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Agricultural sciences

INFORMATION SYSTEMS FOR REMOTE FOREST MONITORING

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"State forest natural reserve "Semey ormany"

Abstract

This article presents a review and analysis of remote methods for monitoring and preventing forest fires. Now global climate change is making itself felt more and more often. The article discusses methods using modern surveillance tools such as satellites, unmanned aerial vehicles (drones), radar systems and thermal imaging equipment. The resulting review provides valuable information and recommendations for improving forest fire monitoring and warning systems using remote technologies.

Keywords: Google Earth Pro, FIRMS (The Fire Information for Resource Management System), EO BROWSER, SWIR, Optimized Natural Color, SoilGrids.

To monitor the dynamics of vegetation cover, at the end of the last century, methods of remote sensing of the Earth from space began to be widely used. Remote sensing techniques provide an excellent opportunity to analyze forest processes at the regional and global level. Remote sensing technologies make it possible to monitor and continuously monitor the condition of forests.

Remote monitoring is one of the tools for determining the state of forest resources. Technological progress has reached the stage where we are able to receive information from satellites on a daily basis, such as data on thermal anomalies and satellite images of varying quality. Thus, satellite images and maps derived from them can be effectively used to track fires in natural areas.

*At the moment, every Internet user has free access to space images. Resources such as **SasPlanet** <http://www.sasgis.org/> or **Google Earth Pro** <https://www.google.com/earth/versions/> offer high-resolution imagery coverage throughout almost the entire country. Unlike maps, satellite images have many advantages. One of the most important things is a "picture" that is as close to reality as possible. Different space images, as a rule, have different periods of recording from 1 day to 3 years, but are updated regularly. Pictures are also taken at different times of the year, that is, we often have to find the information we need in spring and summer by observing snow, frozen lakes, etc. in the pictures.*

Fire mapping uses satellite images of all categories. For field work, as a rule, images are used as a substrate, that is, a cartographic basis on which all other collected information is superimposed. At the moment, there is no single source of satellite information that could be applicable to the entire country. For different areas, different companies providing similar information may have better image quality. The most commonly used for monitoring fires are FIRMS (The Fire Information for Resource Management System), World View <https://worldview.earthdata.nasa.gov/>, SFMS <https://fires.ru/>, EO Browser <https://apps.sentinel-hub.com>, SasPlanet and Google Earth Pro. Of course, there are many more sources, but in this work we will describe only a few of them.

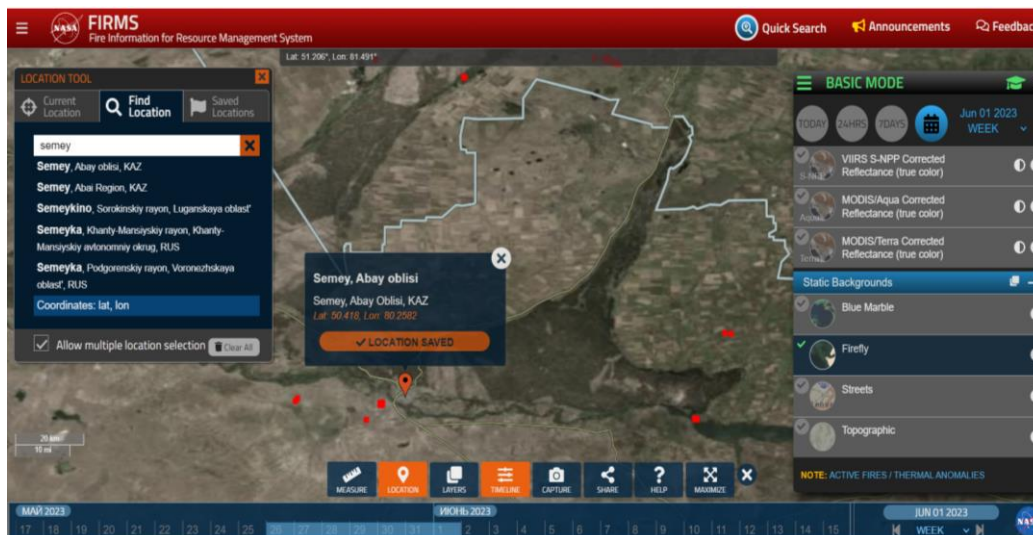
FIRMS (The Fire Information for Resource Management System) - The system allows you to obtain operational information about the location of fires (hotspots), as 1x1 km pixel centers based on automatic registration of high reflection in the thermal channels of the solar radiation spectrum of images

from the MODIS (Moderate Resolution Imaging Spectroradiometer) camera, installed on the Terra and Aqua satellites. For monitoring, the standard product MODIS Land MOD14/MYD14 (Fire and Thermal Anomalies) is used.

Advantages and limitations of using FIRMS.

The advantages of using the FIRM information system include visibility (data is provided to the whole world, across Russia it is downloaded in one file), regularity of data receipt (several times a day), accuracy of geolocation, independence of the information provided, ease of use by Internet users, access to stitching together source images for many territories in a convenient synthesis of channels.

Undoubtedly, there are limitations. They are primarily associated with the low resolution of source images, automatic processing algorithms and the delay in providing the received information, which does not allow tracking fires in real time [1].



The Fire Information for Resource Management System

The information system for selecting and viewing space images EO BROWSER is a very valuable source of medium-resolution space images obtained by the twin satellites Sentinel 2A and Sentinel 2B of the European Space Agency, as well as some others (including Landsat). In general, it is the most modern and convenient source of data for clarifying the boundaries and areas of large fires and burnt areas, and for many similar purposes.

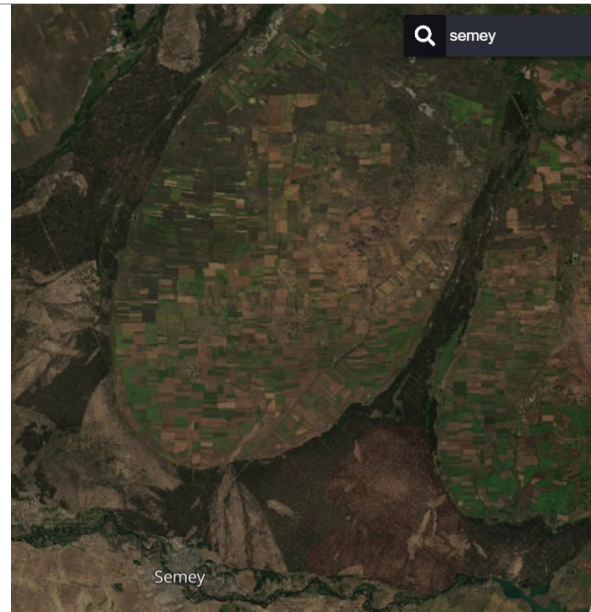
EO BROWSER brings together in one place the complete archive of Sentinel-1, Sentinel-2, Sentinel-3 imagery, the ESA Landsat 5, 7 and 8 archive, global coverage of Landsat 8, Envisat Meris, Proba-V and MODIS products.

EO BROWSER allows you to view and compare full resolution images from the sources mentioned above. The user can open an area of interest, select criteria such as time range and cloud coverage, and check the resulting data from different sources.

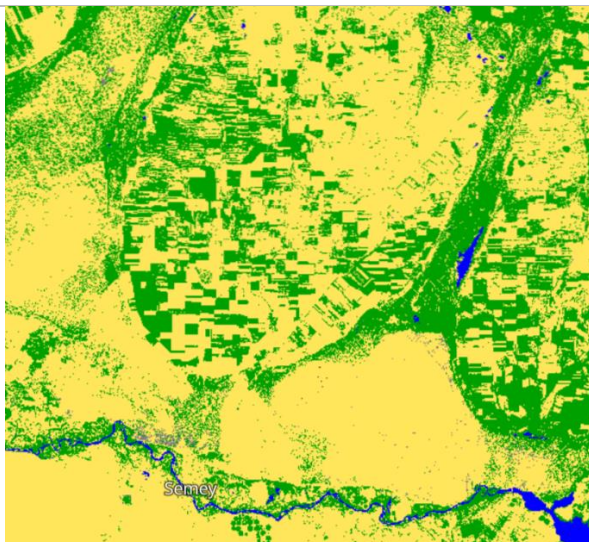
EO BROWSER offers the following ready-made rendering options for you to choose from: True Color (natural color), False Color (fake color), False Color (urban) and SWIR (Short Wave Infrared Composite).



SWIR



Optimized Natural Color



Scene classification map
Classification of Sentinel2 data as result of ESA's Scene classification algorithm.

Scene classification

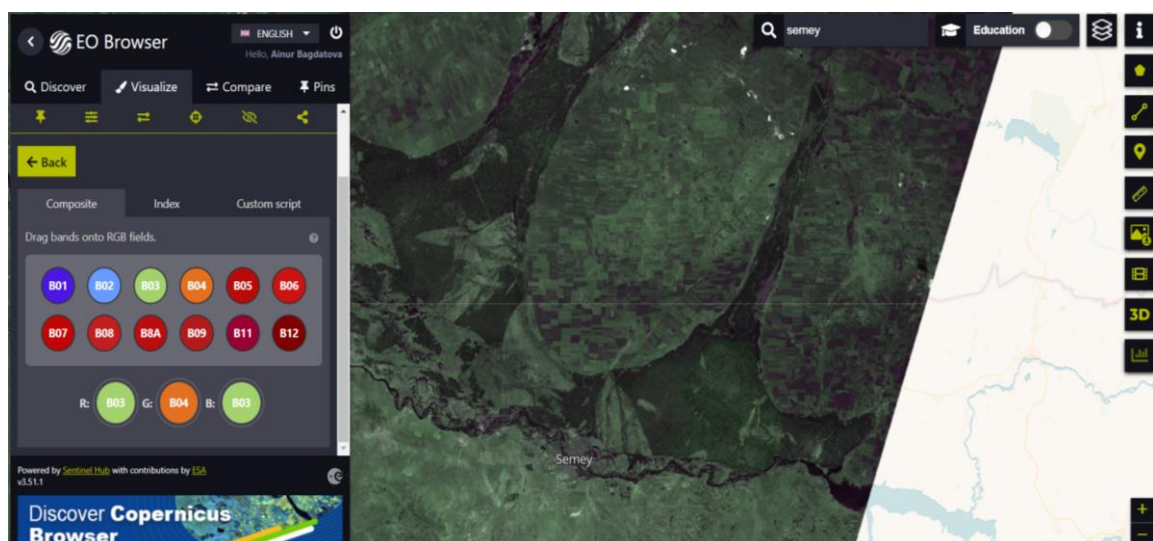
Scene classification was developed to distinguish between cloudy pixels, clear pixels and water pixels of Sentinel-2 data and is a result of ESA's Scene classification algorithm. Twelve different classifications are provided including classes of clouds, vegetation, soils/desert, water and snow. It does not constitute a land cover classification map in a strict sense.

More info [here](#).

- No Data (Missing data)
- Saturated or defective pixel
- Topographic casted shadows
- Cloud shadows
- Vegetation
- Not-vegetated
- Water
- Unclassified
- Cloud medium probability
- Cloud high probability
- Thin cirrus

Scene classification

The EO BROWSER system allows you to create combinations of channels yourself; to do this, you must select the Custom option (Create custom rendering). This will open the channel drag and drop panel, where you can quickly create your own images based on a synthesis of individual image channels. Hover your mouse over the circles to see basic information for each group [2].



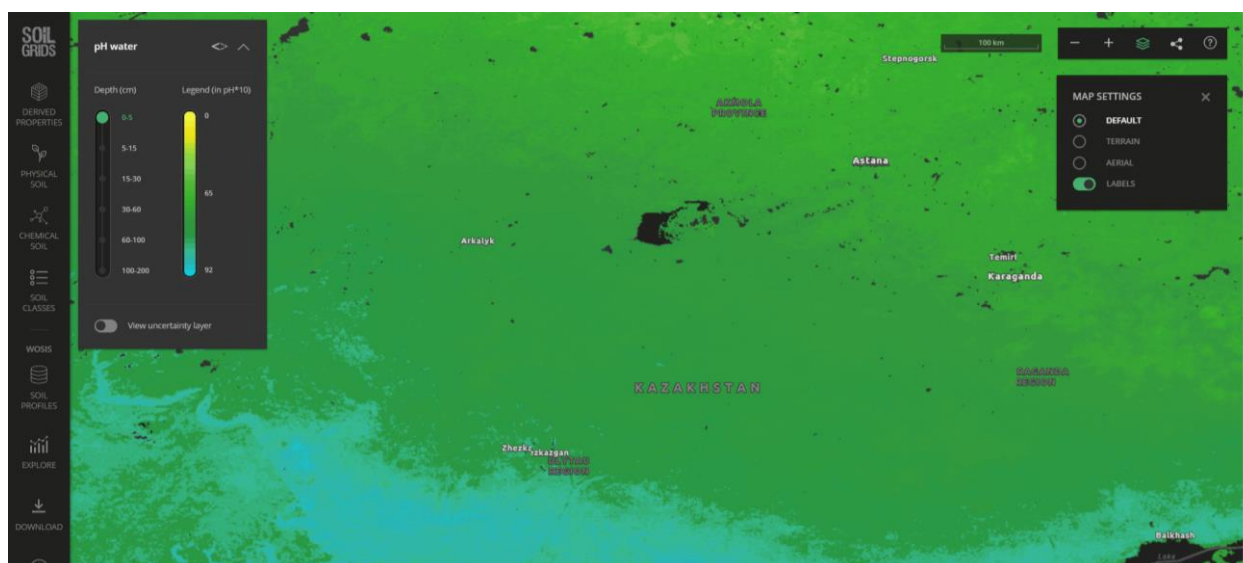
Se-

lecting the Custom option and the panel for creating a combination of image channels

Characteristics of Landsat 5, 7, 8 and Sentinel-2 satellite channels

Landsat 5 TM Номер канала	Landsat-7 ETM+ Номер канала	Landsat-8 OLI Номер канала	Sentinel 2A MSI Номер канала
1 (Blue)	1 (Blue)	1 (Aerosol)	1 (Aerosol)
2 (Green)	2 (Green)	2 (Blue)	2 (Blue)
3 (Red)	3 (Red)	3 (Green)	3 (Green)
4 (NIR)	4 (NIR)	4 (Red)	4 (Red)
5 (SWIR)	5 (SWIR)	5 (NIR)	5 (Red Edge)
6 (Thermal)	6 (Thermal)	6 (SWIR)	6 (Red Edge)
7 (SWIR-2)	7 (SWIR-2)	7 (SWIR-2)	7 (Red Edge)
	8 (Pan)	8 (Pan)	8 (NIR)
			9 (Water vapour)
			10 (SWIR – Cirrus)
			11 (SWIR)
			12 (SWIR-2)

SoilGrids – is a global digital soil mapping system that uses state-of-the-art machine learning techniques to map the spatial distribution of soil properties around the world. SoilGrids forecast models are fitted using more than 230,000 soil profile observations from the WoSIS database and a range of environmental factors.



SoilGrids

In this article, we examined various remote methods and technologies for monitoring and preventing forest fires. Research has shown that the use of satellite systems can significantly improve the detection and control of forest fires.

Literatures

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Economic sciences

THE ROLE OF TOURISM ECONOMY DEVELOPMENT IN TURKISH COUNTRIES IN INTERNATIONAL ECONOMIC RELATIONS

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Abstract

The tourism industry is an important element of the global economy that affects the social, cultural and economic development of countries. The role of tourism in international economic relations is of particular importance in the conditions of the Turkic world, which includes various countries with a common history and culture. After the collapse of the USSR in 1991, some countries of Central Asia, such as Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan and Azerbaijan, gained independence. The countries of the Turkic world have comprehensive political, economic and cultural relations. Tourism is one of the areas that influence the cultural and economic development of these countries. Because tourism not only promotes social interaction between the peoples of the Turkic World, who have many common values, but also creates closer cooperative relations between the Turkic republics. In this context, tourism plays a key role in the Turkish World relations. This study explores the role of tourism in the Turkic world in terms of international relations and discusses the importance of identity, tradition, leadership and ideas in relations between Turkic republics. The purpose of this study is to analyze the contribution of tourism to the economies of Turkic world countries and its role in strengthening international economic relations. The study examines the impact of the tourism industry on gross domestic product (GDP), employment, infrastructure development and cultural exchange. The research aims to contribute to a deeper understanding of the role of tourism in the modern economy of the Turkish world and to create a basis for the development of strategies for the sustainable development of the tourism industry in the context of international economic relations. Thus, the role of the development of the tourism economy in the countries of the Turkic world in international economic relations is significant and multifaceted. Tourism is becoming an important factor for sustainable economic growth and income diversification in these countries. This helps to improve the infrastructure, create new jobs, as well as increase the level of service and the overall attractiveness of the regions for foreign visitors. It should be noted that tourism also promotes cultural exchange and understanding between the countries of the Turkic world and other countries, which strengthens international relations and cooperation. This process can be a bridge to bring people together, share experiences and understand unique traditions and customs. In the modern world, where tourism plays a key role in the formation of the global economy, the countries of the Turkic world have a significant potential to strengthen their economic position by developing the tourism industry. This process not only helps to reduce the economic gap between countries, but also contributes to the creation of sustainable and mutually beneficial relations on a global scale. The results of the research make it possible to determine the positive and negative aspects of the development of the tourism industry in the countries of the Turkic world and make recommendations for optimizing its contribution to international economic relations.

Keywords: Turkic world, tourism, economy, international relations, integration

Introduction. *Tourism is becoming an increasingly important factor in the global economy, which has a significant impact on the social, cultural and economic development of countries. In the context of the countries of the Turkic world, the tourism industry plays a key role in the formation and strengthening of international economic relations. This not only helps to increase government revenues, but also creates conditions for the exchange of experience, cultural values, ideas and innovations between countries. After the collapse of the USSR in 1991, many Central Asian countries such as Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan and Azerbaijan declared their independence. With the declaration*

of their independence, these countries faced two main issues: to be recognized as an independent state in the international system and to establish relations with other states in all fields. Tourism is one of the areas where the relations between these countries are shallow. [1, p. 187]

Over time, Turkic states developed relations with other actors. This study aims to reveal the reason why the relations between the countries of the Turkic world cannot develop as desired and in this context its impact on tourism and the role of tourism in the Turkic world. Because tourism is a tool that allows people to come together, meet each other, observe and get to know their culture and traditions, and speak their language. In other words, the people who make up the community would visit and get a chance to recognize similarities and differences and build communities. [2, p. 82]

The obtained results make it possible to highlight the development trends and characteristics of the tourism economy, as well as to determine the factors that promote or limit the successful involvement of the countries of this region in global economic interaction.

The impact of tourism on the countries of the Turkic World. *The Turkic world consists of a group of states with linguistic, cultural and historical ties. These countries include Turkey, Azerbaijan, Turkmenistan, Kazakhstan, Uzbekistan, Kyrgyzstan, Turkic communities in Turkestan and some other Turkic-speaking regions. The tourism sector of these countries plays an important role both in terms of economic development and cultural exchange. The countries of the Turkic world offer a variety of experiences to tourists with their rich history, cultural heritage, natural beauty and various activities. Tourism contributes to the strengthening of international economic relations between these countries [10].*

Tourism is an important sector supporting economic growth in these countries. With the arrival of foreign tourists, the accommodation, food and beverage, transportation and other tourist services sectors are revitalizing. It creates employment and contributes to the development of local businesses [6, p. 73].

Expenditures of foreign tourists provide currency flow to the country's economy. This can have a positive effect on the trade balance between the countries.

Tourism is not only an economic income for the Turkish states, but also a means of bridging their social relations. Therefore, it can be considered one of the most important areas where social interaction can be achieved by bringing people together. Social constructivists argue that the structures that make up the social world are largely shared ideas rather than material elements, and in addition, the identity and interests of social actors are not given, but they emerge in some sense. Social interactions and identities and interests are shaped by social structures. [3, p. 54]

Tourism promotes better understanding and communication between different cultures. This can help improve diplomatic and trade relations.

Through tourism activities directed by these countries, the flow of people can be encouraged and a shared culture, identity and language can be realized. This can give people from the Turkic World an opportunity to learn more about their shared culture and history [7]. Thus, in addition to creating a collective identity between countries through tourism, their interests are also protected. In other words, mutual relations and mutual interests between the countries of the Turkic World are protected through tourism [11].

International cooperation of tourism in the Turkish World.

Tourism has both positive and negative effects on countries in economic, social and environmental dimensions. Economic contributions of tourism to countries; These can be listed as creating employment, increasing labor supply, raising the standard of living, increasing foreign exchange earnings, increasing the gross national product, and increasing regional export earnings. In addition, tourism has a positive effect on the balance of payments, especially in developing countries. To achieve this effect, countries should develop their tourism sectors. This development depends more on natural and cultural attractions, and the protection and development of these attractions is very important. Unplanned and excessive tourism activities create negative effects on the environment such as water pollution and air pollution. In addition to the economic and ecological effects of tourism, as it is a social event, it also makes important contributions to local culture and values. Bringing individuals and societies closer together is one of the important social effects of tourism. Along with these effects, tourism also has some negative social effects. In destinations where tourism has begun to develop, local culture may be under the influence of different cultures and face the danger of losing its authenticity. For this reason, tourism should be implemented with a sustainable approach, and importance should be given to the protection of national and local values. The long-term sustainability of tourism's positive effects on countries depends on managers and tourism professionals maximizing benefits and minimizing costs [4, p. 49].

The role of cooperation between institutions and countries is important in reducing the negative effects and increasing the positive effects of tourism. If comprehensive development of tourism is envisaged, cooperation between state institutions, different government levels, different administrative levels, public and private sectors is of great importance. In addition, cross-destination cooperation can be carried out not only between destinations that are close to each other, but also between destinations that are far from each other. Cooperation between destinations can be achieved based on a linear geographic feature such as a common niche tourism type or a historical trade route.

Cooperation is the main driver of sustainable development between regions and sectors [5, p. 24].

From a micro perspective, businesses benefit greatly by collaborating to develop technology and gain a competitive advantage. If we look at this issue from the perspective of the countries, it is possible to say that the cooperation has made many economic, cultural and political contributions to the party countries. To give an example; In the European Union, significant economic contributions are made to the member countries of the union, while political cooperation between its member countries is strengthened [8]. Cooperation between countries with a common historical past and a common cultural heritage, such as the Turkic states, is also important for the development, growth and further strengthening of the party countries. Taking into account their historical background, cooperation in the field of tourism between Azerbaijan, Kazakhstan, Kyrgyzstan, Turkish Republic of Northern Cyprus, Uzbekistan, Turkey and Turkmenistan, which share a common language, culture and history, makes important contributions to economic and socio-cultural development. "Tourism" has an important potential in the development of relations between Turkish states. Because tourism minimizes the prejudices of communities against each other, creates a more positive perception, and increases the awareness of cultural associations. For this reason, tourism plays a key role in the advancement of relations and awareness among Turkish states in a positive direction. The fact that the Turkish states have common roots is important in terms of the development of tourism relations between them and the creation of great economic power [9]. In 2020, Azerbaijan won the Nagorno-Karabakh war between Azerbaijan and Armenia, and as a result, the agreement on the opening of land and railway lines between Azerbaijan and Nakhchivan clarified the importance of tourism in the Turkic world. Thanks to this road, Turkey has the opportunity to connect directly with the countries of the Turkic World by land, railway and sea lines. Therefore, tourism cooperation between these countries will increase in importance in the near future [12].

Conclusion. *Regional and global issues that have occurred in the world in recent years have fundamentally affected the development of tourism. Like other countries of the world, the impact of the Covid-19 pandemic has significantly manifested itself in the tourism economy of Turkic world countries. However, at the same time, in the last weak stage of the pandemic, a revival is observed in the tourism industry of the countries of the Turkic world, which have a high tourism potential. Also, the brilliant victory of Azerbaijan in the 44-day "Homeland War" in 2020 guarantees that new pages will be opened in the development of tourism in the country. The high tourism potential of Karabakh and the successful domestic and foreign policy implemented by Azerbaijan guarantee that this region will become the largest tourism region in the future.*

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AN INNOVATIVE STRATEGY FOR MODERN TALENT MANAGEMENT

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Abstract

Today, talented people equipped with high knowledge and skills play a crucial role in increasing the efficiency of the country's economy. Advanced companies pay special attention to such important issues related to talent management as: finding, attracting, selecting, training, developing, retaining and promoting highly qualified personnel. Such an approach, obviously, has a positive effect on raising productivity and increasing the company's income. The process of attracting and securing qualified employees, which has a strategic importance, has received the name "War for talents." It is on these problems that this work is made. The aim of the present study is to search for modern ways of talent management in Georgia.

This article is based on theoretical and empirical research. There are used: methods of analysis, synthesis, generalization and abstraction, induction, deduction, etc. The theoretical and methodological basis of the research is the articles of the researchers of the relevant problems of national and foreign science, the works of various scientific and research institutes on the innovative strategy of talent management, as well as the relevant materials published by the annual special magazines and print media, publications, internet resources, where the analysis of the practical experience of developed countries is presented and assessment.

Since the global pandemic, consumer behavior has changed, as have employment and labor relations practices. Consequently, the labor market as well. In the wake of the reduced demand for specific professions, the need for new professions has arisen. In the last 5 years, the demand for professionals or specialists in the fields of information technology, healthcare, service and education has increased in the talent market of Georgia. Demand for online commerce and delivery service talent is also growing.

The article proposes important changes related to the innovative strategy of modern talent management. There are identified positive and negative aspects, as well as directions for improving innovative talent management strategies.

Keywords: Talent, Management, Innovative, Strategy, Company.

Human capital is the most important element of business. Personnel management is the most important and, at the same time, extremely interesting field in the activity of innovative companies. That is why organizations of the 21st century pay special attention to this leading factor of production. At first glance, personnel change seems to be a natural process, but if it becomes intensive, staff turnover can become a serious problem for each company. Although there are plenty of job seekers in today's job market, companies still struggle to find the right employees. They need quite a lot of time and money resources in this process. But the costs are much higher when the hired staff stays with the firm only for a short period of time and soon leaves it. Accordingly, the most successful organizations are those that feel their own mission, respect their staff, invest personal time, energy and capital in creating pleasant and highly professional environment-conditions.

Today, when the business world is on very shaky, unreliable ground, it is long past time to look for a fundamentally innovative approach to talent management. Fortunately, modern companies already

have a model that we can apply to this problem. This model was developed based on decades of experience and aims to anticipate and meet demand in an environment that is difficult to predict.

Therefore, innovative "talent management" is one of the key elements in building effective employee teams today.

As it was said above, at the modern stage, special attention is paid to the issues of recruiting highly qualified specialists and securing them in the organization. Today, employees, especially those with high potential, are increasingly demanding employers. In 21st century, "the company does not hire an employee, but the latter agrees to work with him." Therefore, organizations that want to maintain solid positions in the market need to ensure the attraction of talented specialists and create normal conditions for them. In addition, it should be noted that constant care for the development and maintenance of talents is no less important. Line managers are responsible for the continuous professional development and upskilling of their direct reports.

From the point of view of talent management, an employee can be evaluated by two criteria: first, productivity and second, potential. The term "talent management" is often associated with competency-based management. Competencies, as it is known, include knowledge, skills, experience and personal qualities [5].

In the field of talent management, they allocate:

- ✓ *Efficiency management;*
- ✓ *Leadership development;*
- ✓ *Personnel planning;*
- ✓ *Selection of personnel.*

Talent management is based on such a specific principle as the responsibility of all managers of the organization to attract talents, develop them and create normal working conditions. In order to realize this principle, the company's managers need to carry out the following actions:

- ❖ *To set the "Gold Standard" for talents, i.e. the list of competencies required for them;*
- ❖ *Actively participate in talent management;*
- ❖ *To evaluate the potential of the workers and, based on that, implement appropriate measures;*
- ❖ *Pay talent as much as they can get from a competing organization;*
- ❖ *To take responsibility for finding and developing talents, etc.*

The formation of the talent management system includes three main stages. These are:

- *Looking for high potential employees in the team. At this stage, the assessment of the business qualities of those working for the identification of talent personnel is underway, which allows to confirm or deny the high potential of the staff;*
- *Realization of the talent development program (continuous training and development process of talents). In this process, one is selected who can be enrolled in the staff reserve for further training and development;*
- *Utilization and retention of selected employees.*

The innovative talent management strategy provides for:

- *Finding, attracting, recruiting and adapting qualified candidates;*
- *Determination and management of competitive salary;*
- *Training and development of talents;*
- *Productivity increase;*
- *Implementation of staff retention program;*
- *Promotion.*

In the new reality, it is necessary to change the method of evaluating employees. The innovative reality demands that only the results of the team are evaluated, and that leaders share feedback with employees at any time and only based on their skills, interests and values. In addition, the new reality

requires leaders to be aware of and care about the mood of team members, to show support and to teach employees how to deal with, rather than overcome, work or emotional difficulties. The new reality business will hire future team members based more on values and skills compatibility rather than experience. This requires an innovative model of training and development from companies.

Technology, service, health care, and education are the most likely to employ people in 21st century due to technological advancements. Although today's new reality is less likely to be "blamed" by technological progress, the world's employment market is undergoing such changes - professions appear and disappear even in technology, the demand from the service field (for example: delivery boy, i.e. courier) is increasing, new professions and fields are even appearing in health in the field. Most importantly, these innovations require new knowledge and, accordingly, education, and along with the development of industries, new professionals.

There is no universal talent management system. When developing it, the company needs to take into account aspects of the corporate culture of its field of activity, etc. The construction of the talent management system is primarily influenced by the attitude towards personnel, specifically the orientation towards talents, i.e. A deep belief that more talented employees, at all levels of the organization, are a critical means of competitive advantage. This provision can be realized by attracting talented specialists and creating normal working and development conditions for them.

