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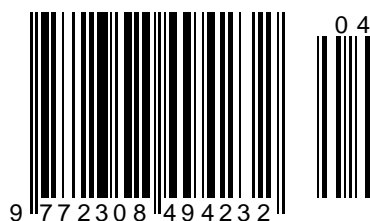
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Article



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DESCRIPTION OF PROJECTS CREATED FOR THE FORMATION OF A COMPLEX OF TOURIST ORGANIZATIONS AT MUSEUM SITES IN UZBEKISTAN (ON THE EXAMPLE OF 1970-1990)

Abstract: This article substantiates project proposals for the development of tourism in Uzbekistan and the processes of using commercial and residential buildings and tourist complexes in technical and economic development. As a result of the conducted research, programs were laid to create a system complex of tourist organizations in the republic, which would have a social and economic effect. With its help, specific targeted tourist plans were analyzed in order to receive foreign tourists, introduce all types of services, get acquainted with ancient and historical monuments and modern structures of Uzbekistan.

Key words: cultural tourism, museum tourism, projects, tourist programs, objects of historical and cultural heritage, tourist complexes, monuments, museums-reserves.

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Introduction

Taking into account the fact that the use of commercial and residential buildings and tourist complexes will be effective in the development of tourism in Uzbekistan, project proposals and technical and economic developments attracted representatives of the sphere, united in special groups, back in the 70s of the last century. As a result of the research, the foundation was laid for the creation of a system complex of tourist organizations in the republic, which would be socially and economically effective. Thanks to this, it was possible to develop tourist plans with a specific purpose to receive tourists from near and far abroad, introduce all types of services, familiarize tourists with ancient historical monuments and modern buildings of Uzbekistan.

Materials and Methods

The main attention was paid to the study of sights, a comprehensive analysis, the study of their

history, the disclosure of their little-studied aspects. Undoubtedly, the above aspects will be the focus of attention of tourists visiting the country. Along with the study of local historical monuments, it is inevitable to conduct an analysis of the modern urban planning industry, its current potential, interesting projects for the formation of the material base as well as the possibilities of its implementation, the current situation in important sectors of urban planning, the national economy, the specifics of the conditions created for the development of tourism, and plans for the future. Undoubtedly, scenario and itinerary programs prepared for the organization of travel around the country are very effective in the development of tourism.

The available opportunities in Uzbekistan are favorable for the development of various areas of the tourism industry, the implementation of planned tourist programs, as well as the phased implementation of projects related to travel and

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recreation in the cities of the republic. To do this, it was recommended to use route drawings based on the complex. In addition, when introducing tourist complexes, the natural and climatic conditions of the region are directly taken into account. Taking into account the mild climate and convenient natural conditions, technical and economic opportunities, it is possible to organize year-round tourist events, recreation, sports competitions in Uzbekistan [3].

Khiva, being the center of the Khorezm region and thus the tourist center of this region, has developed special programs for organizing meaningful pastime of tourists. Since the territory of Khiva was smaller than such large cities as Tashkent and Samarkand, and was distinguished by the fact that there were few places for organizing cultural events for tourists, except cinemas, after a tour of Khiva, problems arose with attracting guests to cultural and entertainment events. But as a result of the consistent implementation of a systematic project aimed at organizing tourist activities, such pressing issues began to be gradually resolved. It takes tourists an average of three days to get acquainted with the sights, cultural values and monuments of Khorezm, especially Khiva, which is its main tourist complex. In the first two days, according to the plan, guests get acquainted with Khiva, Urgench and other places of the Khorezm region during the day. The free time of tourists these days passes mainly between excursions and evening hours. To make the most of these hours, they can buy souvenirs at kiosks near the Ollokulikhan Madrasah. It was planned to launch trade in antique fabrics, national clothes and jewelry, Khorezm men's national headdresses, triangular scarves. On the shelves of the shopping mall Half a ton of manure, guests were offered oriental treats, pastries, spices, fresh fruits and dried fruits, bread and bakery products. Tourists who want to buy souvenirs, as well as get acquainted with expositional exhibitions, learn about folk crafts of different eras and states, their history, are recommended to visit specially organized souvenir salons at the madrasah [7].

Samples of "Khorezm folk art" were placed in the Musa Torah Madrasah, the fair of handicrafts of craftsmen and the Khorezm Carpet salon in Abdullakhan Madrasah, the fair of Khorezm ceramics were also presented in madrasah Madamin Inok. There are many more examples of this [4].

For a detailed acquaintance with the unique features of national dishes, tourists went to the tasting room of the Yasavulbashi madrasah. Here they were offered cold drinks, juice and chilim (hookah). In order to enjoy a variety of national dishes prepared from poultry and game meat, the restaurant of the Islamkhoja Madrasah opened its doors, and an oriental teahouse was built on the aivan (open gazebo) of the White Mosque [6].

In the evening, theatrical performances, films about the history of Khiva and Khorezm, famous

people, life and everyday life of the region were demonstrated on the open square of the Old Park. For those who wish, there will be an opportunity to visit the oriental baths. In the course of the work, it is planned to include this trip in the tourist program.

On the third day of tourists' stay in Khorezm, a direct free check-in will be planned, except for the mandatory excursion plan. On this day, tourists can take advantage of additional opportunities based on their interests. This is a pleasant and impressive holiday by exploring the coast and castles from the plane, riding camels in the desert, relaxing in yurts. If you have a desire to see the Khorezm bazaars, you can leave early in the morning. The Ichan Bazaar begins at the outer wall of the fortress, passes by the Ollokulikhan shopping malls and stretches to the Polvan Gate. The uniqueness of this place is that travelers visiting the oriental market are surprised by the abundance, color and sweet taste of fruits and vegetables. In addition to watching the national games and entertainment events that take place at the market, they can also take part directly: the project includes traditional festivities and folk games, performances of porters, wrestling, sheep and cockfights, folk games. The project includes a special platform for performances by clowns, singers, dancers and musicians [6].

Undoubtedly, a visit to a pottery and craft workshop and shopping malls with iron and copper products, samples of applied art, wood carvings, jewelry, decorative wooden toys, etc. can arouse great interest among tourists.

Fish is fried in the market, barbecue is cooked and tea ceremonies are held. Sellers in national clothes offer traditional samsa, and a tourist who has bought oriental sweets from various fruits in a special package will return from this trip with vivid impressions and unforgettable memories.

In spring, summer and autumn, tourists take part in the traditional holidays "Navruz", "Cotton" and "Melon picking". These are holidays with a long history. Undoubtedly, attracting tourists to these holidays will bring only positive results.

The listed forms of activity are aimed at attracting tourists and meaningful spending of their free time, as well as at obtaining the desired spiritual enrichment. The fee for all services should be set at a reasonable level.

Acceptable projects in the field of tourism were adopted unanimously only after taking into account the analysis of the long-term activities of foreign tourist centers, as well as the requests and needs of tourists, the expenses they spend on the meaningful organization of their free time. Industry specialists worked on this. As a result of the analysis, it became clear that if we take into account most of the total number of tourists who visited Khorezm during the peak tourist season (first of all, the complex - 1600 people), then each of them got acquainted with the

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national cuisine at least once. About 10 percent of tourists went on an additional excursion every day, 15-20 percent went to theatrical performances or film screenings, which were shown every evening in the open square of the Old Ark, and about 30 percent of tourists participated in entertainment performances at the market every day [5].

Undoubtedly, every tourist bought souvenirs. According to estimates, he spent an average of 3 soums on souvenirs (according to 1984). About 5 percent of tourists visited oriental baths, and about the same amount spent their free time playing checkers, chess, backgammon or just relaxing.

In fact, the calculation programs developed for the meaningful organization of leisure of tourists during their visit to Khiva allow you to choose the necessary activities based on the importance of a particular type of activity for potential consumers, determine their effectiveness, and at the same time determines the amount of expenses spent on these objects.

In particular, personnel and operating costs are being clarified, and as a result, it is difficult to get accurate information about how effective this method is, whether it benefits or, conversely, brings a loss. Determination of the effectiveness of similar programs and projects for the meaningful organization of tourists' recreation is carried out in all tourist centers of Uzbekistan. It should be noted once again that in each city with tourist centers, the selection of volunteer and service enterprises for guests should be of an individual nature, of local significance and directly related to the folk traditions and customs of this region, city and locality. It is necessary to avoid factors that may annoy travelers, such as services that repeat each other, the organization of trips along the same route. It should be noted that Uzbekistan has enough opportunities to solve these problems.

The use of the specifics of local traditions and the sale of souvenirs by production organizations will not only be an unforgettable experience for a traveler who visited Uzbekistan, but also indicate which region he visited or which cultural places he visited.

Samples of folk and applied and decorative arts, traditional practical crafts, which include Uzbek national culture, are considered the most famous and unique ethnographic features and are remembered as an unforgettable memory of a pleasant journey through Uzbekistan.

At present, ceramicists, coppersmiths, woodcarvers, jewelers, textile workers, hatters, jewelers, carpet weavers and felt weavers, weavers who produce unique artistic products from national fabrics are active in the republic. In particular, satin, adras and silk fabrics have gained popularity all over the world. In a number of districts of the republic, you can find many master carpenters engaged in wood carving, marble, gancha and other crafts.

However, the activities of folk craft associations cannot yet be considered completed. For the development of the most important branches of national culture, it was necessary to carry out work on the implementation of a number of organizational and economic measures: the creation of a centralized system of folk crafts, conducting extensive research on the development of home-based farming, which is the basis for the transfer of masterpieces of folk art, the restoration of its ancient forms, the study of its primary sources, the secrets of craft, which is considered important today, in the provision of to the market of refined products. Intensive work has also begun on the organization of workshops and trade tents of artisans engaged in small needlework, as part of tourist enterprises. In each region where tourism is developing, specialized workshops are starting to work. These workshops set up production based on the flow of tourists and what products they need.

Folk crafts and applied arts have their own school and direction in various regions – Tashkent, Samarkand, Bukhara, Khorezm, Ferghana. The variety of souvenir products is also of particular importance in the tourist market. Together they become colorful in general. The development of folk art is proof that the republic has sufficient experience in this field.

Souvenir products made on the basis of unique traditions of folk crafts are considered as an important aspect of the formation of tourism centers. On the contrary, it is considered as an important factor for the independent development of some tourist routes. For example, the planned route from Samarkand to Penjikent requires tourists to stay in the village of Urgut, which is 30 kilometers from Samarkand. Urgut is a charming village from an ethnographic point of view. Travelers are also interested in the fact that many craftsmen and artisans continue the craft of their ancestors here, and make products with significant changes from samples of folk art in other places.

The tourist organization plans to organize a number of handicraft and craft shops in Urgut. Woodworking, patterned carving, knife making in the national style, Urgut hatmaking, quilting and embroidery are developed in this area. According to the excursion plan, lunch will be organized for travelers in Urgut. For this purpose, special teahouses will be built, and tourists will be able to taste delicious dishes of local residents.

In addition to these activities, the roads leading to Urgut will be repaired and expanded. It is planned to build new bus stations, provide exemplary service, improve the environment, and make important changes.

In Samarkand, which occupies a special place in the field of tourism, in trade workshops (rasta), on the streets of Tashkent and near the historical object Bibikhanim, in the tobacco shop "Noskadu", jewelry of the Samarkand school of jewelers, Samarkand

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suzane, socks are presented for sale for tourists, and the sale of painted and embroidered, decorative handmade fabrics, pile fabrics is planned carpets, art decorations and national musical instruments [6].

In the Old City of Bukhara, which is another major tourist center, it is planned to create kiosks promoting samples of the Bukhara school of historical and ancient crafts. From the southern part of the walls of the arch to the former district of the Arroki Misgari coppersmiths, rare works of the Bukhara School of applied Art are exhibited. In fact, there were shops and workshops here in ancient times. Considering that craftsmen who made cast products lived around Abdulaziz Khan madrasah, trading shops were set up here, and blacksmiths' counters have been installed in the Telpakfurushon Toki area since 1985.

Tashkent offered tourists samples of the school of pottery art. Workshops and shops were organized to demonstrate jewelry, copper products, Tashkent headdresses "Burchakli", "Jurmadozi", "Chorchum", samples of wood carving, demonstration of papier-mache products, as well as objects of lacquer miniature.

In addition to specially decorated souvenir shops in Tashkent and Samarkand, exhibition workshops and stalls, kiosks and other counters sold Khiva and Bukhara souvenirs in the form of domes, paintings with images of architectural monuments and monuments, as well as handicrafts.

A separate place was given to national cuisine and local dried fruits. A display of sugar-sweet fruits grown on the fertile lands of Uzbekistan was held, which in turn served to further interest the guests of the republic.

The project provides a place for modern printed souvenir brochures. Souvenir city plans, booklets, books, monographs, photo albums, postcards, stamp collections are presented to the guests.

Mass-produced souvenirs, badges, film and photo souvenirs, as well as products developed by enterprises of the tourist center of Uzbekistan were shown. Undoubtedly, this has effectively affected the organization of economic and aesthetic education. Thanks to this, tourists could get information about the companies producing souvenirs, their artistic quality and economic efficiency [6]. Today, the architecture of museum buildings is the subject of various disputes among museologists, art historians and architects. According to UNESCO, 80% of museum buildings are located in palaces, castles, churches, public and other buildings that were previously used for other purposes.

Most of these buildings are monuments of history, culture and architecture, and the placement of museums in buildings pursues two goals: on the one hand, to preserve the historical appearance of architectural monuments, and on the other – to preserve museum construction in accordance with the requirements of the time [1].

Objects that are not adapted for museums limit the possibilities of organizing the order and storage system of exhibits at the level of requirements corresponding to the norms and rules of museification. Usually the interiors of these buildings are adapted to museum functions.

Among the museum buildings, open-air museums, museum reserves, buildings and historical monuments have been preserved as museum objects, taken under state protection and research [2]. Open-air museums serve as one of the main means of reflecting the historical potential, power and especially its past in the mirror of other nations and peoples of the world, and this is closely connected with the name of the ethnographer A. Hazelius.

On the initiative of A. Hazelius in 1891 in Stockholm (Sweden), open-air museums were created under the name "Skansen" [3]. At the beginning of the 20th century, the organization of open-air museums became widespread in many cities around the world.

Today, the preservation of cultural heritage objects by turning historical monuments into open-air museums is considered the most effective method in the field of museum architecture. Museum buildings of this type are assigned the status of "Museums of the Future".

Open-air museums are considered the property of a universal nature and are the product of national genius, worldview and creative potential. It should be recognized that the open-air museum buildings located in our country are under the close attention of not only our residents, but also foreigners. Especially tourists visiting ancient and modern Khiva admire the architectural structures and museum objects of museum and historical monuments.

Khiva occupies a special place among ancient cities, where buildings, historical past, architectural monuments have been holistically preserved.

Khiva since ancient times consisted of three parts: Ark (state administration), Ichan Castle (inner city), Dishan Castle (outer city). All three parts of the city were surrounded by thick and high separate walls of straw and mud brick with 4 gates.

The Ichan Castle housed mainly the residences of the ruling class, palaces, madrasahs, mausoleums and mosques. Dishan Fort was home to merchants, artisans and representatives of other professions, their businesses and shops, as well as the market.

The Ichan-Kala part of the city is a single monument city preserved in Central Asia. The fate of its architectural monuments in the past is closely connected with the historical and cultural development of Khorezm, the oldest cultural oasis in the world. The unique city of Khiva is the creative pinnacle of the art and work of Khorezm architects who inherited the centuries-old architectural and construction traditions of Khorezm, the cradle of the ancient culture of the Eastern peoples.

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On December 12, 1990, by a special decision of the XIV session of UNESCO, held in Canada, the city of Khiva became the first among the cities of Central Asia included in the list of "World Heritage". In 1997, the 2,500 th anniversary of the city of Khiva was widely celebrated under the leadership of UNESCO.

The Khiva State Historical and Architectural Museum-Reserve "Ichan-Kala", one of the oldest museums in Uzbekistan, is located on an area of 26 hectares and is surrounded by ancient walls of Ichan-Kala. Ichan-Kala Castle consists of unique architectural structures surrounded by a high straw wall, with four gates – Ota Gate, Polvan Gate, Tosh Gate and Bogcha Gate, facing in four directions.

The fortresses of Ichan-Kala were broken down and repaired several times over time. The circumference of the wall is about 2200 meters, the height is 7-8 meters, the thickness of the base is 5-6 meters. Ichan-Kala is built in the form of a rectangle, has a length of 650 meters and a width of 400 meters, that is, it occupies an area of 26 hectares.

By the first half of the XIX century in Khiva there were only two khan's palaces, seventeen mosques and twenty-two madrassas. Ichan-Kala is a large and unique architectural monument of Central Asia, left by our ancestors. It is known as the city of a thousand domes. Ichan-Kala is part of the inner fortress of Khiva – Shakhristan.

During the reign of Muhammad Rahimkhan, Ollokulikhan and Muhammad Aminkhan, large-scale creative works were carried out in Ichan-Kala. Muhammad Aminkhan built a minaret, known as the Katta Minaret, next to the Old Arch in the western part of the fortress.

During the construction of the Ichan Castle, Khiva architects used the method of erecting structures face to face, which has long been used in Central Asia. This method is called "double". During the construction of the Ichan fortress, the tradition of erecting buildings in the form of a separate ensemble was also observed. For example, several mosques, madrassas, baths (hamams), toki, a caravanserai and the khan's palace in front of the Polvan Gate form a unique ensemble. In 1990, Yichang Castle was included in the list of monuments of the world and turned into a museum [6].

During this period, modern residential buildings and cultural and consumer services institutions built in the city provided a certain level of comfort to the residents of Khiva, its ancient part has been preserved as a museum of history and monuments of medieval architecture.

Khiva is one of the main tourist cities of our country, which has preserved its original appearance. Everyone who has visited Khiva and beheld magnificent architectural monuments: the most ancient architectural monument – the tomb of Said Alauddin (14th century), the Old Arch, the Juma Mosque with 212 carved columns and the White Mosque, the mausoleums of Pahlavon Mahmud and the Three Saints, the madrasah of Shergazikhan, Kutlug Murad Inaka, Mohammed Amin Inaka, the Caravan Palace of Olokulikhan and Tima, Islamkhoja, Polvangori, Kaltaminor and many other large and small minarets, and also, the Tashkhovli Palace with 163 rooms, decorated with colorful tiles and rivets, looking at the patterns and epigraphic inscriptions, undoubtedly imagined himself strolling through the streets of medieval Khiva.

That is why the leadership of our country has declared Ichan-Kala a reserve of medieval architectural monuments and is carrying out large-scale work on its preservation and restoration.

The memorial monuments of Khiva are a whole complex preserved in the style of an ancient city and attracting attention with the rhythmic location of the monuments. The buildings of Khiva in the open air belonged to museum objects, were restored and preserved during the years of independence.

Conclusion

Undoubtedly, one of the most difficult tasks in the architecture of museum buildings is the museologization of historical monuments and buildings like Khiva, adaptation to the building of museum reserves located in their composition, as well as compliance with all the requirements of modern museology without destroying the historical object. The main task is not only to preserve the appearance of architecture and interiors of buildings, but also to preserve the entire complex as a whole.

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Issue

Article



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INCREASING THE SMALL BUSINESS AND PRIVATE ENTREPRENEURSHIP IN TRANSFORMATION ERA

Abstract: *The success of any business depends on the right choice of entrepreneurial activities. It represents effective functioning along with proper definition of market strategy and tactics. There is another way to success. Usually, entrepreneurship starts with an idea. Making a business successful is bringing an idea to life. Entrepreneurship is considered broad-based on production, commerce and finance. Current research denoted on growing company's relationship in terms of taxation, export and three economic sectors and investment of Uzbekistan during 21 years' period. Main results show that for starting a new business and succeeding in it was required improvement agribusiness, industry and investment attractiveness in Uzbekistan.*

Key words: *small business and entrepreneurship, economic sectors, investment, transformation economic growth.*

Language: English

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Introduction

Elimination of excessive bureaucratic obstacles and pitfalls for the development of small business and private entrepreneurship, implementation of specific measures to reduce the functions of state administration and give more freedom to entrepreneurship, sharply reduce various permitting standards and restriction procedures implemented by state administration bodies. For ensuring openness and transparency in the interaction of business entities with state administration agencies, tax and control structures, radically simplifying the reporting system and the mechanism of submitting reports to finance, tax and statistics agencies by gradually transitioning to their electronic submission. And, providing small business and private business entities with additional benefits and preferences that help to rapidly develop business activities and increase their efficiency in terms of tax, customs and other payments.

Sometimes improvement and simplification of the mechanism of interaction of small business and private business entities with commercial banks,

improvement of the quality of service to business entities, long-term loans allocated to them, first of all, directed to the organization of new production facilities, modernization of existing production facilities and technological upgrading increase the volume of loans. For a creation of favorable conditions for the wide participation of small businesses and private entrepreneurs in foreign economic activities, assistance in exporting their products to foreign markets, simplification and liberalization of the process of registration of export contracts and customs administration in general.

The results of entrepreneurial activity are private property and ownership. Although it arose and developed with the formation of relations, its literal essence is clearly manifested in the decision-making of modern business in conducting entrepreneurship on the basis of economic freedom. Business is a productive activity related to profit (income) or a set of processes for personal gain (income). Those engaged in business activities are called businessmen or business entrepreneurs. Business object means, first

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of all, a certain activity: entrepreneurship in the fields of production and service, trade entrepreneurship, entrepreneurship in the field of finance.

1. Literature review

To understand these complex event impacts on small businesses we conducted a national survey in the summer 2020 to address the intersection of socioeconomic vulnerabilities, natural hazards, and pandemic impacts on SMBs. In our study, SMBs include those with fewer than 500 employees at a single location. The following groups are included in the historically underrepresented group operator (HUGO) category for our survey: women, racial/ethnic minorities, and veterans. Our operator classification captures business owners and managers of SMBs(Helgeson et al., 2022).

Eventually also cultural aspects were identified as success factors for BPM projects. This is the only category that does not correspond to PMI knowledge areas. Organizational culture can support BPM project success if people describe their organization as exhibiting a ‘can-do’ attitude towards process management. A supportive organizational culture should provide creative freedom and a safe and secure environment of for change and experimentation. Respondents also reported that employees should be empowered and responsibility should be delegated (Lückmann & Feldmann, 2017).

Within these discussions there is limited alignment between the ecological benefits of GI and socio-cultural or aesthetics reasons for use. This is common to a significant number of BID documents which focus predominately on street scenes and not the ecological composition of the area raising questions as to whether BIDs appreciate the full functions and/or ecosystem services that GI can deliver when compared to traditional approaches to place-making(Moore & Mell, 2023).

Within the collected papers, 20 papers provide quantitative data on how the use of IoT in CBMs can reduce environmental impacts. These papers provide 23 cases. We included them in our quantitative analysis for they mainly use energy savings as the primary measurement(Ding et al., 2023).

The SME sector of the agri-food industry has a specific industrial character. For example, there are strict environmental regulations, mature industrial conditions and government subsidy policies for this industry. The agri-food industry is dominated by small family farms where management and control of the business are not separated. Their business processes are driven by economic goals based on strong family business traditions(Wicaksono et al., 2021).

Stream of research that examines i-deals has not focused on small firms’ performance at the level of objective revenue data. Second, the conceptualization of i-deals relies mainly on social exchange theory and conservation resources theory. We propose

that psychological capital is the underlying theory that explains i-deals’ effects on SBMs’ job satisfaction. Additionally, not only is psychological capital theory consistent with the nature of i-deals’ positive effects on manager-owner relationships, but it also can be extended to explain how SBMs’ job satisfaction positively influences firms’ performance(Velasco Vizcaíno et al., 2023).

Despite these essential contributions SMEs make to economic development and growth, they often face several obstacles that hinder their innovation performance. Most of these obstacles to SMEs’ innovation activities emanate from the external environment, which in transition and developing countries are characterized as weak. Weak business ecosystems can significantly increase the cost of introducing new products, and services, making the returns on investments in new services, technologies, and products more indeterminate(Odei & Hamplová, 2022).

