar de los mejores tratamientos de salud y del cuidado del cuerpo, estimulantes y relajantes, complementados con otras actividades de ocio y deportes como el golf, el tenis o la equitación.

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

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

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



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

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

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

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

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

Ideal para desconectar de agotadoras jornadas de trabajo o turismo, *el Six Senses Spa del Hotel Arts Barcelona* ofrece saunas, piscinas de hidroterapia y baños de vapor, una amplia carta de masajes, cabinas de tratamiento y zonas de actividades y relax. El conjunto es una mezcla de espíritu asiático, valores mediterráneos y productos orgánicos naturales. Sus tratamientos ofrecen terapias revitalizantes, relajantes y equilibrantes enfocadas al bienestar y a la estética.

*El Hotel Hacienda Na Ximena* es uno de los que aparecen en todas las listas de alojamientos de lujo del mundo, ya no solo por los servicios y prestaciones del hotel en sí, sino por encontrarse en una situación que nos hace recordar que el paraíso existe. Hotel Hacienda Na Ximena es un hotel spa de lujo de cinco

естrellas al norte de Ibiza, situado en en la cumbre de un acantilado y rodeado de bosque mediterráneo, que posee unas maravillosas y únicas vistas al mar.

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

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

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

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

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В статье автор рассматривает наиболее известные СПА-отели и курорты в Испании. На основе анализа нескольких источников выявлены основные направления развития туризма с целью отдыха и оздоровления, приведены стандартные комплексы медицинских услуг и методов лечения.

**к содержанию**

**А. Д. Юрченко**

Российская Федерация, Москва, Российский Государственный аграрный университет – МСХА имени К. А. Тимирязева  
Научный руководитель – кандидат филологических наук,  
Р. В. Агаджанян

## **MICROALGAE AS A PROMISING SOURCE OF FEEDSTOCK IN THE PRODUCTION OF FEED FOR AQUACULTURE**

Seafood dishes are of great interest in Russia and around the world. An increase in fish consumption combined with a decrease in wild fish production stimulates the development of the aquaculture industry at a rapid pace. Today, farmed seafood accounts for about half of the global demand for seafood for human consumption.

Currently, some feed ingredients come from low-value forage fish. Fishmeal production cannot be increased because it would affect the ecosystem of the ocean. Therefore, it is necessary to develop alternative and environmentally sustainable sources of feed ingredients.

The solution to the problem can be modern technologies of genetic selection of algae, both genetically modified and not. These technologies have already offered aquaculture several possible options to replace traditional sources of fatty acids in fish diets. The aim of the paper is to study the replacement of fish feed from fish meal to microalgae-based feed and its effect on fish.

The current scientific work on microalgae is a fascinating study covering various aspects of their biology, physiology, potential applications in biotechnology and environmental sustainability.

Microalgae are microscopic algae that are invisible to the naked eye. This is phytoplankton, usually found in freshwater and marine systems, living both in the water column and in sedimentary rocks.

Microalgae are divided into four main groups: diatoms, green (Chlorophyceae), golden (Chrysophyceae) and blue-green (Cyanophyceae) algae. Microalgae are mainly composed of proteins, carbohydrates, lipids, vitamins, minerals and biologically active compounds such as carotenoids. For example, *Chlorella* and *Arthrospira* have the following composition: about 50% protein; vitamins B1, B2, B3, B5, B6, A, E; a full complex of essential unsaturated fatty acids; 13 macro-essential for health- and trace elements in organic form.

Microalgae biotechnologies use the fundamental property of photosynthetic cells – the ability to capture CO<sub>2</sub> from the atmosphere and convert it into a variety of substances (biomass) with the release of oxygen into the atmosphere.

Plants do the same, but microalgae grow much faster. In addition, microalgae do not claim agricultural areas occupied by food varieties of plants.