In the near future, a new startup Skilltape entered the market of Georgia. It is a platform that connects the employer and the job seeker. Its goal is to create a talent base where companies will even select a future team member. Vacancies are not posted on the platform, the applicant registers here, then fills out his own page, and that's how the employer finds him. In particular, a kind of base of representatives of three professional areas - sales, marketers, financiers - is created on the platform through video resumes. These professions were mainly selected according to demand. And the company has the opportunity to easily select the desired shot on Skilltape. One of the most important goals of the startup is to introduce a standard for video resumes. In our opinion, this is a good way for the job seeker to convey the skills that he cannot do in writing, and on the other hand, the employer saves the time of the first interview [4].

Due to the global pandemic, there are many people looking for new opportunities in the market, including those with medium experience. The market for available candidates has changed and expanded very quickly. Companies should use this opportunity as much as possible. Compared to interns and fresh graduates, candidates with average work experience require less training, which allows companies to save financial resources and time in the hiring process. However, mid-level candidates also have versatile skills and past achievements that companies can leverage effectively. When selecting candidates with average experience, it is important to determine the compatibility of their values with the values of the company. During the selection, it is necessary to pay attention to positive and cooperative people, because there is no talent that the company's culture is not taken into account when hiring. A correctly selected vacancy, an effectively drawn up resume and the expressed motivation for the position at the interview are the important factors that will simplify the process for job seekers. Today it is quite difficult to find a suitable staff, of course, if the employer is looking for real talents. It is necessary, in advance, to accurately determine the remuneration of such staff by the employer. Of course, it remains to be analyzed how accessible real talents are today. Obviously, what is happening in the labor market should also be taken into account. It is important for employers to remember their competitors as well. They may attract the very talent that the employer has been thinking about hiring for a long time [6].

When attracting talent, it is desirable to take into account the candidate's desire for success, which is quite difficult. The fact is that if mental or emotional potential can be measured in one way or another, for example, by psychometric tests, measuring the drive to succeed is unrealistic, even if the candidate has documented success in his past work.

Of course, in order to manage talents, they must exist in the local market. The education system and, above all, higher education institutions often play a big role in this. Unfortunately, the leaders of modern organizations often complain that some graduates, who go directly from the student bench to production, cannot properly master their profession, and employers are forced to spend a lot of money on improving their qualifications. Therefore, it is necessary to qualitatively and radically change the

approaches to teaching. Special attention should be paid to raising the qualifications of the personnel already working in the companies. Modern specialists, as it has been said, have increased requirements for leadership. They want to learn quickly, to the point, with minimal distraction from the main work and using technology that is convenient for them. This means that old approaches to learning need to be transformed.

In the modern world, there is intense competition for finding highly qualified staff, professionals (talents). During the next two decades, in the conditions of economic development, it will become more and more problematic to fill vacant positions in organizations with new competent personnel. 34% of existing companies in the world are already experiencing a shortage of competent personnel (talents). In 2023, this statistic increased by 35%. The mentioned crisis is global in nature and today it has covered 81% of employers in Japan, 71% in Brazil, 50% in Australia, 49% in USA, 48% in India and 85% in Georgia.

Employers are constantly increasing the corporate benefits offered to candidates and using them to attract new talent. This trend continued in 2023. Notably, employers are more likely to offer mental health benefits to employees. Mental health benefits increased from 49% to 65% in 2023 compared to 2019 [7].

Talent management is not given proper attention in Georgia. Even the fact that today the wording "talent management" is unfamiliar to not a small part of the heads of the organization, and accordingly, talent management is not considered one of the main functions of the appropriate services, first of all, the human resources management service, and nothing necessary is done in this regard. At the same time, it should be noted that, unfortunately, Georgian economists pay less attention to this very important problem, which is indicated by the fact that there are still very few articles published on talent management issues.

In the direction of improving talent management in Georgia, we think it is appropriate to implement such measures as:

- ❖ In organizations (companies), based on the experience in this field of economically highly developed countries, to establish a systematic talent management system;*
- ❖ Higher and professional schools should qualitatively and radically change their approaches to learning, the main attention should be shifted to professional skills and the assimilation of the latest work technologies;*
- ❖ Economists should pay more attention to the study of theoretical and practical issues related to talent management.*

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FEATURES AND CHALLENGES OF ECONOMIC GROWTH IN GEORGIA

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Abstract

The economic condition of a country is a prerequisite for the material well-being of any person living in this country. It is noteworthy that the last few years have been interesting for the Georgian economy, as news channels constantly talk about negative trends and government incompetence. In particular, the economic condition of the country is deteriorating every day, public debt is increasing, inflation is decreasing, investment is decreasing, etc.

The goal of any state is to improve the standard of living and well-being of the population. The most important factor in the development of a strong country is economic growth. Accordingly, this article, based on specific economic indicators, assesses the state of economic growth in Georgia and reveals the main priorities and forecast indicators that determine economic progress and regression. The challenges and groups of risk factors that influence both economic growth and its slowdown from the point of view of the economic situation in the country are analyzed. In particular, what is the standard of living of the country's population, the gross domestic product and what levers and resources determine the economic policy of the state. Accordingly, I have set myself the task of discussing the following tasks:

- *What is the current state of the Georgian economy and the features of its development;*
- *How economic growth changes the standard of living and well-being of the country's population;*
- *How the state determines economic policy.*

Keywords: *theoretical modeling, conceptual approaches, economic progress and regression, sustainable development, economic fluctuations.*

The development goal of each state is its economic stability, which is a necessary condition for the well-being of the population. This can be achieved by increasing and maintaining the rate of economic growth in the country. This article answers questions such as: theoretical modeling of the country's economic growth, principles and patterns of development. Attention is paid to the determining factors and criteria of economic growth. In particular: how economic growth affects the country's gross domestic product and how its slowdown negatively affects employment and the standard of living of the population in the country. Modern conceptual approaches to economic growth, trends and ways of improvement are also discussed, in particular, what is needed and what are the ways to achieve high sustainable development of the Georgian economy.

On the given topic "Features and problems of economic growth in Georgia," I tried to analyze the economic situation and changes in the country. I have identified a group of factors influencing economic growth and determinants that stimulate economic growth. Namely: gross domestic product, rising prices, national debt, unemployment. High unemployment reduces the economically active population and leads to a decline in the labor force, which is a necessary condition for the economy of a small country.

It has been revealed that today Georgia faces a difficult challenge and the existing economic growth cannot ensure the well-being of the population and improve the quality of life. Despite all the economic problems, solutions are important to overcome the current challenges, both in terms of economic policy and towards eliminating high unemployment. Based on the results of the study, we analyzed the following questions:

1. We analyzed the features of economic growth and slowdown in economic growth of Georgia in relation to modern times;
2. Study the impact of economic growth: in terms of gross domestic product, price increases, unemployment, living standards and public debt;
3. We have identified factors influencing economic fluctuations.

Economic progress is a determining factor in the state of a country, which is an indicator not only of the financial side, but also of the quality of human life. In particular, economic growth limits the per capita income from goods produced in the country, and the growth of economic development is accompanied by such changes in the structure as the well-being of the population. It is worth noting that the problem of economic development concerns both developing and industrialized countries. However, their goals and objectives are different from the point of view that a developed country has mastered new technologies and created an orderly and perfect economic environment, while a developing country has failed to implement such changes.

One of the founders of economic theory, Adam Smith, published the work "The Wealth of Nations" in 1776, which became the first study of economic development [Todaro & Smith 2011, 123]. Joseph Schumpeter was later the first to publish a study of this issue in his work *The Theory of Economic Development* (1912). He separated economic growth and development from each other, and also considered entrepreneurship and innovation the main factors of development [Mekvabishvili, E. 2016, 58]. According to Schumpeter, development without technological innovation is unthinkable, since an increase in the base of labor productivity contributes to both the processes of economic development and an increase in the quality of life of the population. However, economic structural transformation is sometimes difficult and fruitless for developing countries, and for the states formed as a result of the transformation, the proper functioning of the national economy is very important, since many state institutions depend on it.

The efficiency of the economy is expressed in the optimal distribution of production resources and the growth of resources. Traditional neoclassical economics relies on perfect markets in the advanced capitalist world, consumer sovereignty, automatic price adjustment, decisions made on the basis of marginal private profits and utility calculations, and market equilibrium for all products and resources. [Todaro, M.P., Smith, S.K., 2011.98]. This approach determines equilibrium, efficient allocation of resources in the market and profit maximization. The goal of sustainable economic development is growing socio-economic changes in the population and improving living standards. However, in many cases, compared to developed countries, developing countries have limited raw material resources and imperfect market information, which brings inefficient results among sections of the population. Here it is already important to make coordinated decisions that determine an effective strategy for overcoming poverty. The strategy should be aimed at creating an economy whose public policy will be focused on creating new jobs and developing the real sector. In particular, it ensures the well-being of society through the implementation of innovative processes, which in general will allow not only to find and attract sources of resources, but also to include them in the reproduction process through new technologies.

e. Denison calculated the importance of each economic factor in the American economy and found that the greatest economic growth is due to an increase in labor productivity - 68%, and also of no small importance is the increase in labor costs, which accounts for 32% of total growth [Denison E.F. 1962, 935-938]. Economic growth, by its very nature, must resolve two conflicting situations: resource constraints and demand. As for the type of economic growth, it goes in two directions. In particular:

1. Extensive economic growth, when growth is driven by capital and labor;
2. Intensive economic growth, when growth is determined by labor productivity,

Of these two types of growth, intensive growth is more important because innovative technologies are introduced, which creates the presence of highly qualified human capital specialists in the labor market. Currently, the innovation climate in Georgia is unfavorable, since there is no innovation infrastructure and an innovation market. These problems are aggravated by unstable economic growth rates and constant financial deficits, which further reduces innovation activity and gradually phases it out.

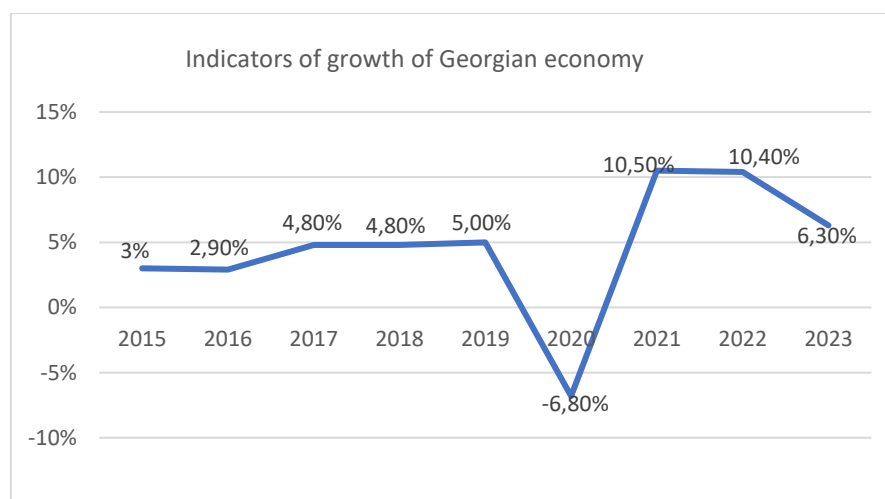
To achieve high rates of economic growth, it is also important to have savings and investments in the country, demand for local goods, developed business and market. In this regard, neither savings nor investments are popular in Georgia, since savings are possible with high and stable incomes, and as for investments in 2023, then 1.388 million rubles. Direct dollar investments have been received, which is 22% less than in 2022. Investments in 2023 by industry were distributed as follows: financial sector - \$342 million, manufacturing - \$288 million and energy - \$234 million.

One of the problems with slowing economic growth is rising prices. In recent years, rising prices at the global level have affected almost all countries of the world, Georgia is no exception. The main reason

was the state budget caused by the pandemic, the tightening of monetary policy and the shock caused by the Russian-Ukrainian war on the market from 2022. Prices for products that have risen in price this year have not risen in price this year, but have not fallen in price either. In particular: in 2021, the annual price increase was 13.9%, and in 2022 it decreased slightly and amounted to 12.8%. If we break down the inflation growth of each sector, the highest rate is in transport - 22.4%, soft drinks - 21.3% and food - 41-290%. Accordingly, the rate of price increases slows down economic growth as consumers have to pay more for consumer spending. The rising inflation rate in Georgia over the past ten years poses a rather serious challenge to the rate of economic growth. In particular, it is not possible to stabilize prices, this is natural, since the country depends on imports and more costs must be incurred. As a result of inflation, the monetary policy rate also increased. Therefore, further growth is expected due to new challenges.

The policy of economic growth is the strategy of all developed countries. The key aspect in the country is determined by the gross domestic product; the change in this indicator is especially noticeable during a crisis, when economic fluctuations begin and the question concerns the survival of the real sector. According to the National Bureau of Statistics of Georgia for 2023, the gross domestic product per capita amounted to 17179.4 lari, which increased by 5.8% compared to 2022, and a slight decrease of -0.04% compared to 2021 and amounted to 16179.5 GEL. GEL. In 2020, a negative rate of -6.8% was obtained. As for (see diagram N1)

Diagram N1



Source: National Bureau of Statistics of Georgia 2023

Economic growth in 2022 will be mainly driven by strong credit growth. Issued loans increased the economy by 13% and amounted to 42 billion. got to Lars. Of these, loans issued to households account for 15% - 22 billion. 11% of loans issued to businesses worth 20 billion. Lari. In 2021, the share of total loans amounted to 63% of gross domestic product, and at the end of 2022 - a record 70% [info@idfi.ge].

The Russian-Ukrainian war also had a positive impact on economic growth, as up to 100 thousand migrants settled in Sakrebulo, which increased remittances from Russia 5 times to \$2.1 billion. There is also a high demand for real estate.

Economic growth would have been even more stable and positive if the country had not had a negative trade balance and an increase in internal and external debt. In 2023, the public debt reached a critical level of 33.6 billion lari and exceeded 60% of the gross domestic product. There are 23% of the unemployed, 273,765 internally displaced persons, 14,862 socially vulnerable persons and 784,000 pensioners who cannot contribute to the economic growth of the country. Such indicators will already shock the country's economy, since future generations will have to repay the debt.

An important task of economic development is its forecasting, which allows us to determine the main trends that reflect complex relationships. However, it is very difficult to predict the economic development of Georgia because:

a) Parliamentary elections are planned in 2024, which are accompanied by political unrest and an increased risk of destabilization.

b) Although the country has received candidate status for EU membership in 2023, this will contribute more to political stability than economic growth.

c) In 2022-2023, the lari strengthened due to the sudden influx of foreign currency with the arrival of immigrants, which may not be repeated in the future.

Based on the above, we can conclude that Georgia is a developing country, to which is added the crisis period of the country's past and an unformed economic development strategy at the present stage. However, this trend does not mean that the same thing will happen again in the future, since changes in the economy can have a significant impact on economic growth.

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INVESTMENT ENVIRONMENT OF GEORGIA AND FACTORS CONTRIBUTING TO THEIR ATTRACTION

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Abstract

Foreign direct investment is an important source of financial investment, especially for developing countries where the share of domestic investment is relatively small. Foreign direct investment is an important source of foreign exchange inflow into a country and is therefore of great importance for the stability of the national currency exchange rate.

Georgia has a real potential to attract foreign investment and ensure the stability of the national currency and ensure high economic growth rates. And investors need solid guarantees for making long-term investments in the country. These guarantees, in turn, include the regulation of the legislative and judicial systems, the easing of state regulation, the improvement of infrastructure, the growth of export potential, the improvement of the quality of the workforce, and the development of financial markets.

Keywords: Investor, Investment Environment, Capital Market, Innovation.

Georgia is one of the best countries in the world in attracting investments, this fact is recognized not only by Georgia, but also by many international organizations, which makes its reputation more authoritative and reliable. According to the World Bank, Georgia is one of the most open countries in the world (especially in its region) for foreign (equity) capital. Due to its geopolitical position, Georgia has historically been a crossroads of different regions and economies. Georgia has been and remains a kind of link between Europe and Asia.

A particular revival of the investment environment in Georgia has been observed since 2003, after the reforms and initiatives carried out, which is confirmed by local and international studies and assessments. According to the Georgian Foreign Ministry, the advantages of investing in Georgia are low taxes; simple and fair tax administration; efficient, business-oriented and non-corrupt government; a stable and conservatively managed banking sector; Access to sea, land and air, stable energy supply for trade, logistics and production; flexible labor legislation; Low crime rate, etc. [1].

Georgia has no restrictions on foreign direct investment in industries such as mining, oil and gas, agriculture, trade, light industry, telecommunications, energy, banking, insurance, transport, media, construction, tourism and healthcare. At the same time, many countries completely or partially bring certain areas under their influence: France, Ukraine, Belarus - on the media; Russia - on insurance; Armenia - agriculture; Turkey - for electricity, etc.

According to the study, there are no monopolistic structures in the country, as well as no obstacles to obtaining the necessary license (although, according to Georgian experts, it may be the other way around). According to the World Bank, Georgia is the world leader in ease of registration of foreign limited companies and the days spent on it (together with Rwanda and Canada).

It should be noted that, in general, Eastern Europe is the world leader in business registration. Among the top 10 countries in the world in this parameter, Eastern Europe is leading with its 5 representatives (Georgia, Albania, Belarus, Macedonia and Turkey). In addition, Bulgaria, Croatia and Romania even offer electronic registration for both local and foreign businessmen.

Georgia is also the world leader in the procedures required to open a business - 4 procedures, each of which can be completed in one day: a) authorization of documents of a foreign parent company; b) payment of the registration fee; c) registration of the company and obtaining the relevant codes; d) opening a corporate bank account [2].

To make an investment in Georgia, no prior approval of the investment by government agencies is required, which allows businessmen to avoid a lot of difficulties in terms of attracting investments. But this is not a sufficient condition for the long-term development of the country, and it is necessary not only to attract investments in any area where the investor wants it, but also to encourage them in areas that are important for the country and will be focused on their long-term development, for example: modern technologies; infrastructure; innovations, etc.

It should be noted that in terms of the number of days required to rent land from a private owner, Georgia ranks first in the world, and this procedure takes only 8 days, while, for example, in Turkey and Greece, this procedure takes 15 days. days; in Poland - 146; And in Sierra Leone and Afghanistan (last places), respectively - 210 and 218.

In order to purchase a plot of land on lease from the state, which is associated with more complex procedures, a foreign investor needs 50 days, which is the second indicator in the world after Greece (20 days), in United Kingdom this procedure takes 62 days, in India - 295, and in Malaysia (last place) - 355 days.

In recent years (Ministry of Foreign Affairs of Georgia), the tax environment created in the country is one of the most liberal not only in the region, but also in Europe and even in the world. Georgia ranks 8th out of 185 countries in terms of ease of doing business, but the fundamental problems that still exist in Georgia hinder and, in fact, level the country's already achieved successes. Ensuring free competition in the market remains an unresolved problem, as well as many problematic issues related to insolvency, commercial dispute resolution and doing business. Such impediments worsen the business environment, reduce investor confidence and render effective mechanisms established in other areas of little value. According to the World Bank, Georgia ranks first in the world in terms of ease of property registration (Doing Business, 2014), but this achievement is becoming useless. As a result of the observation, we will see that according to the World Competitiveness Index in terms of the level of protection of property rights, Georgia ranks 120th among 145 countries of the world; In terms of the effectiveness of the legal framework for resolving disputes - 92nd place, and in terms of the effectiveness of antimonopoly policy - 131st place (138th place). There is another problem related to low confidence in the judiciary, and without its correction, none of the above problems can be solved.

Foreign direct investment is an important source of financial investment, especially for developing countries where domestic investment is relatively small. Foreign direct investment is an important source of foreign exchange inflow into the country and, therefore, is of great importance for the stability of the national currency [3].

Demand factors for foreign direct investment are considered factors that increase the demand for investment in the host country. These may include expanding the target market and increasing disposable income, which will encourage investors to increase their investment. In the case of Georgia, these factors do not play an important role in increasing investment, since the local market is small and the purchasing power of the population is low. According to researchers, this problem can be solved through integration with Europe, which will expand sales markets [4].

As for the factors on the supply side, here we can consider such determinants from which the host country "welcomes" a foreign investor: labor force and its qualifications, infrastructure. Both factors are a serious problem for Georgia. One of the limiting factors is unskilled labor. Georgia has cheap labor, but the main thing is how efficient it is. This factor is indeed an obstacle for investors, so Georgia needs to work on the quality of education, because it needs more efficient, fast-working, professional personnel [5].

The country is unstable from an economic point of view. Firstly, the exchange rate is unstable, which is due to the fact that the country is mainly dependent on the closest trading partners, namely

Turkey and Russia, whose problems are automatically reflected in the fluctuations of the Georgian currency.

For the development of the capital market, it is necessary to develop new norms and rules. It is necessary to provide for the issuance of corporate bonds, other debt securities, direct investment instruments and other financial instruments.

The logistics sector, as one of the fastest growing areas in the modern world, plays an important role in attracting investments and integrating the country into the international and regional transport system, which enables Georgia to maximize its transit and trade potential [6].

Georgia has a real potential to attract foreign investment, and thus contribute to the stability of the national currency and ensure high rates of economic growth. The country is politically stable, there is no corruption, an association agreement has been signed with the European Union, under which trade with the EU countries is carried out in a free trade regime, the government has reached a free trade agreement with China, however, as it turned out, this indicator alone is not enough to attract investment. Investors need strong guarantees for long-term investment in the country, and these guarantees, in turn, include improving the legal and judicial system, relaxing government regulations, improving infrastructure, increasing export potential, improving the quality of the labor force, and developing financial markets.

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Geological and mineralogical sciences

DETAILED STRUCTURE OF THE ZARDOB-SHIKHBAGI AREA ACCORDING TO 3D SEISMIC DATA

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ДЕТАЛЬНОЕ СТРОЕНИЕ ПЛОЩАДИ ЗАРДОБ-ШИХБАГИ ПО ДАННЫМ СЕЙСМОРАЗВЕДКИ 3D

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Abstract

The article notes that favorable paleogeological conditions for the existence of non-anticlinal hydrocarbon traps are associated precisely with the Middle Kura depression of Azerbaijan, within which the Zardob-Shikhabagi study area is located. In recent decades, numerous non-anticlinal traps of different morphogenetic nature and some associated oil deposits have been discovered here, but the solution to the problems of non-anticlinal traps in Azerbaijan cannot be considered satisfactory. The geographical location and brief geological and geophysical characteristics of the Zardob-Shikhabagi area are considered. It is noted that the oil and gas prospects of Zardob are associated with clastogenic rocks of the Eocene, filling the beds of ancient rivers. The existence of massive traps in the erosive near-surface parts of Upper Cretaceous deposits is also real. and oil deposits were discovered in the neighboring areas of Zardob, such as Muradkhanly, Jafarli, Tarsdallar in the second half of the 20th century. All this, of course, increased attention to the study of the structure of the Zardob structure.

These research studies aimed to study the detailed structure of deposits of the Upper Cretaceous, Middle Eocene, and Maikop Formation, to clarify the structure of the Zardob fold at the indicated stratigraphic levels. Solving such precise problems, of course, requires high seismic resolution ability in both vertical and horizontal directions, so the most suitable method for solving these problems is 3D seismic.

The information content of the 3D cube obtained in the study area can be considered satisfactory. Temporary vertical slices (sections) can be divided into 4 intervals according to dynamic features. The wave pattern observed at each time interval is characterized. It is noted that the dynamically quite pronounced support-dominant seismic horizon "P" (Upper Cretaceous surface) on time sections is mainly two-phase and is distinguished by low-frequency vibrations.

The bedding planes and geological structures of the Zardob, Shikhabagi, and Kishlak structures on the Upper Cretaceous, Eocene, and Maikop deposits have been defined. In contrast to the 2D seismic survey, based on the data of which a plicative version of the geological structure model was compiled, based on the results of the 3D seismic survey it was possible to find out that the sediments that make up the geological section are subject to the influence of sharp geodynamic-tectonic movements and therefore a disjunctive structure model was chosen when interpreting the data. A comprehensive analysis of the data obtained showed that the disjunctive model represents the real structure of the environment

Аннотация

В статье отмечается, что благоприятные палеогеологические условия существования не антиклинальных ловушек углеводородов связаны именно в Средне-Куринской впадине Азербайджана, в пределах которой расположена площадь исследования Зардоб-Шихбаги. В последние десятилетия здесь обнаружены многочисленные не антиклинальные ловушки разного морфогенетического характера и связанные с ними некоторые нефтеносные залежи, но нельзя считать удовлетворительным решение проблем не антиклинальных ловушек в Азербайджане. Рассмотрены географическое положение, краткая геолого-геофизическая характеристика площади Зардоб-Шихбаги. Отмечается, что перспективы нефтегазоносности Зардоба связываются с кластогенными породами эоцена, заполняющими русла древних рек. Существование ловушек массивного типа в эрозионных приповерх

ностных частях отложений верхнего мела также реально. а соседних площадях с Зардобом, таких как Мурадханлы, Джафарлы, Тарсдаллар открыты нефтяные залежи во второй половине 20-го века. Все это конечно повысило внимания на изучение строения структуры Зардоб.

Целью настоящих исследований исследований являлся изучение детального строения отложений верхнего мела, среднего эоцена и майкопской свиты, уточнение строения Зардобской складки по указанным стратиграфическим уровням. Решение таких тонких задач, естественно требует высокой и вертикальной, и горизонтальной разрешающей способностей сейсмических работ, поэтому для решения поставленных задач самым подходящим методом является сейсморазведка 3D.

Информативность куба 3D, полученного на площади исследования можно считать удовлетворительной. Временные вертикальные слайсы (разрезы) могут быть разделены на 4 интервала по динамическим особенностям. Характеризуется волновая картина, наблюдаемая на каждом временном интервале. Отмечается, что динамически достаточно выраженный опорно-доминирующий сейсмический горизонт "P" (поверхность верхнего мела) на временных разрезах в основном двухфазовый и выделяется низкочастотными колебаниями.

Уточнены элементы залегания и геологические строения структур Зардоб, Шихбаги и Кишлак по отложениям Верхнего Мела, Эоцена и Майкопа. В отличии от сейсморазведки 2D, по данным которой составлен пликативный вариант модели геологического строения, по результатам сейсморазведки 3D удалось выяснить, что отложения, составляющие геологический разрез, подвержены влиянию резких геодинамических-тектонических движений и поэтому при интерпретации данных выбрана дизъюнктивная модель строения. Всесторонний анализ полученных данных показали, что дизъюнктивная модель отражает реальное строение среды.

Key words: oil and gas bearing, Upper Cretaceous, Eocene, Maikop, 2D and 3D seismic exploration, time intervals, seismic time sections.

Ключевые слова: нефтегазоносность, верхний мел, эоцен, майкоп, сейсмическая разведка 2D и 3D, временные интервалы, сейсмические временные разрезы.

Введение

Перспективные нефтегазоносные структуры Азербайджана расположены в основном, НижнеКурунской, ЮжноКаспийской и Кобыстан-Абшеронской впадинах [3,4]. В этих регионах ловушки углеводородов связаны антиклинальными складками, а для формирования не антиклинальных ловушек не существовали благоприятные палеогеологические условия. Такие благоприятные палеогеологические условия существовали именно в Средне-Курунской впадине (площадь исследования Зардоб-Шихбаги расположена на этой впадине) и в последние десятилетия здесь обнаружены многочисленные не антиклинальные ловушки разного морфогенетического характера [1,2]

Структура Зардоб расположен южнее, юго-восточнее гор. Уджар, северо-западнее месторождения Мурадханлы (рис. 1). Эта структура выявлена в 1960 году сейсморазведкой МОВ (однократным профилированием) и в 1970 году подготовлена глубокому разведочному бурению по отложениям Эоцена-верхнего Мела. Пробуренная в 1972 году скв.№1 достигла глубину 4608 м и открыла вулканические породы мощностью 146м и карбонатно-осадочные отложения мощностью 106 м верхнего Мела, а также глинисто-мергельные отложения Эоцена толщиной 304 м, оказалась сухой. Разные годы на этой структуре пробурены достаточное количество скважин №№12, 14, 6, 8, 9, 4,



Рис. 1. Расположение структуры Зардоб

17 и т.д., но положительных результатов не получено. Единственная скважина №3, пробуренная в 1980 году здесь в сводовой части структуры, дала притоки нефти дебитом 430 м³/сутки из отложений Эоцена, но из-за ошибочных представлений о модели залежи все закончилось аварией. Перспективы Зардобского поднятия связываются кластогенными породами Эоцена, заполнившими палеоруло реки.

Литолого-стратиграфический разрез региона, включая Зардоб-Шихбаги, изучен многочисленными глубокими скважинами, пробуренными во многих площадях. Скоростная модель, а также волновое поле в окоскважинном пространстве изучены сейсмокаротажем (СК) и вертикальным сейсмическим профилированием (ВСП), проведенных во многих скважинах региона [5,6,7,8,9].

Остановимся коротко на литолого-стратиграфической характеристике пород, составляющих разрез региона, куда входит также площадь исследований. По данным глубоких и сверхглубоких скважин в разрезе Средне-Куринской впадины участвуют отложения Мезозоя (Юра и Мел), Кайнозоя (Палеоген, Неоген) и Антропогена (рис.2).