International innovativeness is a significant dimension of international business competence, as a nuanced understanding of innovation and international business necessitates a multidisciplinary approach to reveal their multifaceted aspects. Having this in mind, the aim of this study is to improve the current knowledge on the relationship between innovation and international business, that is to say, to identify trends for companies to know better the opportunities and challenges of innovation development in the international business context.(Fernández, 2023).

Although the cleaning sector is an important contributor to employment in many countries, the research on OSH in this sector is limited. A larger share of businesses in the cleaning industry are SSEs and in SSEs the OSH management is less developed compared to larger enterprises. Occupational conditions among SBO themselves are complex with many work-related tasks(Landstad et al., 2022).

Family businesses and related practitioners. Hence, persistent false positives in the family business literature could be disproportionately damaging, as managerial and policy recommendations based on nonreplicable findings may enter the practical arena directly and thereby encourage real-world development (Brinkerink et al., 2022).

2. Methods

In today’s market, none of the producers, consumers and suppliers of goods operate alone. Therefore, during the implementation of business activities, the entrepreneur is in business relations. Current paper analyzed based on 2000-2021 data obtained from stat.uz time series data. We used OLS model with lin-log model. For Gaus-Mfrkow assumption we passed normality distribution test and hettest.

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3. Results

Currently, private enterprise is recognized as one of the organizational and legal forms of entrepreneurship. A commercial organization created and managed by a single individual, that is, an owner, is called a private enterprise. Private enterprise is an

organizational and legal form of business entities. A private enterprise has separate property in its own property, can have property and personal non-property rights in its own name, and can exercise them, fulfill its obligations, be a claimant and be liable in court.

Table 1. Descriptive Statistics of the research

Variable	Obs	Mean	Std. Dev.	Min	Max
export sme	21	1991.824	1449.729	224.3	4714.8
tax	21	14409.716	15707.45	407.6	45575.797
unemployment	21	4.165	3.189	.243	10.549
agriculture	21	40687.309	46782.743	978.5	151250.94
service	21	56592.232	64419.279	1210.9	216711.74
investment bln	21	41452.535	61513.688	744.5	210195.1
industry	21	80998.105	105317.76	1888.9	367078.9

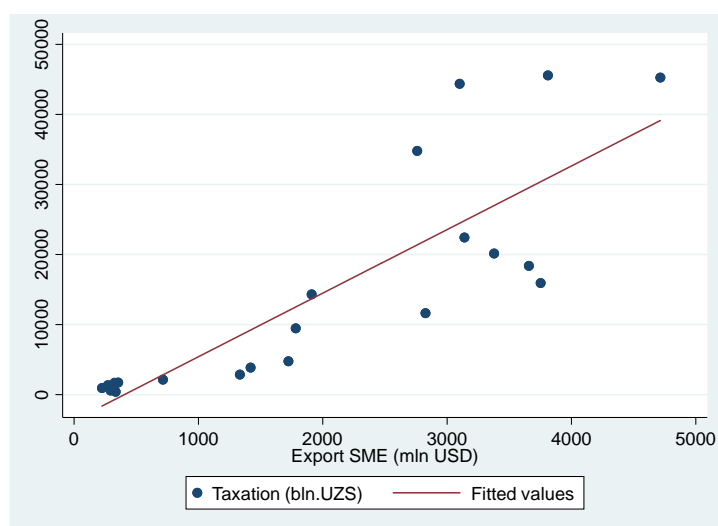


Fig.1. Scatter plot of taxation and SME export

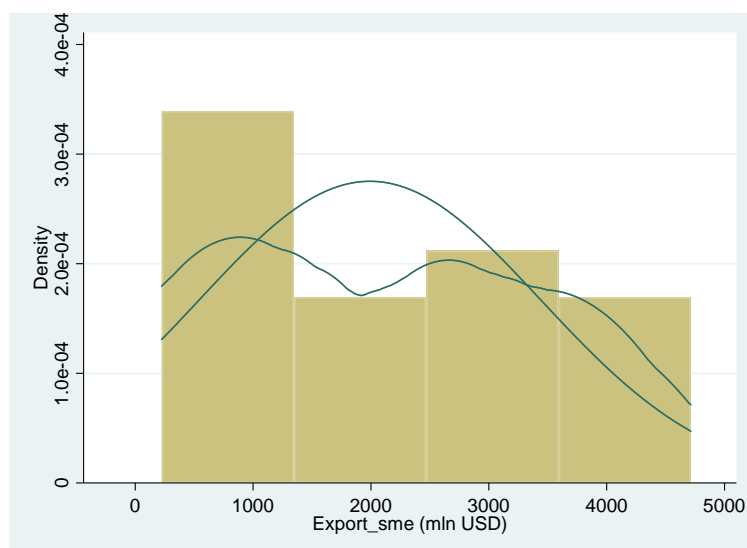


Fig.2. Histogram of SME export

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A private enterprise is liable for its obligations with all its assets. The owner of a private enterprise shall be subsidiarily liable for the obligations of the private enterprise with his own property in accordance with the law, if the property of the enterprise is insufficient.

The development of small business and private entrepreneurship is one of the important objects of state regulation of the economy. Therefore, it has been considered an integral part of the state economic policy in most countries.

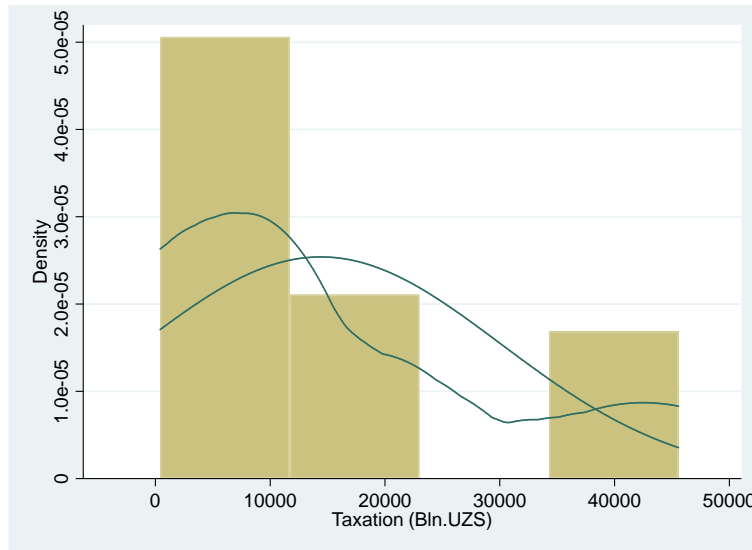


Fig.3. Histogram of taxation

Joint ventures are a form of mixed ownership, in which state, community and private ownership are combined. The enterprise itself is formed on the basis of the agreements of the founders of several countries. Here, the founders are state enterprises and

organizations, collective farms, may be cooperative societies and public organizations. In addition, some citizens (individuals) also have the right to be founders.

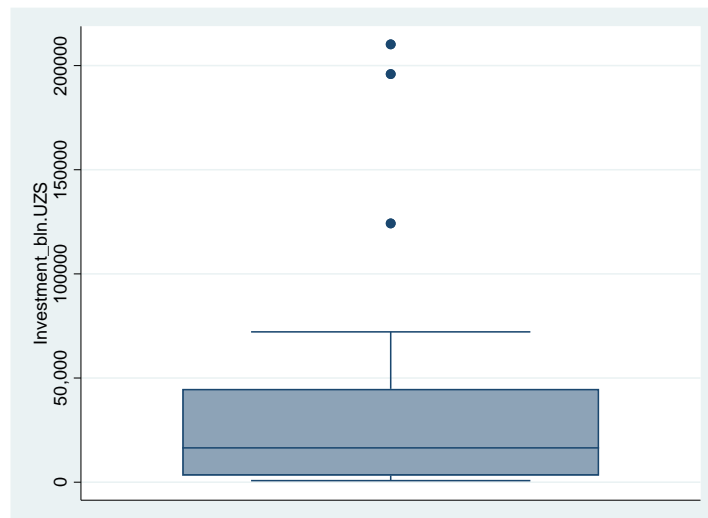


Fig.4. Graph box of investment

To ensure the rapid development of small business and private entrepreneurship, to further strengthen the legal mechanisms for the protection of private property and guarantees of its inviolability, to eliminate bureaucratic obstacles to the development of

entrepreneurship, to improve the investment and business environment in the republic and additional measures to improve the quality of the business environment.

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Table 2. Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) sme	1.000					
(2) tax	0.838 (0.000)	1.000				
(3) unemployment	0.853 (0.000)	0.867 (0.000)	1.000			
(4) agriculture	0.821 (0.000)	0.986 (0.000)	0.858 (0.000)	1.000		
(5) service	0.820 (0.000)	0.979 (0.000)	0.868 (0.000)	0.998 (0.000)	1.000	
(6) investment_bln	0.706 (0.000)	0.927 (0.000)	0.818 (0.000)	0.952 (0.000)	0.965 (0.000)	1.000

In particular, according to the Unified State Register of Enterprises and Organizations, as of July 1, 2019, the number of registered small business entities (without farmers and farms) is 520 in Dostlik District.

Of the total number of registered enterprises, 11.1% are state-owned, the rest - 88.9% are non-state-owned enterprises, of which 22.4% are private, 0.7% are foreign-invested enterprises, and 65.8% are other enterprises did.

As of July 1, 2019, the number of registered enterprises with foreign investments and investments is 5, and all of them are operating.

As of July 1, 2019, a total of 56 family enterprises were registered in the district. This indicator has increased by 19 compared to last year. It was observed that the number of those who are active is 54, and it has increased by 20.

The volume of industrial products produced in the district in January-June 2019 was 273.3 billion. soums shows that the soum has increased by 102.6 percent compared to January-June 2018. Of this, the share of small business is 13.9 percent, the volume of consumer goods is 120.2 billion. soums, compared to January-June 2020, it was 104.3 percent.

Table 3. Linear regression results

SME export	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]	Sig	
tax	.182	.073	2.51	.024	.027	.336	**
unemployment	9.784	110.999	0.09	.931	-226.805	246.373	
agriculture	-.244	.091	-2.68	.017	-.439	-.05	**
service	.195	.064	3.03	.008	.058	.332	***
investment_bln	-.047	.012	-4.02	.001	-.072	-.022	***
Constant	187.954	225.796	0.83	.418	-293.32	669.227	
Mean dependent var		1991.824	SD dependent var			1449.729	
R-squared		0.889	Number of obs			21	
F-test		24.013	Prob > F			0.000	
Akaike crit. (AIC)		330.143	Bayesian crit. (BIC)			336.410	

*** $p < .01$, ** $p < .05$, * $p < .1$

In this, the share of small business is 39.2 percent, the volume of agriculture, forestry and fisheries is 395.6 billion. soums, the total volume of investments in fixed capital in national currency - 89.8 billion. soums (USD equivalent amount - 10.7 million US dollars) or the growth rate compared to the corresponding period of 2018 - 216.5 percent. In these

indicators, the share of small business is 64.7 percent, the volume of construction works is 33.4 billion. soum compared to January-June 2020, it was 119.8 percent. Retail turnover is 111.4 billion. soums, 106.3 percent compared to January-June 2018, the volume of market services is 109.4 billion. soums, compared to January-June 2020, it was 111.4 percent.

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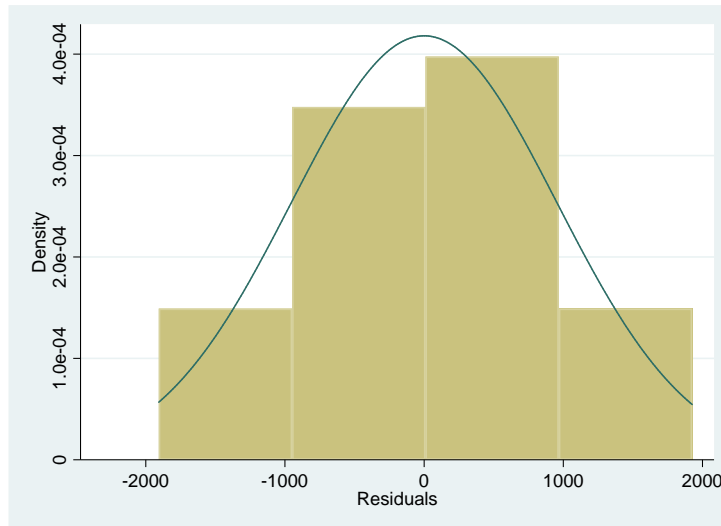


Fig.5. Histogram of chat in small business

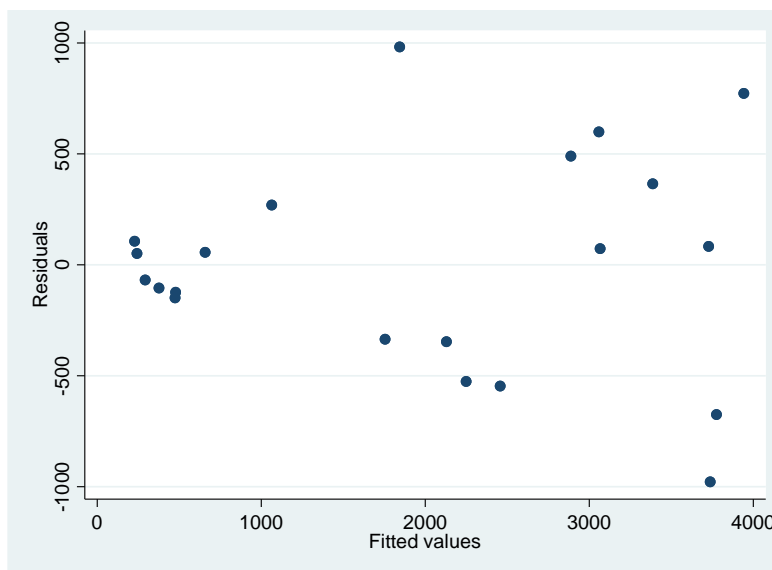


Fig.6. Scatter plot of chat in small business

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance Variables: fitted values of export_sme. Chi2(1) = 5.07 prob > chi2= 0.0244. The administrative regulation clearly defining the relations of business entities with state, tax and control agencies, commercial banks has not

been fully developed. Many authorization procedures still remain that lack transparency. There are cases of illegal interference of control agencies in the activities of business entities. A practical mechanism for exporting small business products to regional and world markets has not been created.

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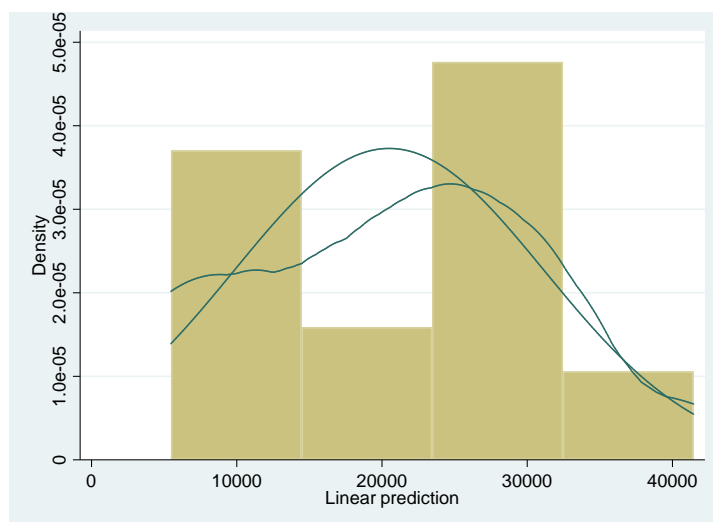


Fig.7. Histogram of yhat in small business

To further fundamentally improve the business environment, to accelerate the liberalization and deepening of market reforms, to give more freedom to entrepreneurship, to eliminate obstacles and obstacles to the development of small business and private

entrepreneurship, to increase the role and share of small business and private entrepreneurship in the country's economy, to develop export potential, population employment and income.

Table 4. Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj_chi2(2)	Prob>chi2
investment~n	21	0.001	0.020	13.010	0.002
unemployment	21	0.651	0.537	0.620	0.735
industry	21	0.002	0.047	10.910	0.004
agriculture	21	0.026	0.601	5.140	0.077
service	21	0.016	0.329	6.220	0.045
tax	21	0.035	0.892	4.560	0.102
yhat	21	0.883	0.370	0.890	0.642
ehat	21	0.601	0.568	0.630	0.729

It should also be noted that foreign investors can participate in the establishment of all forms of small crowns. In addition, foreign investments on the basis of 100% foreign capital are fully protected in the

territory of our republic, their order must be compatible with the order of our enterprises and be convenient.

Table 5. Natural logarithm of Linear regression results

Inexport_sme	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
tax	.10	0	2.22	.042	0	0	**
unemployment	.173	.061	2.81	.013	.042	.304	**
agriculture	.210	0	-2.96	.01	0	0	***
service	.130	0	3.52	.003	0	0	***
investment_bln	.0010	0	-5.69	0	0	0	***
Constant	5.682	.125	45.44	0	5.415	5.948	***
Mean dependent var		7.186	SD dependent var			1.061	
R-squared		0.936	Number of obs			21	
F-test		44.157	Prob > F			0.000	
Akaike crit. (AIC)		15.200	Bayesian crit. (BIC)			21.467	

*** $p < .01$, ** $p < .05$, * $p < .1$

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The volume of agricultural products produced by farms in January-June amounted to 125,847.3 mln. organized soum. The share of farms in the total volume of agricultural products is 32.8 percent. As of July 1, 2021, there are 1,419 heads of cattle in the district, including 305 cows, 2,621 sheep and goats, 53 horses, and 6,149 poultry. These numbers are also increasing every month.

4. Conclusion

In conclusion to attract capital is relatively good approach for generating income. Due to the use of foreign investment participation, studying the world market and gaining experience and using it widely in future cooperation should be reformed in new transformation age in Uzbekistan.

Small companies are considered the most widespread form of small enterprises in modern practice. In this form of ownership, partners buy shares in existing businesses or issue their own shares by listing a new company as followings:

– providing small business and private business entities with additional benefits and preferences that help to rapidly develop business activities and increase their efficiency in terms of tax, customs and other payments;

– further improvement and simplification of the mechanism of interaction of small business and private business entities with commercial banks, improvement of the quality of service to business entities, long-term loans allocated to them, first of all, directed to the organization of new production facilities, modernization of existing production facilities and technological upgrading increase the volume of loans;

– creation of favorable conditions for the wide participation of small businesses and private entrepreneurs in foreign economic activities, assistance in exporting their products to foreign markets, simplification and liberalization of the process of registration of export contracts and customs administration in general.

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Article



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ANALYSIS OF THE STRESS-STRAIN STATE OF TUNNEL LININGS UNDER SEISMIC IMPACTS DIRECTIONATED ALONG THE AXIS OF TUNNELS

Abstract: Similar to the methods used to evaluate transverse reactions, longitudinal responses of tunnels are also evaluated using simplified analytical models and more complex numerical models, depending on the complexity of the soil-structure system, the level of seismic action and the responsibility of the structure. The following sections discuss a simplified method that assumes that the tunnel deformations correspond to the free field deformations and that the tunnel does not affect the soil deformations. A more refined method takes into account the interaction of the structure with the soil, for which a beam model on an elastic foundation is used.

Key words: Differential equation, deformation, soil, structures, model, structure, tunnel, pressure, elastic medium, technique.

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Introduction

If a rigid tunnel is in soft ground, there is a noticeable effect of structure-soil interaction, and therefore a technique based on equality of free field and structure deformations leads to a conservative result. In this case, to take into account the interaction of the structure with the soil, the model of a beam on an elastic foundation can be used [1-4]. The differential equation for the tunnel design can be written as:

$$EI \frac{d^4 u_t}{dx^4} = P, \quad (1)$$

where u_t - transverse displacement of the tunnel structure, m;

P - is the pressure between the structure and the surrounding soil, N/m. Assume that the soil is operating in the elastic stage, then the pressure P can be written as:

$$P = K_h (u_y - u_i), \quad (2)$$

where K_h - is the base factor in the direction perpendicular to the tunnel axis, N/m³. u_y - transverse displacements of free soil, m.

Differential equation for construction:

$$EI \frac{d^4 u_t}{dx^4} = K_h u_y, \quad (3)$$

or

$$EI \frac{d^4 u_t}{dx^4} = K_h u_y = K_h D \cos \varphi \sin \left(\frac{2\pi x}{L} \right) \cos \varphi, \quad (4)$$

We apply the Fourier transform to both parts of the equation, performing the inverse algebraic transformations, we get:

$$\bar{u}_t(v) = 2\pi K_h D \cos \varphi \frac{\delta \left(v + \frac{2\pi}{L} \cos \varphi \right) + \delta \left(v - \frac{2\pi}{L} \cos \varphi \right)}{2i(EIv^4 + K_h)}. \quad (5)$$

After performing the inverse Fourier transform:

$$u_t(x) = \frac{1}{2\pi} \int_{-\infty}^{\infty} \bar{u}_t(v) e^{-ivx} dv. \quad (6)$$

we get:

$$u_t(x) = \frac{D \cos \varphi}{1 + \frac{EI \left(\frac{2\pi}{L} \right)^4 \cos^4 \varphi} K_h} \sin \left(\frac{2\pi x}{L} \cos \varphi \right). \quad (7)$$

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Therefore, the curvature of the tunnel structure obtained by solving equation (3) is less than the curvature obtained using expression (7) with a factor:

$$R_1 = \frac{1}{1 + \frac{EI}{K_h} \left(\frac{2\pi}{L} \right)^4 \cos^4 \varphi}. \quad (8)$$

The bending moment and shear force in the tunnel lining are determined by the equations:

$$M = \frac{\left(\frac{2\pi}{L} \right)^2 D \cos^3 \varphi}{1 + \frac{EI}{K_h} \left(\frac{2\pi}{L} \right)^4 \cos^4 \varphi} EI \sin \left(\frac{2\pi x}{L/\cos \varphi} \right). \quad (9)$$

$$V = \frac{\left(\frac{2\pi}{L} \right)^3 D \cos^4 \varphi}{1 + \frac{EI}{K_h} \left(\frac{2\pi}{L} \right)^4 \cos^4 \varphi} EI \sin \left(\frac{2\pi x}{L/\cos \varphi} \right). \quad (10)$$

The same approach can be used to derive an expression for the axial force. In this case, the differential equation has the form:

$$EA \frac{d^2 u_a}{dx^2} = K_a (u_a - u_x), \quad (11)$$

where u_a - longitudinal displacements of the tunnel structure, m;

u_x - longitudinal displacements of the soil corresponding to the "free field" (see Figure 1), m;

K_a - coefficient of elastic foundation directed along the axis of the tunnel, N/m³.

Solving equation (11), we obtain axial displacements that correspond to the values of expression (8) multiplied by the coefficient R_2 , which is always less than one:

$$R_2 = \frac{1}{1 + \frac{EI}{K_h} \left(\frac{2\pi}{L} \right)^2 \cos^2 \varphi}. \quad (12)$$

From equation (12) we obtain axial forces in the tunnel lining:

$$Q = \frac{\left(\frac{2\pi}{L} \right) D \sin \varphi \cos \varphi}{1 + \frac{EI}{K_a} \left(\frac{2\pi}{L} \right) \cos^2 \varphi} EI \cos \left(\frac{2\pi x}{L/\cos \varphi} \right). \quad (13)$$

The design forces are the maximum bending moment, transverse and longitudinal forces, which depend on the location along the tunnel structure, on the angle of incidence, φ - and on the length waves, L . The maximum effort can be obtained by setting equal $\sin \left(\frac{2\pi x}{L/\cos \varphi} \right)$ and $\cos \left(\frac{2\pi x}{L/\cos \varphi} \right)$ to one. To

determine the angle of incidence, it is necessary to equate the partial derivatives of expressions (9) and (10) to zero. It follows that the maximum values will occur at $\varphi = 0$. For equation (13), the maximum value of the longitudinal force depends on the properties of the tunnel structure and the surrounding soil mass of the medium. It is generally recommended to use a wave incidence angle of $\varphi = 45^\circ$. This angle of incidence φ will maximize the value of the longitudinal force when the interaction between the soil and the tunnel lining can be neglected. The maximum effort is thus determined by the expressions:

$$M_m = \frac{\left(\frac{2\pi}{L} \right)^2 D}{1 + \frac{EI}{K_h} \left(\frac{2\pi}{L} \right)^4} EI \quad (14)$$

$$V_m = \frac{\left(\frac{2\pi}{L} \right)^3 D}{1 + \frac{EI}{K_h} \left(\frac{2\pi}{L} \right)^4} EI \quad (15)$$

$$Q_m = \frac{\left(\frac{2\pi}{L} \right) D}{2 + \frac{EI}{K_h} \left(\frac{2\pi}{L} \right)^2} EI \quad (16)$$

As noted above, equations (14), (15), (16) should have maximum values that depend on the wavelength L . Note that it is first necessary to determine the coefficients of the elastic foundation, K_h and K_a [5,11,12]. You can use the results of research scientists St. John C.M. and Zahrah T.F., who proposed a convenient and sufficiently justified expression for determining the coefficients of an elastic foundation:

$$K_h = K_a = \frac{16\pi G(1-\nu)}{3-4\nu} \frac{d}{L}, \quad (17)$$

where: G_m - soil shear modulus, KN/m²;

ν - soil Poisson's ratio;

d - is the diameter of the tunnel lining, m;

L - is the length of the transverse wave, m.