Traditionally, the main sources of protein and lipids in aquaculture feeds are sea bottom and small pelagic perch, as they provide the necessary balance of essential amino acids and omega-3 fatty acids necessary for almost all types of fish grown on industrial farms, as well as for the production of high-quality fish fillets for human consumption. However, the number of bottom and small pelagic perches is declining worldwide due to the growing demand from the aquaculture industry [2].

Fish meal is also not an optimal source of nutrients for fish because it contains high levels of toxins, heavy metals and antibiotics, which can negatively affect the health of fish and people who consume these fish products. In addition, the use of fish meal in fish feed leads to a decrease in wild fish stocks since small and inexpensive fish species are often used for its production.

By 2030, it is expected that the global demand for fish products will reach 186 million tons, mainly due to the use of aquaculture in fish farming. Aquaculture is the main item of expenditure in fish farming and represents an area where great success can be achieved in ensuring sustainability [4].

Currently, an urgent problem in aquaculture is the development of alternative sources of fish feed in order to reduce dependence on fish oil and flour, the production of which can have a negative impact on the ecosystems of the seas and oceans.

One type of microalgae, in particular, of the genus *Arthrospira* (spirulina), is given much attention since its protein content is similar to that of marine fish, as well as its high digestibility due to the absence of a cellulose cell wall. This is one of the most intensively grown microalgae in aquaculture, which offers some of the best options for replacing fish protein.

However, spirulina cannot be used as a substitute for fish oil as it requires microalgae with other nutritional properties. The genus *Schizochitria* is rich in omega-3 fatty acids, especially DHA, and is already being produced on an industrial scale as a dietary supplement. They can also be included in aquaculture to increase the DHA content in fish fillets and can be produced in large quantities necessary for salmon breeding.

The inclusion of *Spirulina* in the fish diet significantly improved growth compared to the control group, while the inclusion of *Schizochitria* maintained the content of omega-3 PUFA in fish fillets compared to fish fed with fish or vegetable oils [2]. Fish fed without fish for 184 days showed significantly better final weight, weight gain, percentage of weight gain and specific growth rate than fish fed with a reference diet with fish meal and fish oil levels commonly found in commercial fish diets [3].

Despite the encouraging results of the research, before introducing the replacement of fish feed with alternative sources, it is necessary to take into account the problems that may arise when replacing fish feed with algae and conduct further research to develop sustainable and effective approaches to alternative fish feeding in aquaculture. Some of these problems include:

1. Microalgae assimilation of heavy metals and nutrients.

As documented by previous studies, due to the negative charge on the surface of algae cells, microalgae have a good ability to adsorb heavy metals in the aquatic environment [2]. Thus, with the addition of live or non-living microalgae, some heavy metals in the aquaculture environment can be eliminated. However, as algae cells die off and decompose, heavy metals adsorbed by microalgae return to the aquatic environment. Therefore, microalgae should be collected from the aquatic environment after the adsorption of heavy metals. To solve this problem, it would be possible to come up with a device that would continuously collect algae and not turn it into a time-consuming process, and the device should not be expensive.

2. Unfavorable components of microalgae.

According to previous studies, essential amino acids, polyunsaturated fatty acids, vitamins and natural pigments contained in microalgae are considered very valuable components for aquaculture. Since cellulose and hemicellulose are compositions that support the structure of the algae cell wall, microalgae contain a large number of fibers. Since fishmeal is being replaced by microalgae, the fiber content in the fish diet will increase. It is known that it can increase the rate of passage of feed in the intestines of fish, reducing the availability of nutrients and leading to insufficient absorption of nutrients and a decrease in the efficiency of feed use.

3. High cost of algae biomass production.

In many previous studies, microalgae biomass has been considered a cheap source of protein for aquatic animals. Currently, microalgae cannot be considered as a cheap source of protein. However, this can actually be a complex and expensive process, so replacing fish feed with algae requires major investments in research and the development of new low-cost methods for growing, processing and using algae.

4. Negative impact on the taste and quality of fish.

Algae can affect the taste and quality of fish meat. Some types of algae can impart an unpleasant odor or bitterness, which can reduce the demand for such fish. To solve this problem, adding safe additives that does not spoil the taste of fish will help.