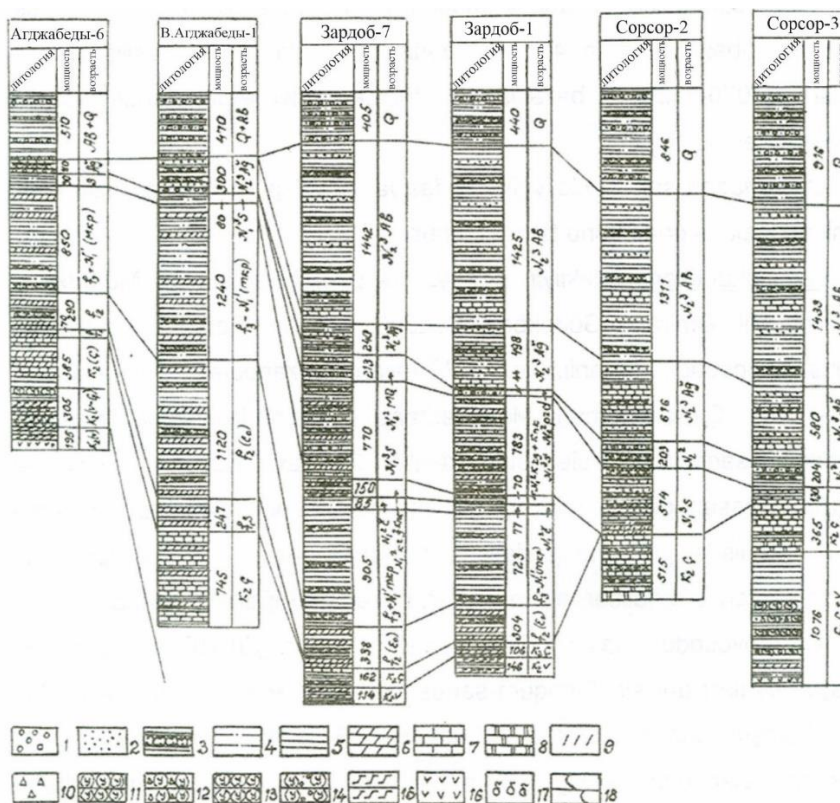


Рис.2. Сравнение литолого-стратиграфических разрезов вдоль линии Агджабеды-Зардоб-Сорсор (Ф.М.Гаджиев, департамент Разведочной Геофизики Управления Геологии и Геофизики SOCAR)

Условные обозначения:

1-конгломераты, гравелиты; 2-пески и песчанистость; 3-песчаники;
 4-алевриты и алевролиты; 5-глины и аргиллиты; 6-мергелы; 7-известняки;
 8-доломиты; 9-кварциты; 10-брекчии; 11-туфы и туффиты; 12-брекчии туфов;
 13-туффозные песчаники; 14-туффозные гравелиты; 15-порфириты, базалты; 16-андезиты; 17-диориты; 18-слоистость

Породы Юры открыты в сверхглубокой Саатлинской скважине и с глубины 7570 метров до забоя скважины (8324 м) состоят из чередования вулканогенных образований с кварцитами, а над ним в интервале глубин 7570-4070 м представлены серией андезито-базалтов с доминированием базалтов.

Отложения Нижнего Мела вскрыты на площадях Саатлы и Джарлы. Нижняя часть разреза, отнесенная валенжину, готтериву и баррему, представлена эффузивными образованиями – туффиозными песчаниками и их брекчий туффиозными конгломератами, туффиозными гравелитами, порфиритами.

Следует отметить, что рассмотренные отложения этих двух систем не вскрыты ни в Зардобе, ни в Шихбаги.

Отложения Верхнего Мела представлены тремя литофациями: верхняя – осадочная, средняя – вулканогенно-осадочная и нижняя – вулканогенная. Интервал осадочных пород с открытой мощностью 150 м на площади Зардоб состоит из туффиозных песчаников, аргиллитов, доломитов, песчаников, чередующего иногда глинами порфиритов и отнесен к нижнему сантону.

Отложения Палецена не вскрыты на площадях Зардоб и Шихбаги.

Отложения Эоцена вскрыты глубоким бурением во многих площадях Средне-Куринской впадины и представлены в основном, осадочными породами.

Майкопская свита не вскрыта на площади Зардоб – Шихбаги.

Средний Миоцен – Чокракский горизонт вскрыты бурением на площадях Мурадханлы, Зардоб, Мил, Ширинкум и состоят из чередований тонких слоев осадочных образований.

Горизонты Среднего Миоцена – Карагана – Конга определены в юго-западном погружении Мурадханлинского поднятия, на площадях Зардоб и Амирарх.

Отложения Среднего Миоцена – Сармата распространены всюду по региону. Здесь они представлены в фациях осадочных пород. Литологический состав сармата на площади Зардоб, как и в Мурадханлы, выражен глинами с прослойками мелкозернистых песчаников.

Ширакская толща – (Меотис + Понт + Продуктивная Толща) на этой территории распространена в ограниченной площади.

Нижний Плиоцен (Продуктивная Толща – Балаханская свита) представлен плохосортированными глинисто-песчаными осадками, характеризующими прибрежную полосу осадконакопления и распространен на площадях Мил, Мурадханлы, Зардоб, Амирарх Ширинкум.

Верхний Плиоцен – Акчакыл выражен глинами, прослойками аргиллитов с остатками растений, алевролитами, чередованием слабо сжатых известковых песчаников с плотными известняков.

Верхний Плиоцен – Абшерон представлен чередованием плотных глин с мелкозернистыми, слабосцементированными песков и песчаников. В разрезе доминируют глины.

Четвертичный период (Антропоген) выражен глинами, хрупкими алевролитами, средне-крупнозернистыми песками, континентальными отложениями.

Складки Зардоб, Шихбаги и Восточный Шихбаги относятся к Караджа-Кызылагачской зоне поднятий. Являясь самым крупным геоструктурным элементом Средне-Куринской впадины эта погребенная межбассейновая зона поднятий простирается СЗ-ЮВ направлении на расстояние приблизительно до 300 км. Здесь обнаружены характерные для Средне-Куринской впадины многочисленные локальные поднятия, ядра которых сложены вулканическими породами Верхнего Мела, покрытыми его же карбонатными отложениями. Параллельно Караджалы-Саатлинскому поясу этой зоны на северо-западе находятся другие пояса: Карабат-Чоллу, Диламарх-Халфалы (длиной 115 км),

Короткий пояс длиной 16 км, объединяющий 3 поднятия – Каргалы, Бейимли, Кишлак и наконец, Зардоб-Каралинский пояс, простирающийся на расстояние 50 км. Зардоб-Каралинский пояс объединяет следующие поднятия: Зардоб, Шихбаги, Восточный Шихбаги, Мурадханлы, Гасанлы и Каралы (рис. 3).

Перспективы нефтегазоносности Зардоба связываются с кластогенными породами эоцена, заполняющими русла древних рек. Существование ловушек массивного типа в эрозионных приповерхностных частях отложений верхнего мела также реально.

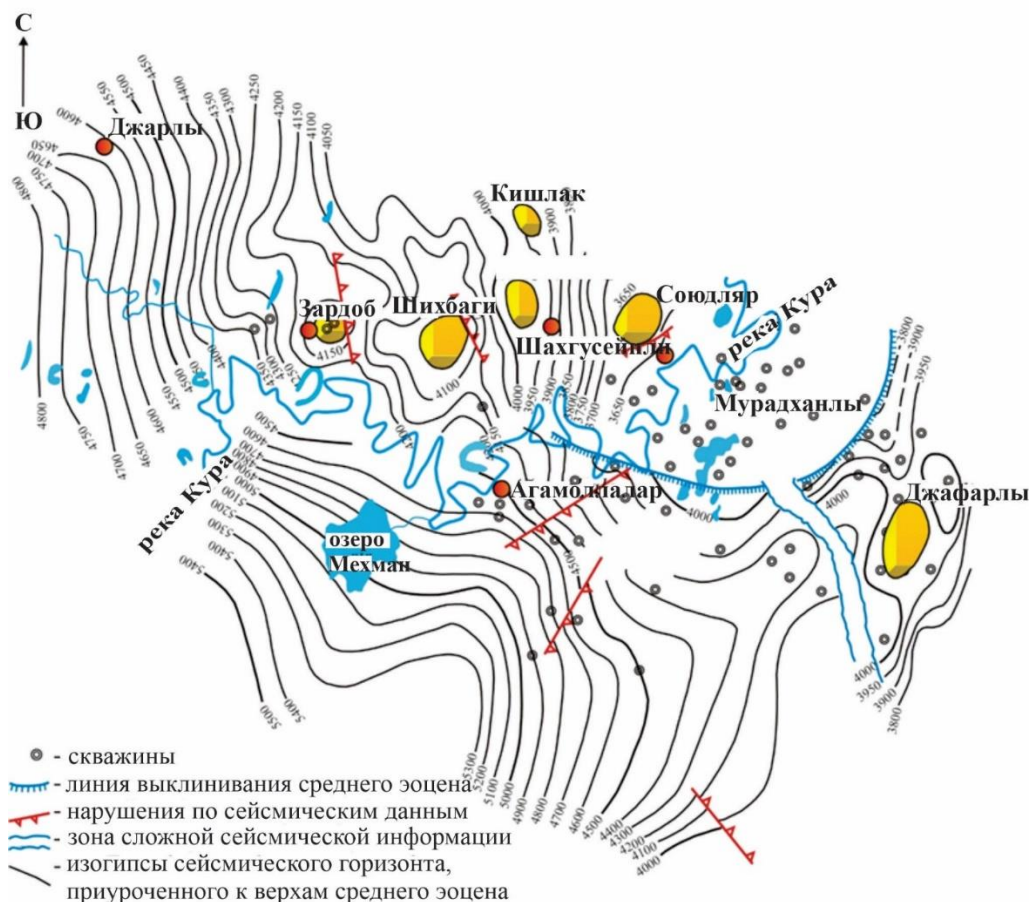


Рис.3. Схематическая структурная карта по сейсмическому горизонту, приуроченному к верхам среднего эоцена (площадь Зардоб, Шихбаги, Восточный Шихбаги)

Постановка проблемы

Несмотря на то, что в последние годы в США на долю неантиклинальных ловушек приходится около 52% всей добычи углеводородов, у нас до сих пор открытие таких типов залежей не приобрело систематический характер. Выяснение детального строения обнаруженной в сводовой части Зардобской антиклинали эрозионно-аккумулятивной ловушки представляет большой практический интерес. Отметим, что на соседних площадях с Зардобом, таких как Мурадханлы, Джафарлы, Тарсдалляр открыты нефтяные залежи во второй половине 20-го века. Все это конечно повысило внимания на изучение строения структуры Зардоб.

Исследовательские вопросы

Как видно перспективы нефтегазоносности исследуемой площади связаны отложениями верхнего мела, среднего эоцена и майкопской свиты, поэтому основное внимание будет уделено выяснению детального строения этих отложений. Амплитуды складок целевых отложений (за исключением отложений майкопской свиты) достаточно малы, малы также амплитуды тектонических нарушений, осложняющих строение этих структур, поэтому тщательная корреляция сейсмических горизонтов, приуроченных к целевым отложениям, изучение кинематических и динамических признаков дизъюнктивных дислокаций входят в основные исследовательские вопросы.

Цель исследований

Изучение детального строения отложений Верхнего Мела, среднего эоцена и майкопской свиты, уточнение строения Зардобской складки по указанным стратиграфическим уровням.

Методология

Решение таких тонких задач, естественно требует высокой и вертикальной, и горизонтальной разрешающей способности сейсмических работ, поэтому для решения поставленных

перед настоящими исследованиями задач самым подходящим методом является сейморазведка 3D.

Результаты исследований

Информативность куба 3D, полученного на площади исследования можно считать удовлетворительной. Площадь исследования осложнена многочисленными продольными нарушениями, которые ее разделили на отдельные блоки. Сложность строения иногда сказывалась в качестве сейсмических записей и иногда ухудшалась прослеживаемость сейсмических горизонтов (СГ), но в целом, временной куб 3D дал возможность выделять целевые сейсмические горизонты и прослеживать по площади [10, 11].

Временные вертикальные слайсы (разрезы) могут быть разделены на 4 интервала по динамическим особенностям. Первый интервал сейсмической записи охватывает комплекс отложений Четвертичного Периода и Верхнего Плиоцена. Характеризуется хорошо выраженными, параллельными, протяженными осями синфазности отражений. Вторым интервалом характеризует Плиоцен-Миоценовый комплекс отложений. В этом интервале волновые фронты представлены ещё более регулярными динамическими особенностями и хорошо коррелируются по площади. Внутри интервала с СВ на ЮЗ наблюдается последовательное выклинивание слоев Верхнего Миоцена на эрозионной поверхности продуктивной толщи. В конце этого интервала, на временах 2,6-3,1 сек хорошо прослеживаются одно-двух фазовые оси синфазности волновых фронтов отражений от поверхности отложений Чокрака. Третий интервал характеризует осадочный комплекс Палеоген-Верхнего Мела. Здесь регистрируются низкочастотные, хорошо прослеживаемые фронты отражений и выделяются двух-трех фазовые сейсмические горизонты. Наблюдается уменьшение мощности Палеоген-Мезозойского комплекса отложений с юго-запада на северо-восток. В четвертом интервале внутри Мелового комплекса отложений качество сейсмической записи резко изменяется, прослеживаемость осей синфазности ухудшается. Непрерывное прослеживание этих отражений стало невозможным, поэтому и не возможно было полностью прокоррелировать их и построить единую карту для площади исследований [12, 13, 14, 15].

Стратификация сейсмических горизонтов проведена по данным глубоких скважин Зардоба, Шихбаги и Мурадханлы (рис. 4). На площади исследования прослежены пять сейсмических горизонтов (смотри рис. 4).

Сейсмический горизонт "Р" (поверхность верхнего мела) на временных разрезах в основном двухфазовый и выделяется низкочастотными колебаниями, динамически достаточно выраженный, вторая фаза коррелируется более уверенно. Этот горизонт открыт в скважинах Зардоба и в скважине №29 Шихбаги, но динамическая выдержанность этого горизонта

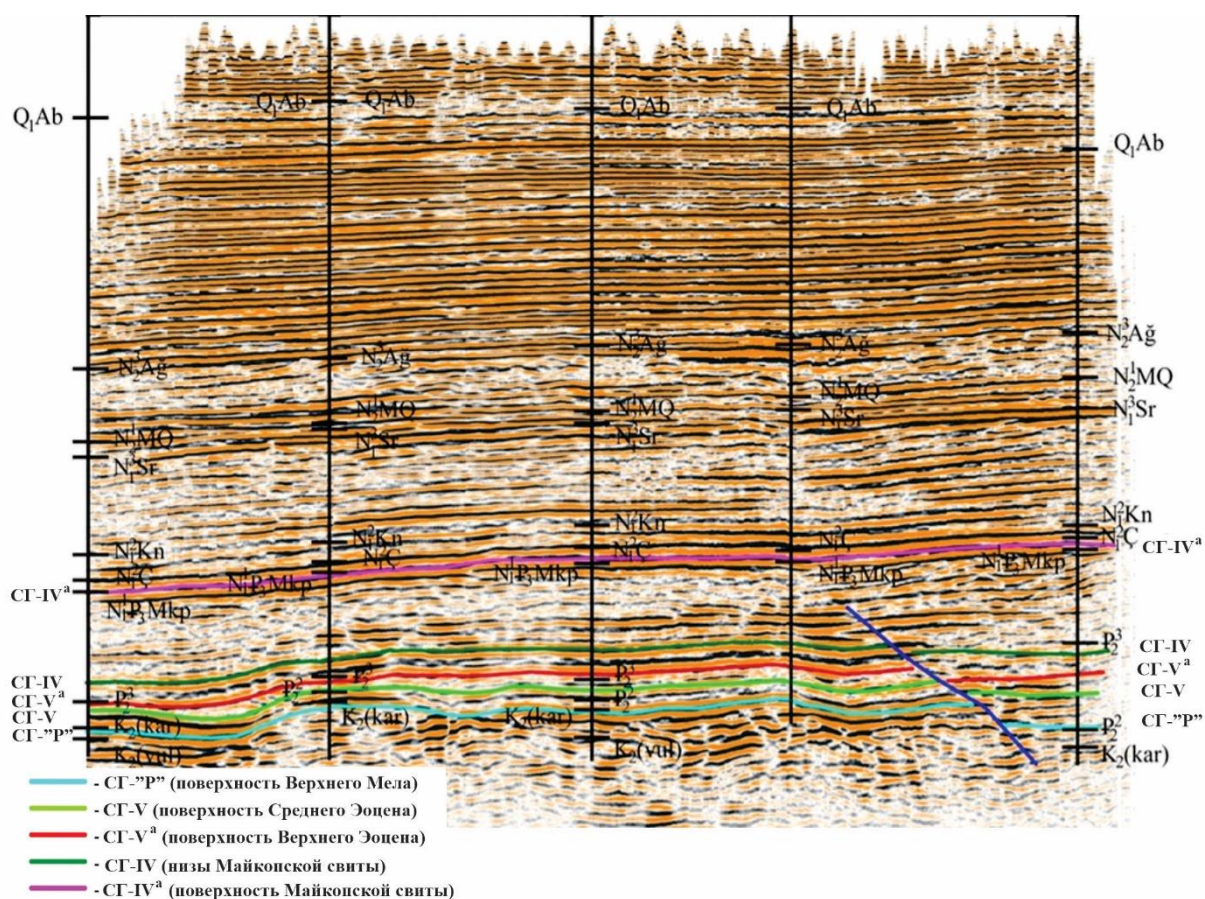


Рис.4. Стратиграфическая привязка сейсмических горизонтов (СГ) к скважинам вдоль выбранной линии наблюдений сейсморазведки 3D

позволяет уверенно прослеживать и прокоррелировать этот горизонт в пределах площади исследования и за ее пределами. По скважинным данным отложения Мезозоя имеют высокое КС (кажущееся сопротивление = 30-40 Ом) и хорошо дифференцируются по ПС.

СГ-V на временных разрезах прослеживается двумя фазами и из-за выклинивания пласта, к которой он приурочен, коррелируется на локальном участке площади. На площади Зардоб по данным электрического каротажа СГ-V является реперным горизонтом относительно высокого КС и стратифицируется как поверхность Среднего Эоцена.

СГ-V^a на временных разрезах характеризуется двухфазными, динамически выразительными, синфазными фронтами отражений и хорошо прослеживается по всей площади. По данным электрического каротажа слабо дифференцируется на кривых ПС и кажущееся удельное сопротивление изменяется в интервале 2-4 Ом. На площади Зардоб этот горизонт соответствует к поверхности Верхнего Эоцена и отложения этого возраста открыты только здесь.

На временных площади Зардоб СГ-IV проходит на 100 мсек выше поверхности Верхнего Эоцена. В некоторых же скважинах Зардоба и Шихбаги соответствует песчанистому реперу на низах Майкопа и поэтому приурочен к низам Майкопа.

СГ-IV^a в некоторых скважинах Зардоба соответствует к поверхности Майкопа, но в других скважинах Зардоба и Шихбаги проходит с разницей $\pm 20 - 30$ мсек от поверхности Майкопа, тем не менее приурочен к поверхности Майкопа.

Строение площади исследования по поверхности СГ-'P' характеризуется многочисленными, малоразмерными, слабовыраженными структурными формами, что связано неровным характером эрозионной поверхности Мезозоя (рис. 5,6).

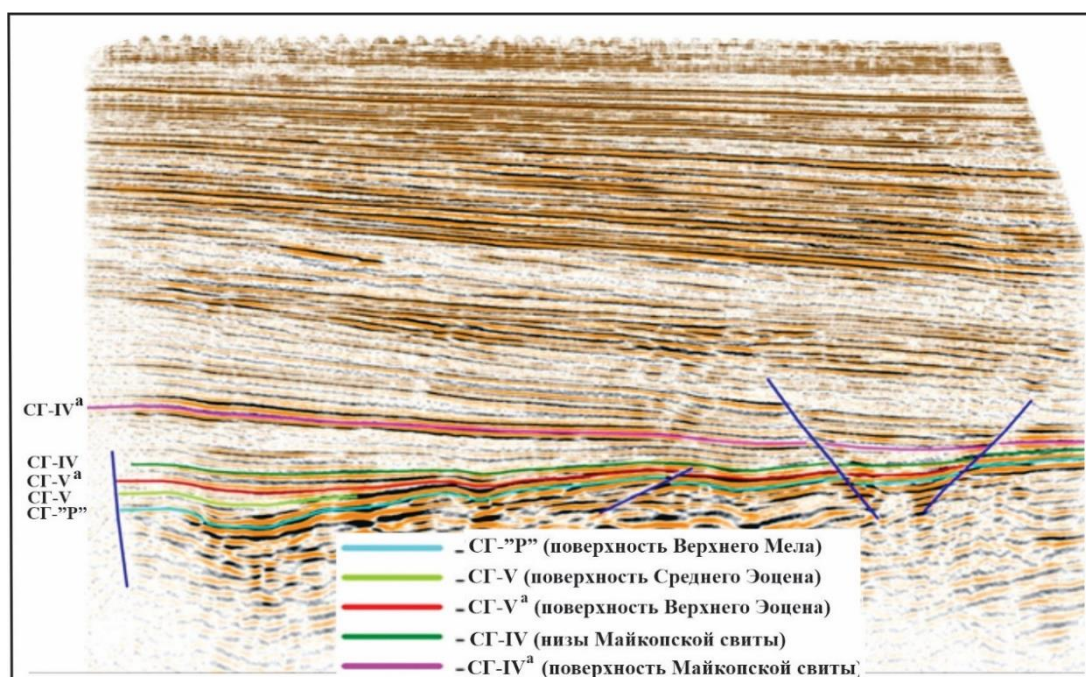


Рис.5. Динамический глубинный разрез вдоль крослайн

Сводовые и присводовые, а также крыльевые части складок Верхнемеловых отложений осложнены тектоническими нарушениями разного ранга и амплитуды. Все это привело к тому, что площадь исследований по этим отложениям характеризуется достаточно сложным строением (рис. 7).

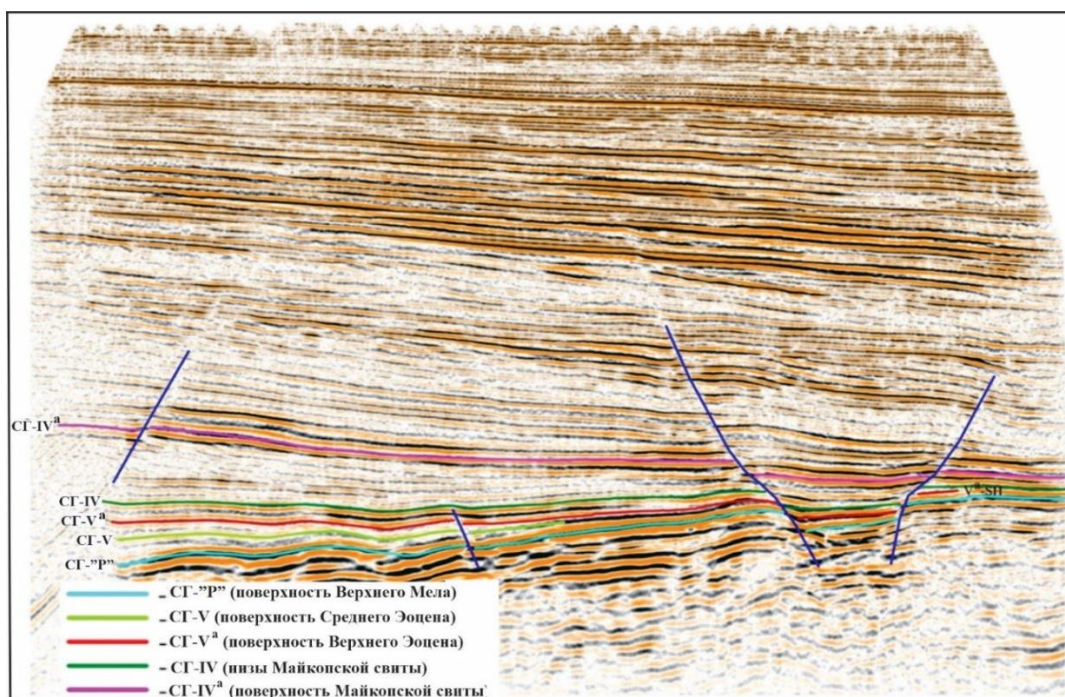


Рис.6. Динамический глубинный разрез вдоль крослайн

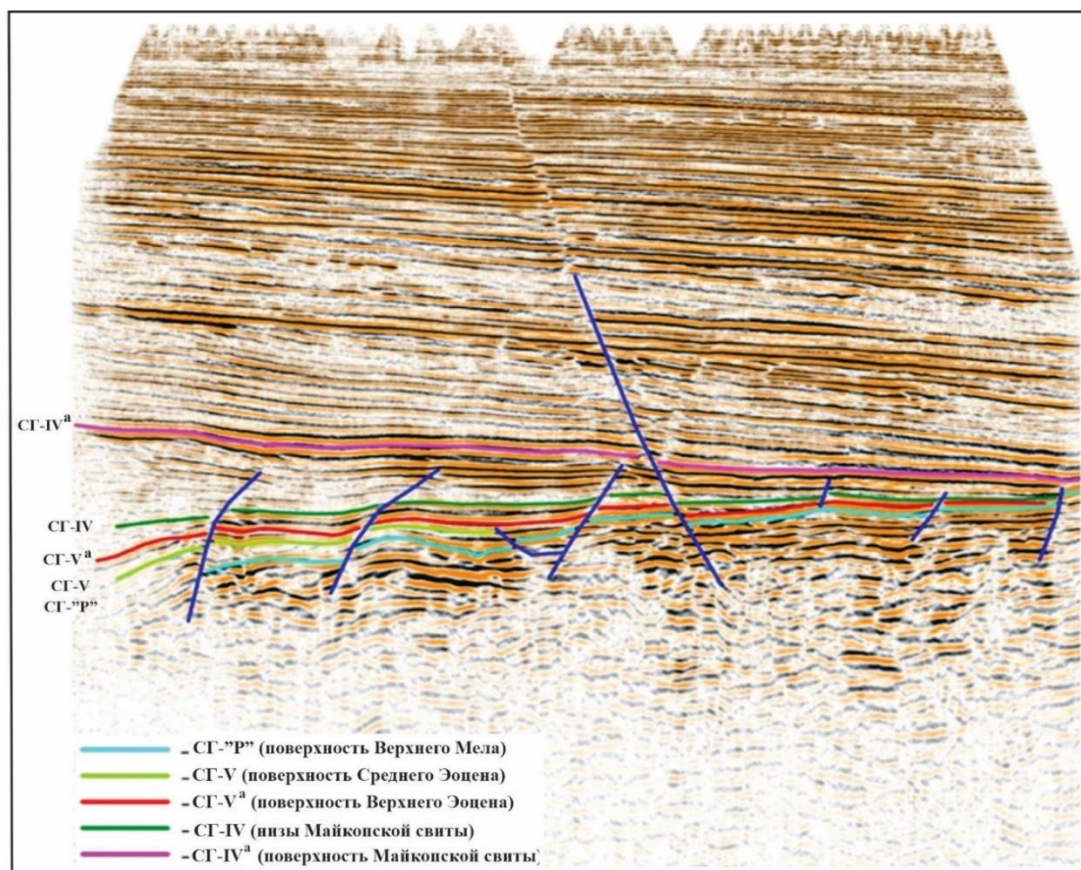


Рис.7. Динамический глубинный разрез вдоль кросслайн

Тектонические нарушения СЗ-ЮВ направления, осложняющие северо-восточную часть площади исследования с достаточно большой протяженностью с изменяющимися амплитудами вертикального смещения соответственно от 60 до 130 м и 30-100 м. Эти нарушения имеют плоскости сбрасывателя разного направления, они разного ранга (имеются внеранговые и частичные нарушения). Все это свидетельствует о том, что площадь исследования в разные геологические периоды перетерпела дислокациям разной интенсивности (рис. 8).

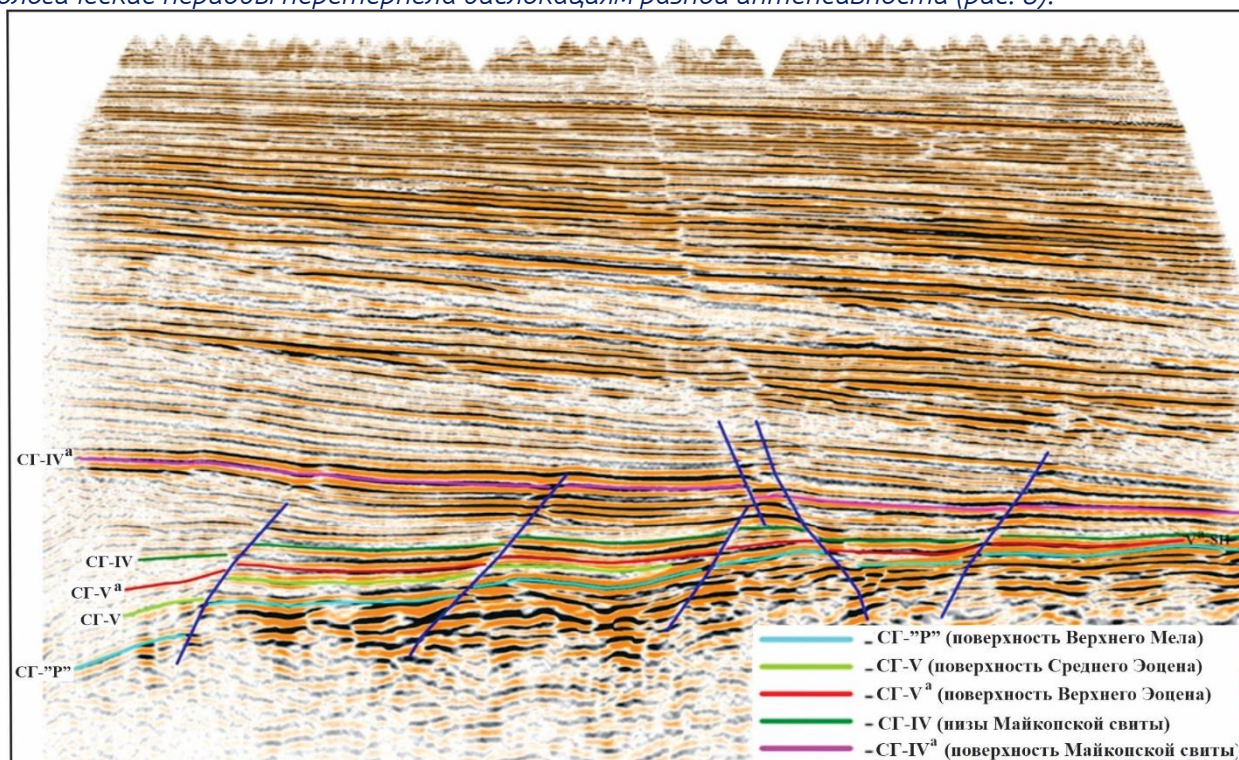


Рис.8. Динамический глубинный разрез вдоль кросслайн

Центральная часть площади подвержена более интенсивной дислокации, здесь наблюдаются разрывные нарушения разного ранга и имеет очень сложное строение. Несмотря на то, что эти нарушения мало амплитудные (10-50 м), они хорошо прослеживаются в обоих направлениях в сейсмическом кубе. Структура асимметрична, угол наклона сейсмического горизонта на СВ равен $4-5^\circ$, тогда как в сторону ЮЗ увеличиваясь изменяется в пределах $10-12^\circ$.