It should be noted that the maximum value of the longitudinal force obtained using the method presented above should not exceed the maximum friction forces Q_{max} between the tunnel lining and the surrounding soil mass. The Q_{max} value can be determined using the following expression:

$$Q_{max} = \frac{f \cdot L}{4}. \quad (18)$$

where f - is the maximum friction force per unit length of the tunnel.

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Calculation method that takes into account the effects of the interaction of the tunnel with the soil, characterized by two coefficients of the bed. Let us consider a tunnel lining in the form of an infinite beam with bending stiffness EI lying on a foundation whose properties are described by a model with two elastic characteristics k_1 and k_2 . The first bed factor k_1 is the compression factor, which is no different from the usual Winkler bed factor. The second bed coefficient k_2 is the shear coefficient, which makes it possible to express the intensity of the vertical shear force Q as the product of the coefficient k_2 by derivative of the draft function $Q = k_2 \frac{du}{dx}$. These shear forces also appear in

loose and poorly cohesive soils due to engagement and internal friction between soil particles [6,7]. Using expression (4), we write a differential equation describing the bending of a beam lying on a foundation, the properties of which are described by a model with two elastic characteristics [8,10]:

$$EI \frac{d^4 u_1}{dx^4} = -k_2 \frac{d^2 u_1}{dx^2} + k_1 u_1 = k_1 D \cos \varphi \sin \left(\frac{2\pi x}{L} \cos \varphi \right). \quad (19)$$

Applying the Fourier transform to both sides of the equation, and performing the necessary algebraic transformations, we obtain

$$\bar{u}_1(v) = \frac{k_1 D \cos \varphi}{EIv^4 + k_2 v^2 + k_1} 2\pi \frac{\delta \left(v + \frac{2\pi}{L} \cos \varphi \right) + \delta \left(v - \frac{2\pi}{L} \cos \varphi \right)}{2i}. \quad (20)$$

After performing the inverse Fourier transform:

$$u_1(x) = \frac{1}{2\pi} \int_{-\infty}^{\infty} \bar{u}_1(v) e^{-ivx} dv. \quad (21)$$

we get:

$$u_1(x) = \frac{D \cos \varphi}{1 + \frac{k_2}{k_1} \left(\frac{2\pi}{L} \right)^2 \cos^2 \varphi + \frac{EI}{k_1} \left(\frac{2\pi}{L} \right)^4 \cos^4 \varphi} \sin \left(\frac{2\pi x}{L} \cos \varphi \right). \quad (22)$$

The curvature of the tunnel lining obtained by solving equation (19) is less than the curvature determined in accordance with expression (9).

The ratio between the curvatures is characterized by a multiplier:

$$R_3 = \frac{1}{1 + \frac{k_2}{k_1} \left(\frac{2\pi}{L} \right)^2 \cos^2 \varphi + \frac{EI}{k_1} \left(\frac{2\pi}{L} \right)^4 \cos^4 \varphi}. \quad (23)$$

The curvature of the tunnel lining obtained by solving equation (19) is less than the curvature determined in accordance with expression (9).

The ratio between the curvatures is characterized by a multiplier:

$$M = \frac{\left(\frac{2\pi}{L} \right)^2 D \cos^3 \varphi}{1 + \frac{k_2}{k_1} \left(\frac{2\pi}{L} \right)^2 \cos^2 \varphi + \frac{EI}{K_h} \left(\frac{2\pi}{L} \right)^4 \cos^4 \varphi} EI \sin \left(\frac{2\pi x}{L} \cos \varphi \right), \quad (24)$$

$$V = \frac{\left(\frac{2\pi}{L} \right)^3 D \cos^3 \varphi}{1 + \frac{k_2}{k_1} \left(\frac{2\pi}{L} \right)^2 \cos^2 \varphi + \frac{EI}{K_h} \left(\frac{2\pi}{L} \right)^4 \cos^4 \varphi} EI \cos \left(\frac{2\pi x}{L} \cos \varphi \right), \quad (25)$$

Comparing the obtained expressions, we find that the values of the displacement of the tunnel lining, the curvature of the tunnel and the internal forces obtained with two characteristics of the soil base are less than the values obtained using the Winkler elastic foundation.

The model of a prefabricated lining in the form of a beam with equivalent stiffness describes well the bending behavior of the tunnel. This allows us to conclude that such models can be used in the calculation of tunnels for seismic effects

Conclusions.

A simplified analytical method for calculating tunnels for seismic effects directed along the axis of the tunnels is proposed. An expression is obtained for determining the equivalent bending stiffness of prefabricated tunnel linings. This parameter is necessary in calculations in which tunnels are considered as beams with constant stiffness on an elastic foundation.

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Article



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WHEAT DISEASES THAT AFFECT THE LEAVES, STEMS, AND STRIPES

Abstract: *Wheat rust diseases are one of the earliest plant diseases known, with their capacity to wipe out entire wheat crops. Studies have been done on the rust pathogens' life cycles and management, and best management practices have been created to lessen the effects of the diseases. The three rust illnesses that affect wheat are stem rust, leaf rust, and stripe rust, caused by Puccinia, a specific species of the "rust" fungus. Stem rust is a plant disease that causes pustules filled with thousands of dried yellow-orange to reddish-brown or black spores. It can also affect foliage, sheaths, glumes, awns, and seeds. Initial symptoms are reddish-brown nodules, while erumpent pustules release black sooty spores. Leaf rust can also affect glumes and awns. Seed heads may have tiny orange blemishes, but they don't grow into erumpent pustules.*

Key words: diseases, leaves, stripes, plant, crops, fungus.

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Introduction

Wheat rust diseases are some of the earliest plant diseases that people are aware of. These terrible diseases and their capacity to wipe out entire wheat crops are mentioned in early writings on wheat cultivation. Numerous studies on the rust pathogens' life cycles and management have been done since the finding of rust. We have created best management practices that lessen the effects of the diseases thanks to the knowledge obtained from these studies. Today, global epidemic losses are uncommon, though the diseases can be very prevalent in specific areas or throughout a specific growing location. Specific traits of the rust fungi can be used to explain why rust continues to be a serious problem in wheat.

These traits include the ability to produce a lot of spores, which can be wild-disseminated over long distances and infect wheat in favorable environmental

conditions, as well as the capacity to change genetically, resulting in the creation of new races with increased aggression on resistant wheat cultivars.

Stem rust, leaf rust, and stripe rust are the three rust illnesses that affect wheat. A specific species of the "rust" fungus, Puccinia, is the root cause of each of these illnesses. All rust fungi have comparable requirements for infection and exhibit similar disease symptoms on their host plants. The names of the illnesses come from how they show on plants. (Figure 1). Any portion of the plant that is above ground can become infected, producing pustules that are filled with thousands of dried yellow-orange to reddish-brown or black spores. These pustules give the plant the look of having "rust" on it.

Although it mostly affects stems, stem rust can also affect foliage, sheaths, glumes, awns, and even seeds. Oval to elongate nodules that are typically

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reddish-brown in color represent the initial symptoms. Erumpent pustules release a lot of black sooty spores as the illness progresses. Plant stems may become weakened and lodge as a result of severe infections and numerous stem lesions.

Although it typically affects leaves, leaf rust can also affect glumes and awns. Small circular to oval yellow spots on infected tissue of the top leaf surface are the first signs of the disease. The spots turn into orange-colored pustules that may have a yellow halo as the illness worsens. (Figure 1). Large numbers of

readily dislodged spores from the pustules are produced by the pustules, resulting in a "orange dust" on the surface of the leaf or on clothing, hands, and equipment.

Black spores may be generated as the disease worsens, causing a mixture of orange and black lesions on the same leaf. On seed heads, there may be tiny orange blemishes, but they don't grow into erumpent pustules. This distinction aids in separating stem rust from foliage rust.

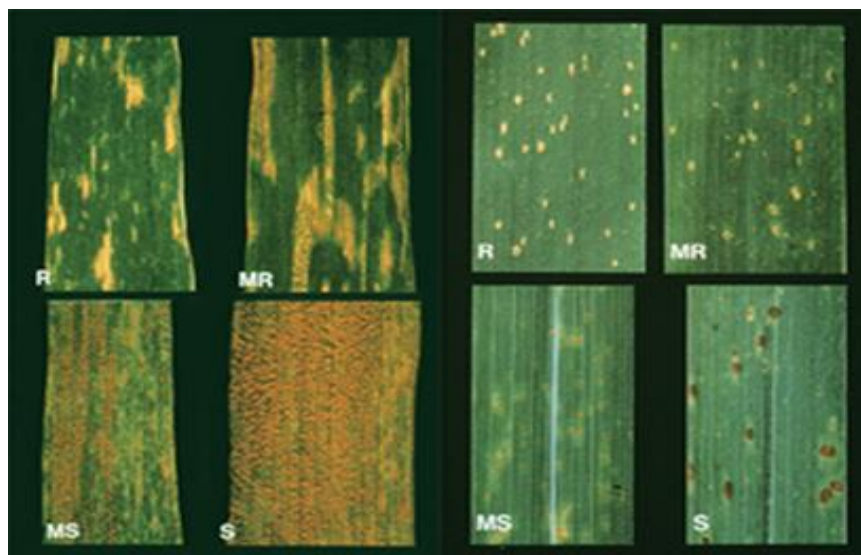


Figure 1. Relative resistances of wheat to stripe (left) and leaf rust (right): R = resistant, MR = moderately resistant, MS = moderately susceptible, and S = susceptible. Source: Rust Scoring Guide, Research Institute for Plant Protection, Wageningen, Netherlands. (Mark A. Marsalis and Natalie P. Goldberg)



Figure 2. Chlorosis of leaves caused by leaf and stripe rust infection. (Mark A. Marsalis and Natalie P. Goldberg)

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The light golden, straight-sided pustules that appear in stripes on leaves and heads are what distinguishes stripe rust from other types of rust. These long, thin pustules come in different lengths. Spores that are yellow-orange are generated as the pustules develop. (Figure 1). The tissues surrounding the pustules become brown and dry as the illness worsens, giving them a scorched appearance. An essential feature that sets this illness apart is the organization of pustules into stripes. With both leaf and stripe rust, chlorosis, or yellowing of the leaves, can be quite obvious, and fields with plants exhibiting severe symptoms may be readily detectable from a distance. (Figures 2 and 3).

Puccinia graminis f. sp. *tritici*, also known as

black stem rust, is the culprit behind stem rust. Although it can also cause minor infections on some varieties of barley and rye, the disease mainly affects wheat. *Puccinia recondita* f. sp. *tritici* is responsible for leaf rust. (now known as *Puccinia triticina*). While this pathogen, like the stem rust fungus, mainly affects wheat, it may also be weakly pathogenic to some varieties of barley, triticale, and some species of goatgrass and wheatgrass.

Puccinia striiformis is the culprit behind the third rust illness, stripe rust. More than 18 types of grasses are also impacted by this pathogen, along with barley, rye, and triticale. Stripe rust usually only affects wheat and barley crops, causing economic losses.



Figure 3. Variety of wheat susceptible to leaf and stripe rust, with noticeable severe leaf chlorosis, compared to tolerant varieties in adjacent plots with little or no leaf chlorosis. (Mark A. Marsalis and Natalie P. Goldberg)

These causative agents come in a variety of physiologic races with varying levels of aggression and pathogenicity toward different recipient plants.

Wheat cultivars with genetic resilience (or tolerance) to different rust races have been created by plant breeders. The extremely effective resistant cultivars have reduced the prevalence of many rust races that were common in the past. However, the pathogens' sexual recombination and mutation allow for the creation of new races. In order to create new cultivars with enhanced resistance to both new and old races of the pathogen, wheat breeders are continuously checking old cultivars for continued tolerance to the pathogen.

Rust fungi have intricate life cycles that may call for up to five different spore phases and two distinct host plants. There is usually an economic host and an alternate host for rust diseases that need two host

plants to finish their life cycle. Wheat serves as the disease's fiscal host. Usually, a weed or natural plant serves as the alternate host. (Figure 4). For instance, the main alternate host for the stem rust fungus is barberry (*Berberis vulgaris*). On the underside of the leaves, infected barberry develops circular pustules that range in color from yellow to crimson. Wheat is infected by spores produced on barberry plants (aeciospores), and barberry plants are infected by spores generated on wheat (basidiospores).

Although the entire life cycle requires both hosts, epidemics on wheat can spread quickly because the spores (uredospores) produced on wheat can result in auto-infection. (spores infect the same plants on which they were produced). The repeating stage of the life cycle, or the spore stage, is what causes disease epidemics to spread quickly.

Meadow rue, rue anemone, and clematis have all

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been found as potential hosts for leaf rust. There are no known secondary carriers for stripe rust. The rust fungus in this instance has a simplified life cycle that only requires one recipient.

The development of the disease requires water on the leaf surface from intermittent rains or heavy dews as well as temps that are favorable for the pathogen's germination and growth. Although it can happen at any temperature between 59 and 104°F, stem rust is a warm-temperature illness that thrives between 65 and 85°F. The ideal temperature range for leaf rust development is between 59 and 71°F, and the illness won't start to spread until the temperature is above 80°F.

Lower-temperature disease known as "stripe rust" is typically found at higher altitudes and in cooler climates. The ideal range for the onset of this

illness is 50 to 59°F, with temperatures above 70°F halting disease growth.

When environmental factors are favorable for disease growth, infection is finished in 6–8 hours, and uredospores that can lead to secondary disease spread are created in 7–10 days. In comparison to other spore stages made by rust fungi, the viability of uredospores is comparatively short.

However, due to their widespread production and simplicity of wind dispersal, they are incredibly effective at spreading disease. It has been discovered that uredospores can endure all year long in regions with moderate winters. As a result, the pathogen's life cycle requires additional hosts and a few spore phases, but neither are necessary for the start of new infections every year.

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PRONOUNS IN THE EPISTLES OF IVAN THE TERRIBLE

Abstract: The purpose of this article is to use the example of the messages of Ivan the Terrible to reveal the patterns of the use of pronouns in the system of linguistic means of the epistolary genre of the 16th century. Methods: descriptive, historical-stylistic, pragma-stylistic methods. Results: Based on the analysis carried out in the pronominal system of the 16th century language presented in the epistles of Ivan the Terrible, synonymous grammatical forms were identified; the use of personal pronouns in two-part sentences with a verb link and various pronoun oppositions and the normativity of the language of messages is determined. Scientific novelty: special linguistic means of the epistolary genre of the 16th century are analyzed using the example of the messages of Ivan the Terrible. The peculiarity of the use of personal and possessive pronouns in messages is revealed. Practical significance: the main provisions and conclusions of the article can be used in the development of special courses and special seminars, the preparation of textbooks, teaching aids on the problems associated with the discipline "History of the Russian language. History of the Russian Literary Language", in optional classes for students, undergraduates and doctoral students in the relevant areas.

Key words: journalism, message, epistolary genre, pronoun, deictic aspect, style of the message, linguistic means, literary language, genre, Muscovy Rus.

Language: Russian

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МЕСТОИМЕННИЯ В ПОСЛАНИЯХ ИВАНА ГРОЗНОГО

Аннотация: Цель данной статьи – на примере посланий Ивана Грозного выявить закономерности употребления местоимений в системе языковых средств эпистолярного жанра XVI века. Методы: описательный, историко-стилистический, прагматистический методы. Результаты: На основе проведенного анализа в местоименной системе языка XVI века, представленной в посланиях Ивана Грозного выявлены синонимические грамматические формы; определено употребление в двусоставных предложениях личных местоимений при глагольной связке и разнообразных местоименных оппозиций и нормативность языка посланий. Научная новизна: на примере посланий Ивана Грозного проанализированы особые языковые средства эпистолярного жанра XVI века. Раскрыта особенность употребления личных и притяжательных местоимений в посланиях. Практическая значимость: основные положения и выводы статьи могут быть использованы при разработке спецкурсов и спецсеминаров, подготовке учебников, учебных пособий по проблемам, связанным с дисциплиной «История русского языка. История русского литературного языка», на факультативных занятиях для студентов, магистрантов и докторантов по соответствующим направлениям.

Ключевые слова: публицистика, послание, эпистолярный жанр, местоимение, дейктический аспект, стиль послания, языковые средства, литературный язык, жанр, Московская Русь.

Введение

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Изучение проблем развития и функционирования русского литературного языка

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XVI века невозможно без учета языковой ситуации этого периода, без глубокого и объективного исследования словарного состава сочинений отдельных писателей, а также без анализа особенностей лингвистической организации их текстов [9, 63]. Благодаря трудам И. И. Срезневского [11], А. А. Шахматова [14], С. П. Обнорского [7], В. В. Виноградова [2], Б. А. Ларина [5], В. Д. Левина [6], Б. А. Успенского [12, 13] и других известных историков русского литературного языка мы располагаем такой суммой знаний и представлений, которая позволяет воспроизвести языковую картину Московской Руси.

Важнейшей особенностью языка XVI века являлось то, что носители русского языка использовали в своей практике наряду с русским и церковнославянский язык. Как отмечает Б. А. Ларин, в XVI веке отчетливо ощущается разрыв между книжно-письменным и разговорным языком, церковнославянские тексты становятся непонятны даже монахам [5, 307]. Монахи, работавшие над исправлением богослужебных книг под руководством Максима Грека, пытались упростить язык старых переводов, заменяли русизмами обычные старославянские формы, непонятные даже грамотным людям [5, 308].

Языковая ситуация Московской Руси XVI века характеризуется противопоставлением книжно-письменного и разговорного языков и представляет собой двуязычие. Иначе говоря, литературный язык и разговорный уже не объединялись в одно языковое сознание и воспринимались как разные языки. Функции литературного языка выполняли языки славянский и язык деловой письменности, испытывавший влияние как народно-разговорного, так и славянизированного языков [15, 37]. В настоящее время активно изучается своеобразие языка публицистических произведений XVI века: Ивана Пересветова, Ивана Грозного и др.

Материалы и методы.

О. В. Попова в работе «Языковая личность Ивана Грозного» пишет: «Дейктический аспект является важным в стиле «плетение словес», поскольку благодаря ему активизируется воздействующая функция на адресата, в свою очередь, данная функция требует сознательной установки автора на выбор средств выражения. Дейктический аспект также способствует проявлению авторского «Я» в тексте, придает сообщаемому субъективный характер изложения, так как в местоименных оппозициях содержится отношение автора как к информации, так и адресату» [10, 104].

В посланиях Ивана Грозного наблюдаются разнообразные формы местоимений, в частности,

встречаются синонимические и стилистические варианты.

Как считает О. В. Попова «Специфика эпистолярного жанра предполагает не только личную адресованность авторского текста, специфические субъектно-объектные отношения, но и повышенный фон эмоциональности» [10, 106]. Эпистолярный жанр – относительно новый для XVI века жанр, который требовал особых языковых средств, подчеркивающих и обозначающих «личное отношение». Этим можно объяснить использование личных и притяжательных местоимений в посланиях. Именно местоимения являются главным средством референции – соотношения языковых выражений с действительностью, механизмов, позволяющих связывать речевое сообщение и их компоненты с внеязыковыми объектами, ситуациями, событиями [8, 48]. Местоимения, в значение которых входит отсылка к участникам акта речи или речевой ситуации называются дейктическими [8, 50].

С функциональной точки зрения местоимения можно охарактеризовать следующим образом: местоимения 1-го, 2-го лица являются местоимениями коммуникативного плана. Форма местоимения **я** обозначает автора, форма **вы** – адресатов, к которым обращается автор [10, 106]. В отличие от первых двух форм, местоимение **мы** в посланиях Ивана Грозного имеет ряд значений:

а) собственно автора (в нашем случае она является этикетной);

б) автора и относящихся к нему лиц, то есть обозначает группу лиц во главе с автором [3, 145].

По классификации А. А. Шахматова, местоимения с точки зрения системы языка и ее динамики по своим значениям делятся на несколько категорий:

1. местоимения в точном смысле, т.е. служебные слова, заменяющие названия лиц или предметов и не употребляющиеся атрибутивно (я, ты, мы, вы и т.д.);

2. слова, определяющие те или иные отношения, существующие между предметами, употребление этих слов атрибутивно (ко второй группе можно отнести притяжательные местоимения) [14, 120].

Через дейктический аспект языковая личность может моделировать свое отношение к происходящему, обозначить участников переписки, а при необходимости дистанцироваться от повествования [10, 106]. С данной точки зрения интересным представляется сравнение местоименных оппозиций в посланиях Ивана Грозного и Андрея Курбского.

В посланиях Андрея Курбского распространена одна местоименная семантическая оппозиция: **я – ты (мой – твой)**.

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Например: «*И болиши сего о сем глаголати вся по ряду не попустих языку моему, но гонения ради прегорчашиаго от державы твояе и ото многиа горести сердца поуцаюся мало изреци ти; Про что, царю, силных во Израили побил еси, и воевод, от Бога данных ти на враги твоя... на доброхотных твоих, душа своя за тя полагающих, неслыханные от вѣка муки... А что провинили пред тобою и чем прогнѣваша ты християнстии предстатели? Не пригодные ли царства разорили и подручны вот всем тебѣ их сотворили?» и др. [1, 13-14].*

Данная оппозиция, основанная на антонимичности личных и притяжательных местоимений, акцентирует внимание читателей на непримиримом конфликте между Иваном Грозным и Андреем Курбским, а также указывает на личностный характер этого конфликта. Тем не менее, переход на личный характер обращений к Ивану Грозному носит отчасти ироничный характер, поскольку в данном случае происходит нарушение субординации.

Местоименная оппозиция в посланиях Ивана Грозного представлена гораздо шире:

1) **Я – ты (мой – твой)**. Например: «*Се убо доволно указахъ ти, чесо убо ради по твоему злобесному разуму «супротивнымъ обретаяся разумеая» и «разумеая совесть прокаженну имущее», не мни, яже никакого от державы мояе нѣсть» [1, 29]; «Зла же гонения бездѣла от мене не прияль еси, и бѣд и напастей на тебе не подвигли есмя, а кое наказание малое бывало на тебѣ, ино то за твое преступление...» [1, 44].*

Необходимо отметить, что такая прямая оппозиция представлена крайне редко. Обычно Грозный использует иную оппозицию, построенную на несовпадении грамматического числа, эксклюзивной и инклюзивной форм. Иван Грозный использует данную оппозицию для нейтрализации социального различия, что, в свою очередь, способствует принужденному общению с адресатом.

«Второе послание Ивана Грозного Андрею Курбскому», как и первое, написано от 1-ого лица единственного числа, здесь также широко используются обращения, характерные для стиля «плетение словес» и притяжательные местоимения. Например: «*Воспоминаю ти, княже, со смиренемъ: смотри Божия смотрения величества, еже о нашихъ согрешенияхъ, паче жео моемъ беззаконии, ждѣый моего обращения; ...может пучиною милости своя потопити беззакония моя. Яко же ныне грѣшника мя суца...» [1, 83].*

Подчеркнутая личная адресованность в представленных посланиях выполняет особую стилистическую функцию. Иван Грозный, забывая о своем положении государя, пишет как князь князю, личные обращения помогают создать

эффект непосредственного общения равных «собеседников» – но это лишь стилистический прием.