Based on the study of theoretical and practical information from various sources, there are several findings:

1. An urgent problem in aquaculture is the development of alternative sources of fish feed in order to reduce dependence on fish oil and flour, the production of which can have a negative impact on the ecosystems of the seas and oceans.

2. Microalgae are a promising source of raw materials for the production of aquaculture feed, as they are rich in proteins, fatty acids, vitamins and minerals and can be used as an alternative to fishmeal.

5. Fish fed a diet with the addition of microalgae showed significantly better final weight, etc., rate than fish fed a reference diet.

6. However, the addition of microalgae to fish feed has several problems, such as assimilation of heavy metals and nutrients by microalgae, etc.

The conclusion can be drawn that the increased demand for fish stimulates the growth of aquaculture. However, an increase in fishmeal production is undesirable due to the impact on the ocean ecosystem. The solution may be the use of modern technologies for genetic selection of algae, which contribute to increasing fish survival, improving quality and making feed environmentally sustainable.

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В статье раскрываются проблемы, возникающие в связи с заменой рыбной муки на биомассу микроводорослей в кормах для рыб. Рассматривается такой аспект как использование микроводорослей в качестве источника сырья для производства кормов для рыб. Автор анализирует потенциальные преимущества и недостатки водорослей по сравнению с традиционными источниками сырья.

**к содержанию**

**Т. В. Якимук**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Л. Е. Левонюк

## **L'ÉDUCATION SPÉCIALISÉE ET INCLUSIVE EN FRANCE**

Actuellement, la société impose aux établissements d'enseignement des tâches globales telles qu'un niveau élevé et une large gamme de services éducatifs, ainsi que l'accessibilité de l'éducation à toutes les catégories des enfants. L'accomplissement de ces tâches est possible à condition que les établissements d'enseignement créent un environnement éducatif confortable, dans lequel les processus éducatifs se déroulent dans les conditions les plus favorables pour les élèves. L'inclusion est l'une des dernières stratégies d'éducation spécialisée. L'inclusion signifie la pleine implication d'un enfant ayant des besoins éducatifs spéciaux (SEN) dans la vie de l'école. Le sens de l'inclusion est d'impliquer pleinement un enfant handicapé dans la vie de la classe. Idéalement, une classe inclusive devrait comprendre plusieurs groupes d'enfants ayant des besoins éducatifs particuliers afin que les enfants aient la possibilité de communiquer entre eux.

L'objectif de cet article est de considérer les acquis de l'éducation inclusive en France.

En France les enfants handicapés ne fréquentent plus les établissements d'enseignement séparés, mais suivent des cours généraux ou des cours spéciaux dans le cadre de l'école d'enseignement général et sur son territoire, où le programme est adapté à leurs capacités cognitives. Certains des principes sur lesquels le système éducatif est créé en France ont été formulés pendant la Révolution de 1789. Les lois adoptées entre 1881 et 1889 sont à la base d'une structure moderne comprenant des écoles publiques à tous les niveaux, financées par l'État obligatoirement, et des écoles privées, qui reçoivent un soutien financier de l'État sous certaines conditions [1].

L'éducation inclusive a été reconnue stratégiquement conformément à la loi « Sur l'égalité des droits, des chances et de la participation à la vie civile des personnes handicapées » du 11 février 2005. L'inclusion en France implique les activités des autorités publiques dans l'éducation et l'inclusion des personnes handicapées dans la vie à part entière de la société après l'obtention du diplôme, leur accompagnement après l'obtention du diplôme. Cela implique non seulement de l'aide dans l'éducation inclusive, mais aussi l'aide à l'obtention d'un emploi pour une intégration complète dans la société.