На юго-западе складки Шизбаги выделяется структурное осложнение, выраженное изогипсом 4300 м и отделяющееся от нее неглубокой седловиной. Это структурное осложнение, скорее всего является ундуляцией структуры Шихбаги. Выделяется ещё одно структурное осложнение на юго-востоке складки Шихбаги в районе пересечения линий инлайн и крослайн (рис. 9).

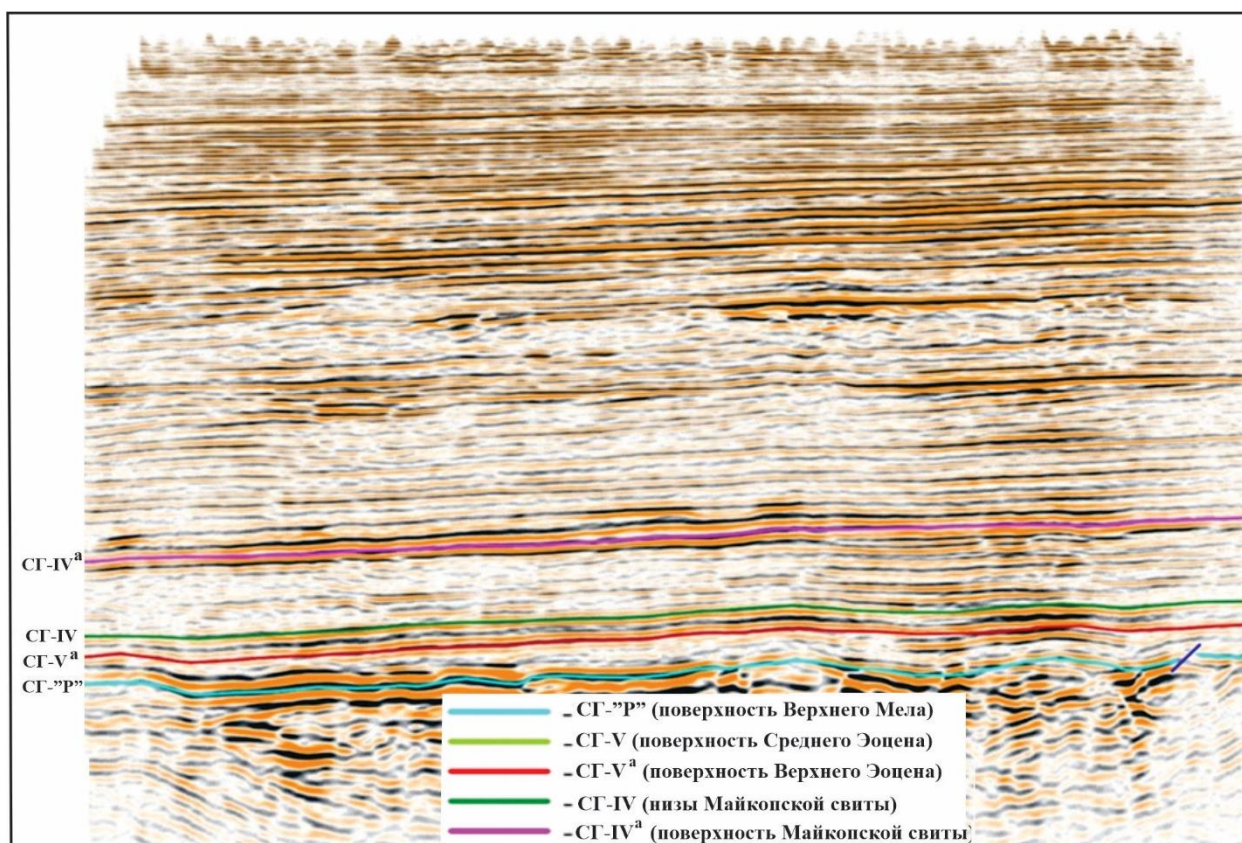


Рис.9. Динамический глубинный разрез вдоль инлайн

Заключение

Уточнены элементы залегания и геологические строения структур Зардоб, Шихбаги и Кишлак по отложениям Верхнего Мела, Эоцена и Майкопа. Впервые выделены и прослежены разрывные нарушения разного направления, ранга и амплитуды, осложняющиеся геологическое строение площади исследования. Естественно, что эти нарушения играют огромную роль в формировании сложного строения площади и залежей углеводородов.

В отличие от сейсморазведки 2D, по данным которой составлен пикативный вариант модели геологического строения, по результатам сейсморазведки 3D, которая, как известно, отличается высокой разрешающей способностью, удалось выяснить, что отложения, составляющие геологический разрез, подвержены влиянию резких геодинамических-тектонических движений и поэтому при интерпретации данных выбрана дизъюнктивная модель строения. Всесторонний анализ полученных данных показали, что дизъюнктивная модель отражает реальное строение среды.

Прослежены границы зон выклинивания отложений верхнего и среднего Эоцена на поверхность размыта отложений верхнего Мела.

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Jurisprudence

THE RIGHT OF THE VICTIM TO SPEEDY THE PROCESS IN THE LEGISLATION OF THE REPUBLIC OF AZERBAIJAN

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Abstract

This article is dedicated to speedy of the criminal prosecution for the smoothing out the moral feelings of the victim. Azerbaijani legislation provides for specific time limits for conducting the investigation, time limits and conditions for the lodging of complaints and appeals and other procedural times. CCP of the Republic of Azerbaijan provides and procedural terms for the implementation of separate investigative and judicial actions, the extension of procedural terms, the right to submit applications. Despite these provisions of the Code of Criminal Procedure, we consider that in order to more reliably ensure the victim's right to speedy of the process, it would be expedient to include the victim's right to speedy of the process to the legislation. Despite of the providing by the Azerbaijan legislation of the speeding up the processing, in practice, important, serious and urgent cases are considered without queue, but it is not possible to approve the consideration of cases without delay. Therefore, legislation have to provide for speeding up the processing and adjudication of the most important, serious and urgent cases.

Keywords: *speedy of the criminal prosecution, most important, serious and urgent cases, victim's right, processing and adjudication, right to submit applications, the extension of procedural terms*

If there are sufficient grounds to show that the individual suffered direct nonmaterial, physical or material damage as a result of the act provided for in criminal law, he shall be referred to as a victim (Article 87.1 of the CCP). In addition to material damage, the law also provides for nonmaterial-non-pecuniary damage, which, in particular, include emotional anxiety in connection with the loss of close relatives, injuries inflicted, job loss and an impossibility for continuing education, restrictions on physical movement, physical suffering, discovery a family secret, dissemination of calumnious information detrimental to the honour and dignity, etc. Sometimes the victim, during the course of the proceedings, meets with the accused, who has a more painful effect and creates deeper feelings of remembrance and communication, participation of the accused and sometimes other participants in the proceedings. The legislation provides for the protection of the victim from such communication, physical contact, including the conduct of the process through videoconferencing, etc. Some victims try to quickly forget what happened and want the process to end without delay. Therefore, an application to expedite criminal proceedings is one of the rights of the victim under Article 87 of the CCP.

The Code of Criminal Procedure provides for specific time limits for conducting the investigation (Article 218), time limits and conditions for the lodging of complaints and appeals (Article 384) and other procedural times. According to Art. 203.1 CCP, procedures carried out during criminal proceedings after the expiry of the time limit shall be considered invalid if the time limit is not reinstated.

The CCP of the Republic of Azerbaijan provides procedural terms for the execution of separate investigative and judicial actions. The CCP of the Republic of Azerbaijan does not use the term "reasonable terms", but Article 48 of the CCP is dedicated to the guarantee of speedy conduct of the criminal prosecution and it is accordingly noted that, the criminal prosecution shall be started and finished by the preliminary investigator, investigator, prosecutor or court within the time-limits laid down in this Code in such a way as to guarantee the collection and examination of evidence in good time; ensure that people do not wait too long before being charged, or having their cases heard or their rights restored.

According to Article 10.5 of the CCP of the Republic of Azerbaijan, procedures and decisions shall not be valid in the event of a breach of the rules laid down in this article.

One of the ways out of the violation of the procedural time limits is the prolongation of the time limits for conducting the investigation defined by the law (Article 218.6).

By Decree of the President of the Republic of Azerbaijan No. 352 dated 19.01.2006, it was recommended to the higher judicial bodies to organize the study of the case law of the European Court of Human Rights and their consideration in the judicial practice. For this reason, Azerbaijan's law enforcement practice should take into account the requirements of the European Convention and the precedents regarding the right to judicial review within a reasonable period of time. According to part 1 of Article 6 of the European Convention on the Protection of Human Rights and Fundamental Freedoms everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law.

Despite the fact that there is no specific instruction in the legislation regarding the reasonable time periods for conducting judicial proceedings, there are separate administrative acts that regulate the provision of reasonable time in the judicial review.

Plenum decision of the Supreme Court of the Republic of Azerbaijan No. 5 dated 30.03.2006, the purpose of determining a reasonable time is to protect the parties in civil or administrative proceedings, as well as the accused in criminal proceedings, from excessive delays in the judicial process and to achieve the efficiency of justice. When calculating those periods in criminal cases, "reasonable time" includes both the period of preliminary investigation and the period of judicial review until the issuing of the verdict. According to the legal position of the European Court, the calculation of the period starts from the announcement of the charge against the person, the selection of preventive arrest measure, and the application of other procedural coercive measures to him and continues until the judgment enters into legal force against the person or termination of the criminal prosecution. "Reasonable time" for each case should be determined depending on the nature of the specific case, its complexity, and the applicant's behavior in relation to the process.

ECHR in judgment Fedorov and Fedorova v. Russia (2005) "The Court recalls that the reasonableness of the length of proceedings must be assessed in the light of the circumstances of the case and with reference to the criteria established by its case-law, particularly the complexity of the case and the conduct of the applicant and of the relevant authorities" [3, §28].

According to the decision of the ECHR in the case of Kormacheva v. Russia (2004) "The Court reiterates that the reasonableness of the length of proceedings must be assessed in the light of the circumstances of the case and with reference to the criteria established by its case-law, particularly the complexity of the case, the conduct of the applicant and of the relevant authorities and what was at stake for the applicant in the dispute" [5, §51]. For example, in the decision of the case Komingersol S.A. against Portugal of the Grand Chamber of the ECHR it is said that "The reasonableness of the length of proceedings is to be determined in the light of the circumstances of the case and with reference to the criteria laid down in the Court's case-law, in particular the complexity of the case, the conduct of the applicant and of the relevant authorities, and what was at stake for the applicant in the dispute" [6, §19].

The ECHR uses the criteria of relevantness and sufficiency of the motives of the judicial authorities in the evaluating the reasonable duration of the judicial review. For example, "The persistence of reasonable suspicion that the person arrested has committed an offence is a condition sine qua non for the validity of the continued detention. but, after a certain lapse of time, it no longer suffices; the Court must then establish whether the other grounds cited by the judicial authorities continue to justify the deprivation of liberty. Where such grounds are "relevant" and "sufficient", the Court must also ascertain whether the competent national authorities displayed "special diligence" in the conduct of the proceedings" [7, §35].

National criminal procedural legislation uses the concepts of "complexity" and "special complexity" of the criminal case when extending the time. The legislator does not explain the nature of these concepts. However, the experience of the European Court has developed criteria for the complexity of the case: number and particular nature of the charges [9, §27], difficulties associated with calling and transporting foreign participants to carry out investigative, judicial and procedural action [10, §60] highly sensitive nature of the offences charged, relating to national security [11, §42], difficult issues of proof-taking [12, §§48-50], large number of evidence [13, §63] and etc.

Experience shows that it is impossible to provide a closed list of criteria to determine the "complexity" and "specific complexity" of the work. The criteria vary depending on the nature of the crime and the nature of the criminal case.

Criminal legislation determines the criteria for the classification of crimes. Sometimes it is possible to agree on the identification of complex criminal cases and serious crimes, which are processed over a long period of time. However, based on the amount and volume of procedural actions on serious crimes and less serious criminal cases, the equalization cannot be considered correct. We believe that, according to the Law of the Republic of Azerbaijan "On Courts and Judges", in accordance with Article 131 of the Constitution, it would be appropriate to explain the complexity and special complexity of cases at the level of the Supreme Court, whose powers include explaining the issues of judicial practice.

One of the criteria for non-violation of the provisions of the CCP on ensuring the speedy conduct of the criminal prosecution is the provision of the Article 146.3.2 of the CCP on the prolongation (dilatatory conduct) of the investigation or the court proceedings.

According to the Rule 41 of the ECHR, order of dealing with cases In determining the order in which cases are to be dealt with, the Court shall have regard to the importance and urgency of the issues raised on the basis of criteria fixed by it. The Chamber, or its President, may, however, derogate from these criteria so as to give priority to a particular application.

The Court's Priority Policy 30 October 2023 makes a amendments to the priority policy with a view to speeding up the processing and adjudication of the most important, serious and urgent cases. It established seven categories ranging from urgent cases concerning vulnerable applicants (Category I) to clearly inadmissible cases dealt with by a Single Judge (Category VII). The various categories of priority is I. Urgent applications (in particular risk to life or health of the applicant, the applicant deprived of liberty as a direct consequence of the alleged violation of his or her Convention rights, other circumstances linked to the personal or family situation of the applicant, particularly where the well-being of a child is at issue, application of Rule 39 of the Rules of Court) II. Applications raising questions capable of having an impact on the effectiveness of the Convention system (in particular a structural or endemic situation that the Court has not yet examined, pilot-judgment procedure) or applications raising an important question of general interest (in particular a serious question capable of having major implications for domestic legal systems or for the European system) III. Applications which on their face raise as main complaints issues under Articles 2, 3, 4 or 5 §1 of the Convention ("core rights"), irrespective of whether they are repetitive, and which have given rise to direct threats to the physical integrity and dignity of human beings IV. Potentially well-founded applications based on other Articles V. Applications raising issues already dealt with in a pilot/leading judgment ("well-established case-law cases") VI. Applications identified as giving rise to a problem of admissibility VII. Applications which are manifestly inadmissible.

The victim shall have the rights. to submit applications in accordance with the Article 87.6.6 of the ECHR and according to the Articles 121.1.1 and 121.1.2 of the CCP the prosecuting authority shall include applications made by the parties to the criminal proceedings during an investigative or other procedure, as well as requests by other participants in the criminal proceedings, in the record of those procedures (or the court hearing) and add the written applications and requests of the parties and of other participants in the criminal proceedings to the prosecution file. Despite these provisions of the Code of Criminal Procedure, we believe that in order to more reliably ensure the victim's right to speedy conduct of the criminal prosecution, the Azerbaijani legislation should be included the rights of the participants of the process, mainly the victim, to request the speedy of the process and of the case.

The Court's Priority Policy provides for speeding up the processing and adjudication of the most important, serious and urgent cases. This refers to extraordinary proceedings. We consider that, in addition to speeding up proceedings, the legislation should include these criteria of the adjudication of the most important, serious and urgent cases. Despite of the providing by the Azerbaijan legislation of the speeding up the processing, in practice, most important, serious and urgent cases are considered without queue, but it is not possible to approve the consideration of cases without delay. Therefore, legislation have to provide for speeding up the processing and adjudication of the most important, serious and urgent cases.

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PHENOMENOLOGY OF "MULTI-LEVEL CONSTITUTIONALISM": DOCTRINAL BASIS REGARDING DEFINITION, UNDERSTANDING AND MEANING

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ФЕНОМЕНОЛОГІЯ «БАГАТОРІВНЕВОГО КОНСТИТУЦІОНАЛІЗМУ»: ДОКТРИНАЛЬНІ ЗАСАДИ ЩОДО ВИЗНАЧЕННЯ, РОЗУМІННЯ І ЗНАЧЕННЯ

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Abstract

The article is devoted to the study of the doctrinal foundations of the definition, understanding and meaning of the phenomenology of "multilevel constitutionalism", which is the latest in the theory and practice of global and European constitutional law. It is noted that the praxeological value of the phenomenology of "multilevel constitutionalism" is quite high, because, firstly, its application activates further creative thinking and the formation of productive doctrinal positions, which is objectively necessary to promote mutual understanding and respect between different legal systems and different courts; secondly, it must be stated that in the conditions of "source chaos" of European law and national legal systems, it is the phenomenology of "multilevel constitutionalism" with its principled approaches that is the only way by which European multilevel constitutionalism can be formed: a) in accordance with the fundamental instruction of naturalistic jurisprudence; b) in accordance with the main principles of the rule of law and democracy; c) in the context of reconciliation of national sovereignty with the international obligations of states in the

European integration project; d) with the involvement of national courts and judges in the process of forming the positions of the judiciary of integration associations; d') with quite significant prospects for the formation of a new quality of interstate and national constitutional ideology, constitutional understanding (legal understanding) and constitutional psychology; e) with the real possibilities of creating a single legal space that unites under its auspices national, supranational and international legal orders, despite their respective contradictions, which reflect the clash of political and social interests that they regulate and regulate, as well as e) with taking into account the ordinary and extraordinary conditions of the functioning of general constitutionalism.

Анотація

Стаття присвячена дослідженню доктринальних засад щодо визначення, розуміння і значення феноменології «багаторівневого конституціоналізму», що є новітньою в теорії та практиці глобального та європейського конституційного права. Зазначається, що праксеологічна цінність феноменології «багаторівневого конституціоналізму» є досить високою, бо, по-перше, її застосування активізує подальше творче мислення і формування продуктивних доктринальних позицій, що є об'єктивно необхідним для сприяння взаєморозуміння та повазі між різними правопорядками та різними судами; по-друге, треба констатувати, що в умовах «джерельного хаосу» європейського права і національних правопорядків, саме феноменологія «багаторівневого конституціоналізму» з її принциповими підходами виступає єдиним способом, за допомогою якого європейський багаторівневий конституціоналізм може бути сформований: а) у відповідності до основоположних настанов натуралістичної юриспруденції; б) у відповідності до головних принципів верховенства права та демократії; в) в контексті узгодження народного суверенітету з міжнародними зобов'язаннями держав у європейському інтеграційному проекті; г) з залученням національних судів та суддів до процесу формування позицій судової влади інтеграційних об'єднань; з') з досить суттєвими перспективами формування нової якості міждержавної і національної конституційної ідеології, конституційного розуміння (праворозуміння) і конституційної психології; д) з реальними можливостями створення єдиного правового простору, що об'єднує під своєю егідою національні, наднаціональні та міжнародні правопорядки, не дивлячись на їх відповідні суперечливості, що відображають зіткнення політичних і соціальних інтересів, які вони регламентують і регулюють, а також е) з врахуванням ординарних та екстраординарних умов функціонування загального конституціоналізму.

Keywords: constitutionalism, general constitutionalism, multilevel constitutionalism, human rights, the European Convention for the Protection of Human Rights and Fundamental Freedoms, judicial protection of human rights.

Ключові слова: конституціоналізм, загальний конституціоналізм, багаторівневий конституціоналізм, права людини, Європейська конвенція про захист прав людини і основоположних свобод, судовий захист прав людини.

Проблематика конституціоналізму виступає не тільки як тренд сучасного конституційного розвитку держав-членів міжнародної спільноти, а також всієї такої спільноти, а й як практичний теоретико-інструментальний та функціонально-практичний засіб пізнання, проєктування, побудови, функціонування, сучасного і перспективного розвитку і вдосконалення конституційно-правової реальності, – що знаходить свій розвиток і вдосконалення в умовах ординарного та екстраординарного функціонування державності та міжнародної спільноти через призму історичного, теоретичного і праксеологічного розвитку профільної феноменології.

Необхідно наголосити на тому, що численні зарубіжні вчені-конституціоналісти активно і під різними ракурсами досліджували феноменологію конституціоналізму, особливо впродовж останніх двадцяти років, – а це було детерміноване і пов'язане, насамперед, зі становленням та розвитком феноменології демократичної правової державності, яка стала визначальною у існуванні, функціонуванні і розвитку держав, їх регіональних і універсальних асоціацій, і в якій загальний конституціоналізм виступає не тільки основоположним та стрижневим елементом, а й ефективним засобом досягнення телеологічних домінант їх сталого та перманентного

розвитку, що гарантує соціальний мир та врівноваження інтересів людини, соціуму, держави та бізнесу.

Спираючись на системний аналіз наукового висвітлення профільної проблематики, можна зробити висновок, що такі дослідження здійснювалось не тільки у межах загального конституціоналізму, – як опорної теоретико-доктринальної та основоположно-функціональної феноменології, а й у її різних нових контекстах прояву конституціоналізму [1]. Серед сучасних трендів конституційного процесу можна виокремити політичний і правовий [2], популістський [3], деліберативний [4], практичний [5], соціологічний [6], авторитарний [7], національний і транснаціональний [8; 9], плюралістичний [10], космополітичний [11], соціетальний (соціологічний) [12], екологічний [13], цифровий [14], мілітарний [15], муніципальний конституціоналізм [16] тощо.

Отже, по-перше, можна зазначити, що кожен з нових видів (подвидів) конституціоналізму номенологічно відображає його змістовне наповнення, що дає змогу вийти на відповідну дефініцію, що буде містити його основні характерологічно-ідентифікаційні ознаки (характерологічно-видовий критерій – авт.).

По-друге, враховуючи основоположний характер відносин, що регламентуються і регулюються настанови загального конституціоналізму, його суб'єктно-об'єктний склад, можна зазначити первинний його характер по відношенню до всіх інших видів конституціоналізму, причому, саме в межах загального конституціоналізму (основоположно-первинний критерій – авт.).

По-третє, враховуючи настанови «натуралістичної» юриспруденції, що базується на вихідних установках і пріоритеті природних прав людини перед правами держави [17], загальний конституціоналізм фактично може бути охарактеризований як основоположний вид конституціоналізму, що: а) встановлює, продукує, формує, регламентує, регулює, демонструє, ілюструє, а також реалізує позитивне відношення держав-членів міжнародної спільноти і самої спільноти до проблематики функціонування державної організації суспільства; б) позитивне відношення публічної влади до організації повсякденного життя людини, як члена людського соціуму, що існує і функціонує в умовах державної організації, – причому, починаючи від локального, і закінчуючи глобальним рівнем, що в) у підсумку підкреслює особливу важливість профільного феномена для подальшого існування людської цивілізації в цілому, а також на різних рівнях її функціонування (природно-управлінський критерій – авт.).

По-четверте, саме це детермінує формування і виникнення в межах загального конституціоналізму його предметно-видових характеристик, що, з одного боку, актуалізують, каталізують, контекстуалізують відповідні напрямки і сфери існування і розвитку конституційно-правової реальності на різних рівнях її існування та функціонування, враховуючи й перспективні процеси розширення предметно-об'єктного складу конституційно-правової регламентації, а з іншого, – роблять такі напрямки і сфери більш чіткішими і придатними для розуміння публічною владою і суспільством в контексті їх подальшого використання з метою вдосконалення суспільно-нормативних відносин, що виникають між людиною-особистістю, соціумом і державою (класифікаційно-видовий критерій – авт.).

По-п'яте, виникнення профільної феноменології напряму сприяє роль, значення та різні аспекти функціонування загального конституціоналізму, яку він відіграє у мирний час та у періоди екстраординарного функціонування державності, зокрема в умовах воєнного стану та війни – коли основоположний стрижень цієї феноменології – охорона і захист прав і свобод людини акумулюється не тільки на рівні держави, скільки на рівні локальної територіальної людської спільноти – територіальної громади (далі – ТГ), в межах якої, в умовах місцевого самоврядування (далі – МСВ), за допомогою сформованих самою ТГ органів – органів місцевого самоврядування (далі – ОМСВ) людина здійснює свій життєвий цикл, через реалізацію своїх конституційних прав і свобод, що в умовах МСВ трансформуються в муніципальні права людини.

Отже, А) в умовах мирного часу:

– загальний конституціоналізм виступає правлінням, що має чітко встановлені параметральні ознаки та пріоритети, які ґрунтуються на гуманістичному ідеалі та пріоритеті правових цінностей гуманітарної спрямованості, якими сповідується, яким підкоряється і в межах яких існує і функціонує державна влада, але реалізація вказаних засад є об'єктивним фактором демократичної правової державності та має забезпечити існування не тільки людиноцентричної, а й людинорозмірної політико-правової системи, у якій фундаментальні права людини мають не тільки пріоритетне значення стосовно держави, а й виступають

основоположним об'єктом визнання, легалізації, охорони, захисту, гарантування, реалізації з її боку (засадничо-конституційний фактор – авт.);

– така транспозиція та побудова пріоритетів і черговості прав та їх захисту не тільки обмежує державну владу у її схильності до етатизму та свавілля, а й встановлює чіткі нормативні межі її функціонування, – причому найважливішою гарантією існування такої системи є конституція держави, яка, з одного боку, визнає, легалізує, охороняє, захищає, гарантує основоположні права людини, з іншого – чітко встановлює юридичні обмеження для держави, її органів, посадових і службових осіб (конституційно-охоронний фактор – авт.);

– наведені вище положення мають безпосереднє відношення до інституту МСВ як найважливішої екзистенційно-функціональної сфери конституціоналізму, – тобто, сфери самоорганізації жителів відповідних територій держави, що виникає на рівні локальної демократії (у формі МСВ – авт.), в межах територіальної людської спільноти (територіальної громади – авт.) та в умовах повсякденності (зазвичай в умовах мирного стану – авт.) (локально-антропологічний фактор – авт.) та яка

– ставить у центр дискурсу права людини і питання їх усвідомлення, формування, реалізації саме в межах локального соціуму, що фактично виступають основоположним наративом, пріоритетною конотацією і телеологічною домінантою загального конституціоналізму (гуманітарно-гуманістичний фактор – авт.);

– інститут МСВ виступає одним із найважливіших елементів конституціоналізму, бо він:

а) є легалізованим у конституції та законодавстві держави (легальний фактор – авт.);

б) є легітимізованим місцевим населенням – жителями-членами ТГ (легітимний фактор – авт.);

в) володіє чіткою управлінською парадигмою – вирішення питань місцевого значення (ст. 140 Конституції України [18]) (управлінський фактор – авт.);

г) є основоположним та самодостатнім для існування будь-якої людини, бо саме в межах МСВ людина реалізує свій життєвий цикл (екзистенційний фактор – авт.);

г') формує простір виникнення, формування, прояву і реалізації екзистенційних інтересів людини, а також відповідний простір виникнення, формування, прояву і реалізації її атитюдів, у тім числі й правових, а також габітусів, у тім числі й правових (біхевіористичний та поведінково-діяльнісний фактори – авт.);

д) виступає простором соціалізації людини (релятивістський фактор – авт.);

е) є природною, єдиною та універсальною сферою комунікативної взаємодії людей у межах ТГ (комунікативний фактор – авт.);

є) з метою організації та реалізації їх сумісної діяльності для досягнення і вирішення загальних телеологічних домінант (цілей) (інтерсуб'єктивний фактор – авт.);

и) є простором формування громадянського суспільства та його інституційної основи (інституційний фактор – авт.);

і) у його межах здійснюються демократичні механізми регулярного оновлення інституцій публічної влади та інституту посадових осіб держави та МСВ (владно-оновлюючий фактор – авт.);

і') у його межах людина формує, обирає та реалізує відповідні і оптимальні рольові позиції для свого соціального індивідуального, групового і колективного існування (екзистенційно-рольовий фактор – авт.);

й) у його межах людина усвідомлює, формує, реалізує свій індивідуальний, груповий, колективний конституційно-правовий статус (конституційно-статусний фактор – авт.); насамкінець,

к) у його межах людина, здійснюючи свій життєвий цикл, реалізує в період фертильності свою репродуктивну функцію щодо продовження свого роду та забезпечення майбутнього ресурсно-кадрового складу ТГ (соціально-відновлюючий фактор – авт.) тощо, – при цьому всі наведені фактори в період війни опиняються під реальною загрозою свого існування та реалізації;

– необхідно наголосити на особливому значенні інституту МСВ для розвитку конституціоналізму у зв'язку з тим, що останній виступає фактично втіленням засад натуралістичної юриспруденції, бо саме в межах МСВ проявляються і реалізуються природні права людини, причому, одночасно і разом із конституційними правами, що трансформуються у муніципальні права людини (природно-засадничий фактор – авт.);

– МСВ виступає не тільки важливим елементом загального конституціоналізму, а й формує фактично його нову складову – муніципалізм та його муніципальну корпоративну

культуру, що, по-перше, сприяє формуванню і розвитку муніципально-правової психології, ідеології та у сукупності – муніципально-правової діяльності; по-друге, це, своєю чергою, скеровано на формування та прояв муніципально-правової свідомості жителів-членів ТГ, в основі якої лежить константа неможливості існування феноменології муніципалізму без продуктивної взаємодії і співробітництва з державою (муніципально-правовий фактор. – авт.);

– водночас повноваження органів МСВ передбачені Конституцією держави та чинним законодавством, правосуб'єктність ТГ формально забезпечена (легальний фактор – авт.).