По данной модели построено и «Послание в Кирилло-Белозерский монастырь», однако в этом случае субъективность послания оправдана содержанием и идеей письма. Иван Грозный передает свое личное отношение к монастырским порядкам, боярам, поведению самих святых отцов, например: «*Азъ братъ ваш...; А я им отецъ ли духовный или начальник – какъ себѣ хотят, такъ живутъ, коли имъ спасение души своя не надобеть...; И язъ на то плюнулъ и его бранилъ. И язъ спрашивалъ о его жителствѣ и онъ заговорилъ невѣсть что...» и др. [1, 157-164].*

При описании несправедливой жизни, Иван Грозный использует сниженную лексику: «*плюнул, уродствует, матерны лают» [1]. Распространенной формой личного местоимения является «я».*

В дипломатической переписке Иван Грозный использовал личное местоимение 1-го лица единственного числа, что являлось нарушением нормы эпистолярного жанра. В «Послании Стефану Баторию 1579 года» Иван Грозный пишет: «*Тѣм же, яко Иезекѣя, царь иудин, ко асирискому царю Сенахириму: «Се раб твой, господи, Иезекѣя», такоже и азъ к тебѣ, Стефану, вещаю: «Се раб твой, господи, Иванъ, се раб твой, господи, Иван, се азъ раб твой, господи, Иван». Уже ли есмя тебѣ утешилъ покорением?» [1, 180].*

Но нарушение оправдывается коммуникативным замыслом Ивана Грозного: мнимое самоуничтожение было направлено на достижение особой коммуникативной цели – добиться того, чтобы Стефан Баторий поверил в возможность компромисса и прекратил военные действия.

Необходимо отметить, что в посланиях Ивана Грозного достаточно часто происходит замещение местоимения **я** на **мы** и наоборот, то есть чередование этих форм как двух вариантов, например: «*...и аще азъ облыгаю, о иномъ же истина о комъ явится? Чесо же ради намъ сихъ облыгати?» и др. [1, 35].*

2) **Азъ – вы (мой, свой – твой, ваш)**. Например: «*И я таки тебѣ судию, и поставлю с собою: вы ли разгнѣнны или язъ, что хотелъ вами владети, а вы не хотели под моей властью быти и язъ за то на вас опалася? Или вы разгнѣнны, что не токмо похотѣсть повинными мнѣ быти и послушными, но и мною владѣте и всю власть с меня сняте...» [1, 84].*

Данные местоименные оппозиции подчеркивают личное противостояние изменникам и вызывают сочувствие у читателей, поскольку маркируют значение: «*вас много – я один*»; а с другой – оправдывают

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жесткие действия со стороны монарха, так как превосходящие силы остаются на стороне «врагов», а царь вынужден просто защищаться.

3) **Мы – вы, мы – ты, наш – твой.** Например: «*А всенародно васъ не погубляемъ... За такие ваши послуги, еже выше рѣхъ, достойны были есте многихъ казней и опалы; но мы ещё с милостию вамъ опалу свою чинили, аще бы по твоему достоинству, и ты бы к недругу нашему от насъ не уехалъ... И мы, тебѣ въря, в ту свою вотчину послали, и ты такъ собацкимъ обычаемъ измѣну свою учинилъ*» [1, 44].

В отличие от предыдущей оппозиции, данная – является абсолютной противоположностью, поскольку подчеркивает слабость отступников, указывает на то, что им противостоит более мощная сила. Если предыдущая оппозиция использовалась, для того чтобы вызвать сочувствие, то эта – для того, чтобы подавить оппонента.

4) **Мы – ты.** Например: «*И сия мы тебѣ от многа мало написахомъ. Самъ себѣ разсуди, што ты и какво делалъ... А мы тебѣ написахомъ сия вся, ни гордяся, ни дмяся – Богъ въсть, но к воспоминанию, твоего исправления, чтобъ ты о спасении душа своя помыслишь*» и др. [1, 85].

Оппозицию *мы – ты* Иван Грозный использует в переписке с Андреем Курбским, когда дает ему советы, поскольку она помогает монарху нивелировать личное отношение к Андрею Курбскому, устраняет личную заинтересованность.

Личное (Я) и притяжательное (СВОЙ) местоимения без противопоставления в следующих случаях

1) Когда подчеркивает, как и Андрей Курбский, личное отношение к происходящему. Например: «*...понеже мя исторгосте от духовнаго покойнаго жития и бремя фарисейскимъ обычаемъ бѣдне носима на мя наложисте, сами же ни единымъ перстомъ не прикоснуетесь; И аще праведен еси и благочестив, почто не изволил еси от мене, строптиваго владыки, страдати и вънецъ жизни наследити?*» [1, 31, 7].

2) При описании детства, подчеркивая свои личные переживания, вызывая сочувствие. Например: «*Мнѣ убо трею лѣтъ суще, брату же моему лѣта единого*»; «*И тако князь Василей и князь Иванъ Шуйские самоволствомъ у меня в бережении учинилися и тако воцаришася...*» [1, 35].

3) При описании власти и роли государя (использование притяжательных местоимений). Например: «*Ино се ли «совесть прокаженна», яко свое царство, в своей руцѣ держати, а работнымъ своимъ владѣти не давати? И се ли*

«сопротивень разумъ», еже не хотѣти бытии работнымъ своими владѣнну?» [1, 30].

Личное местоимение (ТЫ) без противопоставления

При прямом обращении к адресату, в данном случае к Андрею Курбскому. Например: «*Ты же почто ревнуеши – иже во грѣсехъ царствие погубиши и туркомъ повинующимся?*» [1, 33].

Часто употребление местоимения *ты* в паре с *вы* подчеркивает принадлежность адресата к врагам, изменникам. Например: «*Аще ли убоялся еси ложнаго на тя отречения смертнаго, по твоихъ друзей, сотонинскихъ слугъ, злодѣйственному солганию, се убо явно есть ваше измѣнное умышление от начала и до ныне*» [1, 28].

Личное местоимение (МЫ) без противопоставления

В XVI веке существовала этикетная форма личного местоимения множественного числа – *мы*. Инклюзивная по своей семантике (субъект как единичный, так и множественный), она достаточно широко использовалась в посланиях Ивана Грозного: «*Мы, великий государь, царь и великий князь Иван Васильевичъ всеа Руси...*» и др. [1, 124].

Форма *мы* характеризуется стилистической нейтральностью и употребляется в основном в посланиях государственного значения.

Иван Грозный использует данную форму в тех случаях, когда ему необходимо дистанцироваться от сообщаемой им информации, создать иллюзию того, что он один из многих, таким образом, данная форма выражала:

принадлежность к царской династии: например: «*...и мы воюемъ по прародителей своихъ обычаю, яко же прежде сего многожды случилось...*» [1, 29].

принадлежность к христианской вере: например: «*Мы какъ есть христиане по христианскому обычаю со смиренемъ напоминаем и бранитися с тобою не хотимъ...*» [1, 180].

Часто общее противопоставление христианского и нехристианского представлено в оппозиции *ваши/наши*, которая может переходить на личное противопоставление губителям чистой веры, выражающееся в оппозиции *вы/я*. В посланиях Ивана Грозного можно наблюдать следующие примеры: «*И всюду, яко же бѣси на весь миръ, тако же и ваши изволившия быти друзи и служебники, насъ же отвергшеся, преступивше крестное целование, бесовъ подражающе, на насъ многообразными видами всюду стѣти поляцающе и бѣсовскимъ обычаемъ насъ всячески назирающе, блюдуце глаголанія и*

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хождения, мяще насъ аки безплотныхъ бытии, и от сего многая шивающе **на насъ** поношения и укоризны, и во весь миръ позорующихъ и к вамъ приносяще. **Вы** же имъ воздарие многое за сие злодѣйство **даровали есте** нашу же землю и казною, называючи ихъ ложно слугами; и ото сихъ бесовскихъ слуховъ **наполнилися есте на мя** ярости, яко же ехидна сметроностна, **возъярився на мя** и душу свою погубивъ, и на царское разорение стали **есте** [1, 28].

принадлежность к царской семье: «...Тѣ измѣники научили были народъ **и насъ** убити за то, что будто **мы** князь Юрьеву мати, княгиню Анну, и брата его, князя Михаила, у себя хоронимъ от нихъ и др. [1, 28-38].

Как можно было заметить, в посланиях Ивана Грозного и Андрея Курбского представлены грамматические варианты местоименных форм, одни являются стилистическими вариантами, другие – дублетами.

Таблица 1.

Ед. число	1 лицо	2 лицо
Им.п.	Азь, язъ, я	
Р.п. – В.п.	от мене, у меня, на мя	от тебе, от тобѣ, на тебѣ, тя
Д.п. – М.п.	ми, мне, менѣ	ти, тобѣ, тебе, тебѣ
Т.п.	мною	тобою

П.М. Кравченко в работе «История форм личных местоимений по памятникам древнерусской письменности XII – XV вв.» пишет: «Форма **азъ** используется Иваном Грозным чаще, чем другие формы 1 л. Единственного числа. Генетически форма является старославянской. В XVI веке форма **азъ** считалась неживой и была связана не столько с лицом, писавшим текст, сколько с характером самого документа, также оказалась устойчивой формой в зачинах и в застывших оборотах деловых документов и в литературе высоких жанров» [4, с. 56]. Таким образом, форма **азъ** – это стилистический вариант форм **язъ** и **я**, которые, в свою очередь, выступают в качестве дублетов.

Формы Р.п. – В.п. **мене – тебе** в посланиях Ивана Грозного встречаются только в первом послании к Андрею Курбскому, скорее всего они носили ярко выраженный книжный характер. Иные формы Р.п. – В.п. взаимозаменяемые, полные формы чередуются с энклитическими, данное чередование наблюдается и в формах Д.п. – М.п. Формы Т.п. выступают только в их полной разновидности без редукции конечного гласного.

В посланиях Ивана Грозного можно также заметить сдвиг в синтаксической функции местоимений.

Для древнерусского синтаксиса были характерны определенно-личные конструкции, которые достаточно регулярно встречаются в посланиях Ивана Грозного:

1) **глаголы 1-го лица единственного числа:** например: «**Ни о чесомъ же убо хвалюся в гордости, и никакого же убо гордѣния желаю, понеже убо свое царское содеваю и выше себе ничто же творю**» [1, 33-46].

2) **глаголы 2-го лица единственного числа** использовались в основном при повелительном наклонении: например: «**Не мни праведно бытии: возъярився на человека и Богу приразитися; ин обо**

человеческо ест, аще перфиру носить, ино же Божество ест» [1, 29].

3) **глаголы 1-го лица множественного числа:** например: «**Суемудренными же мыслями ничегоже помышляемъ, ни творимъ, на такой ползъ и степени ногъ своихъ не утвержаемъ**» [1, 46].

В посланиях Ивана Грозного возрастает употребление местоимений в функции подлежащего при причастии на **-л** как одной из форм выражения прошедшего времени: «**мы известили, я слышалъ, уразумель, мы ты жалуюемъ**» и др.

Тем не менее личные местоимения достаточно часто сохраняются при связке, которая уже указывает на лицо, следовательно, в данном случае местоимения являются грамматическим средством усиления: «**ты забыл еси, ты погубил еси**».

Заключение.

Таким образом, в местоименной системе языка XVI века, представленной в посланиях Ивана Грозного, с точки зрения грамматической стилистики можно отметить:

1. В местоименной системе древнерусского языка присутствуют синонимические грамматические формы, что доказывает нестабильность языковой системы и избыточность ее элементов.

2. С более частотными для древнерусского языка неопределенно/определенно-личными конструкциями употребляются и двусоставные предложения.

3. Личные местоимения используются и при глагольной связке, которая указывает на лицо. В данном случае местоимения выступают не в системном значении, а стилистической функции усиления.

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4. В посланиях Ивана Грозного представлены разнообразные местоименные оппозиции, помогающие прояснить отношение адресанта к адресату. При этом авторское начало проявляется в выборе тех или иных местоименных оппозиций.

5. В посланиях Ивана Грозного можно говорить о проявлениях нормативности, которая проявляется в языке в двояком плане: а) как совокупность реально используемых в языке лексем, словоформ, языковых конструкций; б) как совокупность тенденций отбора и правил использования языковых средств.

6. Говоря о языковой личности, можно отметить, что норма в данном случае есть не что иное, как представление субъекта о должном, обязательном, допустимом. Норма есть тот самый субъективный параметр, который встроен в слово, растворен в нем. Причем в каждом конкретном употреблении слова, формы представлена не норма вообще, а конкретное нормативное представление данного говорящего субъекта.

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Article



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BRIEF REVIEW OF 20th CENTURY IN DEVELOPMENT AND ACCESSIBILITY OF TRAVELLING SALESMAN PROBLEM AND TSPLIB

Abstract: This paper provides a brief review of the 20th century in development and accessibility of the Traveling Salesman Problem (TSP) and TSPLIB. The TSP is a well-known NP-hard problem that has been studied extensively in the field of computer science and operations research. The problem involves finding the shortest possible route that a salesman can take to visit a given set of cities exactly once and return to the starting city. TSPLIB is a benchmark library that contains a collection of TSP instances that researchers and practitioners can use to test the performance of TSP algorithms. In this paper, we discuss the historical background of the TSP and its relevance to various fields, including logistics, transportation, and computer science. We then review the development of TSPLIB and the various improvements and additions made to it over the years. Finally, we provide a brief overview of some of the significant advancements in TSP algorithms that have occurred over the last century and their impact on the field. Overall, this paper provides a comprehensive overview of the TSP and TSPLIB's history and their impact on the development of algorithms for solving combinatorial optimization problems.

Key words: TSP, TSPLIB, logistics, review, publications, academic articles.

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Introduction

The Travelling Salesman Problem (TSP) is a classic optimization problem in computer science and operations research. It involves finding the shortest possible route that visits a set of cities and returns to the starting point. Despite its seemingly simple description, the TSP is known to be NP-hard, which means that no known algorithm can solve it in polynomial time. This has led to the development of numerous heuristic and approximation algorithms that attempt to find good solutions in a reasonable amount of time.

The TSP were treated as mathematical problems in the 19th century by the Irish and British mathematicians. Sir William Rowan Hamilton and Thomas Penyngton Kirkman were first to treat TSP as puzzle of Hamilton Cycle, where conditions to completions were similar and stated as follows: "Hamiltonian cycle is a cycle that visits each vertex exactly once" [1]. Hamilton and Kirkman were not the first to publish the information about TSP, although origins are unclear, problem and tour examples were mentioned in 1832 year handbook without any mathematical treatment [2]. The general form of the TSP first appeared in study of Harvard mathematicians in 1930s, especially Karl Menger who defined the problem and considered comparing brute-force algorithm to the nearest neighbors algorithm, proving NN non-optimal [3]. First academic to consider applying TSP to real-world problems was Merrill M. Flood who was looking to solve a school bus routing problem.

Due to rising popularity of TSP, some researchers started to run tests on publicly available datasets of problems to compare effectiveness of developed algorithms and suggestions. One of the most popular library of datasets of problems for TSP have been documented and published in 1991, named TSPLIB [4]. TSPLIB is a widely used library of instances for the TSP, a classic optimization problem in computer science. The library contains a collection of benchmark instances that are commonly used for testing and comparing algorithms designed to solve the TSP. TSPLIB instances are categorized based on their size, structure, and characteristics, and they have been used extensively in academic research and industrial applications. The library includes both symmetric and asymmetric instances, which represent cases where the distance between two cities is the same in both directions or not, respectively. TSPLIB is a valuable resource for anyone interested in exploring the TSP or developing new algorithms to

solve it, and it has contributed significantly to the progress made in this field over the years.

1. TSP publications

The formalization of the Traveling Salesman Problem (TSP) as a mathematical problem in the 19th century marked a turning point in the study of optimization problems. The study of the TSP led to the development of other important concepts and techniques in mathematics and computer science, such as graph theory, linear programming, and dynamic programming. These ideas have found applications in a wide range of fields, including operations research, economics, and engineering.

Despite the progress made in solving the TSP, the problem remains a challenging one, and researchers are still working on developing new algorithms and techniques to improve the efficiency and effectiveness of TSP solutions. The ongoing research on the TSP is an important part of the broader effort to solve complex optimization problems and improve the efficiency of a wide range of systems and processes.

The research on the Travelling Salesman Problem (TSP) has evolved over several periods, which can be broadly categorized as follows:

1. Pre-research academic space (1832 to late 1930s): This period saw the first conceptualization of travelling salesman problem and formulation of the problems. William Hamilton, Thomas Kirkman et al. made the necessary preparations for future researchers.

2. Early research (late 1930s to mid-1950s): This period saw the initial formulation of the TSP, along with the development of basic heuristics and algorithms to solve small instances of the problem. George Dantzig, who also developed the simplex algorithm, was one of the early pioneers of TSP research.

3. Integer programming approaches (late 1950s to mid-1970s): This period saw the development of mathematical programming formulations of the TSP, which enabled the use of powerful optimization algorithms such as branch-and-bound and branch-and-cut. Researchers like George Dantzig, Michael Held, and Richard Karp made significant contributions during this period.

4. Heuristics and approximation algorithms (mid-1970s to late 1980s): This period saw the development of various heuristics and approximation algorithms that could solve larger instances of the TSP more efficiently than exact methods. The most notable of these was the Christofides algorithm, which

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guarantees a solution that is no worse than 1.5 times the optimal.

5. Exact algorithms and computational complexity (late 1980s to mid-2000s): This period saw significant progress in the development of exact algorithms for the TSP, which could solve instances with thousands of cities. Researchers also focused on studying the computational complexity of the problem, and showed that it is NP-hard.

6. Metaheuristics and hybrid approaches (mid-2000s to present): This period has seen the development of various metaheuristics and hybrid approaches that combine elements of different algorithms to solve the TSP more efficiently. Examples of such methods include genetic algorithms, ant colony optimization, and tabu search. Researchers are also exploring new formulations of the TSP, such as the capacitated TSP and the dynamic TSP, which have applications in various real-world settings.

In this article we conducted research observing articles from 1900 – 2020 years. After collecting data for 120 years of research on the traveling salesman

problem, the following findings were concluded: history had 4 bursts in the number of research papers; more than 203999 works were documented; The main source of information was the academic search engine from Google, scholar.google.com.

Statistical information gathered and compiled in diagram (figure - 1), describes following points :

- The graph is a line graph that shows the number of TSP papers published each year over the course of 120 years.
- The x-axis represents the years, while the y-axis represents the number of papers published.
- The graph shows a significant increase in the number of TSP papers published from the 1950s onwards, with a peak in the 1990s.
- There are also noticeable dips in the number of papers published during certain time periods, such as during World War II.
- Overall, the graph demonstrates a clear trend of increased interest and research in the TSP over the past several decades.

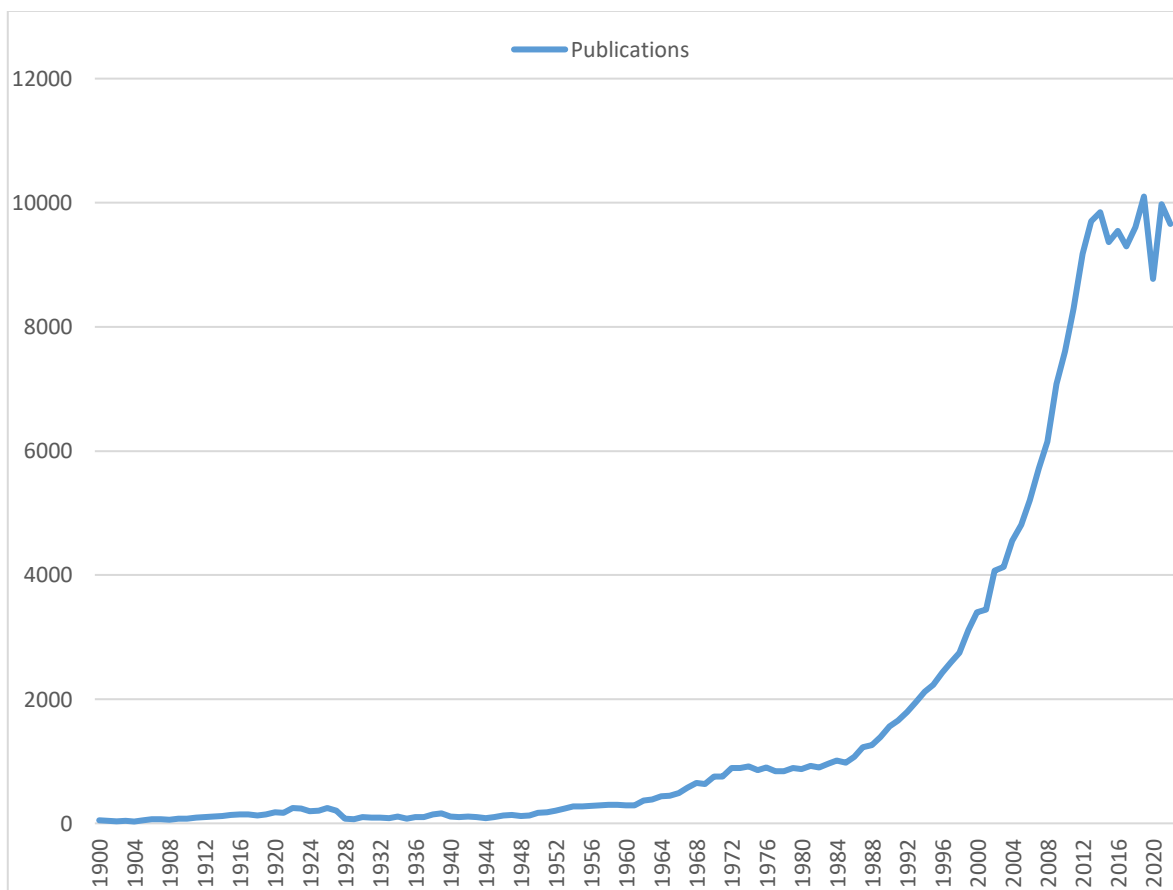


Figure 1 – Amount of academical research about TSP over the years

In order to get the more detailed information on evolution of TSP research, we selected 1009 articles sorted by relevancy from across 100 years period. This method can provide a broad overview of the major

themes and trends in TSP research over the past century, and can also help to identify important papers, researchers, and milestones in the field.

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By carefully selecting a representative sample of articles from a variety of sources, including academic journals, conference proceedings, and technical reports, this approach can help to ensure a balanced and diverse collection of papers. Additionally, by focusing on papers that have been published in reputable and peer-reviewed outlets, this method can help to ensure that the information gathered is reliable and of high quality.

In the process of gathering information, it has been noticed that out of 1009 articles, the oldest

publication comes from 1954 and there are no publications in 1957. Although it has been predicted that the cluster of publications will be trend of publications, it was unexpected that there will be years without any publications documented. Also one of speculations was that Open Access (OA) articles will greatly overcome the percentage from overall publications up until latter quarter of the century, but in reality – averaging in 42,81% from publications. Thus, leading to 432 OA and 577 accessible only after payment (figure - 2).