Le développement de l'éducation inclusive s'accompagne d'une augmentation du nombre d'enseignants ayant une formation spéciale pour

accompagner les élèves ayant des besoins éducatifs spéciaux. Le nombre d'éducateurs pour accompagner les enfants handicapés augmente chaque année. Il ne faut aussi oublier que les enseignants français ont un statut social élevé, un salaire et des garanties sociales. Dans les programmes de formation des enseignants on a introduit un module obligatoire « éducation des enfants ayant des besoins éducatifs spéciaux ». Il est à noter qu'avant l'apparition de ce module pour les enseignants diplômés il y avait des cours spéciaux. Très activement, l'éducation inclusive utilise les technologies de l'information: toutes sortes de gadgets électroniques et de dispositifs spéciaux. Depuis 2005, le nombre d'élèves et d'étudiants handicapés a doublé. Dans les écoles, 258 710 élèves handicapés sont scolarisés dans des conditions inclusives, dans les établissements correctionnels spéciaux – 79 310, dans les Universités, 18 200 personnes ayant des besoins éducatifs spéciaux étudient, dont 12 000 ont un accompagnateur personnel. Le budget annuel de l'éducation inclusive de la France est de 1,5 milliard d'euros [1].

Le principal mérite de l'éducation inclusive en France est que ce type d'éducation permet aux gens handicapés d'avoir un bon avenir et de trouver un emploi convenable, c'est-à-dire de devenir des membres à part entière de la société.

La politique d'inclusion publique en France, en fin de compte, est destinée à aider les gens handicapés de devenir une personne adulte qui puisse faire de manière indépendante le ménage et n'ait pas besoin d'aide et de surveillance constante des parents ou d'autres personnes accompagnantes.

En matière d'éducation inclusive, la France est l'un des pays les plus progressistes. Le principal avantage de l'expérience française dans ce domaine est le développement de tous les éléments existants du système d'éducation inclusive avec le soutien de l'État. En plus, une grande attention est accordée à la formation professionnelle spéciale de l'équipe pédagogique. La France a développé un système d'accompagnement pédagogique individuel pour les élèves ayant des besoins spéciaux.

En France, les enfants handicapés ont plusieurs options d'éducation :

- les classes d'amélioration, qui sont organisées dans certaines écoles pour les enfants ayant des troubles du développement, (le plus souvent ce sont des troubles intellectuels). La décision d'inscrire un enfant dans une telle classe est prise par une Commission spéciale, avec le consentement obligatoire des parents. Le séjour de l'enfant dans les classes d'amélioration est permanent ;

- les classes d'adaptation, organisées pour les enfants qui sont caractérisés par divers problèmes de comportement ou des difficultés de communication, ainsi que pour les enfants avec des retards du développement. Le séjour de l'enfant dans ces classes est temporaire [2].

Parmi les autres options on peut citer les possibilités suivantes :



1. L'enfant peut étudier dans une classe normale de programme général, mais pendant le séjour à l'école et à l'extérieur de recevoir l'aide supplémentaire.

2. L'apprentissage est construit de telle sorte que l'élève peut combiner les deux programmes général et supplémentaire.

3. La formation de l'élève dans une classe spéciale, et le programme spécial peut être combiné avec l'étude conjointe avec les camarade de certaines matières du programme général.

4. La formation se déroule dans une classe spéciale et d'après un programme spécial, mais l'enfant participe aux activités scolaires et récréatives et partage avec ses camarades de nombreux moments de la vie scolaire [2].

En conclusion, il faut souligner qu'en matière de l'éducation inclusive, la France n'a pas d'égal dans le monde grâce aux efforts du ministère de l'Éducation. L'expérience de ce pays est d'une grande importance pour l'organisation de l'éducation spécialisée dans d'autres pays, y compris, le Bélarus.

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В статье рассматривается опыт инклюзивного образования во Франции. Подчеркивается, что Франция достигла больших успехов в области инклюзивного образования благодаря всесторонней и активной поддержке государственных властей. Представлены разные виды инклюзивной организации обучения и формы работы с детьми-инвалидами. Автор делает вывод о необходимости использования богатого опыта Франции в инклюзивном образовании.