Б) в умовах воєнного часу:

– театр війни на території нашої держави розташований на території конкретних ТГ, тому основні наслідки в результаті воєнних дій та весь тягар у їх нівелюванні та нейтралізації отримують і несуть саме ТГ у вигляді руйнування об'єктів локального господарства, інфраструктури, людських жертв (локально-територіальний фактор – авт.);

– воєнні дії, що відбуваються на території ТГ напряму і безпосередньо торкаються жителів-членів ТГ, їхньої власності, власності ТГ, держави, інших фізичних та юридичних осіб (антропологічно-матеріальний фактор. – авт.);

– усі кричущі порушення прав людини в період воєнних дій, всі військові злочини відбуваються на території конкретних ТГ (Буча, Ірпінь, Бородянка тощо) (локально-деліктний фактор – авт.);

– саме органи МСВ, що сформовано самими ТГ, повинні: а) в силу своїх компетенційних повноважень, б) спираючись на їх змістовність, в) спроможність, г) управлінські можливості та г') управлінський потенціал, д) здатність, е) знання, є) вміння, ж) навички та з) ресурсне забезпечення побудови профільних суспільно-організаційних та суспільно-нормативних відносин, – організовувати (зберегти, стабілізувати, відновити) локальне життя, локальне господарство в контексті стабільного існування, функціонування ТГ у воєнний та післявоєнний період (компетенційно-інституційний фактор – авт.);

– спостерігаються суттєві порушення в управлінській діяльності, причому як на державно-регіональному, так і на регіонально-локальному рівнях, унаслідок чого об'єктивно зростає роль і значення саме організаційної та організаційно-правової діяльності органів МСВ (далі – ОМСВ) в організації повсякденного життя ТГ та її членів, забезпечення їх комунальними і соціальними послугами, організації діяльності в умовах воєнного часу, враховуючи існування, функціонування ТГ та діяльність ОМСВ в умовах окупації території (об'єктивно-управлінський фактор – авт.);

– повноваження ОМСВ у цей період Конституцією України і чинним законодавством не передбачено, останнє містить окремі повноваження, що фактично є декларативними з огляду на те, що всі повноваження ОМСВ здійснюються військовими адміністраціями (див. ст. 4 Закону України «Про правовий режим воєнного стану» від 12 травня 2015 р. [19] (нівелюючо-легальний фактор – авт.).

По-шосте, наявність великої кількості видових та різнорівневих характеристик загального конституціоналізму та реальна можливість появи нових напрямків його існування і розвитку в умовах мінливого стану самої держави, а також міжнародної спільноти держав, призвели деяких представників конституційно-правової доктрини до визначення феноменології «багаторівневого конституціоналізму» (статично-поліваріантний критерій – авт.).

Треба зазначити, що такі спроби виокремлення і визначення «багаторівневого конституціоналізму» так й залишилися б актуальними на доктринально-теоретичному рівні. Але вони отримали свою нормативну оцінку і підтримку на рівні законодавчих структур європейської спільноти, що зробило профільну феноменологію не тільки легалізованою, але й такою, що потребує свого подальшого використання, обґрунтування та практичної акцентуації.

Так, один з сучасних європейських вчених-конституціоналістів George Katrougalos (Democritus University of Greece) у своєму повідомленні «European Convention on Human Rights and National Constitutions: A Resolution of the Parliamentary Assembly of the Council of Europe» (2023) [20] у блозі Міжнародної асоціації конституційного права зазначає, що його метою було втілення власних доктринально-теоретичних позицій відносно феноменології «багаторівневого конституціоналізму» у практичну політичну діяльність, – тобто, фактично, легалізація цієї терміносистеми для її подальшого практичного використання (праксеологічний критерій – авт.). Це завдання було виконане, завдяки, по-перше, тому, що цей автор одночасно є не тільки професором публічного права, а й членом Парламентської асамблеї Ради Європи (далі – ПАРЕ); по-друге, саме в останньому статусі він і вніс проєкт резолюції ПАРЕ під назвою «Європейська

конвенція з прав людини та національні конституції»; по-третє, ПАРЕ обговорила та схвалила цей проєкт на пленарному засіданні у квітні 2023 року значною більшістю: 87 – «ЗА» і лише 2 – «ПРОТИ»; по-четверте, ця резолюція ПАРЕ «European Convention on Human Rights and national constitutions» була прийнята [21].

В основі прийняття профільної резолюції ПАРЕ лежить пояснювальний меморандум її автора із посиланням на інші документи Ради Європи та Додаток із відповідями 34 парламентів держав-членів на анкету, що містить детальну інформацію про правові положення та судову практику щодо відносин між Європейською конвенцією з прав людини (далі – ЄКПЛ) і національних конституцій, які характеризують національні особливості та відповідні варіанти вирішення конкретних справ національними судами, але в контексті вирішення генерального завдання – виконання положень ЄКПЛ.

Отже, Рада Європи у своїй Резолюції вперше прийняла концепцію «багаторівневого конституціоналізму» як евристичний інструмент для посилення взаємозв'язку та подолання неминучих суперечок між Європейським судом з прав людини (далі – ЄСПЛ), національними конституційними судами та Судом Європейського Союзу (далі – ЄСЄ).

У Резолюції особливо підкреслюється змістовне наповнення та праксеологічний потенціал «багаторівневого конституціоналізму», що міститься в побудованій легалізованій та легітимованій (виходячи з результатів голосування за цей документ – авт.) наступній поведінково-діяльнісній парадигмі судових органів:

А) хоча формальної ієрархії між різними основоположними нормами багаторівневого конституціоналізму (право ЄС, ЄКПЛ та інші договори Ради Європи та національні конституції) немає (джерельно-конфліктний критерій – авт.),

Б) і може виникнути напруга між відповідними правопорядками (державно-конфліктогенний критерій – авт.),

В) важливо, щоб будь-які рішення відносно вирішення таких конфліктів відповідали міжнародно-правовим зобов'язанням держав (договірно-облігаційний критерій – авт.),

Г) а також довірі та легітимності ЄСПЛ як остаточного арбітра щодо тлумачення та застосування ЄКПЛ (судово-легітимний критерій – авт.).

Отже, можна констатувати вельми суттєвий антиконфліктогенний потенціал профільної Резолюції ПАРЕ, що реалізується через констатацію таких фактів:

- через відсутність конституційної ієрархії між різними наборами правових норм (національних, ЄСПЛ, Європейського Союзу), існує подальша відсутність формальних шляхів розгляду та вирішення розбіжностей;

- проте Резолюція вважає, що немає необхідності намагатися повністю уникнути потенційних конфліктів між різними юрисдикціями;

- загалом такі конфлікти можуть сприяти розвитку суддівського мислення та аргументації за умови, що вони відбуваються в рамках конструктивного діалогу між відповідними судами;

- подібні конфлікти можуть виникнути в результаті приєднання Європейського Союзу до ЄКПЛ, не в останню чергу з огляду на деякі особливі вимоги інституцій Європейського Союзу відповідно до Висновку 2/13 ЄСЄ, але ці питання потрібно буде вирішити в рамках поточної роботи щодо приєднання Європейського Союзу до Конвенції.

Крім того, треба звернути увагу на суттєвий творчий потенціал Резолюції, яка пропонує:

- а) щоб національні конституційні та верховні суди намагалися, де це можливо, узгоджувати свій аналіз прав людини якомога тісніше з аналітичним підходом, прийнятим ЄСПЛ;

- б) такий підхід може бути корисним інструментом для забезпечення узгодженого підходу між юрисдикціями та уникнення непотрібних конфліктів;

- в) підхід національних судів, який намагається, наскільки це можливо, узгодити суперечливі положення шляхом тлумачення, має володіти перевагою перед будь-якою суворого ієрархією норм, яка намагається не застосовувати національне законодавство або ЄКПЛ;

- г) крім того, вже існує процедура надання консультативних висновків ЄСПЛ відповідно до Протоколу № 16 до Конвенції, яка дозволяє національним судам звертатися з попереднім питанням до ЄСПЛ щодо тлумачення ЄКПЛ. Проте лише 19 із 47 держав-членів Ради Європи ратифікували Протокол, і лише сім запитів на консультативний висновок надійшли до національних судів [20].

Наведені підходи свідчать про те, що концепт «багаторівневого конституціоналізму» носить компромісний та синергійний характер, він скерований, по-перше, у підсумку, – на

досягнення стратегічних колективних телеологічних домінант (виконання державами міжнародно-правових зобов'язань, що витікають з ЄКПЛ), за рахунок обходу, «не звернення» пильної уваги на тактичні (індивідуальні) ознаки і особливості, що передбачено національними законодавствами держав-членів РЄ; по-друге, на узгодження загальноєвропейських і національних інтересів, що повинні знайти свій вираз у рішеннях судових установ держав-членів РЄ, що приймаються на основі ЄКПЛ.

Треба зазначити, що феноменологія «багаторівневого конституціоналізму» обговорювалась досить давно. Для її реалізації на практиці представниками конституційної доктрини пропонувались відповідні заходи інституційного характеру. В цьому сенсі треба звернути увагу на новаторську пропозицію професорів Daniel Sarmiento (Professor of EU and Administrative Law at the University Complutense of Madrid and Editor-in-Chief of EU Law Live) та Joseph H.H. Weiler (Professor at NYU School of Law, Senior Fellow at the Harvard Centre for European Studies, and former President of the European University Institute, Florence /2013-2016/) щодо створення змішаної палати Суду Європейського Союзу з національними суддями у випадках, коли виникає питання – чи є законодавство ЄС *intra vires* (прийнятим у межах компетенції) [22].

Отже, у контексті ЄКПЛ професор Вейлер, який був запрошений на слухання Юридичного комітету ПАРЕ, припустив, що якщо Велика палата ЄСПЛ знала, що їй необхідно обговорити рішення, що стосується делікатного конституційного питання, вона могла б мати закриті слухання за участю ЄСПЛ і відбору національних суддів Конституційного суду. Це може включати суддю з відповідної держави-члена (але не тільки з цієї держави). Питання, які підлягають обговоренню, можуть включати такі: чи підпадає це питання в межі розсуду, що наданий державам-членам відповідно до ЄКПЛ? Причому, організація такого заходу повинна бути реалізованою з дотриманням відповідних принципів: а) під час такого слухання не повинно бути повноважень приймати рішення; б) характер обговорення носив би скоріше вигляд організованого діалогу, щоб допомогти поінформувати ЄСПЛ про проблему, використовуючи мудрість суддів конституційного суду з різних держав; в) навіть якби судді ЄСПЛ не змінили свою думку після такої дискусії, це принаймні допомогло б розширити їх інформаційне поле і покращити якість їхньої аргументації, зробивши її більш переконливою в остаточному рішенні.

На думку George Katrougalos, таку форму можливих обговорень складних питань європейського права потрібно запозичити й на рівень ЄСПЛ [20].

Резюмуючи викладене вище, треба зазначити, що праксеологічна цінність феноменології «багаторівневого конституціоналізму» є досить високою. По-перше, її застосування активізує подальше творче мислення і формування продуктивних доктринальних позицій, що є об'єктивно необхідним для сприяння взаєморозуміння та повазі між різними правопорядками та різними судами. По-друге, треба констатувати, що в умовах «джерельного хаосу» європейського права і національних правопорядків, саме феноменологія «багаторівневого конституціоналізму» з її принциповими підходами виступає єдиним способом, за допомогою якого європейський багаторівневий конституціоналізм може бути сформований:

- а) у відповідності до основоположних настанов натуралістичної юриспруденції;
- б) у відповідності до головних принципів верховенства права та демократії;
- в) в контексті узгодження народного суверенітету з міжнародними зобов'язаннями держав у європейському інтеграційному проекті;
- г) з залученням національних судів та суддів до процесу формування позицій судової влади інтеграційних об'єднань;
- г') з досить суттєвими перспективами формування нової якості міждержавної і національної конституційної ідеології, конституційного розуміння (праворозуміння) і конституційної психології;
- д) з реальними можливостями створення єдиного правового простору, що об'єднує під своєю егідою національні, наднаціональні та міжнародні правопорядки, не дивлячись на їх відповідні суперечливості, що відображають зіткнення політичних і соціальних інтересів, які вони регламентують і регулюють;
- е) з врахуванням ординарних та екстраординарних умов функціонування загального конституціоналізму.

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Medical sciences

CONDITIONS FOR PERFORMING INDUCED ABORTION – REVIEWE ARTICLE

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Abstract

A review of the current literature on the preparation of the cervix in induced abortion is made. A thorough analysis of the guidelines of leading international and national organizations for the Prevention of complications of the cervix in induced abortion - surgical and medicated during the I-st and II-nd trimester has been carried out. Shared with the author's many years of practical experience in order to assess the risks and benefits of the application of modern means of prophylaxis in artificial abortion and thus to improve the individual obstetric-gynecological practice.

Material and methods: *historical method - study of electronic resources database in the last 10 years.*

Results: *Preparation is mandatory at any gestational age, for women at high risk of injury or perforation, as well as for all women under the age of 18. Cervical dilation can be performed mechanically and/or with pharmacological combing. The procedure of abortion should not be carried out if the cervix is not adequately dilated for the term of pregnancy! For vacuum aspiration, the self-administration of osmotic dilators or the combination of Mifepristone + Misoprostol is sufficient: Mifepristone (200 mg oral, 24-48 hours before the procedure); Misoprostol (400 mg sublingual, 1-2 hours before the procedure or vaginal/ buccal, 2-3 hours before the procedure).*

Conclusion: *The preparation of the woman provides the necessary quality care and medical behavior. The approach requires in-depth knowledge, individual attitude and the right choice of therapeutic behavior according to the term of pregnancy.*

Keywords: *pregnancy, induced abortion, training, skills.*

INTRODUCTION

Cervical dilation must necessarily be performed before induction of abortion. it can be performed mechanically or with pharmacological treatments. It expands to a size suitable for gestational age and parity. One or more osmotic dilators, 12-24 hours before abortion, are placed in the cervical canal for 4-12 hours, with one end of the stick to penetrate the internal opening, and the other remains in the upper part of the vagina. The osmotic dilator should be placed at least 4 hours before the procedure, and the period between insertion and the procedure should not exceed two days.

Preparation is not necessary in women with gestational age below 63 days. Since 9 gw up to 12 gw the preparation of the cervix is useful in non-births, such as after 12 gw is useful for all women with induced abortion, whether surgical or medicated

The practice of preparing the cervix has some disadvantages, because it requires additional financial costs, time and causes discomfort to the patient [11]. Women must visit the clinic one day before the procedure to be put in osmotic dilators or get an apostille, or have to wait a few hours at the Health Center for an apostille to work, [4]. It is currently shown that preparation is not necessary in women with gestational age below 63 days (9 gw) [4]. Since 9 gw. up to 12 gw. the preparation of the cervix is useful in unripe women, as after 12 gw. is useful for all women with induced abortion, whether surgical or medicated [13].

DISCUSSION

Cervical preparation is mandatory at any gestational age, for women at high risk of injury or perforation (with cervical abnormalities, previous surgical interventions), as well as for all women under the

age of 18 [6, 10]. Adolescents have an increased risk of cervical injury during abortion [4]. This risk does not depend on the obstetric history of a previous birth, but on the physiological immaturity of the cervix at this age [4]. Cervical dilation can be performed mechanically and with pharmacological combinations. It is possible to combine osmotic dilators with pharmacological agents [2]. Dilates to a size suitable for gestational age and parity, tab. 1.

Table 1.

Cervix dilation according to gestational age-Evergreen trimester	
Pregnancy in gestational weeks	Dilation in millimeters
6	≤ 6
7	7 - 8
8	8 - 9
9	9 - 10
10	10 - 11
11	11 - 12
12	12

DISCUSSION

Types of dilation agents: mechanical dilation can be performed with solid mechanical dilators (Hegar, Hawkin/ Ambler, Pratt or Denniston), a Foley urinary catheter (size 14, 25 mm bladder behind the inner opening of the neck) or osmotic dilators (*Laminaria japonica et digitata*, Lamicel, Dilapan-S). In addition to the physical impact, osmotic dilators also cause prostaglandin synthesis, which softens the cervix and facilitates subsequent mechanical expansion [2]. One or more laminaria, 12- 24 hours before abortion, are placed in the cervical canal for 4-12 hours [11], with one end of the stick to penetrate the internal opening, while the other remains in the upper part of the vagina [9].

A dilapan dilapan with a diameter of 4 ambiguities leads to an extension of 7.8 - 10.0 ambiguities within 2 hours, 10– 11.2 repeaters - for 4 hours, 12.7 – 14.6 repeaters for 24 hours [2]. Numerous cohort studies have shown that osmotic dilators are safe, effective, and do not increase the risk of infections [4]. In the presence of a genital infection, a broad-spectrum antibiotic is administered and it is administered. Meta-analysis of cervical pre-aposematic training between 14-24 gw. found that osmotic dilators placed at night provided better cervical dilation and reduced procedure time [4, 12].

Women experience pain both during the placement of the dilator and at night when the dilators expand in the cervix. Administration of a paracervical block before insertion of the osmotic dilator relieves pain, and use of non-steroidal anti-inflammatory drugs better reduces the feeling of cramps in the hours after insertion of the dilator [4]. The osmotic dilator should be placed at least 4 hours before the procedure, and the period between insertion and completion of the procedure should not exceed two days [13]. It is also important to prepare mentally for the upcoming intervention. Good preparation improves the outcome of the intervention [7]. Complications with the use of osmotic dilators are rare - pain, Vaso-vagal reactions, bleeding, inadequate cervical dilation, cervical rupture and exceptionally uterine rupture [2, 11]. Unlike synthetic dilators, algae sticks can cause allergic reactions or anaphylaxis [6]. Compared to the use of prostaglandins, osmotic dilators do not reduce blood loss during abortion and require practical gynecological experience to introduce them [11].

Pharmacologic means of dilation (Mifepristone and Misoprostol) are ubiquitously and ubiquitously. Mifepristone (200 mg) in the form of a single oral tablet effectively softens the cervix and initiates its expansion. It should be administered 24- 48 hours before the abortion [4, 11]. Unlike preparing the cervix with Apostille, the self-administration of Apostille does not reduce blood loss during abortion. The big drawback associated with the use of Mifepristone is the need for the woman to visit the clinic 24- 48 hours before the abortion in order to receive the medicine and its high price. Getting to the osmotic dilators reduces the strength of the pain, but does not shorten the time to achieve the required dilation [4].

It is a 10-fold cheaper drug than it is, safe and more easily accessible than osmotic dilators [4], and can be administered as vaginal suppositories by paramedic staff.

Study of 2019 [4]. It has been shown that the vaginal route of insertion causes less bleeding than the oral and sublingual, which also have more gastrointestinal side effects. When the vaginal route is undesirable or uncomfortable for the woman, as an alternative, sublingual intake, which is more effective, is closest to vaginal [5], is recommended. Single application of the Misoprostol is effective up to the

age of 18.gw [10, 11]. After 18 gw self-administration is ineffective and has been associated with a high risk of cervical ruptures during extravasation [4]. Previous birth by C-section is not a contraindication to taking the Misoprostol.

Preparation of the cervix in SA

Preparation of the cervix before SA is recommended for pregnancy over 9 gw - for first-time mothers and for all pregnant women over 10 gw [6]. It is believed that cervical dilation in the meningococcal reduces early complications (small cervical lacerations, incomplete abortion) [4, 12]. Up to 9 gw it is possible to perform the aposematic without expanding. From 9-14 gw. Is performed with enlargement of the cervical canal [11]. Studies (18 RCT n=8,538) [12] that compared Mifepristone with Misoprostol reported that the time to complete an abortion is shorter for Misoprostol, but in terms of the degree of dilation achieved before the abortion, the dilation is greater for Mifepristone [10].

The pain of dilation during mechanical cervical dilation and during uterine aspiration was less in the Mifepristone group compared to the Misoprostol Group. Mifepristone, applied 24 hours before abortion, has a better clinical effect than Misoprostol, but adds time and cost to the abortion procedure (Mifepristone is 10 times more expensive than Misoprostol) [4], so routine use of i Mifepristone is not recommended. Mifepristone can only be used as an alternative. Dosing of pharmacological agents shikka dilation before vacuum aspiration is as follows:

- Mifepristone 200 mg oral, 24- 48 hours before the procedure [13] or
- Misoprostol 400 micrograms sublingual, 1-2 hours before the procedure or vaginal/ buccal, 2 - 3 hours before the procedure [13].

After vaginal insertion of the tablet-the woman should remain in a supine position for about 30 minutes. Adequate preparation of the cervix is an essential condition for the safe performance of dilation and reducing the risk of complications such as perforation of the uterus and rupture of the cervix [7, 12]. The procedure of dilation should not be performed if the cervix is not adequately dilated for the duration of pregnancy. If adequate cervical dilation cannot be achieved within the time frame for performing dilation and evacuation of uterine contents, can proceed to medicated abortion as an alternative. In contrast to Mifepristone, Misoprostol it softens rather than dilates the cervix, and therefore when preparing for SA in the second trimester it is recommended to use it in combination with Mifepristone and/ or osmotic dilator [2, 11].

In the case of the Independent use of the Misoprostol or Mifepristone after 12gw mechanical dilators necessary for the mechanical expansion of the cervix should be available, especially between the ages of 16-18gw. The self-use of Misoprostol or Mifepristone is associated with more frequent side effects such as bleeding, cramps and fever and is not recommended. Dosing Misoprostol or Mifepristone for dilation from 12-18 + 6 g weeks of pregnancy [8, 11] is:

- combination of Mifepristone + Misoprostol: Mifepristone (200 mg oral, 24-48 hours before the procedure); Misoprostol (400 mg sublingual, 1-2 hours before the procedure or vaginal / buccal, 2-3 hours before the procedure) or
- osmotic dilators + Misoprostol or Mifepristone, for dilation and evacuation of uterine contents from 19-24 weeks of pregnancy [8]:
- osmotic dilators +\ - (Misoprostol or Mifepristone).

Preparation of the cervix in Medical abortion: the risk of injury to the cervix in MA is practically extremely low because there are no tools or dilators to insert into the cervix. The cervix is made up of 85.0% connective tissue and 15.0% muscle fibers. Connective tissue is represented by collagen fibers and the main substance – proteoglycan. Proteoglycan is composed mainly of glucosaminoglycans. Prostaglandins increase the activity of the enzyme collagenase and thus induce collagen breakdown and alter the composition of glucosaminoglycans by inducing breakdown of proteoglycan complexes, increasing tissue hydration [8]. These processes lead to softening, shortening and increasing the elasticity of the cervix and expansion of the cervical canal. The muscle fibers, which make up the remaining 15.0% of the cervix, relax under the action of prostaglandins - Misoprostol, and facilitate the dilation of the canal. Mifepristone leads to relaxation of the cervix by changing the ratio of cAMP/ cGMP [3].

The changes that occur in the pregnant uterus resemble those that occur during inflammation and are accompanied by additional release of prostaglandins [1, 3]. Similar epithelial effusion-related changes also occur in the cervix, but the concentrations of PGE are not increased in the cervical tissues and the maturation of the cervix is not blocked by non-steroidal anti-inflammatory drugs. This can be explained by an increase in the number of prostaglandin receptors in the cervical tissues under the influence of Mifepristone. Mifepristone and Misoprostol act synergistically in terms of cervical dilation [9], with the described changes being complex and not fully understood. With the intake of 48hours before

the abortion, the pre-abortion preparation of the cervix in medical abortion is practically achieved. Osmotic dilators may be used as additional means for cervical dilation in medical abortion.

CONCLUSIONS

Preparation is not necessary in women with gestational age below 63 days (9 gw). Since 9gw up to 12 gw the preparation of the cervix is useful in non-births, such as after 12 gw it is useful for all women with induced abortion, whether surgical or medicated. Cervical dilation can be performed mechanically and / or with pharmacological combining. It expands to a size suitable for gestational age and parity. The procedure of abortion should not be carried out if the cervix is not adequately dilated for the term of pregnancy!

One or more osmotic dilators, 12- 24hours before abortion, are placed in the cervical canal for 4-12hours, with one end of the stick to penetrate the internal opening, and the other remains in the upper part of the vagina. The osmotic dilator should be placed at least 4 hours before the procedure, and the period between insertion and the procedure should not exceed two days.

In the case of vacuum aspiration, it is justified to use osmotic dilators alone or the combination of Mifepristone + Misoprostol is sufficient:

Mifepristone (200 mg orally, 24-48hours before the procedure); Misoprostol (400 mg sublingual, 1-2hours before the procedure or vaginal/ buccal, 2-3 hours before the procedure). With induction only with medical abortion with the reception of 48.00 hours before the abortion, pre-abortion preparation of the cervix is practically achieved.

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Philological sciences

LINGUISTIC FEATURES OF VIRTUAL COMMUNICATION SPACE

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Abstract

New information technologies that allow storing and quickly transmitting large volumes of information, involving audio and video communication channels, and interacting directly with a large number of participants from around the globe have become a reality of our days. The computer has completely changed not only the nature of communication with information, but also our ideas about the communication process. In this regard, it is legitimate to distinguish communication carried out via a computer as a special type of communication. The linguistic correlate of this type of communication is computer or electronic discourse as one of the forms of virtual discourse, broadly understood, but limited in this work to electronic means of communication.

Keywords: *linguistics, language, information technologies, communication process, means of communication*

The features of communicative activity in modern society are revealed, taking into account the concepts of addresser and addressee. For this purpose, the essence of social communication is analyzed, its functions and transmission channels are identified, and the types of social communication are established. At the same time, such types of social communication as documentary communication and intercultural communication are considered in detail. The text, which is a material carrier of information that is encoded in it by means of literary language, is recognized as the highest communicative unit. It is established that the language code is a system of certain linguistic signs and rules for their use. The peculiar linguistic code of a particular type of text is determined, first of all, by the communicative-pragmatic function performed by texts in modern society. It is emphasized that it is in the process of social communication that both literary and non-fiction texts are generated (encoded), which, in turn, are decoded by recipients.

The scientific literature presents various definitions of the concept of "communication", since there are different methods and types of it. The concept of "communication" is currently used, as a rule, in two meanings: firstly, a communication route, for example, transport communications, underground communications. Secondly, communication, a specific form of interaction between members of society in the process of their life activities using language and other signaling forms of communication

Using the concept of "communication", a number of researchers mean only social communication, i.e. communication in human society, or "human communication" as the exchange of thoughts, knowledge and feelings of members of society. Social communication is defined as a specific exchange of information, as a result of which the process of transferring information of intellectual and emotional content from the sender to the recipient occurs. In modern works on linguistics, communication is interpreted as "a specific form of interaction between people in the process of their cognitive and labor activity."

We consider communication as a form of human activity, which manifests itself in the exchange of information, mutual understanding and mutual influence of partners. Communication is a socially determined process of transmitting and perceiving information both in interpersonal and mass communication through various channels using various verbal and non-verbal means.

In general, communication theory, or communicology, is a generalizing science of communication. In the English-speaking tradition, the term communicativism is used. Claude Shannon (1916-

2001), one of the classics of communication theory, in his works identified three levels of study of any communication, namely:

1. Level A (technical, i.e. communication channel, accuracy of transmitted signs);
2. Level B (semantic, i.e. adequacy in the transmission and understanding of the corresponding signs and meanings of the message);
3. Level C (level of effectiveness, i.e. how effectively the perceived meaning affects the consciousness and behavior of recipients).

Social communication performs several functions in society, including the information function (transfer of information); expressive function as the ability to express not only semantic, but also evaluative information; pragmatic function, functions of interaction and influence; representative function. In addition, in certain situations, communication performs a contact-establishing function, a self-presentation function, appellative, incentive, regulatory, performative, etc.

The basic unit of communication is text. We can agree that "it is in communication that the ontological properties of language and text are revealed with the greatest completeness and depth," while the text itself is "simultaneously both the form of existence of communication and its result." Text is a material carrier of information, and its content within the framework of communication theory is often defined as content. The addressee (recipient, communicator) receives and decodes information.

A particular text uses a corresponding language code, which is a system of certain linguistic signs and rules for their use. It is language that serves communication; it is the main and socially recognized of all types of communicative behavior. E. Sapir emphasizes: "Language is a communicative process in its pure form in every society known to us." The result of using a language code is specific texts created by the addressee in written or oral form.

Of course, in the process of decoding the information contained in the text, the recipient is not passive, since he has to compare the information received with the information already available, i.e. recycle it. The content of any text is encoded using literary language. The unique language code of a particular text is determined, first of all, by the communicative function performed by the analyzed texts in modern society. The recipient's task is to restore information using his knowledge of codes and code combinations of a particular language. Text as a special linguistic sign, as the highest communicative unit, has its own peculiarity, which is that it is not stored ready-made in human memory and is not reproduced in a strictly defined communicative situation. Only in the process of communication are recipients generated (encoded) both literary and non-fiction texts, which are then decoded by recipients.