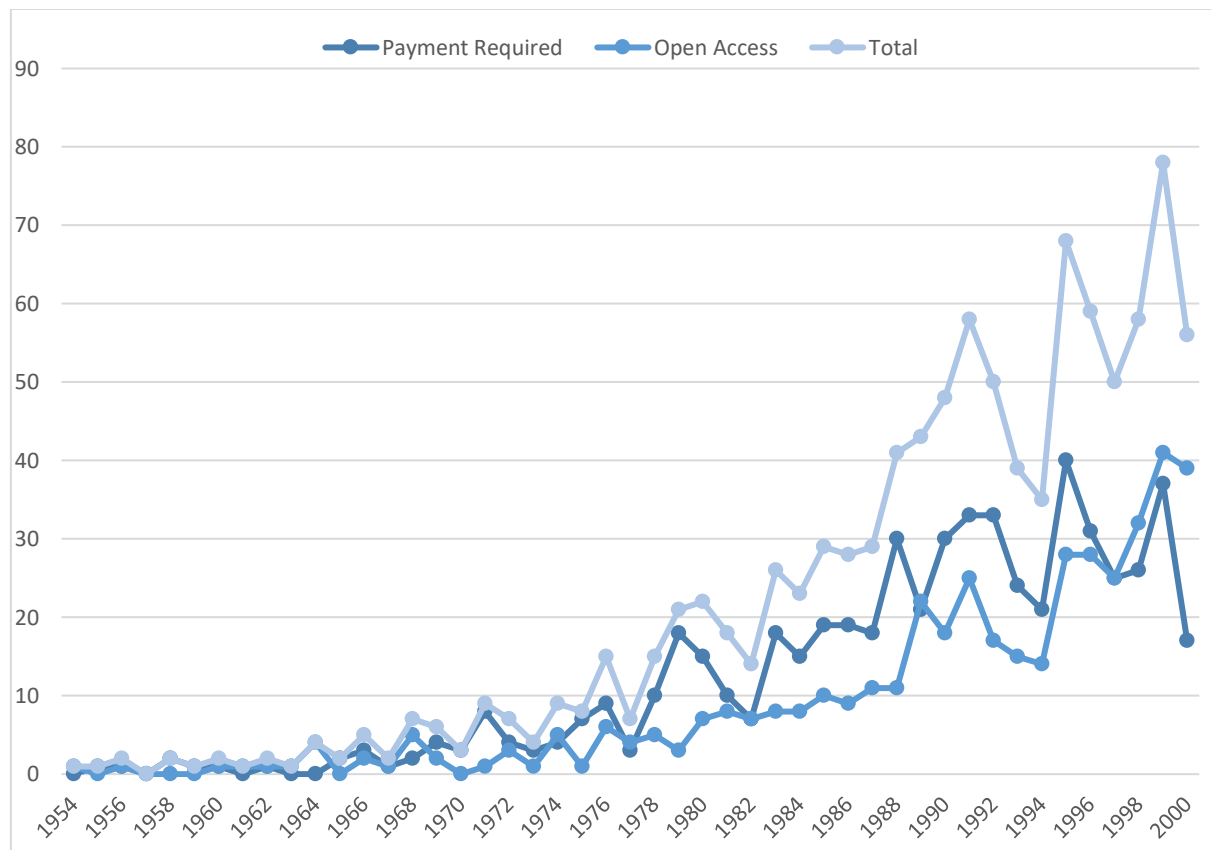


Figure 2 – Publications sorted by accessibility from 1009 articles

2. TSPLIB publications

TSPLIB is a comprehensive library of benchmark instances for the Traveling Salesman Problem (TSP) and its variants [4]. The impact of TSPLIB on the study of the TSP and optimization, in general, has been significant. First and foremost, it has provided researchers with a common set of benchmark instances that can be used to evaluate and compare new algorithms and techniques for solving the TSP. This has helped to standardize the evaluation of TSP solutions and has made it easier to measure progress in the field.

In addition to providing a standard benchmark set, TSPLIB has also played a role in the development of new TSP algorithms and heuristics. Researchers have used the benchmark instances to test and refine their algorithms and to identify areas where new

approaches are needed. This has led to the development of many new and innovative techniques for solving the TSP, some of which have been applied to other optimization problems as well.

TSPLIB has also facilitated the dissemination of TSP research by providing a common language and set of tools for researchers to use. By standardizing the benchmark set and evaluation criteria, TSPLIB has made it easier for researchers to compare and build on each other's work. This has accelerated the pace of TSP research and has led to a better understanding of the problem and its solutions.

Moreover, TSPLIB has been used as a reference for teaching and research purposes. Researchers and students can use the benchmark set to test and evaluate their own TSP algorithms and to compare their results with those obtained using existing techniques. This

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has led to a better understanding of the strengths and weaknesses of different TSP algorithms and has helped to guide the development of new techniques.

Finally, TSPLIB has helped to raise awareness of the TSP and optimization in general among the wider scientific community. By providing a comprehensive set of benchmark instances and evaluation criteria, TSPLIB has made it easier for researchers in other fields to appreciate the importance and relevance of the TSP to their own work. This has helped to foster interdisciplinary collaborations and has led to new insights and applications of the TSP in fields such as operations research, economics, and engineering.

Therefore, in this section, we will provide a critical evaluation of the impact of TSPLIB on TSP research, highlighting its strengths and weaknesses as a tool for evaluating TSP algorithms. We will also discuss some of the alternative approaches that have been proposed for evaluating TSP algorithms and the potential benefits and drawbacks of these approaches.

TSPLIB being great benchmark, for researching purposes have been collected 260 publications in period from publication of original paper to 2000th year. From selected publications 166 are Open Access and 94 accessible only after payment (figure 3). After reading through those Open Access publications following types of publications has been found:

- Broken pages, those are the publications that cannot be accessed, removed from publishers' database/website, or even publication of problems [5;6;7];
- Have instances from TSPLIB, publications are using instances from library to experiment and test algorithms [8;9;10];
- Have other instances, meaning that it only cites TSPLIB and uses instances from other libraries and databases [11;12;13];
- Only cites TSPLIB, publication has theoretical work and doesn't contain any problems that can be rerun using suggested algorithm or method [14;15;16].

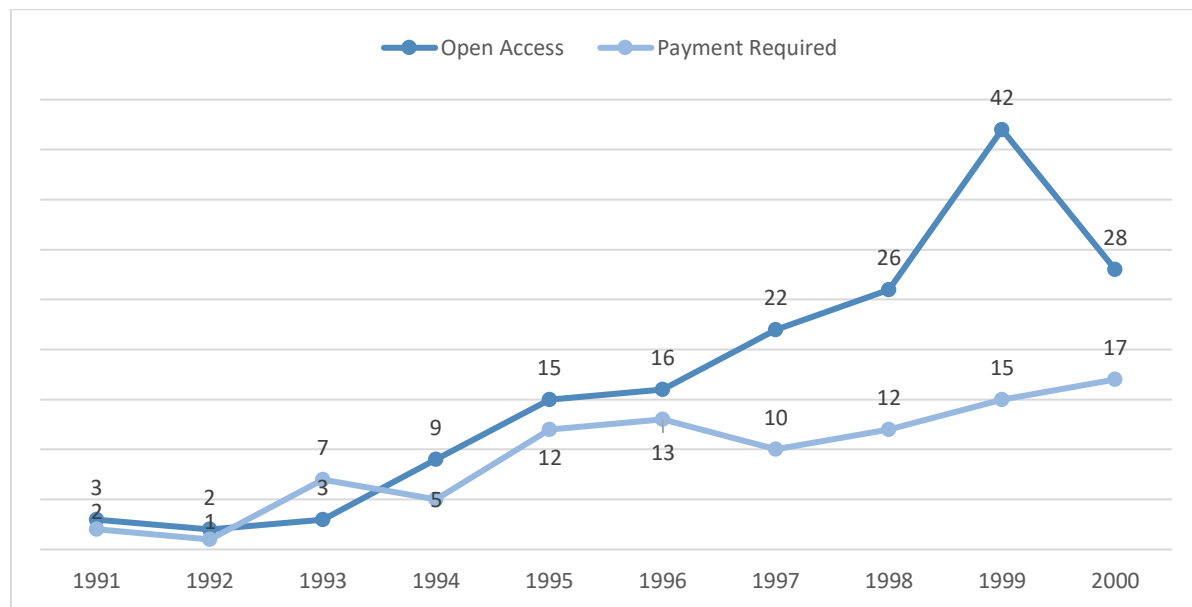


Figure 3 – TSPLIB’s cited publications from first publication till 2000th year

Sorted chart of those publications can be seen in (figure 4). This chart presents that most publications that decide to cite TSPLIB are actually using it's vast

library of instances to test and examine the results of experiments [17].

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Figure 4 – Filtered Open Access publications of TSPLIB

Conclusion

Researching the Traveling Salesman Problem (TSP) is important for several reasons. Firstly, the TSP is a classic and fundamental problem in the field of combinatorial optimization, which has a wide range of practical applications in logistics, transportation, and scheduling, among other areas. By solving the TSP, we can gain insights into how to optimize complex routing and scheduling problems, which can lead to more efficient and cost-effective solutions.

Secondly, the TSP is an NP-hard problem, which means that it is computationally difficult to solve for large problem sizes. As a result, the development of efficient algorithms and techniques for solving the

TSP is an active area of research in computer science and mathematics. This research has led to the development of a wide range of algorithms and techniques, such as heuristics, approximation algorithms, and exact algorithms, that can be applied to a variety of other optimization problems.

Finally, research on the TSP is important for advancing our understanding of fundamental concepts in mathematics and computer science, such as graph theory, complexity theory, and algorithmic design. As such, the TSP serves as a challenging and interesting test bed for new ideas and techniques in these areas, and the progress made in solving the TSP has broader implications for other fields as well.

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Article



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FUNCTIONING OF MODELS IN THE PROJECTED ARTIFICIAL INTELLEGE IN STATISTICS

Abstract: The current stage of economic development is characterized by a deep integration of economics, mathematics, and programming. The use of artificial intelligence in many economic systems, including statistical systems, the solution of many different tasks in them, is important both in practical processes and in research. In this paper, two models are presented, the implementation of which with the help of projected artificial intelligence reflects the importance and further development of this direction.

Key words: models, indicators, digital economy, matrix models, econometric models, development of investments, fixed capital.

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Introduction

The first model reflects matrix modeling. The second model is an econometric model [1,2,3].

Currently, there is a rapid development of intelligent systems, intelligent concepts and technologies. Disciplines related to artificial intelligence systems appeared in connection with the trends of the educational process in the areas of practical activity related to solving problems of interpretation, diagnostics, monitoring, forecasting, planning, design, training, and management [3].

Artificial intelligence technology is based on the invention of computers or machines that are as intelligent as humans are. That is, intelligent programs and systems are developed as a result of studying a person's mental abilities.

Artificial intelligence is a machine that performs cognitive functions similar to human ones.

According to experts, the use of artificial intelligence helps to solve and improve the efficiency of complex tasks.

The use of artificial intelligence in the system of statistics, the solution of many different tasks is important both in practical processes and in research works.

Statistical methodology is a system of techniques, methods and methods aimed at studying quantitative patterns (repeatability and order of changes in phenomena) manifested in the structure, dynamics and interrelation of socio-economic phenomena. Statistical methods are used comprehensively (systematically).

This is due to the complexity of the process of economic and statistical research, consisting of four main stages:

- 1) collection of primary statistical information;
- 2) preliminary processing of primary information;
- 3) analysis and interpretation of statistical information;
- 4) modeling and forecasting.

At the first stage of statistical research, primary statistical material is collected; its reliability and completeness are checked. For this purpose, methods of continuous and non-continuous statistical observation are used.

At the second stage, preliminary data processing is performed, group and total totals are calculated, and some relative indicators are calculated. The main

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method used in this stage is the method of statistical groupings.

As a result of its implementation, a transition is being made from large arrays of statistical data to compact and convenient statistical groupings for analysis. At the third stage, statistical information is analyzed based on the calculation of generalizing statistical indicators: absolute, relative forecast values, variation, structure, relationships and dynamics. During the implementation of the fourth stage, the interrelations between socio-economic processes and phenomena are modeled; models are built that reflect the main trends in the dynamics of the studied indicators [2].

Today, in the statistical system, using agents as a direct attribute of artificial intelligence, neural networks, and in the near future quantum technologies, the above stages can be performed qualitatively and significantly accelerate the entire process of statistical calculations, and, consequently, the management of economic processes at all levels of government improvement and development.

The current stage of economic development is characterized by a deep integration of economics and mathematics. Currently, most of the scientific research in the field of economics is carried out using economic and mathematical modeling.

Modeling as a method of scientific research is particularly relevant for the economy.

Modeling is the replacement of the direct study of a system (for brevity, we will call it the original) by the study of another system, called the model of this original. At the same time, the behavior of the model should, one way or another, reflect the features of the behavior of the original. The meaning of modeling most often lies in the fact that the system model is simpler than the original one and its research is easier to carry out, but at the same time, it is cheaper. Sometimes (especially in nature and technology) direct study of the original for one reason or another is simply impossible, and modeling is the only way to get at least some information about it.

The main objectives of modeling in various situations:

1. Understanding and explaining the reasons behavior of the original.
2. Predicting the behavior of the original.
3. Development and design of technical systems or economic plans.
4. Automation of control of technical systems and devices.
5. Improvement (optimization) of the characteristics of the artificial system (technical or economic). The models that are created for this purpose are called optimizers.
6. Training (students, employees, etc.).

The application of mathematical methods in economic modeling is impossible without the use of computer technology. In particular, this applies to the

modeling of specific systems in the development of matrix or predictive models. The reason lies, first, in the extreme complexity of such systems, models of which must work with dozens, hundreds and even thousands of individual characteristics if practical statistical systems are meant.

Here, the use of artificial intelligence with appropriate algorithms and or trained neural networks significantly improves the entire process as a whole.

Let's take a closer look at the fourth stage from the statistical methodology on the following models:

1st model: "Designing a model of the Inter-Indicator Balance (IIB) of the digital economy in artificial intelligence for statistics and statistical research." (see on the next page).

In the model, seven indicators of the digital economy are selected as an example. And these are the following indicators:

1. Quantum technologies
2. Components of robotics and sensors
3. Neurotechnology and artificial intelligence
4. New production technologies
5. Distributed registry systems (blockchain)
6. Wireless communication technology (5G)
7. Virtual and augmented reality technologies

In theory and in practice, you can choose any significant (especially important, affecting other indicators) indicators, and in the Big Data system, artificial intelligence, all indicators at once. We built a matrix model identical in structure to the intersectional model and named it: Inter-Indicator Balance (IIB). This balance reflects the relationship of each indicator with other indicators of the digital economy [4,5].

If we consider the essence of each indicator in more detail, then we can make in-depth analyses of the interrelations of indicators with each other. This is important as indicators for statistics, as well as for research. In the matrix, for clarity, we have highlighted the quantum technology by row and column.

By highlighting quantum technology, we wanted to more accurately confirm the usefulness of such a model. It is especially effective if you build a more massive model structure, possibly including more indicators and using Big Date.

In modern literature, the usefulness of the relationship between quantum technology and artificial technology is indicated. We believe that such a connection also gives a longer life to all past technologies, possibly by connecting simpler or more complex agents, as well as if savvy specialists will find them places to use at the optimal place and at the right hour. Undoubtedly, this gives an additional economic effect and more than a positive ethical side of the issue. Thus, this example confirms that it is convenient to study statistical relationships between indicators as models.

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Indicators should be studied in the balance sheets in detail, both in kind, monetary, and percentage terms. Here we have given in the form of a matrix model, and it is also possible to present the model in the form of mathematical equations, solve optimization problems, etc [6-12].

The idea that such a model takes place can be said at least in an educational and methodological sense, but for financially supported structures, balance is very useful both in static form and in dynamics, which will probably be presented in subsequent articles.

Dynamic analysis is used for statistics, for scientific research, for specialists.

Here is the simplest example of a functioning museum, where anyone, regardless of age, can touch an adding machine, make calculations on it, consider a first-generation computer, etc. Well, if we consider more effective examples, then any technologies (including outdated ones) can be presented to all interested parties, whether they are students, specialists or scientific personnel through means of communication.

Designing an Inter-Indicator Balance Model (IIB) * of the digital economy in artificial intelligence for statistics and statistical research. ** (for 7 indicators)

Consumption / Production	Quantum technologies	Components of robotics and sensors	3. Neuro-technologies and artificial intelligence	4. New production technologies	5. The system of the pre -shared registry (blockchain)	6. Technology without wired communication (5G)	7. Virtual and augmented reality technologies	The final production	GD P X ^p
Quantum technologies	X11	X12	X13	X14	X15	X16	X17	Y1	X1
Components of robotics and sensors	X21	X22	X23	X24	X25	X26	X27	Y2	X2
3. Neuro-technologies and artificial intelligence	X31	X32	X33	X34	X35	X36	X37	Y3	X3
4. New production technologies	X41	X42	X43	X44	X45	X46	X47	Y4	X4
5. The system of the pre -shared registry (blockchain)	X51	X52	X53	X54	X55	X56	X57	Y5	X5
6. Technology without wired communication (5G)	X61	X62	X63	X64	X65	X66	X67	Y6	X6
7. Virtual and augmented reality technologies	X71	X72	X73	X74	X75	X76	X77	Y7	X7
Remuneration of labor	V1	V2	V3	V4	V5	V6	V7	V _{кон}	
Netincome	M1	M2	M3	M4	M5	M6	M7	m _{кон}	
GDPX ^{p***}	X1	X2	X3	X4	X5	X6	X7	-	X

*(IIB)- Indicator Balance (IIB) * of the digital economy is named by the author.**Compiled by: author: ***Xp is the part (p-part, (Eng.)) of gross domestic product equal to the GDP of the digital economy, in the given model the sum of the GDP of seven indicators.

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The second model can also be considered as an object of using artificial intelligence in statistical calculations in practice and for research.

In the field of statistics, the use of modern methods of studying economic processes contributes to the successful solution of various tasks of economic activity. With the help of econometric models, it is possible to identify patterns and relationships, the application of scientific concepts, etc. Economic processes are constantly evolving.

Qualitative use of econometrics for modeling and quantitative analysis based on the use of economic statistics provides information support for the process

under study. Econometric modeling of indicators in statistical systems has its own, particularly important role, which can be taken into account when designing artificial intelligence in statistics. Let us consider the development of investments in the Republic of Uzbekistan (RUz) as the costs of creating, reconstructing (upgrading, updating) facilities, buying machinery, equipment, inventory, which can be produced both at the expense of own and at borrowed funds.

The analysis of the development of investments in fixed assets, as a percentage, is presented in the following table No. 1

Table 1. Analysis of the development of investments in fixed assets

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021*
R.Uz	104,2	102,6	110,6	111,3	109,8	109,4	104,1	119,4	129,9	138,1	95,6	105,2

As we can see from the table over the past 10 years, investments in fixed assets have amounted to more than 100% percent annually. And only in 2022, when the pandemic had an impact on many countries, investments in fixed assets in the Republic of Uzbekistan (RUz) decreased to 95.6% percent.

Investments in fixed assets in the RUz influenced another important factor, which is the growth rate of gross domestic product by type of economic activity of the RUz. Consider this indicator in Table No. 2.

Table 2. Growth rate of GDP by type of economic activity

Year	GDP, total	Agriculture, forestry and fisheries	Industry	Construction	Services	Trade, accommodation and catering services	Transportation and storage, information and communication	Other service industries
2010	107.1	106.1	105.9	104.2	109.6	116.5	112.6	106.0
2011	107.5	106.1	104.4	108.1	110.0	115.7	111.2	107.7
2012	107.1	107.0	105.7	114.5	107.8	107.3	111.1	106.6
2013	107.3	106.4	107.5	118.4	106.8	113.8	103.4	106.0
2014	106.9	106.0	104.5	117.6	107.4	110.5	106.9	106.7
2015	107.2	106.1	105.3	118.8	107.6	111.3	106.1	107.0
2016	105.9	106.2	105.4	107.2	105.9	109.3	105.5	104.9
2017	104.4	101.2	105.2	106.0	106.0	102.1	111.3	105.3
2018	105.4	100.3	110.8	114.3	105.2	105.4	106.9	104.6
2019	105.7	103.1	105.0	122.9	106.0	107.2	106.6	105.4
2020	101.9	102.9	100.9	109.5	100.7	101.3	99.9	100.9
2021	107.4	104.0	108.7	106.8	109.2	113.0	117.2	105.9

Here you can also see the impact of the pandemic in 2020, all indicators for the growth rate of gross domestic product decreased slightly, in 2021, all indicators of GDP growth rates by types of economic activity of the Republic of Uzbekistan are mainly increasing.

However, in 2019, the indicator in construction was 122.9; in 2021, it decreased and was equal to 106.8. Perhaps this reflects the completion of any important construction projects or residential buildings and structures.

The indicator "Trade, accommodation and food services" has increased, as in the conditions of the

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pandemic; the population began to use the service sector more actively. The indicator for “Transportation and storage, information and communication has increased significantly.” It also

indicates that the population has become more active in using the opportunities of this sphere, literacy and skills in the field of information and communication have increased.

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Article



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FORMING A COMPREHENSIVE MARKETING STRATEGY FOR THE SUSTAINABLE DEVELOPMENT OF TOURISM

Abstract: The pace of change in everyday life is constantly increasing. Today is different from yesterday, and tomorrow is different from today. The effectiveness of traditional tourism business strategies is also declining, so it is necessary to develop new strategies in this industry.

Key words: tourism, strategy, marketing, industry, mission, catalyst, culture.

Language: Russian

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ФОРМИРОВАНИЕ КОМПЛЕКСНОЙ МАРКЕТИНГОВОЙ СТРАТЕГИИ УСТОЙЧИВОГО РАЗВИТИЯ ТУРИЗМА

Аннотация: Темп изменений в повседневной жизни постоянно увеличивается. Сегодня отличается от вчерашнего дня, а завтра отличается от сегодняшнего. Эффективность традиционных стратегий туристического бизнеса также снижается, поэтому необходимо разрабатывать в этой отрасли новые стратегии.

Ключевые слова: туризм, стратегия, маркетинг, отрасль, миссия, катализатор, культура.

Введение

Фирмы, стремящиеся добиться успеха в будущем, должны обратить внимание на следующие три ситуации:

- усиление влияния глобальных сил на все виды деятельности и жизнь каждого человека;
- разработка передовых технологий;
- сохранение тенденции отказа от управления в сфере экономики.

Все это открывает перед туристическим бизнес-компаниями новые, неограниченные перспективы. Что такое маркетинг и как он связан с этими проблемами?

Прежде всего, маркетинг позволяет выявить и удовлетворить человеческие и социальные потребности. Одно из самых кратких определений маркетинга звучит так: «Маркетинг — это

удовлетворение потребностей людей и принесение пользы компании» [1. с 79].

Маркетинг (англ. market market, торговля) — масштабный вид деятельности товаров и услуг, осуществляемый в целях более полного удовлетворения потребностей и получения прибыли, продажи товаров на рынках, формирования спроса и стимулирования торговли, развития и ускорения обмена [2. с 46].

В целом маркетинг включает в себя следующие виды:

- разработка товаров или услуг (определение типа продаваемых товаров и определение их характеристик);
- анализ рынка (распределение рынка, выделение приоритетных рынков, сегментация рынка);
- ценовая стратегия и политика;

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- реклама;
- Для целей международного маркетинга подходит описание следующих видов маркетинга:
 - дифференцированный, использующий несколько сегментов рынка, предназначенный для выработки отдельного предложения для каждого из них;
 - конверсия, создающая условия для преодоления отрицательного (негативного) спроса;
 - сосредоточенное, целостное поведение;
 - ориентация на конкретный рынок;
 - применяется к товарам народного потребления;
 - направленные на ограничение влияния сопротивляющегося, нерационального и иррационального спроса на определенные товары и услуги;
 - развивающие, направленные на превращение потенциального спроса в реальный спрос;
 - стратегический, основанный на изучении внутренних и внешних возможностей компании и их использовании;
 - целевые, ориентированные на определенный сегмент рынка;
 - цена основана на цене товара.

Принцип долгосрочного планирования — от прошлого к будущему, а стратегического планирования — от будущего к настоящему, поэтому разработанные стратегии показывают влияние будущего на сегодняшние решения [3. с 122].

Стратегия (от греческого «strategos») означает «искусство полководца, обладающего особыми полномочиями», а в переводе на гражданский язык означает искусство высокого руководства [4. с 38].

Стратег — это лидер с большими полномочиями. По определению И. Ансоффа, стратегия представляет собой совокупность правил принятия решений в управлении деятельностью организации.

В текущий период стратегия предприятия определяет цель, средства и пределы его возможных действий.