**к содержанию**

**П. А. Янчук**

Республика Беларусь, Минск, Белорусский государственный университет

Научный руководитель – старший преподаватель О. Г. Полещук

## **PROTECCIÓN DEL MEDIO AMBIENTE Y FORMAS DE MEJORAR LA SITUACIÓN MEDIOAMBIENTAL EN EL MUNDO**

Durante el desarrollo de tecnologías modernas y la implementación de nuevos descubrimientos, la situación medioambiental deja mucho que desear. Hay muchos riesgos a nuestro mundo que se han producido debido al trato descuidado del hombre hacia la naturaleza, el peligro de la situación avanza cada día. ¿Qué problemas globales de situación medioambiental existen actualmente en el mundo y qué soluciones se pueden encontrar para salvar a la humanidad en su conjunto?

Durante siglos, el hombre ha utilizado los recursos de la naturaleza para su supervivencia en el mundo. Sin embargo, desde la formación de la llamada sociedad de consumo (que comenzó a existir hacia mediados del siglo XX), la situación medioambiental se ha vuelto precaria. La cultura de consumo de masas se basa principalmente en el uso rápido e indiscriminado de bienes materiales, que incluyen los recursos naturales. Y si el crecimiento de la minería continúa aumentando, la humanidad agotará todo el suministro irremplazable. Cada año la situación empeora y la mayor parte de la comunidad mundial sigue sin hacer nada.

En este momento, nos enfrentamos a una serie de problemas: pérdida de la antigua diversidad, degradación de la tierra, empeoramiento de la crisis climática, contaminación del agua y del aire, y muchos otros. Y todos ellos requieren una cosa: la intervención humana inmediata.

En este trabajo describiré direcciones prometedoras para mejorar la situación ambiental actual en el mundo.

El siglo XXI es famoso por el proceso de globalización, que incluye la difusión de la cultura de masas. El ritmo de nuestras vidas ha sido en algo muy rápido, el estrés emocional y físico de las personas ha aumentado y el nivel de estrés ha aumentado notablemente incluso entre los niños. Esto se puede ver en la rutina diaria de cada uno de nosotros: cuando volvemos a casa después de un día difícil, queremos relajarnos. Una de las formas más habituales de relajarse es viendo películas o series de televisión. Y una de mis propuestas para crear conciencia sobre la amenaza crítica a la naturaleza es distribuir películas con temas ambientales. Terror o fantasía, no importa en qué género esté hecha la película. Mas importante es su mensaje. El hombre es un ser biosocial y uno de los factores que le es inherente es la psique. Al ver una película, las personas tienden a experimentar una amplia gama de emociones, sumergirse en la trama y

imaginarse en el lugar de los personajes principales. Esta forma extraordinaria ayudará a llamar la atención sobre el problema. Quizás, después de ver una película con tal contenido, una persona se pregunte: ¿qué puedo hacer en esta situación?

La siguiente solución que puedo proponer es la máxima implicación de los niños y adolescentes en la resolución de los problemas medioambientales. En las escuelas es necesario introducir un tema como "ecología", porque por el momento sólo se dedican unos pocos párrafos a este tema en los libros de biología y geografía. Sin embargo, la magnitud de la tragedia medioambiental es cada vez mayor y es imposible limitarnos a unas pocas páginas de libros de texto. Me parece que a los propios escolares no sólo les resultará útil, sino también interesante aprender sobre este ámbito. Y la práctica contribuirá al estudio de este tema. Es necesario introducir nuevos proyectos medioambientales para los escolares en el programa educativo. Por ejemplo, puedes organizar la plantación de plantas y árboles, varios viajes a la naturaleza para mostrar toda la hermosura y diversidad del mundo natural. También vale la pena realizar excursiones a varias fábricas de procesamiento de plástico y otros residuos peligrosos. Es decir, promover el "mundo verde" entre los jóvenes, porque el futuro está en ellos.