In accordance with the above, it is possible to distinguish between literary and non-literary communication. Within the framework of so-called literary communication, already in the 18th century, the doctrine of literary genres was developed, which was based on the concept of three independent classes or kinds of literary texts: lyrical, epic and dramatic works. Non-fiction texts became the object of comprehensive consideration and analysis only in the last third of the twentieth century, with the beginning of intensive development of text linguistics.

Literary texts are traditionally designated in linguistics by the term "genre", while texts used in the practice of everyday communication are more appropriately designated by the term "type" of text. The guise of text is understood as a certain model of speech behavior of communicants in society, a pattern of their regular speech actions, and an appropriate form of organization of everyday knowledge. Texts used in the practice of interpersonal communication can be either oral or written. These include, for example, various instructions, weather forecasts, texts of laws, telephone conversations, scientific articles, monographs, culinary recipes, interviews, doctor's prescriptions, horoscopes, etc.

Any text represents the highest communicative unit, organized in accordance with its communicative-pragmatic norm. The norms of texts combine the rules for their construction and the use of linguistic and non-linguistic means in them in a certain communicative situation in order to achieve an optimal pragmatic impact on addressees. Since the purposes of communication can be different, for example, informing, influencing, teaching, prohibiting, regulating, etc., there are many types of texts.

And if linguistics studies the problems of verbal communication, then non-verbal (non-linguistic) means that convey semantic information together with verbal ones as part of a speech message are studied by paralinguistics. In particular, nonverbal communication prevailed in primitive society: gestures, facial expressions, ritual dances. Nowadays, non-linguistic means that represent a formal

component of a particular text can act as an accompanying means (cf. schematic drawings in instructions, photographs in advertisements and interviews, zodiac signs in horoscopes) or as means carrying their own information (for example, table or map in weather forecasts).

Research into the interaction of linguistic and non-linguistic means within the text as the highest communicative unit led in linguistics to the emergence of the concept of "creolized text" (Yu. A. Sorokin and E. F. Tarasov) or "polycode text". Creolized, or polycode, texts consist of two inhomogeneous parts: a verbal part, which is associated with language, and a non-verbal part, which belongs to other sign systems, and not to natural language. Creolized (polycode) texts include verbal texts accompanied by illustrations, and currently they are one of the predominant forms of information presentation in the media.

In modern works on linguistics, communication is considered in close connection with political, cognitive, cultural and other factors. In particular, the dialogue of cultures studies intercultural (cross-cultural) communication, which is a unique communication system. Intercultural communication can unite two or more sociocultural entities.

In cultural studies, in a broad sense, communication is understood as everything that connects a person with the environment, that brings him any information about objective reality. In a narrower sense, communication is considered as the process of transferring, distributing or communicating any experience, exchange or circulation of ideas between people.

With access to the text level, the modern understanding of the specifics of intercultural communication expands, since it includes not only traditions and customs, speech etiquette, a system of moral values, problems of language and culture, but also the product of human communicative activity - text. In addition, intercultural communication as the interaction of representatives of different cultures is, of course, anthropocentric and can be described in terms of the theory of variability in the sense that the created texts differ from each other by paralinguistic and linguistic characteristics characteristic of a certain linguistic-cultural community.

One of the important forms of social communication, which is considered and analyzed within the framework of communicative linguistics, is document communication. The basic concept in the system of document linguistics is written documentary text. Written text is a text that has a written form of encoding information. This or that text becomes a document in the case when it is "drawn up and certified according to a certain standard form established in office work. An official document that is not of a private nature (for example, a personal statement, an explanatory note) is fundamentally devoid of sole authorship. The signature of the responsible person only indicates the authenticity of the document. The objectivity associated with a legal norm emphasizes the affirmative and prescriptive nature of the document." It should be noted that the role of documentary texts in society is extremely great.

Documentary linguistics is associated with texts that are presented within two functional styles, namely: official business and scientific. Official business style is also called administrative style or business speech. Within the official business style, as a rule, two substyles are distinguished: legislative and clerical, or administrative-clerical.

The official business style serves the area of official business relations, public policy, as well as the area of law. It is implemented through such types of texts as state acts, laws, decrees, regulations, contracts, instructions, charters, official communications, business letters, receipts, various types of texts in institutions (certificate, application, report, etc.).

It is undeniable that communication is a special form of human life, since it is a joint activity of participants in the communicative process: the sender and the addressee. Depending on the form, communication can be written, oral, or visual. These forms of communication differ from each other by information coding systems.

According to the method of targeting, communication can be mass, public, group, interpersonal, specifically addressed, etc. As for mass communication, it presupposes the presence of an organized, collective sender of the text, and its recipient, the recipient, is a dispersed, inhomogeneous mass audience. Channels of mass communication are technical means: radio, press, television, Internet, cinema. In this case, the so-called the two-stage nature of message perception, since some members of society learn information not directly from the media, but from other people. For mass communication, it is necessary to have technical means, the social significance of information, as well as multi-channel and the ability to choose communication means.

The purpose of any communicative act is that in the course of communication, speech partners come into contact, seeking to influence each other's opinions, ideas and knowledge. Speech influence

is an area of study of the processes of influence of people on each other during their communication, and it is always associated with the restructuring of the individual consciousness (picture of the world) of the subject.

The traditional formula of communication theory says: who says what, to whom, in what way, why, with what result? In modern conditions, it is necessary to have certain knowledge of the basics of the communication process and appropriate skills in conducting information and communication activities. Research on communication as a process of interaction between individuals in society, including within the framework of intercultural or documentary communication, makes a significant contribution to daily communication, since everyone is interested in its result. The study of the phenomenon of verbal communication is important both from the point of view of its effectiveness and from the point of view of the method of achieving it (specific tactics) in relation to the corresponding type of text.

The analysis shows that the theory of communication is interdisciplinary in nature, since it is not only associated with such socio-humanitarian sciences as philosophy, sociology, psychology, linguistics, semiotics, cultural studies, journalism theory, but also with a number of technical sciences. Communication with technical sciences is carried out indirectly through channels, i.e. material media of communication. These include paper, books, magazines, newspapers, printing equipment, computers, etc.

The main feature of communication is its symbolic nature. The signs used can be verbal and non-verbal. At the same time, the basic code of any communication is language.

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METAPHORS IN POLITICAL DISCOURSE: A COMPARATIVE ANALYSIS OF ENGLISH AND AZERBAIJANI RESPONSES TO THE PANDEMIC

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Abstract

This article delves into the intricate world of political discourse surrounding the COVID-19 pandemic, examining the metaphorical choices made by leaders in both English and Azerbaijani contexts. As the global crisis unfolded, political leaders grappled with the challenge of communicating the complexities of the pandemic to their respective populations. Metaphors, as powerful linguistic tools, were deployed to frame the discourse, shape public understanding, and inspire collective action. This comparative analysis explores the nuanced metaphorical strategies employed by English and Azerbaijani leaders, shedding light on cultural, linguistic, and rhetorical differences. In English political discourse, leaders frequently drew on war metaphors to depict the pandemic as a formidable adversary. Phrases like "war on COVID-19," "frontline heroes," and "invisible enemy" were employed to convey a sense of urgency, emphasizing the need for a unified and determined national response. The metaphorical framing positioned leaders as commanders in a war effort, rallying citizens to face the crisis collectively. These metaphors, deeply rooted in historical contexts, aimed to evoke resilience and a shared sense of duty. Conversely, Azerbaijani political discourse showcased metaphors emphasizing national unity and security. Leaders utilized expressions such as "shielding the nation's health" and "standing shoulder to shoulder" to convey a collective responsibility and solidarity in the face of the pandemic. The emphasis on unity reflected cultural values deeply embedded in Azerbaijani identity, portraying leaders as protectors and unifiers rather than commanders in a war. The analysis reveals a cultural sensitivity in metaphorical choices, illustrating how leaders navigated the linguistic landscape to resonate with their respective audiences. The divergence in metaphors not only reflects cultural nuances but also distinct rhetorical strategies. English leaders, adopting war imagery, sought to evoke historical resilience, while Azerbaijani leaders, emphasizing unity, projected an image of communal strength rooted in cultural identity. Understanding the implications of these metaphorical choices is crucial for comprehending how leadership is perceived, how policies are framed, and how the public responds. The article concludes by underscoring the significance of cultural sensitivity in crisis communication, emphasizing that effective discourse must align with cultural expectations to foster trust and unity in the face of shared challenges. This comparative analysis contributes to a deeper understanding of the role metaphors play in shaping political narratives during times of crisis.

Keywords: political discourse, metaphors, linguistic strategies, cultural nuances

Introduction:

The conceptual metaphors are known for their use in different discourse topics and particularly in the speeches of political figures as they are considered one of the persuasive strategies used by politicians (Charteris-Black, 2005). Gibbs et al. (2002) state that a metaphor can create a "sense of intimacy between speaker and listener that literal language is less able to do" (p. 128). The COVID-19 pandemic has been a global challenge, testing the leadership and communication skills of politicians worldwide. Political discourse during this period has been marked by the use of metaphors to articulate the complexities of the crisis. This article delves into the metaphors employed in English and Azerbaijani political discourse during the pandemic, offering insights into linguistic nuances and rhetorical strategies. The COVID-19 pandemic has not only tested the resilience of healthcare systems but also challenged political leaders to communicate effectively with their citizens. In this article, we explore the metaphors employed in English and Azerbaijani political discourse during the pandemic, offering examples and citing statements from political leaders to illustrate how linguistic choices shape public understanding and response.

1. English Political Metaphors Amid the Pandemic:

A. War Metaphors: According to Conceptual Metaphor Theory which was proposed in 1980 by Johnson & Lakoff, the notion of war, is frequently utilized as a metaphor in order to frame the structure of a totally different concept (e.g., "Argument is war," p. 203). Schnepf J and Christmann U (2021) argue that at the beginning of the COVID-19 pandemic, governments all over the world employed militaristic metaphors to draw attention to the threats of the virus. On the other hand, ensure militaristic metaphors really touch individuals' observed danger from the COVID-19 virus and increase their support for corresponding preventive policies. Their study evaluated the effects of fictional newspaper articles describing COVID-19 policies using equally negative metaphors but with different militaristic connotations (e.g., "war" vs. "struggle").

However, war metaphor has been evaluated for improperly describing COVID 19 as a malicious adversary, making extreme concern, probably legitimizing government actions, and suggesting that departed individuals didn't combat pretty tough (Semino E. 2021). For instance, metaphors of war have sometimes been stated as an increase in anxiety, the destruction of unity and the creation of hostility between people.

The pandemic has often been framed as a war in English political discourse. Both English as well as Azerbaijani political discourse has often framed the fight against the pandemic as a war. Leaders describe healthcare professionals as "frontline heroes," referring to hospitals as "battlegrounds," and characterizing the battle against the virus as a "war on COVID-19." This militaristic metaphor serves to convey the urgency and collective effort required to combat the pandemic. British Prime Minister Boris Johnson, in a televised address, stated, "We must act like any wartime government and do whatever it takes to support our economy." [1]. This metaphorical framing emphasizes the severity of the crisis and the need for a unified, collective effort.

Dada et al. (2021) conducted a study to demonstrate how political leaders have differences in their approach to addressing the pandemic through public messages. They "analyzed 20 speeches given by different heads of governments around the world (from Bangladesh, Belgium, Bolivia, Brazil, Dominican Republic, Finland, France, Germany, India, Indonesia, New Zealand, Niger, Norway, Russia, South Africa, Scotland, Saint Maarten, United Kingdom, United States, and Taiwan) to highlight the differences between men and women leaders in discussing COVID-19" (p. 1). The findings revealed that five primary themes that emerged from the 122 speeches delivered at COVID-19 were economics and financial relief, social welfare and vulnerable populations, nationalism, responsibility and paternalism, and emotional appeals. Furthermore, all male leaders concentrated on the economic impact of the pandemic, whereas female counterparts spoke more frequently about the impact on the human scale and described a broader range of social welfare services, such as mental health, substance addiction, and domestic violence. To depict COVID-19, Males used war metaphors more frequently and in greater volume than female leaders

B. Navigating Uncertainty: Metaphors related to navigation and steering have been prevalent in English political communication. Phrases like "navigating through the storm," "charting a course," or "we're all in the same boat" convey the idea that leaders are guiding the nation through uncharted waters, emphasizing a sense of unity in facing the unknown challenges of the pandemic. English leaders frequently use metaphors related to navigation. Former Prime Minister Theresa May, in a parliamentary speech, remarked, "We are navigating uncharted waters in this crisis." [2] The metaphor of navigating underscores the unprecedented nature of the pandemic and the challenges in charting a course through uncertain times.

C. The Virus as an Invisible Enemy: The pandemic is often metaphorically depicted as a stealthy and elusive adversary. Terms such as "invisible enemy" or "unseen threat" create a vivid image of the virus, reinforcing the idea that the enemy is intangible, making it crucial to adapt strategies to combat an unseen foe. The characterization of the virus as an invisible enemy is evident in statements by leaders. Former U.S. President Donald Trump, in a press briefing, stated, "It's an invisible enemy, but we're going to defeat the invisible enemy." [6]. This metaphor highlights the elusive nature of the virus and the determination to overcome its threat.

II. Azerbaijani Political Metaphors in the Pandemic:

A. Health as National Security: In Azerbaijani political discourse, health during the pandemic is frequently framed as a matter of national security. Azerbaijani leaders often framed health during the pandemic as a matter of national security. Leaders emphasize the protection of citizens as if safeguarding the borders, using metaphors like "shielding the nation's health" and "defending our people against the virus. President Ilham Aliyev, in a televised address, emphasized, "Protecting our citizens is our highest

priority, akin to safeguarding our national borders." [7] This metaphor reinforces the idea that public health is integral to the nation's overall security.

B. Crisis as a Test of Unity: Metaphors emphasizing unity are prevalent in Azerbaijani political discourse. Azerbaijani politicians often employ metaphors that underscore the need for unity in times of crisis. Expressions like "standing shoulder to shoulder" or "solidarity fortress" emphasize the collective responsibility of citizens and leaders alike in overcoming the challenges posed by the pandemic. Prime Minister Ali Asadov, during a press conference, stated, "This crisis is a test of our unity, and together we will emerge stronger." The metaphorical use of a test underscores the collective responsibility and solidarity required to navigate the challenges posed by the pandemic.

C. Economic Resilience as a Shield: Economic metaphors are common in discussions of pandemic-related challenges. Given the economic implications of the pandemic, Azerbaijani political discourse frequently uses metaphors related to economic resilience. Leaders speak of "strengthening economic shields" and "weathering the economic storm," conveying the idea that economic stability is a protective barrier against the adverse effects of the pandemic. Finance Minister Samir Sharifov, in a policy statement, mentioned, "Strengthening our economic shields is paramount to weathering the economic storm caused by the pandemic." This metaphor highlights the protective role of economic measures in mitigating the impact of the crisis.

III. Comparative Analysis of Rhetorical Strategies:

A. Cultural Sensitivity in Metaphorical Choices: Cultural nuances shape the metaphors used in political discourse. The choice of metaphors reflects cultural nuances. While English metaphors may draw on military imagery, Azerbaijani metaphors are often rooted in a sense of national identity, emphasizing unity and resilience. These differences reflect distinct cultural perspectives on crisis communication.

B. Leadership Portrayal: The portrayal of leadership through metaphors serves as a captivating lens through which political figures communicate their roles and responsibilities, especially during challenging times such as the COVID-19 pandemic. In the English context, leaders often opt for metaphors grounded in war imagery, portraying themselves as commanders leading a collective effort against the pandemic. Phrases like "war on COVID-19," "frontline heroes," and "invisible enemy" evoke a sense of urgency, authority, and the need for a united front akin to a wartime mobilization. This metaphorical framing emphasizes decisiveness and a call to action, shaping the perception of English leaders as strategic commanders navigating the challenges posed by the crisis.

On the other hand, Azerbaijani leaders adopt a different metaphorical stance, emphasizing their role as protectors and unifiers. Through metaphors such as "shielding the nation's health" and "standing shoulder to shoulder," Azerbaijani leaders project an image of guardians safeguarding the well-being of the population. This portrayal underscores a sense of collective responsibility and unity, showcasing a cultural and rhetorical diversity distinct from the English approach. The emphasis on protection and unity aligns with cultural values ingrained in Azerbaijani identity, presenting leaders as unifiers rallying the nation together to face the crisis collaboratively. In essence, the choice of metaphors in leadership portrayal not only reflects the unique cultural perspectives of each context but also contributes to shaping public perception, highlighting the multifaceted nature of leadership communication strategies during a global crisis.

Metaphors play a crucial role in shaping the perception of leadership. English leaders may be depicted as commanders leading a war effort, while Azerbaijani leaders emphasize their role as protectors and unifiers, showcasing the cultural and rhetorical diversity in leadership portrayal.

IV. Public Perception and Impact:

A. Emotional Connection: Metaphors enhance emotional resonance, fostering a connection between leaders and the public. The choice of metaphors influences public perception, as leaders strive to convey empathy, determination, and a sense of shared purpose. Effective metaphors can evoke empathy and determination, influencing how citizens perceive their leaders and their response to the crisis.

B. Policy Implications: Metaphors are not just linguistic devices; they shape policy narratives. The metaphors used influence public understanding of government actions, such as lockdown measures being framed as a "safety net" or vaccination campaigns as "weapons" in the fight against the virus. For instance, the war metaphor in English discourse may influence the public's acceptance of stringent measures as necessary sacrifices, while in Azerbaijani discourse, economic resilience metaphors might guide policy decisions toward protective economic measures.

Conclusion:

Metaphors in political discourse during the pandemic serve as powerful tools for framing the crisis, articulating strategies, and fostering a sense of collective responsibility. The examples and citations from

English and Azerbaijani political leaders illustrate how linguistic choices reflect cultural nuances and rhetorical strategies, influencing public understanding and response. As the world continues to navigate the challenges of the ongoing pandemic, the analysis presented here highlights the importance of metaphors in shaping political communication and public perception. In navigating the complexities of the pandemic, political discourse in both English and Azerbaijani has turned to metaphors to convey the gravity of the situation, articulate strategies, and foster a sense of collective responsibility. The analysis presented here sheds light on the cultural nuances and rhetorical strategies employed in political communication during this unprecedented global crisis. Metaphors, as linguistic tools, continue to play a pivotal role in shaping public perception and framing the discourse surrounding the ongoing challenges posed by the pandemic.

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FORMATION OF INTERCULTURAL COMPETENCE OF SECONDARY LANGUAGE PERSONALITY IN CONDITIONS OF MULTIETHNIC ENVIRONMENT

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ФОРМИРОВАНИЕ МЕЖКУЛЬТУРНОЙ КОМПЕТЕНЦИИ ВТОРИЧНОЙ ЯЗЫКОВОЙ ЛИЧНОСТИ В УСЛОВИЯХ ПОЛИЭТНИЧЕСКОЙ СРЕДЫ

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Abstract

In article intercultural competence is considered as a substantial form of language consciousness of the secondary language personality, uniting knowledge of the native culture, the acquired knowledge of foreign-language culture, acculturation strategy, and also as the acquired ability to communicate with representatives of other culture.

As a theoretical problem of formation of intercultural competence of the secondary language personality studying of the objective fact of intercultural communication moves forward. The objective fact of intercultural communication is that any culture in multiethnic society doesn't exist separately. Studying of any language has to rely on knowledge of culture of learned language. Other fact is formation intercultural which arises in intercultural communication as set of knowledge of personal and others' culture. Cultural adaptation of the secondary language personality as a component of intercultural communication happens at comprehension of target language and finding of knowledge about non-native culture. Strategy of adaptation of the secondary language personality are listed in article in culture.

Formation of intercultural competence is accompanied by transformation of identity of the secondary language personality. In article the motives making structures of motivation of the secondary language personality at her self-identification are considered.

Formation of intercultural competence of the secondary language personality in multiethnic space happens taking into account a number of subjective and objective factors. The main task is formation of the tolerant relation to learned language and culture, release from stereotypes and search of effective ways of optimization of communicative and cognitive activity of students.

Аннотация

В статье межкультурная компетенция рассматривается как содержательная форма языкового сознания вторичной языковой личности, объединяющая знания родной культуры, приобретенные знания об иноязычной культуре, стратегии аккультурации, а также как приобретенное умение общаться с представителями другой культуры.

В качестве теоретической проблемы формирования межкультурной компетенции вторичной языковой личности выдвигается изучение объективного факта межкультурной коммуникации. Объективным фактом межкультурной коммуникации является то, что ни одна культура в полиэтническом обществе не существует изолированно. Изучение любого языка должно опираться на знания о культуре изучаемого языка. Другим фактом является формирование интеркультуры, которая возникает в межкультурном общении как совокупность знаний о своей и чужой культуре. Культурная адаптация вторичной языковой личности как компонент межкультурной коммуникации происходит при постижении целевого языка и обретении знаний об инокультуре. В статье перечисляются стратегии адаптации вторичной языковой личности в культуре.

Формирование межкультурной компетенции сопровождается трансформацией идентичности вторичной языковой личности. В статье рассматриваются мотивы, составляющие структуры мотивации вторичной языковой личности при ее самоидентификации.

фикации.

Формирование межкультурной компетенции вторичной языковой личности в полиэтническом пространстве происходит с учетом ряда субъективных и объективных факторов. Главной задачей является формирование толерантного отношения к изучаемому языку и культуре, освобождение от стереотипов и поиск эффективных способов активизации коммуникативно-когнитивной деятельности студентов.

Keywords: *intercultural communication, intercultural competence, secondary language persons, nonnative language, identity, self-identity, multiethnic environment*

Ключевые слова: межкультурная коммуникация, межкультурная компетенция, вторичная языковая личность, неродной язык, идентичность, самоидентичность, полиэтническая среда.

На сегодняшний день современный уровень информационных и коммуникационных технологий социально-экономического развития требует поиска новых подходов к управлению сферой человеческого общения, в котором важная роль принадлежит языку. Изучение любого языка должно сопровождаться изучением культуры, а точнее, предмета «межкультурная коммуникация». И это не дань моде или традиции, а необходимость и потребность, обусловленные требованиями времени.

Объективным фактом межкультурной коммуникации является то, что ни одна культура не существует изолированно. В процессе своей жизнедеятельности каждая культура постоянно обращается или к своему прошлому, или к опыту других культур. В этом взаимодействии очевидным является общение культур, а именно ее носителей на разных «языках», системах знаков – особых форм существования человеческой культуры. Язык, по А.А. Леонтьеву, можно рассматривать как систему ориентиров, необходимых человеку для деятельности в мире его родной культуры, т.е. в социальном или предметном мире, а сознание – как «открывающуюся субъекту картину мира, в которую включен и он сам, его действия и состояния» [1,272]. Способность человека создавать системы знаков одновременно создает проблему понимания и восприятия чужих культур [2,23]. Важно указать, что главная причина непонимания при межкультурном общении не различие языков – сформировать навыки говорения (письма) и слушания (чтения) сравнительно просто, а различие национальных сознаний коммуникантов. Причем, чем ближе культуры, тем сложнее их взаимная адаптация. Для анализа проблем взаимопонимания (непонимания) в межкультурном общении целесообразно проблему «общения носителей разных национальных культур» понимать как проблему «общения носителей разных национальных сознаний» [3,9], или носителей разных языковых сознаний.

Языковое сознание и картина мира.

В современной лингвистике языковое сознание является актуальной категорией и понимается как отражение специфической языковой структуры в сознании носителя языка, кроме того языковое сознание рассматривается как совокупность законов, правил и закономерностей использования языка на уровне умений. Согласно другой точке зрения, языковое сознание – механизм управления речевой деятельностью, который выступает обязательным условием существования и развития всех форм сознания. Независимо от ракурса, в котором рассматривается данная категория, все явления языкового сознания имеют непосредственное отношение к формированию межкультурной компетенции вторичной языковой личности.

Таким образом, главным условием взаимопонимания в межкультурном общении является устойчивость и универсальность глобальной картины мира, возможность взаимопонимания между носителями различных культур и языков заключается в общности ментальных процессов обработки и присвоения знаний человеческим сознанием [4, 173]. В реализации данного условия большая роль отводится языку общения, общему для носителей разных культур и языков. Языковая культура межнационального общения тем выше, чем выше культура национального языка, а культура языка неотрывна от общего культурного уровня населения. С другой стороны, уровень многоязычия и качество овладения неродным/иностранным языком зависит от степени знания и использования родного языка вторичной языковой личностью.

Интеркультура и языковая картина мира.

Роль своей культуры в качестве средства познания чужой культуры, а также и чужой для познания своей, хорошо осознаются и достаточно широко используются в преподавании иностранных языков как интеркультура. Интеркультура возникает в межкультурном общении как совокупность познавательных средств своей культуры, привлеченных для познания средств культуры чужой; нового знания о чужой культуре, сформированного в процессе ее познания; нового знания о своей культуре, созданного при познании чужой культуры [5, 16].

Каждый язык по-своему членит мир, т.е. имеет свой способ его концептуализации, следовательно, каждый язык имеет особую картину мира, и языковая личность обязана организовывать содержание высказывания в соответствии с этой картиной [6, 64]. Языковая картина мира формирует тип отношения человека к миру (природе, животным, самому себе как элементу мира). Она задает нормы поведения человека в мире, определяет его отношение к миру. Каждый естественный язык отражает определенный способ восприятия и организации («концептуализации») мира. Выражаемые в нем значения складываются в некую единую систему взглядов, своего рода коллективную философию, которая навязывается в качестве обязательной всем носителям языка.

Следовательно, роль языка состоит не только в передаче сообщения, но в первую очередь во внутренней организации того, что подлежит сообщению. Возникает как бы «пространство значений», т.е. закрепленные в языке знания о мире, куда непременно вплетается национально-культурный опыт конкретной языковой общности. Формируется мир говорящих на данном языке, т.е. языковая картина мира как совокупность знаний о мире, запечатленных в лексике, фразеологии, грамматике [6, 65]. Вторичная языковая личность, постигая целевой язык и обретая знания об инокультуре, тем самым расширяет свое языковое сознание, меняя его содержание на приемлемое в культуре целевого языка в зависимости от целей межкультурной коммуникации. В этом случае мы имеем в виду культурную адаптацию вторичной языковой личности.

Аккультурация.

Культурная адаптация (аккультурация) вторичной языковой личности является важнейшим компонентом межкультурной коммуникации. Под аккультурацией можно понимать поведенческие стратегии вторичной языковой личности, направленные на поиск баланса своей и иноязычной культур с целью выявить различия и сходства между культурами и идентифицировать целевую культуру как «свою» или «чужую». Выделяют следующие стратегии адаптации в культуре вторичной языковой личности:

- 1) отказ от своей культуры и полное принятие иноязычной – ассимиляция;*
- 2) сохранение в своем поведении преимуществ родной и иноязычной культуры в индивидуальных пропорциях – интеграция;*
- 3) сохранение своих норм и ценностей в противовес иноязычной – сепарация;*
- 4) отказ от обеих культур – маргинализация.*

Ввиду этого, возможными эффективными стратегиями поиска вторичной языковой личностью своего места в культуре и успешного использования полученных знаний на целевом языке следует считать первые две – ассимиляцию и интеграцию. Формирование оптимальных и эффективных стратегий адаптации к иноязычной культуре должно стать одной из целей предмета «межкультурная коммуникация». В этом случае правомерно говорить о формировании межкультурной компетенции – обязательном компоненте коммуникативной компетенции как цели обучения неродному или целевому языку.

Межкультурная компетенция.

Межкультурную компетенцию можно рассматривать как содержательную форму языкового сознания вторичной языковой личности, объединяющую знания родной культуры, приобретенные знания об иноязычной культуре, стратегии аккультурации, а также как приобретенное умение общаться с представителями другой культуры. Межкультурная компетенция базируется на способности вторичной языковой личности понимать ограниченность своей собственной культуры и своего собственного языка по отношению к решению проблем в иноязычной культуре и умении переключиться при встрече с другой культурой на другие языковые и неязыковые нормы поведения [7].

Формирование межкультурной компетенции происходит, в трактовке Е.И. Пассова, на трех уровнях: 1) на уровне восприятия, когда определяется познавательное значение знаний об иноязычной культуре. На этом уровне достаточно иметь представление о фактах культуры;

2) на уровне социальном, когда определяется прагматическое значение знаний. На данном уровне следует владеть понятиями и уметь совершать какое-либо действие;

3) на уровне личностного смысла, когда определяется аксиологическое, ценностное значение знаний. На этом уровне необходимы суждения, связанные с личностным эмоционально-ценностным отношением к факту чужой культуры [8].

В соответствии с уровнем межкультурной компетенции вторичной языковой личности происходит выбор стратегии аккультурации. Поэтому так важно формирование знаний об инокультуре и умений применять целевой язык и приобретенные поведенческие стратегии, которые крайне необходимы при решении учебных, социальных, бытовых, профессиональных и др. проблем коммуникации в иноязычном пространстве.

Вследствие этого, при формировании межкультурной компетенции происходит трансформация идентичности вторичной языковой личности, которая напрямую связана с мотивационной структурой, а также уровнем самооценки вторичной языковой личности в ее отношении к языку и инокультуре и проявляется в поведении личности и ее отношении к объекту идентификации. Самоидентификация языковой личности в иноязычном пространстве становится необходимым актом при усвоении неродного языка, связанным с поиском и определением наиболее комфортных условий контакта с носителями инокультуры и целевого языка. Самоидентифицировать себя с носителями языка и культуры вторичная языковая личность стремится по ряду причин, которые мы бы определили как конформистские.

Вторичная языковая личность и мотив.