Стратегический маркетинг помогает разрабатывать долгосрочные перспективные программы с учетом динамики и обстоятельств всех составляющих рынка.

Маркетинговая стратегия международного туризма носит не только глобальный характер, но и выходит за рамки отдельных стран. Сегодня туризм — это международное событие (явление), не знающее региональных и национальных границ.

На международном уровне технология стратегического маркетинга используется в процессе развития приоритетных направлений и

как фактор международных культурных коммуникаций и экономики, при подготовке долгосрочных программ развития международного туризма [5. с 201]. Также в разработке единой стратегии устойчивого развития туристической отрасли и разработке рекомендаций по планированию развития туризма на национальном и региональном уровнях; по охране окружающей среды; обеспечение прав туристов; исторические памятники, историческое наследие; охрана памятников архитектуры; по поддержке и восстановлению; по совершенствованию информирования в сфере туризма и др.)

На уровне турфирмы маркетинг является основой разработки стратегии развития, идеологии поведения и деятельности на рынке, инструментом исследования рынка, методом разработки новых продуктов и услуг, методом организации движения и реализации туристского продукта на рынке, ценовая политика — обозначение.

Необходимость разработки маркетинговой стратегии определяется рядом обстоятельств в сфере туризма. Ориентация всей сервисной деятельности турфирмы на «рынок» считается ведущей мировой тенденцией развития современной индустрии туризма. Маркетинг дает возможность оценить и выявить потенциальный или реальный спрос на туристский продукт и, соответственно, реализует систему действий по его разработке, производству, продвижению и реализации [6. с 135]. Расширение существующих сегментов бизнеса и поиск новых рынков сбыта дает возможность выработать тактику и стратегию, стабилизировать продажи продукции и получать солидную прибыль.

Объективные и субъективные факторы препятствуют разработке и внедрению технологий стратегического маркетинга в сфере туризма. Среди них высокая стоимость маркетинговых программ, неготовность туристических компаний выделять средства на маркетинговую деятельность, поскольку этот процесс не всегда быстро окупается и не сулит прямой выгоды, негативное отношение к маркетингу со стороны руководства компании, объем новых технологий и знаний. Отмечены случаи низкой эффективности маркетинговых программ в результате не стремления к освоению, копирования зарубежного опыта или механической замены производства маркетинговой технологией.

Актуальность использования маркетинговой стратегии в сфере туризма заключается в ее комплексности и многофункциональности. Кроме того, особое значение в связи с ситуацией на рынке туризма имеет наличие маркетинговых технологий. Сегодня устойчивый успех

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туристической компании на рынке заключается в определении долгосрочных перспектив и разработке необходимых условий для ее жизнеспособного функционирования в условиях изменения желаемой макро- и микросреды.

Цель туристического маркетинга состоит в том, чтобы обслуживать и удовлетворять потребности клиентов прибыльным образом. Как отметил президент известной гостиничной сети «Шератон»: «Наша цель – оказывать услуги клиентам и обеспечивать прибыльную работу для удовлетворения их потребностей». С этой точки зрения маркетинг служит вполне определенной задаче: как действовать успешнее всех?

Осуществление маркетинговой деятельности требует наличия системы управления маркетингом. Это, в свою очередь, будет состоять из стратегического и текущего планирования. Планирование маркетинга включает организацию управления и контроль.

Маркетинговая стратегия – это долгосрочное и среднесрочное принципиальное решение, описывающее маркетинговые направления и определенные действия для достижения поставленных целей.

Стратегия – это система действий по превращению конкурентных преимуществ в бизнес-результаты.

Выбор маркетинговой стратегии ограничивается условиями внутренней и внешней

среды, основными из которых являются следующие:

- расположение рынка в пространстве (локальный, региональный, национальный, международный);
- уровень проникновения на рынок (старый, аналогичный, валовой рынок);
- объем обработки рынка (один сегмент, несколько сегментов, весь рынок);
- способ обработки рынка (дифференцированный, недифференцированный);
- воплощение в определенных средствах сбыта (цена, качество);
- основная цель (доля рынка, рентабельность);
- отношение к конкурентам (агрессивное, нейтральное);
- отношение к сотрудничеству (возможно, невозможно);
- отношение к темпам роста (быстрый, медленный, нулевой, отрицательный);
- реакция на нововведения (в первую очередь, подражание).

Фирма обычно может использовать несколько маркетинговых стратегий. В процессе выбора необходимо учитывать факторы нестабильности, необходимые рыночные условия, требования к организации услуг и управления.

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Article



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STUDY OF BUDDHISM IN THE SOUTH OF UZBEKISTAN

Abstract: This article tells about the spread of Buddhism in Southern Uzbekistan. The views of archaeologists who scientifically studied the issue of Buddhism were also analyzed.

Key words: Religion, Buddhism, Termez, monument, Fayoztepa, Kushan state, Dalvarzintepa, Karatepa, statue.
Language: English

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Introduction

Today, due to the sharp increase in interest in the knowledge of our history among our people, the study of ancient traditions, religious beliefs, cultural and spiritual heritage of our ancestors remains an urgent issue of historical science. The coexistence of different beliefs and religions was undoubtedly a characteristic feature for Central Asia as well.

Materials and Methods

Buddhism occupies a certain place in the development of the ancient history and culture of the peoples of Central Asia. A group of researchers believes that the introduction of this religion into Central Asia dates back to the reign of the Kushan king Kanishka (78-123) (late 1st – early 2nd centuries) [1, 447]. The second group considers the beginning of this process somewhat earlier. According to an earlier point of view of researcher B. Litvinsky, Buddhism was spread through northwestern India and southern Afghanistan (Kandahar). It began to spread to Bactria (southern regions of Uzbekistan) in the III century [2, 159].

Under Kanishka I, the population largely adhered to the Mahayana Buddhist sect. Many Buddhist temples were built. At the same time, Zoroastrianism, Hinduism are also common. Kanishka was the first in the history of Buddhism to introduce periodic singing at religious meetings. At the first meeting, this new kind of Buddhism, Mahayana, was

formalized. This led to the widespread spread of Buddhism in Asian countries, becoming one of the world's religions. This is evidenced by the fact that on the reverse side of the coins found as a result of archaeological research in the territories of Central Asia, various goddesses were depicted – Mithra (goddess of the Sun), Fire (Goddess of fire), etc. [3, 79]. Buddhist figurines or fragments of them found in Karatepe, Fayoztepe, Sairam, Kuva and other places of modern Termiz, images of Buddhist musicians on a fragment of Aivan's pedestal in Ayritam and other finds, palaces and temples are sources telling about Buddhism in Central Asia.

In the Kushan era, Buddhism was given great importance, special attention was paid to the performance of religious paintings, so special temples were built, Buddhism became an important component of the national way of life, greatly influenced the development of culture. It can be seen by the example of the role of Buddhism in the cultural and spiritual life of Termiz, one of the most progressive cultural centers of Bactria-Tokharistan.

In the 1st century BC, Buddhism gained priority in Termez. This played an important role in the fact that the residents of Hadagan adopted Buddhism and sponsored the construction of temples. Temples of Karatepe [4, 1] and Phase type were considered one of the largest shrines. They contained a large clay statue of Buddha and stupas.

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Early information about the Buddhist monuments of old Termez is based on the written sources of A.A. Stahl-Holstein [5, 9-22], and V.V. Bartold [6, 1] is covered in his work. In this regard, Xuanxian's information was of great importance.

In 1926-1928, the expedition of the Museum of Oriental Cultures (Moscow), headed by P.B. Denike, conducted scientific research on the monuments of Zarmal and Karatep of Old Termez. An employee of the expedition A.S. Strelkov studied the monument to Zurmala [7, 27-30] and identified traces of cave structures in Karatepe [8, 70-76]. In 1934, archaeological work in Karatepe was completed by G.V. Parfenov [9, 83-84], and in 1936-1939 by M. In Genghistepe and Karatepe. Under the leadership of E.Masson, the staff (A.A. Strelkov, V.A. Shishkin, B.B. Piotrovsky, E.G. Pchelina, I.A. Sukharev) conducted research [10, 1].

In the 60-80s of the last century, the architectural structure of the tarkh structures identified by the Joint Expedition under the leadership of Stavisky (the Eastern Branch of the State Hermitage and the Museum of Oriental Art) on the southern and partially northern hills of the religious center of Karatepa was studied, significant scientific materials on Buddhist architecture, art were collected, samples of writing and material culture were obtained [11, 1].

Thanks to the research of G.A. Pugachenkova and Z.A. Khakimov (1964-1965), it was established that the Zurmala tower is a Buddhist stupa reconstructed in the form of a large structure with a semicircular dome 16 m high [12, 257-263].

Temples usually consisted of underground and aboveground parts. There are also separate stupas, which are distinguished by the mahobati stupa "Zurmala", decorated with elaborately executed Buddha figurines made of white marble. The stupas were built in a rectangular shape at several heights. The top of the stupa is domed, and an anchor made of wood or stone is installed on it. At the anchors there were several umbrellas made of stone, which the Buddhists called "Chatra". "Chatra" is a symbol of the sacred tree.

The stupa was considered a symbol of the universe. The houses had special prayer rooms with Buddha statues. Later, small clay figurines of bodhisattvas were added to the Buddha statues. This circumstance also indicates that Buddhism had a special significance in the life of the townspeople.

As a result of extensive archaeological work in 1968-1976 by V.A.Kozlovsky and L.I. Albaum, a large structure – a Buddhist monastery - was discovered in Fayoztepe and unique archaeological finds and scientific data on Buddhist culture, architecture, fine arts, and the history of writing were obtained [13, 54].

Issues of introduction and dissemination of Buddhist teaching in Central Asia G.A. Pugachenkova [14, 23-41], B.Ya. Stavisky [15, 219-232], L.I.

Albaum [16, 18-28], E.V. Rtveladze [17, 72-77], B.A. Litvinsky [18, 188-199], V.V. Vertogradova [19, 28-33], T.K. Mkrtichev [20, 27-56], K. Abdullaev [21, 157-189], S.R. Pidaev [22, 11-27], T.J. Annaev [23, 53-66]. In the studies of M.S. Bolganova [24, 40], the peculiarities of lighting are noted.

As a result of new research by the Uzbek-Japanese expedition to Karatepe during the years of independence, the location of the monastic part of the monument on the site of the northern hill was solved and significant scientific data on the Buddhist history of Tarmita-Termez was obtained [25, 9-10]. Sh. Samples of frescoes in the monastic part of Karatepa were identified by the Termez archaeological expedition led by Pidaev. This find is an important resource in restoring the image, clothing and jewelry of the inhabitants of Bactria.

Now let's focus on the temples of Karatepa and Fayoztepa in Termiz. Because the archaeological excavations carried out in these two temples have provided very valuable information that allows us to shed light on the spread of Buddhism in Central Asia, the formation and development of Bactrian Buddhist culture. These two monuments occupy a special place among the monuments of ancient Buddhism.

Fayoztepa was a temple in the style of "vihara" (in Sanskrit means a hut, a shelter where Buddhist monks lived during the rainy season, consisting of a hut, a courtyard and a garden), in the center of which religious ceremonies were held. Statues of gold miners, pottery and marble were found in the stupa adjacent to the chapel. From here, a statue of the Buddha sitting under the sacred Boddkha tree, made of marble with exquisite processing, and two monks standing on either side of it were also found [26, 53-58].

It should be noted separately that the largest and most majestic stupa in Northern Bactria was found in the ruins of Karatepa. The base of the stupa and small stupas located on both sides of the stairs, samples of the writing of that period have been preserved to us [27, 39-45].

The original capital of the Kushan Kingdom was Dalvarzintepa. During the reign of the Kushan ruler Kanishka, Dalvarzintepa took shape as a city and became one of the centers of trade. From the Dalvarzintepa complex (a fortress city surrounded by a powerful defensive wall up to 10 meters thick), located in the Shurchinsky district of Surkhandarya region, a Buddhist temple and a dakhma with relics were found, as well as a two and a half meter ceramic jug filled with golden treasure. They point to the position of Buddhism in the socio-spiritual life of the peoples of that time and its place among other indigenous religions [28, 18-27].

In a large prayer complex found in the ruins of ancient Termez, 25 Buddhist complexes were discovered (statues of Buddha standing, sitting and lying in clay up to 3-4 meters high). These findings

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are fundamental proof that Buddhism occupies a special place in the cultural, spiritual and ideological life of Termez. Recent studies show that the religion of the Buddha first came to Termiz at the end of the 1st century BC, as well as at the beginning of our era. Most of the city's population was converted to Buddhism and practiced comprehensive preaching on this topic. The mayors also paid special attention to the prevalence of Buddhism here. They built Buddhist temples. Two of these central temples are now known as Karatepa and Fayoztepa. There were also separate stupas. One of these stupas is now called Zurmala. This stupa amazes people with its perfection. At one time, the monument was decorated with statuettes made of white marble. The sculptures, mainly related to Buddhism, are executed skillfully. Unfortunately, only some of these sculptures have come down to us. The townspeople also had special prayer rooms in their homes. There were terracotta Buddha statues in these rooms.

Buddhism and its culture also had a great influence on the material culture of Northern Bactria. In particular, most of the ceramics of the late Kush period are decorated with various Buddhist symbols. Here we come across icons such as "The Heel of the Buddha", "The Wheel of the Buddha". There were also statues of monkeys. It is known that monkeys were considered animals revered by the Buddha.

Until then, such images were unknown in Bactria. The statuettes depict the Buddha standing or sitting on a board made with great skill. Koroplast-potters for the production of ceramic figurines made of clay, who tried to express the holistic state of the Buddha, his spiritual maturity, perfection. A warm tenderness spreads over his face. The position of the Buddha's hand takes on special significance. In particular, when the Buddha stands with his right hand raised, it means "to drop fear" [29, 11-22].

Scientist-ethnologist K.Shonievov cites the fact that among the inhabitants of the territory of the Karluk state there were also ethnic groups professing Buddhism. Buddhism penetrated to the Turkic peoples in the 4-5 centuries. In the second half of the VI century, some Turkish kagans adopted this religion. Archaeological excavations also confirm the existence of Buddhist temples in several cities of the Chu Valley, including Suyob, Bolosogun, Sukuluk, Sarig, and Jul [30, 115].

In recent years, archaeological studies of the Buddhist monument Tarmita – Termez have been carried out in the Termez area. In cooperation with Uzbek and foreign scientists, significant archaeological work was carried out to study the Buddhist monuments of Tarmita-Termez, and thanks to Tarmita-Termez, the peculiarities of the spread of Buddhist teaching in Margiyan, Sogd and East Turkestan were revealed.

In his research, Zhannaev focused on analyzing the results of the archaeological study of the Buddhist monuments of old Termez, highlighting the architectural structure of the first Buddhist monastery erected on the territory of Northwestern Bactria. Scientific processing of new material resources acquired in Tarmita-Termez Buddhist structures and objects, disclosure of the issues of the task of the Buddhist centers of Tarmita-Termez, comparison of Tarmita-Termez and ancient Indian Buddhist structures,

Next to the mausoleum of Muhammad Hakim Termizi, his archaeological group, headed by T. Annaev, as well as as a result of research with the participation of Zh.Annaeva [31, 67-78] more than a dozen Buddhist cave structures and two Buddhist lighthouse structures have been studied on the territory of Chingistepa.

Conclusion

New research related to the Buddhist question continues: several years of archaeological research by J. Annaev in Surkhandarya [32, 7] led to the successful defense of a research paper on the topic "Tarmita – Termez culture of Buddhist centers" in 2021. In this study, based on new stratigraphic data and periodization of archaeological materials, the Buddhist monastery of Fayoztepa in Tarmita Termiz and Muhammad Hakim determined the period of construction of cave structures around the mausoleum of Termizi, as well as the main stages of activity. At the same time, as a result of comparing the stages of the formation of Buddhist structures, Fayoztepa turned out to be the first Buddhist monastery built on the territory of Central Asia, and the original settlement of Tarmita-Termez, from where Buddhist teaching penetrated into the territories north of the Amu Darya.

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Article



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PECULIARITIES OF VERBALIZATION OF PARALINGUISTIC EVENTS IN THE TEXT OF ART WORKS

Abstract: The article deals with the elements of the paralinguistic system. Paralinguistics, gesticulation and kinesics are different fields. Each of them differs depending on the object of study. The communicative process consists of verbal and non-verbal forms of communication. The communication channels of the non-verbal structure initially consist of acoustic, visual, tactile-kinesthetic and olfactory systems. Such non-verbal forms of communication serve to describe the cognitive landscape of the world. This article is also devoted to these aspects.

Key words: verbalization, communication, inference, event, paralinguistics, theory.

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ОСОБЕННОСТИ ВЕРБАЛИЗАЦИИ ПАРАЛИНГВИСТИЧЕСКИХ СОБЫТИЙ В ТЕКСТЕ ХУДОЖЕСТВЕННЫХ ПРОИЗВЕДЕНИЙ

Аннотация: В статье рассматриваются элементы паралингвистической системы. Паралингвистика, жестикуляция и кинесика - разные области. Каждая из них различается в зависимости от объекта исследования. Коммуникативный процесс состоит из вербальных и невербальных форм общения. Коммуникационные каналы невербальной структуры изначально состоят из акустической, зрительной, тактильно-кинестетической и обонятельной систем. Такие невербальные формы общения служат для описания когнитивного ландшафта мира. Эта статья также посвящена этим аспектам.

Ключевые слова: вербализация, коммуникация, вывод, событие, паралингвистика, теория.

Введение

Мировые лингвисты выделяют три основные ветви языкознания. В языкознании их называют внутренними, внешними и компаративистскими названиями, причем выделяют содержание и направления каждой отрасли. Трансформация внутренних и внешних языковых единиц, независимо от формы выражения, состоит из парадигмы коммуникативных систем и родственных систем. Невербальные средства внешней лингвистики обобщаются под названием паралингвистики именно потому, что они являются явлениями, близкими к языку. Тем не менее, если принять во внимание наличие среди

вспомогательных средств речи, служащих для общения, других средств выражения, относящихся к языку телодвижений, становится ясно, что все единицы неязыковой системы языка не могут быть названы по термину «паралингвистика». О. С. Ахманова поясняет, что «Паралингвистика (англ. paralinguistics) — это особый раздел языкознания, изучающий паразыковые явления».

«В 30-х годах 20 века некоторые формы паралингвистики изучались Н.В. Ющаном под названием «экстранормальная фонетика». Развитие паралингвистики как науки относится к 60-м годам 20 века. В языкознании

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паралингвистика возникла, когда языковая система вышла из своей скорлупы» [1. с 367]. Понятие Н.М. Ющана об «экстранормальной фонетике» соответствует сути системы, относящейся к области паралингвистики. Однако замечено, что эта концепция не соблюдается в большей части научной литературы в этом направлении. На самом деле термин паралингвистика следует толковать в значении подхода к языку. Поэтому феномен языкового подхода объясняется на основе принципов восприятия, мышления, произношения, графических, размерных, рисуночных, цветовых и смысловых парадигм. Эти парадигмы представляют собой сущность языкового подхода. Иногда к паралингвистике относят и неязыковые явления, что предполагает их параллельное использование с вербальными средствами. Тем не менее, неязыковая система языка именуется различными терминологическими единицами, о ней в научной литературе применительно к неязыковой системе языка: «...эта область науки называлась такими названиями, как экстралингвистика, паралингвистика, невербальные средства. Однако в более поздние периоды экстралингвистика и паралингвистика отделяются друг от друга. А паралингвистика изучает вспомогательные средства речи, служащие для общения» [2. с 41]. Все невербальные средства не могут быть вмещены и ассимилированы в понятие, представленное термином паралингвистика. Здесь становятся очевидными проблемы, связанные с классификацией невербальных средств, усвоенных в неязыковой системе.

Классификация невербальных средств в специальной литературе терминологической системы области по направлениям паралингвистики, кинесики и жестикуляции стала в существующих работах традицией. На наш взгляд, тот факт, что такие направления, как паралингвистика [3. с 367], кинесика [4. с 221] и жестикуляция [2. с 113], даны в лингвистических энциклопедических словарях отдельно, на отдельных страницах, и не интегрированы в содержание паралингвистика верна в одном отношении. В языкознании существует понятие, что невербальные средства являются частью экстралингвистики.

Область экстралингвистики В. фон Гумбольдт и Ф. Мы считаем, что интерпретация, основанная на концепциях де Соссюра, является логически правильной. Термин экстралингвистика — это английское слово, означающее «внешняя лингвистика, металингвистика» — внешняя лингвистика [1, 217]. При анализе терминов и понятий, относящихся к экстралингвистике, важно определить содержание поля. По этим вопросам в

теоретической литературе высказываются следующие мнения: «...экстралингвистика изучает язык как социальное явление и объединяет социолингвистику и ментолингвистику. Социолингвистика изучает природу и социальную функцию языка, а ментолингвистика изучает язык и мышление, связь содержательной стороны языка с речевой деятельностью, контекстом и ситуацией» [5. с 58].

Акустическая система связи. Известно, что элементы, входящие в систему языка, служат для создания общения и взаимодействия между людьми, выполняя несколько своих функций в процессе речевого общения. Они обеспечивают полноту мысли и информации, выраженной и понятой коммуникаторами. «Понятие словесного мышления (вербального мышления) объясняется значением слова, языкового средства. В настоящее время такие термины, как «мысленное вербальное», «мысленное языковое» [1. с 246] трактуются как выражение своего мнения в понятной форме. Согласно данным научной литературы, любое общение «...диалог связан с конкретным голосом человека, мимикой и темой разговора - особенностями контекста» [8. с 169]. Такие задачи не ограничиваются языковыми средствами. Совершенство коммуникативной системы и невербальных средств, задействованных в обмене идеями между участниками речи, также признается основным звеном коммуникативного процесса.

Вторая родственная система, относящаяся к составу акустической системы языка, связанная со звуковосприятием, называется просодией, которая является объектом надсегментной фонетики. В научной литературе встречаются мнения о том, что область просодии является объектом как внутренней, так и внешней лингвистики. Сторонники первого взгляда определяют просодию следующим образом: «просодия есть общее название надсегментных средств, а именно высоты тона, длины (количества) и высоты тона (мощности, высоты тона, амплитуды)» и «подъем и падение основного тона (мелодии)», распределение сильных и слабых ударений (динамика), учение о принципах сочетания надсегментных средств речи, таких как быстрота или замедленность речи (темп) и прерывание произношения (пауза)» [1. с 47]. Такова концепция О. С. Ахмановой, А. Нурмонова, К. А. Слуцкой [7. с 215] занимает видное место во взглядах ученых. В то же время сама О. С. Ахманова включает такие невербальные средства, как темп, тембр, высота тона, сила голоса, которые связаны со звуковой структурой, входящей в состав интонации. В его популярном словаре есть случаи деления интонации и некоторых ее единиц на вербальные и невербальные средства. Эта точка зрения

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наблюдается и в работах других исследователей. «Уникальность человеческой артикуляции состоит в том, что она в процессе образования выражения образует сразу две структуры, первая из этих двух структур представляет собой языковую структуру, материализованную через фонетические единицы, а вторая — паралингвистические структуры, состоящие из материализованных неязыковых единиц, с помощью звука. Промежуточное состояние между формальными и содержательными структурами в обеих единицах можно назвать фонематическими средствами» [10. с 41]. На наш взгляд, такие единицы, как темп, тембр, высота звука и сила голоса, относящиеся к вербальным и невербальным средствам, правильно называть паралингвистическими средствами фонации. Именно средства фонации должны стать одним из центральных вопросов паралингвистики.