Otra forma de apoyar nuestra naturaleza que puedo sugerir es la difusión de información sobre el estado de la naturaleza en "tiempo real" entre varios grupos de la población. La cobertura de este tema es importante a cualquier edad. Todos los habitantes del planeta utilizan activamente las redes sociales; esta es una poderosa herramienta global que puede usarse para alertar, transmitir información sobre amenazas globales, atraer personas a proyectos y flash mobs. Una parte cada vez mayor de nuestra vida social se mueve en línea, asignando recursos para promover redes sociales respetuosas con el medio ambiente. Las redes permitirán involucrar a un gran número de participantes de todos los continentes.

Como mencioné anteriormente, los problemas ambientales son problemas internacionales. Y para lograr un estado de naturaleza equilibrado, son necesarios los esfuerzos conjuntos de todos los países sin excepción. Actualmente ya existen órganos en organizaciones internacionales que se ocupan de la situación medioambiental de la Tierra, pero, en mi opinión, no tienen la influencia beneficiosa que es necesaria en este momento. Debemos fomentar el surgimiento de más organizaciones dedicadas a la conservación de la naturaleza. Después de todo, es mediante esfuerzos comunes como podemos lograr el éxito.

Creo que en estos momentos hay un alto grado de indiferencia en la sociedad hacia los problemas medioambientales, todos pensamos que esto no nos afectará. Quizás muchos no participan en proyectos ambientales porque no comprenden cómo sus acciones afectan el estado de la naturaleza. Es más,

muchos se distancian del tema medioambiental, porque algunas leyes adoptadas son extrañas, incluso se podría decir inadecuadas. Un ejemplo es la decisión que se propuso en los Países Bajos hace varios años. En este país se ha propuesto reducir el número de animales de granja a casi la mitad, y todo ello con el fin de reducir las emisiones de nitrógeno.

Lamentablemente, en estos momentos la corrupción también afecta a la situación medioambiental. Después de todo, hay muy pocos estudios científicos e independientes. Muchos estudios se realizaron desde una posición conveniente para el cliente que pagó por estos estudios. Por ejemplo, se está impulsando una iniciativa para una transición completa hacia los vehículos eléctricos y se han desarrollado programas para esa transición. Para ampliar la geografía de ventas, los fabricantes de vehículos eléctricos harán todo lo posible para ocupar el mercado: pagar diversas subvenciones para trabajos medioambientales sobre los peligros de los coches con motor de combustión interna y ocultar de otras formas las consecuencias reales de su uso. Después de todo, hay mucho trabajo en este asunto y es muy conveniente que un fabricante de vehículos eléctricos pague por el trabajo que le resultará beneficioso.

Inicialmente, cuando los coches eléctricos empezaron a aparecer en el mercado, pocas personas difundieron información sobre los factores negativos de su uso. Por ejemplo, la extracción de litio para baterías de vehículos eléctricos destruye los ecosistemas de los lugares donde se extrae y contamina enormes cantidades de agua. No se han desarrollado métodos para la eliminación segura de baterías usadas para las personas y la naturaleza, y su número aumenta significativamente cada año.

Una solución podría ser la creación de un organismo internacional independiente con una evaluación de 360 grados, es decir, antes de tomar una decisión, ésta debe ser evaluada por todas las partes, el trabajo científico debe ser pagado con fondos de este organismo.

Sin embargo, en realidad, por el momento no tenemos muchas posibilidades. Después de todo, hasta que la lucha por la situación medioambiental deje de ser una “pantalla” cínica para los gigantes industriales, la naturaleza decidirá todo por nosotros. Basta recordar el mundo durante la pandemia: pájaros raros volaron a Berlín y en Venecia las aguas se volvieron tan limpias que no se habían visto allí en los últimos sesenta años. ¿No es esto un milagro?