Для вторичной языковой личности, усваивающей неродной язык в условиях функционирования целевого языка, самоидентификация приобретает конкретное содержание и определяется внутренней мотивацией, являющейся составной языкового сознания. В этой связи необходимо выявить мотивы, составляющие структуру мотивации. В роли мотивов могут выступать потребности, интересы, установки и цели, которые в определенной иерархии составляют мотивационную структуру. К мотивам могут быть отнесены и ценности, усиливающие мотивы и придающие им стабильность и определенный смысл. Безусловно, в структуру мотивов, побуждающих личность к смене идентичности, входят и те, что определяют языковую мотивацию. Однако при определении «ядра» и «периферии» мотивационной структуры самоидентичности наблюдается смещение акцентов в обозначении мотивов, побуждающих личность к трансформации идентичности и к усвоению языка. Так, «ядро» мотивационной структуры усвоения языка составляют следующие определяемые потребностями и целями мотивы: познавательные, коммуникативные, престижности, необходимости, личного удобства и предпочтений.

В мотивационную «периферию» усвоения языка входят мотивы, определяемые интересами: профессиональные и развлекательные. В «ядро» доминирующих мотивов самоотождествления языковой личности, на наш взгляд, входят мотивы усвоения языка (коммуникативные и познавательные) и те, основу которых составляют ценности личности: этические, морально-идейные, гражданские, избегания неприятностей. Далее к «периферии» следуют мотивы, продиктованные необходимостью, профессиональными интересами и потребностями и т.д. Тот факт, что доминирующими мотивами трансформации идентичности являются мотивы, составляющие «ядро» мотивационной структуры языка, свидетельствуют о том, что языку отводится основная роль при трансформации идентичности. Знание второго/неродного языка становится своего рода «импульсом» для трансформации идентичности вторичной языковой личности, поскольку язык является: 1) одним из инструментов социализации людей в обществе и культуре; 2) инструментом установления и поддержания социальных отношений [7, 9].

Формирование межкультурной компетенции вторичной языковой личности.

Специфической особенностью формирования межкультурной компетенции вторичной языковой личности в полиэтнической среде является учет следующих факторов:

1) неоднородность каждой из представленных культур. Так, в Казахстане мы не можем говорить о русской культуре в ее «чистом» виде, такой, как она представлена в России. Русская культура в Казахстане испытывает влияние казахской культуры, а также других культур, которые совершенно открыто соседствуют друг с другом. С другой стороны, сформировавшуюся в прошлом веке новую казахскую культуру правомерно было бы назвать казахстанской, в отличие от казахской, привносимой в настоящее время представителями казахской диаспоры за рубежом. Этот фактор должен учитывать преподаватель при

формировании коммуникативной компетенции вторичной языковой личности и обеспечить доступность знаний об инокультуре/инокультурах, реальную атмосферу существования культуры и возможность коммуникации с носителями культуры целевого языка.

2) наличие определенного количества культур, причем не всегда с доминированием культуры целевого языка. Формирование толерантного отношения ко всем культурам в полиэтническом государстве – важнейшая цель в образовательной деятельности вторичной языковой личности.

3) существование таких форм культуры как «городская» и «провинциальная», которые разнятся по многим параметрам. Знания о существовании разных форм культуры целевого языка являются составляющими содержательной стороны языкового сознания вторичной языковой личности.

4) многогранность содержательных форм языкового сознания каждого из участников межкультурной коммуникации. Участники межкультурной коммуникации являются носителями своей культуры, а также обладают/не обладают знаниями об инокультуре и умениями использовать имеющиеся/приобретенные знания. Культурный и языковой «багаж» одного участника коммуникации имеет объем и содержание, которые совпадают/не совпадают с культурно-языковым багажом другого участника межкультурного диалога.

5) индивидуальные особенности поведенческой структуры вторичной языковой личности. Каждый участник межкультурной коммуникации имеет собственный опыт использования поведенческих стратегий, реализация которых зависит от индивидуальной характеристики личности, а также уровня владения стратегиями.

В заключение отметим, что при формировании коммуникативной компетенции необходимо делать акцент на знания об инокультуре и умения владеть стратегиями аккумуляции в стране целевого языка и применять языковые знания для решения проблем межкультурной коммуникации.

Соответственно, главной задачей преподавателя языка в современном обществе является не только формирование умения и навыка чтения, говорения, письма, аудирования, но и формирование толерантного отношения вторичной языковой личности к изучаемому языку и культуре, освобождение от стереотипов и поиск эффективных и оптимальных способов активизации коммуникативно-когнитивной деятельности студентов.

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MULTILINGUAL EDUCATION IN A GLOBAL CONTEXT

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Abstract

This article investigates the effects of bilingual schooling on cognitive development, cultural integration, and inclusion. In addition to language learning, multilingualism improves cognitive flexibility and executive functioning. The essay discusses implementation challenges, such as confusing policies and inadequate resources, and suggests practical solutions. This essay advocates for inclusion and promotes an atmosphere that values linguistic variety. Successful worldwide programs, ranging from Singapore to South Africa, demonstrate the value of bilingual education in fostering cultural sensitivity and academic performance. Finally, the paper emphasizes the need of multilingual education in equipping students to participate actively in a globally diversified society.

Keywords: Multilingual education, cognitive benefits, executive functions, metalinguistic awareness, cultural integration, inclusivity, implementation challenges, policy frameworks, teacher training, resource constraints, curriculum complexity, assessment methods, successful programs, global perspectives.

Introduction

Multilingualism has evolved into a powerful and significant factor in molding our view of learning settings. In a world of linguistic diversity and global interconnection, multilingualism has an influence on education that extends beyond language learning. This article delves into the many consequences of multilingualism on cognitive development, educational practices, and the construction of inclusive learning environments.

The Cognitive Benefits of Multilingual Education

Multilingual education not only allows people to converse in several languages, but it also provides a variety of cognitive benefits. Multilingualism has been shown in cognitive science studies to have a favorable influence on brain function, with benefits that go beyond language abilities. A significant cognitive advantage is increased cognitive flexibility, which occurs when the brain is constantly switching between languages, enabling it to adapt more quickly to new information and activities. This adaptability improves problem-solving abilities in a variety of settings, allowing people to approach problems from numerous viewpoints.

Multilingualism is inextricably tied to the development of executive functions, which are responsible for making choices, solving issues, and attention regulation. According to studies, those who speak many languages have more developed executive functions than those who are only bilingual. These improved executive functions help not just with academic performance, but also with daily tasks that need good cognitive control.

Multilingual education promotes metalinguistic awareness, or the capacity to reflect about and study language as an integrated whole. Multilinguals get a thorough awareness of language structures, regulations, and subtleties, which improves their total language proficiency. This increased metalinguistic awareness becomes an intellectual instrument that facilitates more efficient development of languages as well as comprehension of complicated linguistic terms among fields.

To research, multilingualism may prevent the start of cognitive deterioration in the elderly. Based to the cognitive reserve theory, handling several languages increases cognitive reserve, which may help to mitigate cognitive decline caused by age and neurodegenerative illnesses such as Alzheimer's disease. While not a 100% guarantee, multilingualism tends to provide a cognitive buffer. [1]

Bridging Cultures through Multilingual Learning

Linguistic variety is regarded as a cultural advantage in multilingual learning contexts rather than a burden. Each language introduced into the educational context symbolizes a distinct point of view, customs, and way of viewing the world. Multilingual learning fosters the coexistence and interaction of many cultures by recognizing and respecting their language distinctions.

The primary goal of multilingual learning is not merely language acquisition, but also the ability to interact across cultures. Students who study different languages gain the ability to communicate meaningfully with others from various cultural backgrounds. This communication goes beyond language to

include an understanding of conventions, traditions, and social standards. Multilingual education encourages intercultural communication, which is characterized by openness to other points of view, curiosity in varied cultures, and a willingness to traverse the difficulties of a globalized society. [2]

Challenges and Solutions in Implementing Multilingual Education

Whereas multilingual education has various benefits, implementation confronts problems ranging from policy creation to resource distribution. Ambiguous legislative frameworks, insufficient teacher preparation, resource restrictions, and curricular complexity are major issues that necessitate practical solutions for smooth integration.

1. Ambiguous Policy Frameworks:

The lack of defined policy frameworks creates a huge barrier in bilingual education. Education systems sometimes lack thorough criteria for incorporating various languages into the curriculum, resulting in uncertainty and inconsistencies.

Solution: It is critical to have clear and inclusive language policy at the institutional and national levels. These policies should outline goals, set language competence criteria, and identify ways for assisting students with various language origins, laying the groundwork for successful navigation in multilingual learning settings.

2. Inadequate teacher training:

Numerous teachers may be unprepared to teach in multilingual classrooms, limiting the efficacy of initiatives.

Solution: Implementing excellent professional development programs provides instructors with the skills required for multilingual instruction. This encompasses language learning tactics, cultural awareness, and diversified educational approaches for students with diverse levels of competence.

3. Resource constraints:

Multilingual education necessitates more resources, which poses a difficulty in economically restricted environments.

Solution: Resource limitations may be addressed by collaborative efforts by educational organizations, governments, and non-profit groups. Open-source instructional materials, digital tools, and collaborations with publishers all provide cost-effective options. Using tools for studying a language further reduces the budgetary load.

4. Curriculum complexity:

Curriculum creation is complicated by the need to balance numerous languages with educational requirements.

Solution: Cooperation among curriculum creators and language experts guarantees that multilingual aspects are included smoothly. Students can gain language skills while learning subjects by using a Content and Language Integrated Learning (CLIL) strategy. Flexible curriculum design is critical for meeting various linguistic demands.

5. Assessment Dilemmas

Creating fair evaluations for children with various linguistic backgrounds can be difficult.

Solution: Using a variety of assessment techniques, such as project-based assessments and oral examinations, ensures a thorough grasp of language abilities. Adapting examinations to accommodate language variety guarantees fair and accurate evaluation. [3]

Promoting Inclusivity through Multilingual Education

Multilingual education values the linguistic variety that students bring to the classroom, providing an inclusive environment. Rather of considering language differences as hurdles, this approach sees them as strengths, resulting in an atmosphere in which every linguistic identity is acknowledged and appreciated.

Inclusive education addresses the different requirements of learners, whereas multilingual education allows for adaptability to individual language skills. Teachers can use a variety of ways to help students with varying language backgrounds, providing a thorough knowledge of instructional content.

Creating inclusive curricular materials is critical to encouraging inclusion in bilingual education. Textbooks, instructional aids, and resources should represent the classroom's many languages and cultures. Inclusive materials not only give language help but also recognize cultural identities, instilling a sense of community.

Collaborative learning is an essential component of inclusion in multilingual educational contexts. Students working together, exploiting language abilities, and taking part in joint endeavors create a feeling of community where every effort is appreciated.

In order to promote inclusion via multilingual education, it is necessary to create an atmosphere in which all learners, regardless of language background, feel appreciated, respected, and supported. Multilingual education represents a great instrument for establishing a just and peaceful society by embracing variety and encouraging inclusion. [4]

Successful Multilingual Education Programs

Globally, multilingual education programs demonstrate creative techniques that promote language variety, awareness of culture, and academic accomplishment.

Singapore's bilingual education program, which includes the "Speak Mandarin" and "Speak Good English" campaigns, exhibits success. highlighting bilingualism in English and Mandarin has resulted in a highly skilled populace, strengthening cultural linkages and placing Singapore as a global center.

Canada's dedication to English and French as its official languages, along with bilingual schooling in areas such as Quebec, assures linguistic proficiency. Supporting legacy languages for immigrant kids helps to retain cultural identity while also contributing to a more linked society.

Switzerland's multilingual paradigm, which includes four official languages, encourages national cohesiveness and linguistic variety. Combining national languages in areas promotes a multilingual society prepared for a globalized world.

Dual language immersion programs in the United States are effective in promoting bilingualism. Early exposure to many languages in controlled learning situations leads to high competency and superior performance on standardized examinations.

South Africa's language variety creates a unique difficulty. Utilizing English as a form of education while including indigenous languages strives for a multilingual populace that values variety. [5]

Conclusion

Multilingualism in education has far-reaching consequences for intellectual growth, cultural understanding, and inclusion. As we navigate a worldwide world, bilingual education becomes increasingly important. Recognizing and accepting linguistic variety promotes comprehensive student development and equips them to actively participate in a heterogeneous society.

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Psychological sciences

UNRAVELING THE DYNAMICS OF SOCIAL MOVEMENTS: REQUIREMENTS, CONTRIBUTING VARIABLES, AND IMPACTS

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Abstract

As a persistent and cohesive collective entity, a social movement experiences substantial transformations throughout its duration. This distinctive feature has prompted certain scholars to conceptualize a theory describing a universal "life cycle" or "natural history" applicable to all social movements. The primary objective is to elucidate the essential requirements for the emergence and sustainability of social movements, identify the contributing variables that shape their trajectories, and analyze the diverse impacts they exert on societies. Methodologically, a systematic review of relevant literature was conducted, encompassing both historical and contemporary perspectives on social movements. The review's structure follows a sequential exploration of the fundamental components of social movements, from their foundational requirements to the varied impacts they leave in their wake. The literature converges on the identification of key requirements crucial for the initiation and growth of social movements. Moreover, grievances and injustices serve as catalysts, propelling individuals and groups toward advocacy and activism. Contributing variables to the dynamics of social movements are analyzed in the context of political, cultural, and global factors. The political climate significantly influences the reception of movements, while cultural attitudes and values shape their resonance within societies. Global networks, facilitated by advancements in communication technologies, amplify the interconnectedness of movements across geographical boundaries. The impacts of social movements are multifaceted, ranging from tangible policy changes to broader cultural shifts. Successful movements can reshape legislative landscapes, challenge societal norms, and foster a sense of empowerment among marginalized communities. Conversely, unsuccessful movements may still contribute by sparking dialogue and raising awareness about persisting issues. In conclusion, this literature review provides a nuanced exploration of the dynamics of social movements, offering valuable insights for scholars, policy-makers, and activists.

Keywords: social movements, activism, organizational dynamics, political climate, societal impact.

1. Introduction

In the ever-evolving tapestry of societal dynamics, social movements stand out as transformative agents, shaping the course of history and influencing the collective consciousness. This literature review embarks on a journey to unravel the intricate threads that constitute the dynamics of social movements, delving into their essential requirements, contributing variables, and overarching impacts on societies. Social movements are not static entities; they morph in response to contextual shifts and emerging challenges. Examining their historical trajectories reveals patterns of adaptation, innovation, and resilience. For instance, the suffragette movement of the late 19th and early 20th centuries laid the groundwork for subsequent waves of feminism, each building upon the achievements and lessons of its predecessor (Offen, 1988). This evolutionary perspective underscores the interconnectedness of social movements across time, with each phase contributing to the broader narrative of social progress.

Moreover, the advent of digital technologies has introduced new dimensions to the evolutionary continuum of social movements. Movements like the Arab Spring and Occupy Wall Street demonstrated

the rapid mobilization and global interconnectedness made possible by online platforms (Howard & Hussain, 2013; Castells, 2015). This digital age has not only accelerated the pace of mobilization but has also necessitated novel strategies in response to surveillance, misinformation, and the evolving nature of public discourse (Earl & Schussman, 2004). Acknowledging the evolutionary nature of social movements is essential for grasping their enduring impact. By situating them within a broader historical and technological context, this review seeks to elucidate how movements build upon past experiences, adopt contemporary tools, and anticipate future challenges. In doing so, we aim to provide a holistic understanding of social movements that go beyond a static snapshot, embracing their dynamic and continuous nature.

Understanding the nature of social movements holds profound significance in contemporary scholarship and societal discourse. As catalysts for change, social movements give voice to the grievances of marginalized communities, challenge existing power structures, and pave the way for societal evolution. Social movements have persistently contended with oppressive governments that champion the interests of ruling elites for numerous centuries. Throughout history, millions of individuals have mobilized and gained empowerment to instigate social change and usher in transformations in various societies around the world (Berberoglu, 2019).

The primary objective of this review is to synthesize and critically analyze the existing body of literature, spanning historical and contemporary perspectives, on the life cycle and natural history of social movements. Elucidating the essential requirements for their emergence and sustainability, identifying the contributing variables that shape their trajectories, and examining the diverse impacts they leave in their wake, this review aims to contribute a comprehensive understanding of the dynamics inherent to social movements. In navigating the rich landscape of social movement scholarship, we aspire to offer valuable insights to scholars, policymakers, and activists alike. The knowledge gleaned from this exploration not only enriches academic discourse but also provides practical implications for those engaged in the mobilization and advocacy efforts that define social movements. As we embark on this intellectual expedition, the intention is to illuminate the paths that social movements tread, fostering a deeper appreciation for their complexities and acknowledging their pivotal role in the continuous evolution of our societies.

2. Literature Review

2.1. Foundational Requirements of Social Movements

Leadership, as a cornerstone element, plays a pivotal role in mobilizing collective action within social movements (Touraine, 1985). Effective leaders not only articulate the movement's goals but also inspire and guide participants, fostering a shared sense of purpose and direction (Moyer, McAllister, Finley, & Soifer, 2001). Organizational structures within social movements serve as the scaffolding for coordinated efforts and strategic planning. Research underscores the importance of flexible and adaptive organizational frameworks that can evolve in response to the dynamic nature of social movements (Tarrow, 1998). Successful movements often exhibit a decentralized yet interconnected structure, enabling efficient communication and decision-making processes (McAdam, Tarrow, & Tilly, 2001).

Effective communication emerges as another critical element in the foundational requirements of social movements. The ability to convey a compelling narrative and mobilize public support is intrinsic to the success of these movements (Gamson, 1990). Social movements leverage various communication channels, including traditional media and, increasingly, online platforms, to disseminate their messages and engage a diverse audience (Earl & Schussman, 2004). Leadership qualities are instrumental in shaping organizational structures, and effective communication is imperative for both leadership cohesion and organizational efficacy. Understanding and addressing these foundational elements provide a comprehensive framework for analyzing the initiation and growth of social movements.

2.2. Catalysts for Activism

Grievances and injustices, as catalysts, serve as the motivational force driving individuals and groups to engage in advocacy and activism. McAdam and Snow (1997) highlight the centrality of grievances as the initial spark that ignites collective action. The perception of inequities, perceived or real, acts as a powerful catalyst, galvanizing individuals into mobilization (Olson, 1965).

The role of these catalysts extends beyond mere motivation; they actively shape the dynamics of social movements. Gamson's (1992) framing theory emphasizes how activists strategically frame grievances to resonate with broader societal values, thereby mobilizing support. This framing process transforms individual grievances into collective issues, amplifying their impact and fostering a shared sense of injustice (Benford & Snow, 2000).

Moreover, the catalytic effect of grievances extends to the formation of collective identities within social movements. Taylor and Van Dyke (2004) argue that shared experiences of injustice contribute to

the development of a collective identity, strengthening group cohesion and commitment to the movement's goals.

2.3. Contributing Variables

Political variables continue to be instrumental in shaping social movements. Recent works by della Porta and Diani (2006) emphasize the dynamic interaction between political contexts and movement strategies. In the era of heightened political polarization, scholars explore how movements navigate and respond to shifting political landscapes (Banaszak, Beckwith, & Rucht, 2003). Government responsiveness, legislative frameworks, and the overall political climate play pivotal roles in determining the success or hurdles encountered by social movements (Andrews, Biggs, & Clayman, 2006). Cultural attitudes, reflective of societal values, contribute significantly to the reception of social movements. Drawing on contemporary perspectives, Jasper (2011) discusses the importance of cultural resonance in mobilizing public support. Recent research investigates how cultural dynamics shape the framing strategies of movements, influencing their effectiveness in communicating with diverse audiences (Hoffman & Jamal, 2016).

Globalization's influence on social movements is ever-expanding. Tilly and Wood (2013) highlight the increasing interconnectedness of global networks in transnational activism. In the digital age, social movements leverage online platforms to foster global solidarity and coordination, as evidenced by the impact of movements such as #BlackLivesMatter and Fridays for Future (Earl & Kimport, 2011; Castells, 2015). The confluence of contemporary political, cultural, and global factors significantly molds the reception and impact of social movements. Movements adept at aligning with evolving cultural norms, navigating complex political terrains, and harnessing global networks showcase enhanced adaptability and resonance (Melucci, 2005; Koopmans & Olzak, 2004). In conclusion, the latest research underscores the intricate interplay of political, cultural, and global factors, offering insights into the fluid and adaptive nature of social movements in the present era.

2.4. Impacts on Societies

The impacts of social movements extend to tangible policy changes. McAdam and Su (2002) stress the instrumental role of successful movements in influencing legislative landscapes. Recent studies delve into how movements strategically navigate political systems to achieve concrete policy outcomes, thereby directly shaping the socio-political framework (Andrews et al., 2013).

Cultural shifts represent another dimension of impact, as social movements play a pivotal role in challenging and reshaping societal norms and values. Recent works by Goodwin, Jasper, and Polletta (2001) emphasize how movements act as cultural entrepreneurs, influencing collective beliefs. Cultural impacts are not confined to the immediate aftermath of movements but extend to long-term changes in societal attitudes (Cress & Snow, 2000). Successful movements, while often celebrated for their transformative effects, are not the sole agents of societal change. Even unsuccessful movements contribute significantly by sparking dialogue and raising awareness about persisting issues (Oliver & Myers, 1999). Recent research explores the lasting impact of unsuccessful movements in paving the way for subsequent mobilization efforts and reshaping public discourse (Davenport, 2015).

The transformation of societal structures is an intricate process influenced by the interplay of successful and unsuccessful movements. Recent literature by Della Porta (2018) emphasizes the importance of recognizing both outcomes and setbacks in understanding the cumulative impact of social movements on societal change. The enduring effects of movements are embedded in a complex web of historical, political, and cultural factors that unfold over time (Soule, 2009). The interplay of tangible policy changes, cultural shifts, and the contributions of both successful and unsuccessful movements contributes to a deeper understanding of the complex mechanisms through which societal transformation occurs.

2.5. Evolution and Adaptability of Social Movements

Social movements, as observed through the lens of resource mobilization theory (McCarthy & Zald, 1977), exhibit a capacity to adapt their organizational structures to optimize resource utilization and enhance resilience. The Occupy Wall Street movement, for instance, showcased adaptability by employing decentralized organizational structures facilitated by digital technologies. This adaptive approach allowed for rapid decision-making, resource distribution, and coordination, enabling the movement to thrive in an era characterized by networked activism (Castells, 2015).

Moreover, the Black Lives Matter (BLM) movement illustrates how adaptability in organizational structures fosters sustained impact. Beginning as a hashtag in response to racial injustices, BLM transformed into a decentralized network of activists and organizations addressing systemic racism globally

(Cullors et al., 2016). This evolution underscores the adaptability of social movements to harness diverse organizational forms that align with their goals and navigate complex social landscapes.

The adaptability of social movements is also manifested in their capacity to refine messaging and framing strategies to resonate with diverse audiences and shifting cultural contexts. Drawing on Snow and Benford's (1988) framing theory, social movements strategically frame their messages to shape public perception and garner support. For instance, the environmental movement has adapted its framing from early conservationist rhetoric to encompass broader narratives addressing climate change, reflecting an evolving understanding of environmental challenges (Nisbet, 2009).

In the digital age, social movements further adapt their messaging strategies to leverage online platforms and engage global audiences. The #MeToo movement, rooted in addressing sexual harassment, exemplifies adaptability in framing as it transitioned from a localized movement to a global phenomenon through the strategic use of social media platforms (Burke, 2018). This adaptative framing allowed the movement to transcend geographical boundaries and resonate with diverse cultural contexts.

Social movements exhibit adaptability through the formation of collaborative alliances and the embrace of transnational activism. The Arab Spring, for example, showcased how movements in different countries adapted by learning from each other, sharing resources, and coordinating actions across borders (Howard & Hussain, 2013). This adaptability in forming cross-national alliances enabled the movement to amplify its impact and navigate the complexities of regional politics.

Additionally, the adaptability of movements is evident in their ability to leverage transnational platforms to address global issues. The Extinction Rebellion movement, focused on climate activism, demonstrates adaptability by organizing synchronized global protests and engaging in coordinated actions to raise awareness about the urgent need for environmental action (Extinction Rebellion, 2019). This transnational adaptability positions social movements as influential actors on the global stage, addressing interconnected challenges.

4. Methods

This literature review employed a comprehensive approach to explore the dynamics of social movements. Emphasizing inclusivity, searches spanned various databases such as PubMed, JSTOR, Scopus, and Google Scholar. The intent was to gather a diverse range of relevant literature, covering historical and contemporary perspectives. Essential works by influential scholars like Charles Tilly, along with recent key publications, were incorporated to provide a well-rounded understanding. Before determining the inclusion of identified resources in the literature review, a critical evaluation is imperative to ascertain their relevance and value. This becomes particularly crucial when the resources are not curated by an academic library but are rather conveniently accessible through an Internet search. Web-based resources demand a more meticulous assessment to ensure their quality aligns with the rigorous standards set for this study. The review prioritized studies directly addressing the fundamental aspects of social movements, including their requirements, contributing variables, and impacts. Selection criteria centered on relevance, methodological diversity (qualitative and quantitative), and scholarly impact to ensure a holistic synthesis. This literature review's methodology aims for transparency and a balanced representation of insights. The inclusion of diverse sources and methodologies intends to enrich the comprehension of social movement dynamics. By carefully selecting keywords during the literature review process, the aim was to enhance precision and relevance, contributing to a nuanced and thorough exploration of the chosen themes.

5. Results

In conclusion, the synthesis of literature underscores the fundamental pillars shaping the dynamics of social movements. Leadership, portrayed as a pivotal element, not only inspires collective action but also plays a central role in orchestrating the initiation and growth of movements (Touraine, 1985; Moyer et al., 2001). The organizational structures of successful movements exhibit a unique blend of decentralization and interconnectedness, facilitating efficient communication and decision-making processes (Tarrow, 1998; McAdam et al., 2001). Moreover, effective communication, spanning traditional and online platforms, emerges as a linchpin for mobilizing public support and crafting compelling narratives (Gamson, 1990; Earl & Schussman, 2004).

Catalysts for activism, rooted in grievances and injustices, emerge as potent motivators propelling individuals and groups toward advocacy and collective action (McAdam and Snow, 1997; Olson, 1965). These catalysts not only serve as motivational forces but actively contribute to shaping the dynamics of social movements. The framing process, as illuminated by Gamson (1992) and Benford & Snow (2000), transforms individual grievances into collective issues, resonating with broader societal values.

Furthermore, shared experiences of injustice foster the formation of collective identities within social movements (Taylor and Van Dyke, 2004).

Political, cultural, and global factors significantly contribute to the multifaceted nature of social movements. Political variables, including government responsiveness and legislative frameworks, interact dynamically with movement strategies (Della Porta and Diani, 2006; Banaszak et al., 2003). Cultural attitudes, reflective of societal values, play a crucial role in influencing the reception of social movements, and shaping their effectiveness in mobilizing public support (Jasper, 2011; Hoffman & Jamal, 2016). The impact of globalization, facilitated by online platforms, is evident in the increased interconnectedness of movements across boundaries (Tilly and Wood, 2013; Earl & Kimport, 2011).

Diverse impacts on societies characterize the outcomes of social movements, ranging from tangible policy changes to profound cultural shifts. Successful movements strategically navigate political systems to influence legislative landscapes (McAdam and Su, 2002; Andrews et al., 2013). As cultural entrepreneurs, movements challenge and reshape societal norms and values (Goodwin et al., 2001; Cress & Snow, 2000). Importantly, even unsuccessful movements contribute significantly by sparking dialogue, raising awareness about persisting issues, and influencing subsequent mobilization efforts, thereby shaping public discourse (Oliver & Myers, 1999; Davenport, 2015).

This comprehensive overview not only illuminates the intricacies of social movements but also emphasizes their multifaceted nature and profound impact on societies. The collective insights from this synthesis contribute to a holistic understanding of the dynamic interplay of leadership, catalysts for activism, contributing variables, and societal impacts within the realm of social movements.

6. Conclusions

The survey of literature highlights essential insights on social movements, stressing critical features. The foundations of movement initiation include leadership, organizational structures, and effective communication. Grievances and injustices are powerful catalysts that shape collective action and frame processes. Politics, culture, and globalization all have a role in movement dynamics, determining reception and influence. Social movements have a wide range of effects, from legislation reforms to cultural shifts, and even failed movements contribute by inspiring debate.

Understanding the dynamics of social movements is critical for academics, politicians, and activists. Scholars obtain sophisticated insights, which deepen the intellectual debate. Navigating complicated terrains and developing relevant policies benefits policymakers. Activists are given practical advice, with an emphasis on core needs and catalysts for strategic mobilization. This broad understanding makes a significant contribution to a variety of areas and societal efforts.

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Technical sciences

IDENTIFICATION OF FILTRATION CAPACITY PARAMETERS IN THE PROCESS OF OPERATION OF GAS CONDENSATE FIELDS

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ИДЕНТИФИКАЦИЯ ПАРАМЕТРОВ ФИЛЬТРАЦИОННОЙ ЕМКОСТИ В ПРОЦЕССЕ ЭКСПЛУАТАЦИИ ГАЗОКОНДЕНСАТНЫХ МЕСТОРОЖДЕНИЙ

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Вариационным исчислением называется раздел математики, изучающий экстремумы функционалов. К задачам об определении экстремума функционала приводят многие задачи практики: изопериметрическая задача, задача о геодезической линии. Толчком к развитию вариационного исчисления послужила задача о брахистохроне, решенная И. Бернулли.

Многие физические и механические процессы развиваются таким образом, что для них можно сформулировать принцип минимальности.

При фильтрации многокомпонентных смесей углеводородов посредством фазовых переходов с учетом неоднородного геологического строения пластов, прогнозирования эффективности разработки газоконденсатных залежей с большим количеством скважин в сложных природных условиях и определения параметров, вызывающих изменение проводимости газовой фазы возможны только при использовании методов математического моделирования.