Профессор А. Нурмонов констатировал, что внешняя сторона речи связана с речевой ситуацией, «...различная интонационная модуляция голоса, темп речи, звуковая окраска» относится к паралингвистике, «...различные жесты, мимика, манеры собеседника» [7. с 214] служит для раскрытия модусного содержания информации. К ним относятся невербальные средства, не имеющие интонационной структуры языковой системной парадигмы. Интонация и ее единицы относятся к невербальной системе общения в голосовых позициях. Вот почему необходимо признать их паралингвистическими средствами, то есть явлением, близким к языку. Иногда лучше представить их как промежуточное состояние. В научной литературе все средства, сопровождающие речь, называются паралингвистическими средствами. По нашему мнению, серьезное разграничение терминов и понятий, относящихся к области, правильная группировка относящегося к ней научного аппарата на основе строгой последовательности также будут способствовать продвижению проблемы. Актуальность темы видится в том, что единицы языковой системы как семиологические единицы в основном служат для выражения информации. Научная литература, в том числе работы А. Нурмонова, поддерживает мнение о том, что сегментные единицы представляют собой лишь определенную часть информации. В связи с этим они определяют, что «...другие аспекты информации обусловлены наполнением сведениями о характере речевого такта, его физическом состоянии, отношении ко всем ситуациям, эмоциональном состоянии, социальной связи, что позволяет различать голос говорящего» [7. с 214]. Мы согласны с этим. В процессе речевого общения тон на основе голоса говорящих - единицы, наложенные на сегментные

единицы, являются фонационными устройствами. Выражение смысла, свойственное человеческому голосу, дифференцируется даже по его функциональным аспектам. Их трудно выразить в письменной форме без дополнительных объяснений. Вот почему концепция профессора А.Нурмонова по этому поводу «...чтобы показать полную картину языковой информации, необходимо всесторонне исследовать все стороны речи» [7. с 214]. Исходя из этого понятия, предметом исследования должны быть различные формы выражения таких единиц, как концепт, концепт и бленд в понятийной структуре.

Взгляды К. А. Слуцкой на паралингвистику объясняют важность паранемических средств в визуальной поэзии. Заслуживают внимания размышления ученого о методологических особенностях изобразительных средств, используемых в визуальной поэзии. Он констатировал, что «...в русском языкознании параэмика есть особый раздел языкознания, основанный на шрифтах, письменность — «письменный язык». Абзацные приемы — это понятия языковой системы графем, которые представляют собой явления, нарушающие границу прозрачности в языковом выражении графических веществ. Парафраз означает следование словесной речи и выражение различных коннотаций» [10. с 51]. Графическая система языка и его традиционная форма представили такие понятия, как личность его пользователей и электронное представление букв в информационных технологиях. Это упорядоченное движение графем начало менять свои шрифтовые формы в системе компьютерной лингвистики. На самом деле отход графемы от системы письменных форм связан с появлением наглядных стихотворений. Переход графических средств из парадигмы традиционных системных форм в новую систему связан с ее изобразительными свойствами. Такие характеристики письма и письма называются параграфемикой паралингвистики. Во взглядах К. А. Слуцкой на параграфемикой признается, что эти вопросы еще не имеют своих четких границ, какие изобразительные средства входят в содержание параграфемики, и в языкознании существуют разные взгляды на эти вопросы.

Такие параграфные формы, парабуквы, употребляемые в стихотворном тексте или любом тексте, служат для передачи дополнительной информации в процессе общения [9. с 677-680]. В поэтических жанрах такие абзацные средства направлены на рисование денотативного образа, репрезентации человека или предмета, описание символических знаков исходя из коммуникативного замысла творца.

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Article



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STUDY OF THE SEX PHEROMONE OF THE WALNUT NUTS SARROTHERPUS MUSCULANA ERSCH

Abstract: Method for isolating and identifying the sex pheromone of walnuts *Sarothrypus musculana* Ersch. determination of adult females used methods, gas-liquid chromatography (GLC), mass chromatography and selection of conditions by extraction with organic solvents of the amount of biomaterial.

Key words: pheromone, adult, extraction, codling moth, pest, solvent, mass chromatography.

Language: Russian

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ИССЛЕДОВАНИЕ ПОЛОВОГО ФЕРОМОНА ГРЕЦКИХ ОРЕХОВ SARROTHRYPUS MUSCULANA ERSCH

Аннотация: способ выделения и идентификация полового феромона грецких орехов *Sarothrypus musculana* Ersch. определение имаго самки использован методов, газожидкостные хроматографии (ГЖХ), масс-хроматография и подбора условий экстракцией органические растворителями количество биоматериала.

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Ключевые слова: феромон, имаго, экстракция, ореховая плодоярка, вредитель, растворитель, масс-хроматография.

Введение

В последние годы развивается новый подход к управлению численностью насекомых, базирующийся на успехах биологической науки в понимании механизма коммуникации членистоногих. Установлено, что передача информации в мире насекомых обеспечивается химическими веществами – эсгогормонами. Экологические преимущества феромонов перед остальными видами пестицидов, не вызывает сомнений их действие максимально видоспецифическое, эффективные дозы мизерные даже по сравнению с пиретроидами и ювеноидами, они не токсичны и не оставляют токсичных остатков [1-4].

Активные вещества феромона могут быть выделены из насекомых различными методами экстракции, начиная с перегонки с паром, улавливания летучих веществ из воздуха, экстракции бумаги, на которой выращивают насекомых, и кончая вымачиванием в растворителе целого насекомого или отдельных частей его. При это необходимо учитывать возраст и условия, влияющие на выделение феромона у самки, такие как свет, температура и влажность воздуха. У самок грецких орехов *Sarothrypus musculana* Ersch. феромон присутствует уже в стадии куколки, у других появляется сразу после отрождения, у третьих – только после спаривания[9]. Ореховая плодоярка *Sarothrypus musculana* Ersch. относится к семейству «челночницы». Широко распространена в Узбекистане и имеет большое отрицательное хозяйственное значение. Повреждаемость плодов ею достигает 40-50%.

Ореховая азиатская моль один из самых серьезных вредителей грецкого ореха, жадно питается внутри орехов и молодых побегов, что приводит к раннему опадению орехов, а также поедает околоплодник, что приводит к деформации орехов. В мае появляется имаго и откладывают яйца на поверхность молодых орехов. Было замечено, что после вылупления гусеницы протыкают орехи через черешок и начинают питаться внутри. Один орех был парагматичным, чтобы иметь 2 -3 личинки, питающиеся внутри в течение периода исследования. Личинки возрастов были замечены питающимися орехами с мая по август. Только, что вылупившиеся личинки были кремово – белого цвета, размером около 2 -3 мм, с темно – коричневой головой и длинными светлыми волосками на переднеспинке, при этом размер каждой личиночной стадии увеличивается с возрастом кормовой способности. Последний возраст был размером около 15 – 20 мм с

несколькими светло – коричневокремневыми волосками на темно –коричневом щитке со светло – коричневым телом. В августе они начинают оставлять орехи для окукливания, чтобы продолжить жизненный цикл в следующем году. Окукливание происходило внутри рыхлой коры или щелей ореховых деревьев. Зараженные орехи имели отложение экскрементов на шелухе грецкого ореха, которая становится коричневой, что наоборот, снижает урожайность и рыночную ценность [5,6].

Материал и методы исследования.

Для экстракции полового феромона применяются такие растворители, которые улетучиваются быстрее феромона. Несмотря на то, что большинство исследователей для вымачивания кончика брюшки или целого насекомого используют хлористый метилен, значительной большей активности экстрактов гексаном.

Очищенный и перегнанный растворитель перед использованием пропускают через хроматографическую колонку с нейтральной окисью алюминия.

Перед сбором феромона от нескольких тысяч самок ореховая плодоярка насекомых помещали в сетки и два дня выдерживали в цикле фотофазы - скотофазы. Затем самок охлаждали и кончики их брюшка отрезали в эфир. Экстракт сушили Na_2SO_4 и растворитель упаривали на роторном испарителе при атмосферном давлении. Каждую стадию очистки контролировали биотестом [6-14].

Для сбора фракций ГЖХ сырого экстракта *Sarothrypus musculana* Ersch 60 кончиков брюшка самок в 1 мл хлористого метилена с колонки (2м-2мм), заполненной 3% OV-1 на Хромосорбе W-AW-DMCS (100-120 мет) применили пипетку Пастера, охлажденную сухим льдом. Препаративную ГЖХ использовали как последнюю стадию очистки экстракта, обработанного колоночной или тонкослойной хроматографией.

Результаты исследования:

Масс-фрагментография помогает обнаружить даже в смеси веществ присутствие искомого соединения по нескольким характерным фрагментам, их интенсивности и времени удерживания, которые намечаются заранее и подбираются дискретным изменением ускоряющего напряжения, используя эталон и специальную приставку МИД, управляемую компьютером. Использование масс-фрагментографии повышает чувствительность до 10^{-9} - 10^{-12} г.

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Техника масс-фрагментографии заключается в том, что опорные фрагменты, характерные для предполагаемого соединения, выбираются заранее; затем компьютер рассчитывает величины ускоряющего напряжения. Интенсивность фрагментов записывается в виде плавной кривой в момент выхода вещества.

Использование масс-фрагментографии позволяет ограничиться двумя-пятью особями насекомых для выделения компонентов их феромонов.

Нами исследованы модельные соединения и ГЖХ фракций экстракта самок ореховой плодовой галлицы *Sarothrypus musculana* Ersch. Необходимо было убедиться в том, что активны фракции для этого снимали масс-фрагментограммы, фокусируя прибор на m/e 184 (M^+80) при 23 эв., частично очищенного экстракта одной самки-эквивалента. Фрагмент m/e 184, выбранный на грани компромисса между его специфичностью и интенсивностью, оказался удачным даже при снятии компонента в количестве 1,6 кг (рис.1).

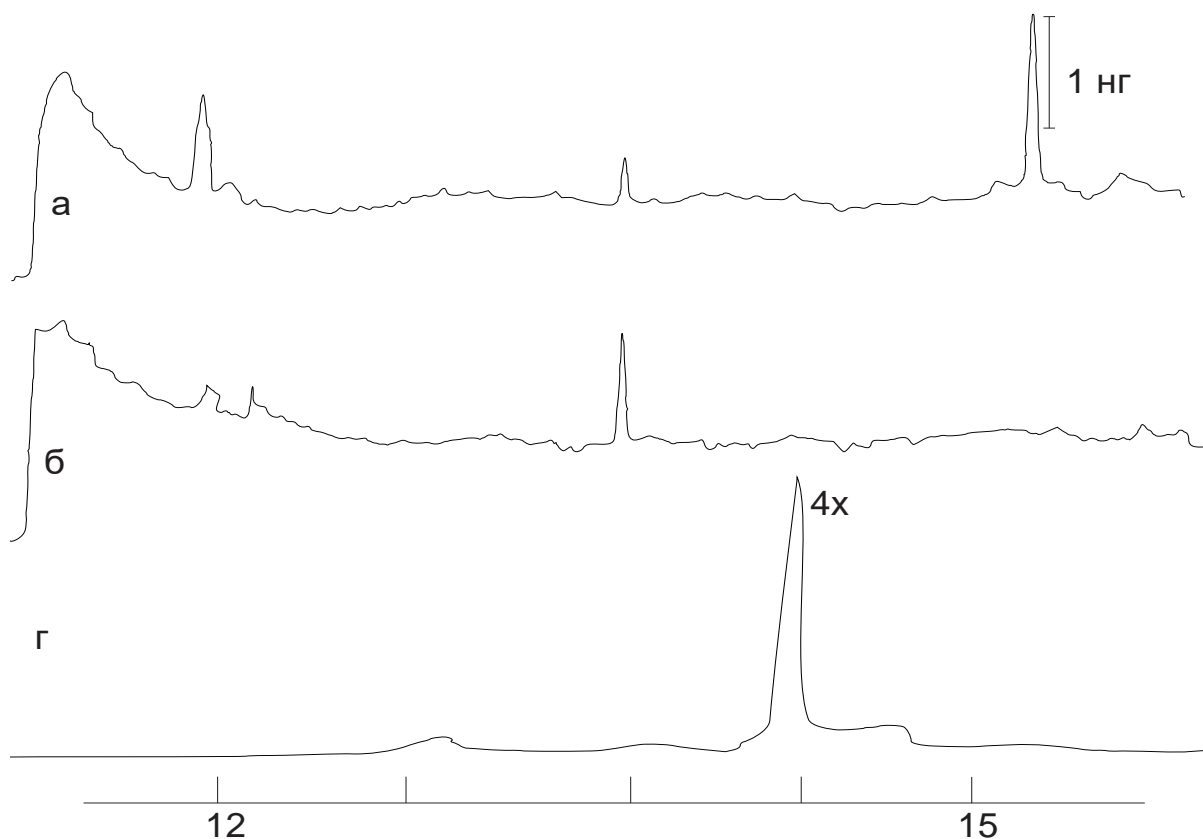


Рис. 1. Масс-фрагментограмма частично очищенных экстрактов *Sarothrypus musculana* Ersch. А-аликвота самки; б-аликвота самца; г-увеличенный масштаб 10 самок-эквивалентов.

Таким образом, использование масс-хроматография позволяет ограничиться двумя-пятью особями насекомых для выделения компонентов их феромонов. Исследование модельных соединений и ГЖХ фракций экстракта

самок ореховой плодовой галлицы *Sarothrypus musculana* Ersch. Активные фракции полового феромона снимали и изучали масс-фрагментограммами.

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Article



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PARALLEL CORPORA AND THEIR AREA OF USE

Abstract: *In applied linguistics and in translation, an interesting application is the development and usage of parallel electronic corpora of texts of different genres. Such developments in the world are still under development, although parallel texts have long been used for comparative analysis. In the tasks of translation teaching parallel corpora texts can be considered as abstract information and provide examples of professional translation when studying the techniques and methods of translation. In the tasks of foreign language teaching such corpora allow to select possible equivalents of the studied vocabulary, to trace its meanings and functions in certain contexts.*

Key words: *corpus, parallel, electronic, computer, machine, translation, contrastive, comparable, text.*

Language: *English*

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Introduction

The creation and use of parallel corpora seems appropriate both from a practical point of view and from the point of view of the development of corpus linguistics - one of the most promising linguistic trends. The corpus of parallel texts can be effectively used in various linguistic studies of comparative nature, as well as in studies of translation theory, comparative literature, cultural studies, and automatic text processing.

The comparison of statements with similar content is not an innovation in modern linguistics. It is, in a sense, a tradition that goes back to the comparison of canonical biblical texts and their translations into European languages, such as the works of E. Gutter and E. Gusher and the works on universal grammar of the XVII-XVIII centuries. This tradition is continued in modern linguistics. The most developed and widely used method of parallel texts is in the works of the Austrian linguist M. Wandruschka and his followers¹.

Converting parallel texts into electronic form and organising them as an electronic corpus has

positive effects (large volume of material, diversity of styles and genres, efficiency of quick analysis and searching for examples of the constructions analysed, etc.).

"The use of parallel corpora obviously has a positive effect on the learning process of translation. Due to the multiple occurrence of translation variants of a lexical unit or phrase of interest, the tendency to equate them with a single equivalent in the target language is reduced. A parallel corpus can also bring clarity to the choice of translation techniques"².

Parallel texts are indispensable "assistants" in teaching translation, and in fact no practical textbook on translation practice can do without them (e.g. textbooks by V.V. Kabakcha and T.A. Kazakova). A set of exercises is mainly directed at comparing the source and target texts in order to identify certain translation techniques and evaluate their effectiveness. In particular, students are encouraged to give a detailed analysis of the lexical and grammatical content of the source text in comparison with the target text.

¹ Соснина Е.П. Параллельные корпуса в обучении языку и переводу. – http://ling.ulstu.ru/linguistics/resources/literature/articles/corpus_education_translation/

² Teubert, Wolfgang. The role of parallel corpora in translation and multilingual lexicography. (2002). 10.1075/sc1.7.14teu.

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By using a corpus, bilingual dictionary compilers acquire a very simple and effective tool for collecting material and empirically testing their hypotheses about inter-lingual equivalence. The value of this tool is determined by the fact that in linguistics, the material collection phase is the most time-consuming and the least creative and the corpus of parallel texts saves considerable time and effort for the creative phase of the work.

In addition, in a practical sense, translation should focus on post-editing possibilities, comparing and evaluating different strategies and interpretations within the context. A translator (especially a beginner) needs resources that can act as benchmarks for translation and evaluation of translation in certain “standard” contexts. According to some reports, about 50%, and in the initial stage of learning, up to 80% of translation time is spent on referring to abstract information, e.g. dictionaries. Electronic parallel corpora and linguistic computer technology reduce this time expenditure considerably and provide examples of professional translation when learning the techniques and methods of translation.

Areas of use

Many language-related disciplines, including contrastive linguistics, translation studies, computational linguistics and its numerous applications, translation process and language teaching are interested in parallel corpora. Granger notes that although the two fields continue to have different goals, they have recently become more closely related due to their shared reliance on parallel and comparable corpora as important sources of primary data that are mined through the employment of similar approaches³. Translation academics are interested in the translation process and its outcomes, as opposed to contrastive linguistics, which seeks to pinpoint similarities and differences between languages.

Contrastive linguistics

Parallel multilingual corpora are largely considered as playing a significant, though controversial, part in the rebirth of contrastive linguistics in the 1990s. The huge amount of empirical material provided by parallel corpora is invaluable for contrastive linguistics.

Although the original text and the translation process are bound to influence the target text, introducing some degree of distortion that affects the reliability of the findings, the ability to draw on a wide variety of texts translated by a variety of translators provides a useful means of testing hypotheses and

confirming (or disproving) contrastive statements based on intuitions and a small number of examples.

Translation research

The importance of parallel corpora for translation studies resides in the amount of data they give access to, much like contrastive linguistics does. Practitioners consult parallel corpora as a source of information and ideas to solve translation issues. Moreover, translation researchers use them for translation research. They are now a vital component of many modern training programs.

The value of parallel corpora for practitioners is obvious: by using parallel corpora, translators can research how a certain translation difficulty has been handled by others and get ideas from it⁴.

Comparable corpora can also help with translation by giving translators a greater knowledge of the terminology used in the source text, identifying and assessing probable target language analogues, and creating appropriate target language phraseology. These benefits are particularly helpful to translators working with language pairings without parallel corpora and/or in domains that are rapidly expanding, where terminology is likely to be changing all the time.

Language learning

The corpus of parallel texts has several characteristic didactic properties which distinguish this type of corpus from other corpora and condition the methodology of students' lexical skills formation on its basis. These didactic properties include: a) multilingualism; b) contextuality of search results; c) the possibility of limiting the scope of language use. Thus, unlike other types of corpora, the distinctive didactic property of parallel corpora is multilingualism. This will allow to build on it the vocabulary skills of the learners on the basis of translation.

Multilingual corpus of parallel texts can be used to build learners' vocabulary skills through translation. The contextualization of the search results allows for a more precise definition of the meanings of new words and shows the patterns of usage in real-life language situations. The possibility to limit the scope of language use in a search query allows to define more precisely the meanings of new words and to show the word usage in the specific field of communication requested. This feature allows the use of parallel text corpora to build learners' vocabulary skills when learning a foreign language for specific purposes.

Characteristics of a corpus of parallel texts that can be used to teach students professional vocabulary

³ Granger, S. 'The Corpus Approach: A Common Way Forward for Contrastive Linguistics and Translation Studies', in S. Granger, J. Lerot and S. Petch-Tyson (eds) *Corpus-based Approaches to Contrastive Linguistics and Translation Studies*. Amsterdam: Rodopi, 2003, - pp. 17–29.

⁴ Baker M. *Corpus Linguistics and Translation Studies: Implications and Applications* / M. Baker // *Text and Technology: In Honour of John Sinclair*. – Amsterdam & Philadelphia: John Benjamins, 1993. – pp. 233-250.

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include the following: the corpus uses professional written texts; the corpus uses original texts in one language and their translations in another; the corpus can translate both from the target language into the native language and vice versa; the corpus contains texts of exclusively professional orientation for students; the corpus contains texts of the scientific genre; access to corpus resources may be open or restricted; the learning process should use "illustrative" corpora that clearly show the usage of professional vocabulary in the target language; contemporary professional texts should be included; both full-text and fragment-text corpora may be used in the learning process.

Machine translation

Special place must be given to machine translation, where parallel corpora have played a crucial role in a (partial) paradigm shift from rule-based approaches to statistical and example-based approaches to machine translation since around 1990. Other applications of parallel and comparable corpora include lexicography, knowledge engineering, terminology extraction, and the building of

terminology databases and bilingual reference tools. Comparatively, example-based machine translation looks for similar phrases in earlier translations and pulls out the target language fragments that correspond to the source language fragments. Statistical machine translation basically involves computing the probability that a target language string is the translation of a source language string based on the frequency of their co-occurrence in the corpus. The authors write that "both methods make substantial use of large bilingual corpora, but where statistical machine translation is based exclusively on statistical correlations, example-based machine translation applies both statistical techniques and linguistics-based methods similar to those of earlier rule-based machine translation approaches"⁵. In either scenario, parallel corpora serve as a crucial supply of sets of examples for the development, training, and testing of systems to enhance their performance. When data mining expands to comparable corpora, it once more makes use of techniques that take advantage of word frequency correlations across languages to find word mappings.

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REGIONAL FLAPS IN RECONSTRUCTION OF SOFT TISSUE DEFECTS AFTER RADICAL SURGERY FOR ORAL CANCER

Abstract: *Background.* The main contingent of patients with oral cancer turn to specialized clinics in the later stages. After radical resection in this category of patients, extensive defects occur that require primary reconstruction to restore form, function, and aesthetic effect. *Objective.* To present our experience in the reconstruction of oncological defects of the oral cavity using regional flaps. *Materials and methods.* The analysis of the collected data of patients who underwent radical resection followed by reconstruction with pedicled flaps for locally advanced oral cancer from 2015 to 2022 was carried out. *Demographic data, primary tumor site, defect type, flap variant, and complication rates were analyzed. Results.* Primary reconstruction of soft tissue defects after radical tumor resection was performed in 56 patients. The distribution of patients according to the prevalence of the primary tumor T3 - in 47, T4 - in 9 cases. The primary localization of the tumor in the oral cavity was the tongue (n=15), the floor of the mouth (n=12), the alveolar process of the mandible (n=11), the cheek (n=10), the retromolar region (n=5) and the alveolar process of the maxilla (n=3). The regional flaps used for reconstruction were submental flap (n=22), supraclavicular flap (n=10), platysma flap (n=8), sternocleidomastoid flap (n=7), nasolabial flap (n=6) and pectoralis major myocutaneous flap (n=3). We classified the types of soft tissue defects into mucosal defects (n=53) and full-thickness defects (n=3). The overall complication rate for flaps was 46.4%. Total necrosis of the flap was not observed, partial necrosis was detected in 4, marginal necrosis in 9, wound dehiscence in 13. *Conclusion.* Regional flaps are an effective method for reconstruction of soft tissue defects following oral cavity cancer surgery with acceptable functional and aesthetic results.

Key words: oral cancer, soft tissue defects, reconstruction, regional flaps.

Language: English

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Introduction

After radical resection of locally advanced tumors of the oral cavity, large defects occur that must be adequately reconstructed to restore functional (speech, swallowing, chewing) and aesthetic (facial contours) parameters (2, 3, 5, 14). Oral defect reconstruction options range from pedicled flaps to free flaps. Now that microsurgery options are available at most centers, free flaps are used for complex oral defects to achieve better cosmetic results and improved function. In centers with good infrastructure, free flap transfer has become the preferred method of reconstruction (5, 7, 13). However, the use of microvascular technology requires large financial costs and is not always feasible in patients with somatic pathology. Pedunculated flaps for the reconstruction of oral tumor defects are still an effective option. They are still the primary reconstruction method with a high success rate and fewer complications (1, 3, 11, 12, 15).

Objective.

Here we present our experience in the reconstruction of tumor defects in the oral cavity after surgery for locally advanced cancer.

Materials and methods.

A retrospective analysis of the collected data was carried out in the department of Head and Neck Tumor Surgery of the Oncology Clinic and in the department of Maxillofacial Surgery of the Training and Surgery Clinic of the Azerbaijan Medical University from 2015 to 2022. The study included 56 patients who required regional flaps for the reconstruction of soft tissue defects after surgery for locally advanced oral cancer. Patients in whom we used local flaps and split

skin grafts were excluded from the analysis. Patient demographics, primary tumor location, tumor stage, defect type, flap type, and postoperative complications were analyzed. Postoperative complications were divided into major and minor categories. It was determined that a major complication is one that requires additional surgical intervention, and a minor complication is one that resolves on its own with conservative treatment or minimal procedure.