Por eso quiero decir que la humanidad, durante todo el período de su existencia, ha cometido muchos errores irreparables en el ámbito de la naturaleza: drenamos ríos, talamos bosques, extraemos minerales irremplazables, contaminamos el aire y el océano. Pero debemos intentar hacer algo, de lo contrario llegaremos a un punto sin retorno. Estamos obligados a estudiar este ámbito lo más profundamente posible, porque de ello depende el futuro. Después de todo, ¿quién, si no nosotros, determina cómo será nuestro planeta dentro de muchos años?

В статье раскрываются экологические проблемы, стоящие перед человечеством в настоящее время. Автор описывает перспективные направления для улучшения сложившейся экологической ситуации в мире. В данной работе предлагаются те пути развития, которые могут быть реализованы каждым из нас.

### **к содержанию**

**М. В. Ятченко**

Республика Беларусь, Брест, Брестский государственный университет имени А. С. Пушкина

Научный руководитель – старший преподаватель Ю. А. Тищенко

### **ACTIVE TEACHING METHODS AT ENGLISH LANGUAGE LESSONS AT SCHOOL**

The emergence of the term ‘active learning methods’ in the pedagogical literature dates back to the early 60s of the twentieth century. This instructional strategy is often confronted with teaching methods based on traditional classes, in which students passively receive information from an instructor.

Among the many definitions of this concept, in our opinion, the most complete is the definition of Y. N. Emelyanov, who defines the term ‘active teaching methods’ as a special group of methods used in the system of socio-psychological training and built on the use of a number of socio-psychological effects and phenomena such as the group effect or the effect of presence.

It is worth noting that active in this case are not only the methods of learning, but also the learning process itself. In addition, when teachers use active methods of teaching, learning ceases to be reproductive and becomes an arbitrary internally determined activity of students, aimed at development and transformation of their own experience and competence.

Educators traditionally divide active learning methods into two groups: group and individual. According to the nature of learning and cognitive activity, active teaching methods can be divided into imitation and non-imitation ones. Imitation methods, in their turn, can further be subdivided into game and non-game methods. Imitative game methods include business games, didactic or educational games, game situations. Non-imitative non-game methods include analyzing concrete situations, acting on instructions and solving problems. Non-imitative methods include the method of discussion, the method of active problem lectures, the method of solving problem situations. It is worth noting that active learning methods can be used both as independent methods of teaching in a particular lesson and as one of the elements or techniques of other methods [1]. Of course, when choosing one or another active teaching method for each lesson, number one priority for every teacher is to take into account all the age characteristics of students.

The following active teaching methods can be used at foreign language lessons: games, brainstorming, theatricalization method, information and communication methods. Games are a good stimulus to learn foreign languages and an effective technique in the arsenal of the teacher. A learning game is a specially organized task that requires the involvement of emotional and mental forces. It is worth noting that when participating in a game, students use only foreign language utterances, which shows the great learning potential of the game method. *Brainstorming in modern methodology is one of the most popular methods of stimulating students' creative activity. Also this method allows teacher to quickly involve each student of the group in the work. What is more, it assumes free expression of students' own thoughts on the issue discussed. The goal of this teaching method is to create a comfortable learning environment that allows students to feel their intellectual worthiness. Achieving this goal makes the learning process itself very productive [2].* The method of theatricalization can be a very effective active teaching method. This method contributes to the formation of students' positive personal qualities, will, diligence, teamwork and readiness to communicate. The introduction of theatrical performances in the learning process at the present stage can become one of the main means of developing creativity and imagination of students.

Thus, we can conclude that the potential of using active methods in the learning process at foreign language lessons is great. These teaching methods allow to develop students' interest in the subject, promote the development of creative independence of students, create favorable conditions for the versatile development of students during classes. The key elements for the active teaching methods are the participation and direct involvement of students in the learning processes.

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В статье рассматриваются активные методы обучения как эффективное средство повышения качества преподавания английского языка на уроках английского языка в средней школе. Основное содержание статьи составляет анализ преимуществ использования активных методов обучения над традиционными. Автор приходит к выводу, что использование активных методов обучения на уроках английского языка способствует стимулированию языковой деятельности обучаемых на всех этапах обучения в школе.

**к содержанию**