Поиск наилучшего варианта разработки нефтяного или газового месторождения обычно осуществляется путем рассмотрения ряда вариантов. Очевидно, что в результате такого всестороннего поиска будет найден действительно оптимальный вариант развития.

Вариационная формулировка большинства физических процессов очень удобна для поиска приближенных решений. Сущность многих вариационных методов заключается в формулировке рассматриваемых задач математической физики как задачи поиска функции, реализующей минимум (или, вообще, экстремум) некоторого параметра функционала в вариационной форме. Это заключается в последующем нахождении приближений к функции.

Интегральный функционал — это интеграл, сохраняющий некоторую функцию под интегральным выражением.

Рассмотрим следующую задачу.

Известно, что из-за отсутствия данных в процессе разработки месторождения параметры, входящие в уравнения фильтрации жидкости, идентифицируются с использованием известных фактических значений шахтных данных процесса разработки, а также моделей, содержащих уравнения фильтрации жидкости.

Процесс просачивания в одиночную скважину в изолированных пластах описывается следующими уравнениями радиальной системы, начальными и граничными условиями [1,2]:

$$\begin{aligned} \frac{1}{r} \frac{\partial}{\partial r} \left[rk_i(r, p_i) V_{zi}(r, t, s_i, p_i) \frac{\partial p_i}{\partial r} \right] = \\ = \frac{\partial}{\partial t} \{ [m_i(r, p_i) [A_i(r, t, p_i) + s_i B_i(r, t, p_i)]] \}, \quad i = \overline{1, 2}, \quad r \in (r_c, R_k), \quad t \in (0, T), \end{aligned} \quad (1)$$

$$\begin{aligned} \frac{1}{r} \frac{\partial}{\partial r} \left[rk_i(r, p_i) V_{ki}(r, t, s_i, p_i) \frac{\partial p_i}{\partial r} \right] = \\ = \frac{\partial}{\partial t} \{ [m_i(r, p_i) [C_i(r, t, p_i) + s_i D_i(r, t, p_i)]] \}, \quad i = \overline{1, 2}, \quad r \in (r_c, R_k), \quad t \in (0, T), \end{aligned} \quad (2)$$

$$p_i(r, t)|_{t=0} = p_{0i}(r), \quad s_i(r, t)|_{t=0} = s_{0i}(r), \quad i = 1, 2, \quad r \in (r_c, R_k), \quad (3)$$

$$2\pi r \left(\sum_{i=1}^2 h_i k_i(r, p_i) (V_{zi}(r, t, s_i, p_i) + V_{ki}(r, t, s_i, p_i)) \frac{\partial p_i}{\partial r} \right) = - \sum_{i=1}^2 (Q_i^z(t) + Q_i^k(t)), \quad t \in (0, T), \quad (4)$$

$$\left. \frac{\partial p_i(r, t)}{\partial r} \right|_{r=R_k} = 0, \quad i = 1, 2, \quad t \in (0, T). \quad (5)$$

Известно, что параметры пористости и проницаемости слоя определяются следующими эмпирическими выражениями [7]:

$$m_i(r, p_i) = m_{0i} m_i(p_i), \quad m_i(p_i) = \left(\frac{p_i}{p_0} \right)^{\alpha_{1i}}, \quad k_i(r, p_i) = k_{0i} k_i(p_i), \quad k_i(p_i) = \left(\frac{p_i}{p_0} \right)^{\alpha_{2i}}, \quad i = \overline{1, 2}, \quad (6)$$

Здесь $m_i(p_i)$ - $k_i(p_i)$ – соответственно пористость слоя; k_{0i} , m_{0i} - проницаемость и, а также их пористость и начальные значения проницаемости; α_{1i} и α_{2i} - искомые неопределенные параметры.

(1)- (5) приведем вариационную формулу, эквивалентную дифференциальной задаче:

$$J(\alpha_{11}, \alpha_{12}, \alpha_{21}, \alpha_{22}) = \int_0^T \sum_{i=1}^2 [p_i(r_c, t) - p_{ic}(t)]^2 dt + \varepsilon (\alpha_{11}^2 + \alpha_{12}^2 + \alpha_{21}^2 + \alpha_{22}^2) \Rightarrow \min, \quad (7)$$

Необходимо найти такие параметры $(\alpha_{1i}, \alpha_{2i}), (i = 1, 2)$, чтобы решению краевой задачи (1) – (6) придать минимальное значение функционалу (7)

Здесь $p_{2c}(t) = p_{1c}(t) + \gamma L$ - γ объемная масса газоконденсатной смеси; L - расстояние между слоями, $\varepsilon \geq 0$ параметр регуляризации.

Здесь последний слагаемый функционала (7) определяет единственность решения краевой задачи (1)-(6), (7).

Таким образом, для решения дифференциальных краевых задач можно использовать численные методы и подходы решения соответствующих вариационных задач.

Отметим, что обозначая аналогичные выражения в уравнении (2) через $\bar{C}_i$ и $\bar{D}_i$ и в уравнении (1) коэффициент $\frac{\partial p_i}{\partial r} \bar{A}_i$ и выражение при производной t -переменной с $\bar{B}_i$ - (1)-(6), (7)

краевую задачу можно заменить эквивалентной ей следующей задачей:

Здесь минимум функционала (7) при следующих ограничениях

$$\frac{1}{r} \frac{\partial}{\partial r} \left\{ r \bar{A}_i \frac{\partial p_i}{\partial r} \right\} - \frac{\partial \bar{B}_i}{\partial t} = 0, \quad (8)$$

$$\frac{1}{r} \frac{\partial}{\partial r} \left\{ r \bar{C}_i \frac{\partial p_i}{\partial r} \right\} - \frac{\partial \bar{D}_i}{\partial t} = 0, \quad (9)$$

$$p_i(r, t)|_{t=0} = p_{0i}(r), \quad s_i(r, t)|_{t=0} = s_{0i}(r), \quad (10)$$

$$2\pi \sum_{i=1}^2 h_i \bar{A}_i \frac{\partial p_i}{\partial r} \bigg|_{r=r_c} = - \sum_{i=1}^2 Q_i^c(t), \quad \frac{\partial p_i}{\partial r} \bigg|_{r=R_k} = 0, \quad i=1,2, \quad (11)$$

требуется определить.

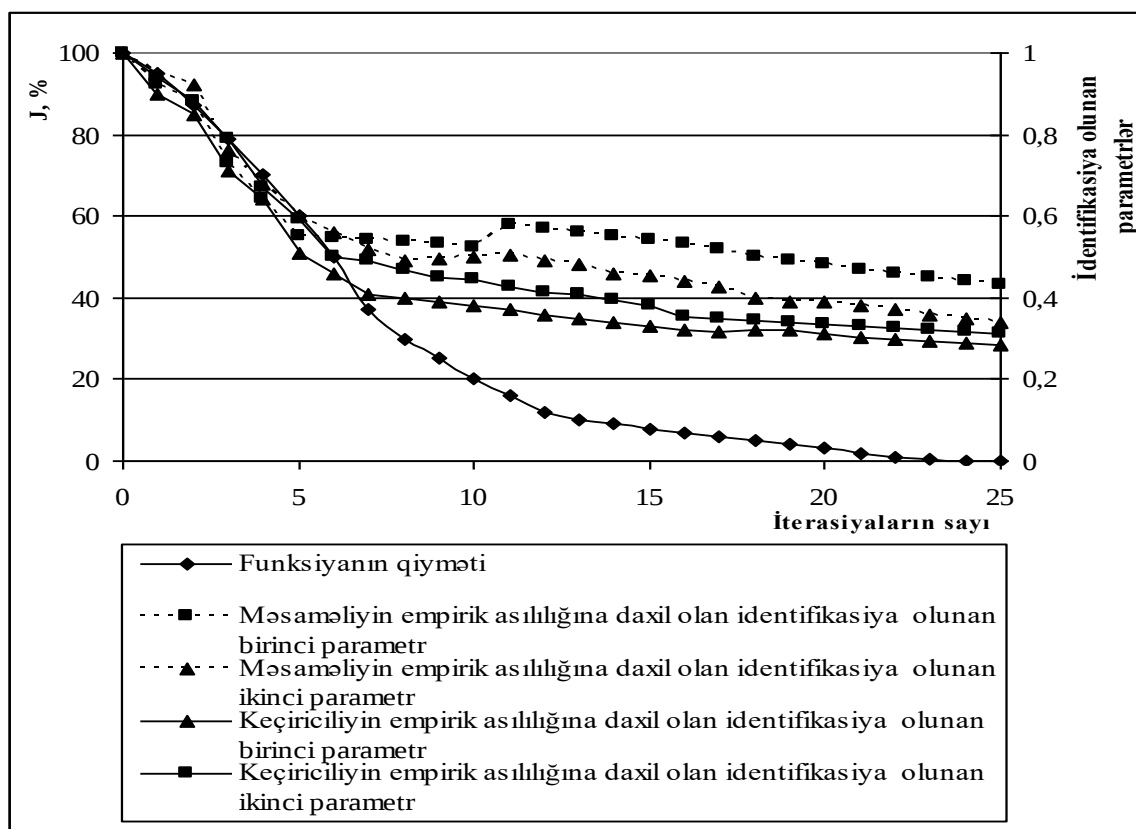
Из приращения, приведенного выше функционала его градиент, определяется следующей форме

$$\begin{aligned} \frac{\partial J}{\partial \alpha_{1i}} &= - \iint_G \left[\Psi_{1i} \frac{\partial}{\partial t} \bar{B}_{i\alpha_{1i}} + \Psi_{2i} \frac{\partial}{\partial t} \bar{D}_{i\alpha_{1i}} \right] dr dt + 2\varepsilon \alpha_{1i}, \\ \frac{\partial J}{\partial \alpha_{2i}} &= \iint_G \left[\Psi_{1i} \frac{1}{r} \frac{\partial}{\partial r} \left(\bar{A}_{i\alpha_{2i}} r \frac{\partial p_i}{\partial r} \right) + \Psi_{2i} \frac{1}{r} \frac{\partial}{\partial r} \left(\bar{C}_{i\alpha_{2i}} r \frac{\partial p_i}{\partial r} \right) \right] dr dt + \\ &\quad + \int_0^T [\Psi_{1i} \bar{A}_i + \Psi_{2i} \bar{C}_i] \bar{A}_i^{-1} \bar{A}_{i\alpha_{2i}} \frac{\partial p_i}{\partial r} \bigg|_{r=r_c} dt + 2\varepsilon \alpha_{2i}, \end{aligned} \quad (12)$$

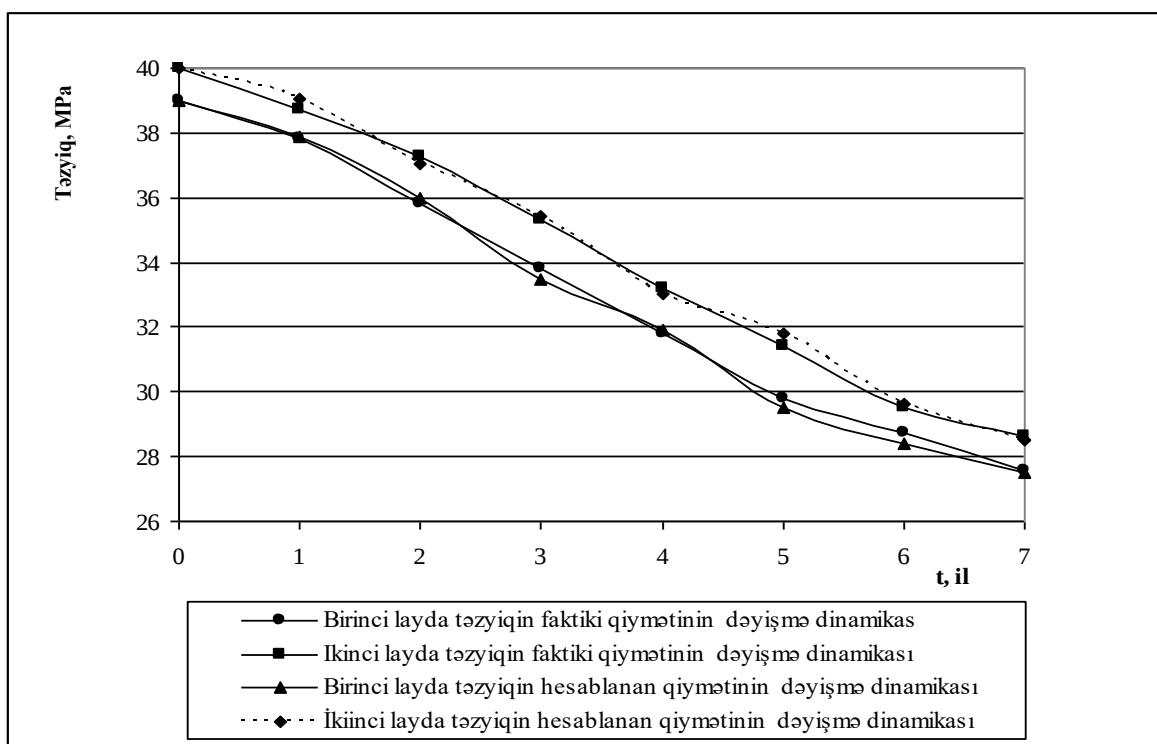
Определение $(\alpha_{11}, \alpha_{12}, \alpha_{21}, \alpha_{22})$ идентифицируется из итерации

$$-\alpha_{ji}^{k+1} = \alpha_{ji}^k - \lambda_{jk} \frac{\partial J(\alpha_{ji}^{k+1}, \alpha_{ji}^k)}{\partial \alpha_{ji}}, \quad j=1,2, \quad i=1,2. \quad (13)$$

Результаты задач выражаются графикой



Puc.1



Puc 2.

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THE ROLE OF DISPERSION ANALYSIS IN THE EVALUATION OF GEODESIC MEASUREMENTS

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Abstract

At every moment of our life we are faced with random events and processes. Mathematical statistical methods play an important role in solving the distribution law of random variables. The main task of the mathematical statistics department is to develop methods for obtaining scientifically based results from events and processes obtained from given observations. These methods are of great importance in the evaluation of measurements made in geodesy. At this time, the differences in accuracy of the measurements are evaluated by comparing the empirical variances. Mathematical statistical methods in the theory of measurement errors have been applied since the second half of the 20th century. At this time, the concept of random functions, which is one of the main concepts of probability theory, is used. Dispersion analysis plays an important role in studying the numerical characteristics of random quantities, determining the distribution law, and studying the errors that appear during geodetic measurements and is one of the current issues.

Keywords. mathematical statistics, analysis of dispersion, within-group dispersion, one-factor dispersion, and multifactor dispersion.

Mathematical statistics - includes mathematical methods that serve to systematize, process and obtain scientific and practical results of statistical data. Statistical data is a wide set of indicators characterizing an object. Mathematical statistics is based on probability theory, many of its branches are based on this theory. This allows us to assess the reliability and accuracy of the results. The evaluation theory is also widely applied here. The development of mathematical statistics dates back to the work of the famous German geodesist and mathematician Carl Friedrich Gauss (1795) and continues to develop [1].

In many practical problems, the main question that interests us is the extent to which this or that effect or combination of effects is present on the factor under consideration. The main conditions and requirements that must be observed during geodetic observations are the absence of regular errors. It is known that the factors that cause regular errors are: instrument error, measurement method, observer, unrecorded changes in physical conditions of observation.

Scientific and technical experiments are carried out to determine regular errors in observation instruments and equipment, in the measurement method. For example, every new protractor is researched and tested in the laboratory and in the field. Horizontal angles are measured in various ways during field tests with this instrument.

Tests are carried out in geodetic polygons to reveal regular errors caused by instrument, equipment, observation method and observer's own errors. In those polygons, standards of horizontal angles, length of lines, elevations are set. To ensure the reliability of the test results, experiments are performed simultaneously by several observers with appropriate devices. At this point, we may be interested in measuring 2 factors that influence the outcome: device and observer or device and method.

After testing tools, devices and methods in field conditions, a complex of tests is conducted in different physical conditions and in different parts of the country. In this case, we will be interested in the effect of physical conditions on the measurement result. A scientifically based solution to these types of issues is the subject of dispersion analysis in some hypotheses.

Analysis of dispersion is a statistical method that allows analyzing the influence of various factors on the studied variable.

The method was developed by biologist Ronald Fisher in 1925. Initially, it was applied in the evaluation of agricultural practices. Later, the scientific significance of dispersion analysis for experiments in psychology, pedagogy, medicine and other fields appeared.

The purpose of analysis of dispersion is to test the significance of the difference between numerical means by comparing dispersions. It is also possible to come across the concept of ANOVA (Analysis of

dispersion) in the literature. The essence of dispersion analysis is the study of one or more independent variables [2].

In the analysis of statistical data, such a question often arises: to what extent any factor affects the value of a random variable. In simple terms, analysis of dispersion is a statistical analysis to test whether the means of several groups are equal to each other.

Depending on the number and type of variables, dispersion analysis is divided into the following types:

- One-factor and multi-factor analysis of dispersion (one or more independent variables)
- Univariate and multivariate analysis of dispersion (one or more dependent variables)
- Analysis of dispersion with repeated measures (for dependent samples)
- Constant factor analysis of dispersion (random and mixed)

They separate the dispersion of the measured characteristic into independent aggregates. Each of these aggregates characterizes the influence of one or another factor or their interaction. The subsequent comparison of these aggregates allows to evaluate the importance of each studied factor, as well as their combinations.

If the null hypothesis that the means are equal in several groups of observations selected from the total population is true, the estimate of the dispersion associated with the within-group variability should be close to the estimate of the between-group dispersion.

When conducting analysis of dispersion, the following statistical assumptions must be met:

Regardless of the level of the factor, the response values have a normal distribution law and the same dispersion. This equality of dispersions is called homogeneity.

Thus, a change in the processing method affects only the position of the random value of the response, characterized by the mean or median [3].

The method of analysis of dispersion is "stable". This term, used by statisticians, means that these probabilities may be slightly distorted, but the method can still be used. They use a non-parametric (color) method of analysis in an uncertain order of determination of response values.

The basis of dispersion analysis is the separation of dispersion into parts and components. The inter-group dispersion - σ^2 characterizes the variation caused by the effect of the factor that is the basis of the grouping.

It is calculated by the following formula.

$$\bar{\sigma}^2 = \frac{\sum_{j=1}^k (\bar{x}_j - \bar{x})^2 \cdot n_j}{\sum_{j=1}^k n_j}$$

k – number of group

n_j – the number of units in the j group

$\bar{x}_j$ – specific mean for the j group

$\bar{x}$ – general average of the sum of units

The variation caused by the influence of other factors is characterized by intra-group dispersion - σ_j^2 in each group.

$$\sigma_j^2 = \frac{\sum_{i=1}^n (x_{ij} - \bar{x}_j)^2}{n}$$

The total dispersion σ_0^2 , within-group dispersion σ^2 , and between-group dispersion $\bar{\sigma}^2$ have the following relationship:

$$\sigma_0^2 = \bar{\sigma}^2 + \sigma^2$$

Within-group dispersion – explains the influence of factors that are not taken into account when grouping factors. Between-group dispersion – describes the effect of grouping factors on group mean values. It allows to analyze the changes of one or more productive indicators under the influence of the studied factors (independent variables). Here, factor means a certain quantity that determines the characteristics of the object or system under study, in other words, a reason that affects the final result.

When conducting dispersion analysis, it is important to choose the source of influence and the object correctly. That is, to identify dependent and independent variables [5].

Depending on the indicators of the classification, several groups of dispersion analysis are distinguished (table 1.).

Methods of analysis of dispersion can be applied to a normally distributed population (multivariate analogues of parametric tests) and to a population that does not have a certain distribution (multivariate analogues of non-parametric tests).

In case I, first of all, it is necessary to determine whether the result indicator has a normal distribution.

Asymmetry (Σ_k) and kurtosis (ε_k) can be used to check the normality of the distribution of the indicator.

$$\Sigma_k = \frac{\sum (X_i - X_{or})^2}{n \cdot \sigma^3}, m_{\Sigma} = \sqrt[2]{\frac{6}{n}},$$

$$\varepsilon_k = \frac{\sum (X_i - X_{or})^4}{n \cdot \sigma^4}, m_{\varepsilon} = 2 \sqrt[2]{\frac{6}{n}}.$$

Table 1.

Categories of analysis of dispersion

Due to the number of factors considered	One-factor analysis – the effect of one factor is studied	Multifactor analysis – the influence of two or more factors is studied at the same time
The existence of a relationship between the choice of values	Analysis of independent (various) samples is carried out when there are several groups of research objects in different conditions. (H0 – the null hypothesis is tested: the average value of the dependent variable is the same in different measurement conditions, in other words, it does not depend on the studied object)	Analysis of dependent samples (same one) – is carried out for two or more measurements carried out in the same group of objects studied in different conditions. Factors that are not taken into account here may also have an effect, which can be mistakenly attributed to changes in conditions
According to the number of dependent variables affected by the factors	Univariate analysis (ANOVA or AMCOVA – analysis of covariance) – one dependent variable is exposed to the influence of factors	Multivariate analysis (MANOVA – multivariate analysis of dispersion or MANCOVA – multivariate analysis of covariance) – several dependent variables are influenced by factors
According to the research objective	Deterministic – the levels of all factors are determined in advance and only their influence is tested (testing the H0 hypothesis that there is no difference between the average levels)	Random – the level of each factor is taken as a random sample from the total sum of the levels of the factors (the H0 hypothesis that the dispersion of the mean response calculated for different levels of the factor does not differ from zero is tested)

Where, X_i , X_{or} – is the value of individual results and its average value; σ – mean square deviation of the result; n – number of observations; m_{ε_k} , m_{Σ_k} – is the error of Σ_k and ε_k indicators.

If the asymmetry and kurtosis indicators do not differ more than 3 times from the errors representing themselves from the main population, then the distribution can be considered normal.

In a normal distribution, the skewness and skewness indicators are equal to zero.

The data corresponding to one condition (one degree) of the effect of the factor is called dispersion complex.

When conducting dispersion analysis, it is necessary to observe the equality of dispersions between complexes. However, the selection of elements should be done randomly [4].

In case II, that is, when the sample set has random distributions, non-parametric (color) analogs of one-factor analysis of dispersion are used.

In practice, some of its properties are used to simplify the calculation of dispersion:

a) the variance of a constant quantity is equal to zero;

b) if each of the individual values of the sign is reduced by the same number, the number of variance does not decrease;

c) if the individual values of the characteristic are reduced by K times, the variance value is reduced by K^2 times.

The result

Statistical assumptions should be made when performing analysis of variance: Depending on the level of the factor, high response values are assigned a normal distribution law and the same variance law. This equality of variances is called homogeneity.

therefore, the response in the processing method affects only the effect of the value of the effect - characterized by the mean value or median. When performing analysis of variance, the level of variances between time complexes is needed. However, it should not be obtained as a result of the selection of elements.

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COMPARISON OF DEFORMATION VALUES IN CARTOGRAPHIC PROJECTIONS

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When the cartographer chooses the appropriate projection for the map to be prepared, he must consider what purpose the map will be used for and what features it will transfer, angle, area protection features, protection of the lengths of certain lines, the shape of parallels and meridians, etc. factors such as But after these approaches, a projection is selected that fulfills some of these possibilities and gives the smallest possible deformations for the area to be mapped.

In addition to considering the area to be mapped and the purpose of the map, the scale of the map to be prepared is also an important criterion for choosing a suitable map projection. The deformations that occur in large-scale maps are very small compared to the area of the Earth. However, as the scale of the map decreases, the errors caused by the sphericity of the earth become very large and can lead to a large distortion of the information transferred to the plane. Considering all this, the study of deformations that can occur in map projections is very important.

Keywords: Lambert projection, Sinusoidal projection, Mollweide projection, Wagner VII projection, Eckert V projection

The purpose of map projections is to transfer certain points to the plane or to surfaces that can be opened to the plane according to certain mathematical rules according to a coordinate system defined on the auxiliary surface defined for the surface of the Earth. A sphere or an ellipsoid is used as a reference surface for the Earth's surface, depending on the purpose or scale of the map.

Map projections can be compared in terms of the amount of deformations they contain and the distribution of these deformations. Some comparisons are purely graphical and provide an opportunity to visualize the extent of deformations. Other comparisons are made from a mathematical point of view and involve the calculation of deformation quantities. Quantitative visualization of deformations is often used.

In order to compare the deformation values of the projections, the deformation values will be presented together, and the angular and area deformation values will be applied to the equivalent curves, and the area between each pair of equivalent curves will be calculated and proportioned to the entire projection area, and a comparison of the projections will be made in terms of deformations. Table 1 summarizes the calculated values of angular deformations according to the projections. Latitude values are ordered from largest to smallest to easily detect the variation of deformation with latitude. First of all, if the deformation values are "0", Lambert's field-preserving, Sinusoidal and Eckert V projections are seen to have no deformation along 0° latitude regardless of the meridian change.

Table 1.

*Illustration of maximum angular deformation values in
field-preserving projections*

		Lambert	Sinusoidal	Mollweide	Wagner VII
φ	λ	Maximum Angular Deformation			
0	0	0	0	12.01	13.44
0	30	0	0	12.01	13.88
0	60	0	0	12.01	15.18
0	90	0	0	12.01	17.38
0	120	0	0	12.01	20.49
0	150	0	0	12.01	24.56

0	180	0	0	12.01	29.62
30	0	16.43	0	5.76	6.96
30	30	16.43	14.92	10.55	10.75
30	60	16.43	29.34	18.49	17.82
30	90	16.43	42.88	26.73	25.62
30	120	16.43	55.27	34.83	33.69
30	150	16.43	66.41	42.63	41.94
30	180	16.43	76.29	50.07	50.36
60	0	73.74	0	17.46	23.04
60	30	73.74	25.55	25.68	25.57
60	60	73.74	48.78	40.64	31.85
60	90	73.74	68.45	55.70	39.89
60	120	73.74	84.41	69.31	48.50
60	150	73.74	97.17	81.15	57.10
60	180	73.74	107.36	91.28	65.39
90	0	-	-	-	-

But in the sinusoidal projection, deformation does not occur at the points where the length is 0° . In the Lambert, Mollweide, Wagner VII and Eckert V projections, it was not possible to calculate deformation values for the polar regions. Poles cannot be considered points in such projections. In addition, deformation increases very rapidly after 60° latitude in these projections.

Table 2 shows the ratio of the angular deformations of the projections to the entire projection surface. According to these values, it appears that the area with angular deformation of 40° or less in all projections is close to each other. Mollweide and Wagner VII projections have low values of areas with angular deformations below 10° .

Table 2.

**Angular deformations in the entire projection surface
area percentage rate (%)**

ω	Lambert	Sinusoidal	Mollweide	Wagner7	Eckert V
0°	0	0	0	0	0
10°	40.10	21.70	6.40	5.20	24.20
20°	54.30	35.80	45.40	35.20	41.70
30°	64.10	47.20	61.10	57.20	56.40
40°	71.30	57.00	71.80	71.70	69.00
50°	76.80	65.70	79.90	82.10	79.90
60°	81.60	73.60	86.10	90.40	88.40
70°	85.20	80.70	90.90	93.90	92.60
80°	88.40	87.00	94.30	94.70	95.10
90°	90.80	92.50	96.70	95.30	96.10
100°	92.80	96.90	98.10	95.70	96.80

Compared to the gradual increase in the other projections, there is a sudden increase in the first two values in these projections. The reason for this is that these projections maintain their scale at certain latitudes north and south of the equator. For example, in the Hammer-Aitoff projection, the deformation value gradually increases as you move away from the tangent point of the projection. However, a general comparison with the Mollweide projection shows that it causes a little more deformation. On the other hand, the deformation that occurs in almost all projections remains below 100° in all projections.

When comparing the area deformation values of the Eckert V projection with the conformal feature and the balanced deformation feature of the Mercator projection (Table 3), the ratio of the area to the entire area where the area deformation due to both the projection surface and the conformal

feature remains below 1.00 is quite low in the Mercator projection. On the other hand, the Eckert projection gives very good results with a balanced strain distribution.

Table 3.

Percentage of field deformations in the entire map area (%)

<i>p</i>	<i>Mercator</i>	<i>Eckert V</i>
1.00	0.2	66.70
2.00	43.5	92.70
3.00	56.6	96.90
4.00	65	98.50

The result. In this article, the theory of map projections, which is the process of transferring the Earth to a plane, has been emphasized, and an attempt has been made to explain how and to what extent the deformations caused by map projections during this transfer process will affect the prepared maps.

The most suitable projections for drawing maps of the entire Earth are pseudo-cylindrical and azimuthal projections created especially for this purpose. Sinusoidal projection is convenient for creating field-preserving maps of the Earth, since it has an elliptical structure and transfers parallels parallel to each other on the projection surface. Deformations increase with distance from the central meridian and equator. In the Mollweide projection, the shapes of parallel circles are straight lines, and those of meridians are ellipses. The elliptical nature of the boundary meridians helps to create an accurate picture of the shape of the Earth. On the other hand, calculation of deformations is difficult compared to cylindrical projections. Deformations in parallel circles depend on geographic latitude, and meridians depend on both geographic coordinates. The angular deformation is slightly greater than the Mollweide projection. Deformations increase with distance from the center point of the projection. In the Wagner VII and Eckert V projections, the scale is preserved along the north and south parallels at equal distances from the equator, as in the Eckert VI projection. However, it is not possible to satisfy the field conservation property to balance the strain distribution in the Eckert V projection. Both of these projections show the meridians as complex curves to help easily understand the sphericity of the Earth.

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