The statistical analysis of the collected data was performed using biometric methods, which included the statistical application of various indicators such as the mean (M), mean deviation (m), maximum (max) and minimum (min) values, variance (σ) and the calculation of the Student's t-value. The analysis was conducted using the SPSS 10.0 version (SPSS, Chicago, Illinois, USA) software for Windows. A value of P less than 0.05 The results were considered statistically significant at the probability level (p-value) <0.05. The difference between quality indicators was determined by calculating Pearson's correlation coefficient.

Results.

The study population consisted of patients with locally advanced oral squamous cell carcinoma who were reconstructed using regional pedicled flaps. A total of 56 patients were included in the study, including 39 men and 27 women. Age ranged from 30 to 78 years, mean age 58.3 years. The distribution of patients according to the prevalence of the primary tumor was pT3 - 47 cases, pT4 - 9 cases. The reconstruction offered for tumors of various parts of the oral cavity and the distribution of the flaps are shown in Table 1.

Table 1. Distribution of patients according to tumor location, type of defect and flap used.

Options	N	%
Tumor localization		
Tongue	15	26,8±5,9%
Floor of the mouth	12	21,4±5,5%
Alveolar process of the mandible	11	19,6±5,3%
Alveolar process of the maxilla	3	5,4±3,0%
Cheek	10	17,9±5,1%
Retromolar region	5	8,9±3,8%
Total	56	100,0%
Used flaps		
Naso-labial	6	10,7±4,1%
Supraclavicular	10	17,9±5,1%
Sternocleidomastoid flap	7	12,5±4,4%
Platysma flap	8	14,3±4,7%
Submental	22	39,2±6,5%
Pectoralis major	3	5,4±3,0%
Total	56	100,0%
Type of defect		

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Mucosa + soft tissues	53	94,6±3,0%
Mucosa + skin (full-thickness)	3	5,4±3,0%
Total	56	100,0%

Among the localization of tumors of the oral cavity, the most common was the tongue (n=15 or 26.8±5,9%), followed by the floor of the mouth (n=12 or 21.4±5,5%), the alveolar process of the mandible (n=11 or 19.6±5,3%), cheek (n=10 or 17.9±5,1%). The rarest localization of the tumor was the retromolar

region (n=5 or 8.9±3,8%) and the alveolar process of the upper jaw (n=3 or 5.4±3,0%). The most commonly used pedicled flaps were the submental (n=22 or 39.2±6,5%) and supraclavicular (n=10 or 17.9±5,1%) flaps (Figures 1-7).



Fig. 1 - Appearance of a tumor of the left cheekmucosa

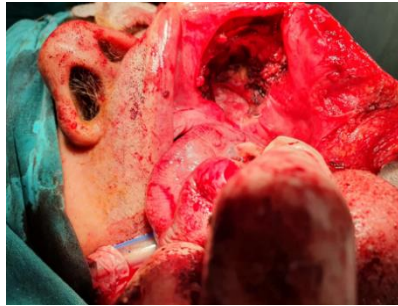


Fig. 2 - Soft tissue defect after radical resection

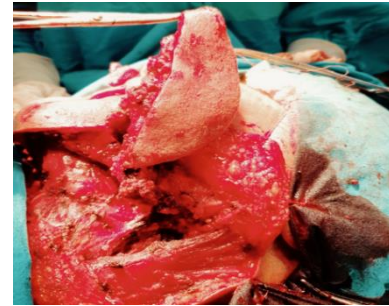


Fig. 3 - Harvesting of the submental flap

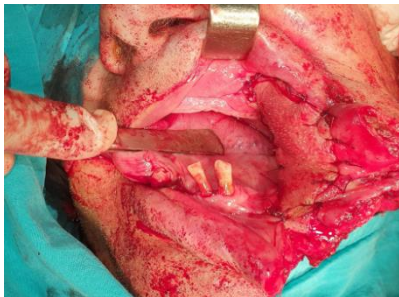


Fig. 4 - Defect reconstruction using submental flap



Fig. 5 - Primary closure of the donor site



Fig. 6 - Six weeks postoperatively



Fig. 7 - One year postoperatively, after radiotherapy

Other flaps with reduced frequency of use were platysma flap (n=8 or 14.3±4,7%), sternocleidomastoid flap (n=7 or 12.5±4,4%), nasolabial flap (n=6 or 10.7±4,1%) and pectoralis major muscle flap (n=3 or 5.4±3,0%) (t=1,04; P>0,05) (Fig. 3).

Defects were presented by the oral mucosa defects in 53 (94.6±3,0%) and full-thickness defects (mucous membrane + skin) in 3 (5.4±3,0%) patients (t=21,03; P<0,001). The complication rates associated with the use of flaps are shown in Table 2.

Table 2. Local complication rate after reconstructive surgery

Complications	N	%
Total (subtotal necrosis)	—	0%
Partial necrosis	4	15,4±7,1%
Marginal necrosis	9	34,6±9,3%
Wound dehiscence	13	50,0±9,8%
Total	26	100,0%

The overall complication rate in our study was 26 (46.4±6,7%) cases. Serious complications in the form of total / subtotal necrosis were not observed in any patient, partial necrosis - in 4 (15.4±7,1%). Minor complications included marginal necrosis in 9

(34.6±9,3%) and wound dehiscence in 13 (50.0±9,8%) patients. The frequency of complications depending on the flap used is shown in Table 3 (t=1,14; P>0,05).

Table 3. Complication rate depending on the type of reconstruction

Used flap	N	Complication rate	
		N	%
Submental flap	22	7	27,0±8,7%
Pectoralis major muscle flap	3	1	3,8±3,7%
Supraclavicular flap	10	4	15,4±7,1%
Naso-labial flap	6	3	11,5±6,2%
Sternocleidomastoid muscle flap	7	5	19,2±7,7%
Platysma flap	8	6	23,1±8,3%
Total	56	26	100,0%

The lowest frequency of complications was observed when using submental and supraclavicular flaps and pectoralis major muscle flap and amounted to 31.8% (in 7 of 22), 40.0% (in 4 of 10) of 33.3% (1 of 3), respectively (P>0,05).

When using other flaps, the complication rate was higher and amounted to 50.0% (in 3 out of 6) with the nasolabial flap, 57.1% (in 5 out of 7) with the flap on the sternocleidomastoid muscle, and 75% with the flap on the platysma muscle (6 out of 8) (P>0,05).

Discussion.

Primary reconstruction of oral defects after radical surgery for locally advanced tumors is essential to achieve acceptable functional and aesthetic results in order to improve the quality of life in these patients. Despite the fact that free flaps are currently considered the leading option for the reconstruction of oral defects, pedicled flaps are still the method of primary reconstruction in patients with comorbidities, in elderly patients, due to lower cost. Other indications for the use of regional pedunculated flaps are vessel-depleted neck, neck irradiation, salvage surgery defects, cancer recurrence, reconstruction failure with free flaps (1, 3, 15).

In recent years, submental and supraclavicular flaps have been widely discussed for the reconstruction of tumor defects in the oral cavity (8, 9, 10). The advantage of the submental flap is the ease of insertion, a wide arc of rotation, adequate blood supply, proximity to the oral cavity, the possibility of

forming a flap of various thicknesses and sizes, and an inconspicuous scar in the donor area (9, 14).

The advantages of the supraclavicular flap include the reliability and constancy of the vascular pedicle, ease of variation, matching in color and texture, the lack of hair growth, and minimal defect in the donor bed (4, 6).

The characteristics of submental and supraclavicular flaps are considered by many authors as an alternative to free grafts and do not require microsurgical skills and instruments (9, 10).

In our material, these two flaps were used in more than half - 57.1±6,6% (in 32 out of 56) of patients with the least frequent local complications, satisfactory functional and aesthetic results in the recipient and donor areas.

All patients after reconstructive surgery were in the intensive care unit for the first 24 hours for better postoperative care and flap monitoring. The flap was monitored for color, temperature, swelling, and capillary sensation. The pinprick test is commonly used to monitor the flap.

In our experience, the frequency of local complications when using flaps was 46.4±6,7% (in 26 and 56), of which serious complications in the form of total necrosis of the flap were not observed, and partial necrosis was detected in 7.1±3,4% (in 4 and 56) patients. At the same time, literature data show that the frequency of local complications after reconstructive operations using regional flaps varies from 4.5±2,8% to 60,06,5±% (2, 14).

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Conclusion.

The main goal of the reconstruction of oral defects after tumor resection surgeries is to restore the shape and function of the lost part of the organ. Reconstruction with regional flaps presents a wide range of opportunities for isolated and complex soft tissue defects. In our study, the restoration of oral

defects had a high success rate, an acceptable functional and aesthetic result. Submental and supraclavicular flaps have proven to be the most common and versatile method of oral defect reconstruction, making them effective alternatives to free flaps.

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CLINICAL AND STATISTICAL ANALYSIS AND IMMUNOHISTOCHEMICAL ASPECTS OF ANGIOGENESIS IN EWING SARCOMA

Abstract: One of the main types of cells that form blood vessels are endothelial cells, which line the inner surface of capillaries, arteries and veins. By immunohistochemical study of Ewing sarcoma, it was found that CD31 is produced by endotheliocytes, as well as perivascular elements. CD31 detected in the cell wall and cytoplasm of these cells. The production of CD31 increases in cases of high intensity of vascularization. The obtained data once again confirm the prognostic the significance of CD31 in the study of Ewing sarcoma.

Key words: Ewings sarcoma, CD31, angiogenesis, bone tumour.

Language: English

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Introduction

The hypothesis that the growth of solid tumors and the occurrence of metastases depend on the formation of new blood vessels was proposed by J.Folkman more than 25 year ago, and now largely

confirmed by recent discoveries in the field of molecular and cellular processes, concerning to the regulation of proliferation, migration and interaction cells that form vessels [9, 10, 12].

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One of the main types of cells that form blood vessels are endothelial cells, which line the inner surface of capillaries, arteries and veins [11]. With the formation of capillary tubes the walls of which consist of endothelial cells, the formation of the blood system begins at embryonic development. Further, around the capillaries gather other mesodermal cells, such as the pericytes, which are replaced by fully differentiated smooth muscle cells, which form the walls of large vessels as the vessels become larger.

Because of this, the study of the processes, regulating proliferation, migration and interaction of these types of cells is primarily necessary to understand the mechanisms of angiogenesis.

According to the WHO International Histological Classification of Bone Marrow tumours (Ewing sarcoma and bone malignant lymphoma) make up 30-35% of all primary malignant bone tumors [2, 5]. Consideration in the present study of Ewing sarcoma needs further study, as it has certain features of the clinical course [3, 4] and requires correct histological diagnosis [6] to choose adequate specific treatment [1, 7, 8].

Purpose of the study: Analysis of clinical and statistical signs and immunohistochemical study of angiogenesis in Ewing sarcoma.

Material and Methods:

This work in accordance with the tasks set, includes data from 68 patients with Ewing sarcoma who were treated at the A.T. Abbasov City Oncological Dispensary (Baku), the Research Institute of Traumatology, City Oncological Dispensary (Baku) and the AMU Oncology Clinic from 2001 to 2009.

To solve the tasks set in the work the following research methods were used; clinical, radiological, cytological, histological, histochemical, immunohistochemical and statistical.

For the immunohistochemical study, a material frozen in liquid nitrogen was used, from which cryostatic sections were made followed by fixation in acetone, as well as a material of paraffin blocks fixed in 10% formalin. The studies were carried out by the method using enzyme immune complexes.

We used DAKO reagents in these studies (CD31, Endothelial Cell 0,2\1 ml).

All digital data obtained during the experiments were subjected to statistical processing taking into account modern requirements. The obtained data were subjected to statistical processing by nonparametric methods according to Wilcoxon –Mann –Whitney methods.

Results and Discussions.

In our study Ewing sarcoma was: 68 cases males were affected by this pathology more often (43 men-62,24% and 25 women -36,76%). In the patients with Ewing sarcoma studied by us the tumor was most

often localized in the femur-24 observations (35,29%), on the tibia-8 observation (11,76%), in the fibula-7 observations (10,29%), in the pelvic bones-10 observations (14,7%), in the humerus-9 observations (13,24%), in the radius-3 observations (4,41%) in the ribs – 3 observation (4,25%), in the scapula -2 observation (2,94%), in the ulna – (observation 1,47%) also the tumor was localized in the clavicle – 1 observation (1,47%), in the jaw- (observation 1,0%).

In our studies, Ewing sarcoma was most often observed at the age of 1 to 20 years. Thus from 104 cases (5,89%), from 11 to 20-49 cases, from 21 to 30 -12 cases (17,65%), from 31 to 40 – 3 cases (4,43%)

According to the anamnesis of patients with Ewing sarcoma, the onset of the disease is characterized by a violation of the general condition, an increase in body temperature to 38-39 C, The appearance of pain in the affected part of the bone. Then there is swelling and local signs of the inflammatory process. After one to two weeks, the swelling disappears, the inflammatory processes subside, the temperature normalizes, the pain decreases or completely subsides. Remissions and relapses may alternate several times, then an outbreak occurs with a sharp further progression of the process.

However, only in a small group of patients the clinical course corresponds to the classical description of Ewing. In our observations, only 20 patients had acute onset of the disease. In most cases the disease begins either in full health, for no apparent reason, or after some period of time after the injury. According to our data, the injury preceded the appearance of the tumor in 40 % of cases. Average time of tumor occurrence after injury is 5 months. The shortest period of time is a few days the longest is 12 months. A history of trauma was noted in 25 of our patients. Clinical manifestation of the diseases occurred at various intervals from a few days to 2 years.

In most patients, clinical signs of the diseases occurred during the first 3 months after the damage, or immediately after injury, or shortly after it.

In most of the cases studied by us the disease started slowly, gradually: light transient pains appeared in the empty part of the skin with significant light intervals between attacks. Over time, the pain attacks became more frequent, their duration increased, and the pain became constant. The described course of disease was observed in 52 out of 68 (100%) of our patients. Our own observations and literature data have convinced us that according to clinical manifestations, two groups of lesions with Ewing tumor can be distinguished; the first, numerically predominant, is more favorable in clinical course. The tumor remains within one bone for a relatively long time and gives late metastases to the lymph nodes and lungs. Metastases in other bones can be detected only in the terminal phase (43

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observation). The second group is when Ewing sarcoma, causing rapid and extensive destruction of the bone, rapidly metastasizes to other parts of the skeleton. From a solitary lesion during the first months the disease turns into a generalized one.

Duration of clinical symptoms from the moment of their appearance symptoms from the moment of their appearance to according to our data the patients first visit to the doctor ranges from several days to 3 month. As with other malignant neoplasms of the skeleton the characteristic triad of symptoms is repeated with the greatest constancy in Ewing sarcoma: pain in the affected part of the skeleton, tumor, violation function.

Pain is the dominant symptom of disease and in most cases pain appeared earlier than bone changes visible on the X-ray. There was a wide variability in the intensity of pain from sharp, shooting or insignificant, dull, occurring during physical exertion and passing at rest. As with most bone sarcomas, the intensity of pain increased at night. At the same time, according to our research, the pain with Ewing sarcoma never reached to acute "skeletal" pain, characteristic of osteosarcoma.

Another constant symptoms of the disease was a tumor. In our observations, the tumor was detected in 55 out of 68 patients, as the first sign of the disease in 28. The size of the tumor was different from a small localized swelling to extensive deformity to the affected limb.

The general reaction of the body to the disease manifests itself in the form of a rise in body temperature, changes in the blood, sometimes there is weight loss, exhaustion in the terminal stages.

In our observations, an increase in body temperature during various periods of the disease was noted in 36 patients, however, we did not note a direct relationship between the degree of malignancy of the tumor and temperature reaction.

The clinical manifestations of Ewing sarcoma are very diverse and to a certain extent depend on the localization of the tumor, they depend on the localization of the tumor, the localization of the tumor, the extent of the lesion, the relationship between the symptoms of the disease and the localization of the tumor.

Immunohistochemical research angiogenesis.

By immunohistochemical study of Ewing sarcoma, it was found that CD31 is produced by endothelial cells, as well as perivascular elements. CD31 detected in the cell wall and cytoplasm of these cells.

Among endothelial cells, there is pronounced reactivity of CD31 positivity was identified in 57.1±10.8% of cells, a positive reaction in 33.3±10.3% of cells, constant negativity in the group approach is in 9.5±6.4% of cells.

Immunohistochemical study of angiogenesis in Ewing sarcoma depending on lymphoid infiltration of the tumor. Immunohistochemical examination of angiogenesis in Ewing sarcoma revealed a low degree of lymphoid infiltration of the tumor in 16 (31.5±6.3%) cases. In this pathology in 41 (64.7±11.6%) cases high secretion of CD31 was detected, only in 1 (5.9±5.7%) cases the constant negativity of CD31 was revealed.

Thus, an inverse correlation was found between the lymphoid infiltration of the pathological focus and the secretion of CD31 positive cells ($r=0.400$, $p<0.001$).

Immunohistochemical study of angiogenesis in sarcoma Ewing depending on spontaneous necrotization of the tumor. By histological examination revealed a low degree of spontaneous necrotization of the tumor process in 15 out of 54 cases (27.8±6.1%).

Among the studied cases, immunohistochemically, in 2/3 of cases (66.7±12.2%) a high degree of secretion by endothelial elements of CD31 was detected. In the group approach, only in 2 (13±8.8%) cases, the secretion of CD31 was absent.

Thus, a significant inverse correlation ($r=0.312$) was established between spontaneous tissue necrotization and secretion of stromal elements of CD31 ($x=17.7$, $P<0.01$).

Analyzing the studied data, it can be argued that the activity of secretion by endothelial elements of CD31 directly correlates with the intensity of tumor vascularization ($r=0.322$; $p=0.01$). In other words, the production of CD31 increases in cases of high intensity of vascularization.

The obtained data once again confirm the prognostic significance of CD31 in the study of Ewing sarcoma.

Summarizing the above we can state.

1. The activity of secretion by endothelial elements of CD31 inversely and statistically significantly correlates with the degree of malignancy of the tumor process in Ewing sarcoma ($r=0.438$; $p<0.001$)

2. Indicators of lymphoid infiltration of the pathological focus are inversely correlated with the secretion of CD31 positive cells ($r=0.400$; $p<0.001$)

3. Between the secretion of CD31 by endothelial cells and spontaneous necrotization of tissue in Ewing sarcoma. It was revealed statistically significant, inversely proportional relationship ($r=0.31$; $p=0.01$)

4. A direct reliable correlative relationship between angiogenesis of tumor tissue and the amount of CD31 ($r=0.322$, $p<0.01$).

Conclusion: Thus these immunohistochemical features of angiogenesis in Ewing sarcoma should be taken into account in their differential diagnosis, treatment and forecasting.

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Article



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ABOUT FUNCTIONAL PROCESSES IN AZERBAIJANI MUGHAM

Abstract: In this article, some aspects of variability of modal functions in Azerbaijani mugham are considered. It is emphasized that focusing attention on melodic cadences reveals the deep layer of mugham formation, the form-process of mugham - the interaction of variability and tonicity. When recognizing the tonicity of Azerbaijani modes, their peculiar variability, modal multi-significance, arising in the process of intonation is also noted. The music of Azerbaijani mughams differs in pronounced tonicity and clarity of functional modal relationships.

Key words: mugham, Azerbaijan, modal.

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О ФУНКЦИОНАЛЬНЫХ ПРОЦЕССАХ В АЗЕРБАЙДЖАНСКОМ МУГАМЕ

Аннотация: В данной статье рассматриваются некоторые аспекты переменности ладовых функций в азербайджанском мугаме. Подчеркивается, что заострение внимания на мелодических каденциях раскрывает глубинный пласт мугамного формообразования, форму-процесс мугама – взаимодействие переменности и тоничности. При признании тоничности азербайджанских ладов отмечается и их своеобразная переменность, ладовая многозначность, возникающая в процессе интонирования. Музыка азербайджанских мугамов отличается выраженной тоничностью и ясностью функциональных ладовых отношений.

Ключевые слова: мугам, Азербайджан, лады.

Введение

В формировании профессиональной музыке устной традиции азербайджанских мугамов решающую роль сыграла ладофункциональность. Одним из важнейших «механизмов» формирования ладофункциональной драматургии в мугаме является переменность ладовых функций. Последняя неразрывно связана с определяющей тенденцией мугамного становления – активной централизацией ладовой структуры в мугаме. Ладовая переменность в мугаме обусловлена силой выразительности и логикой функционального ладостановления, его способностью вовлекать в драматургический процесс ладово-неустойчивые звуки. Мелодическая функциональность, мелодическое становление формы лежат в основании музыкальной логики мугама. Наиболее

концентрированно мелодические связи раскрываются в каденциях. Это – первичная форма мелодических связей мугама, костяк, стержень мелодического становления формы мугама порождающий целенаправленный характер развития [1]. Как полагают исследователи, мугамное разворачивание – «текучая», бесцеурная музыка, полная импровизационных «неожиданностей». Но стоит обратить внимание на специфику кадансирования в мугаме, как мугам сразу же раскрывает свой рациональный «подтекст». Цепь кадансов, постепенно выстраиваемых в систему кадансов, раскрывает точность функциональных взаимосвязей, четкость членения, логически выверенную отчетливость становления музыкального материала в мугаме. Тогда возникает ощущение, будто мугам – музыка

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кадансов, цепь беспрерывно движущихся друг за другом ярких мотивов, воздвигающихся в мугамное «здание», подобно великолепным орнаментам – уникальным витражам мусульманской культуры средневекового Азербайджана.

Каденции как мелодический тип представляют собой опевание. В формульных тонических каденциях, укрепляющих функциональность азербайджанского лада, действует закон тонической индукции, то есть звуки, входящие в мелодический тонический комплекс, функционально состоятельны. Но, в то же время, здесь действуют и силы центробежные. Тоника в таких каденциях сопоставляется с опевающим комплексом, а опевающий комплекс, в свою очередь, включает в себя устой (или несколько устоев), который в контексте развития музыкального материала может временно принять на себя функцию тоники. Таким образом, тоника возникает в «многоголосии» внутрिलाдового конфликта разных устоев, обусловленного соподчиненностью функций внутри одной мелодической каденции. Поэтому опевающие звуки «резонируют» особо – они создают определенный запас, детектор конфликта. Иными словами, речь идет о потенциально заключенном в тонической каденции функциональном конфликте.

Действительно, значение опевания для азербайджанской музыки вряд ли можно переоценить. Опевание интонационной ячейки вырастает до логики структуры той или иной формы, будь то песня или мугам. Так, в условиях азербайджанской народной музыки И.В.Абезгауз определяла мелодическое опевание как логику «процесса, сосредоточившего в себе важнейшие закономерности азербайджанского мелоса, как конструктивные, так и эстетические выразительно-смысловые. Периодические отклонения от основной интонации-каденции, неизменное обратное возвращение к ней, чередование **одного** устойчивого **«остинатного»** оборота с разными «зачинами» (вариантами) в известном смысле напоминает сопряжение **одного** центрального мелодического устоя с **группой** подчиненных ему неустойчивых опевающих звуков [2, с.5].

Итак, опевание представляет собой мелодическую концентрацию ладовых устоев вокруг основного звука. Тоника в таких каденциях играет роль упора и линейного, и метрического, и ладового. Особая специфика заключается в том, что каденция представляет собой сложный комплекс опевания с внутренней дифференциацией:

1. либо контраст нескольких мелодических устоев;
2. либо «раздвоение» мелодического центра.

Если в первом случае опевающие нетонические звуки помещаются в определенные условия (чаще всего, метрические), которые с наибольшей степенью выявляют их неустойчивые свойства, то в другом случае тоническая «индукция», распространяясь на опевающий комплекс, создает своего рода магнитное поле притяжения, и, преодолевая силу переменных опор каденции, завершается.

Напомним также, что принцип опевания присущ не только азербайджанской музыке, он принадлежит и другим музыкальным культурам, составляя мелодическую основу их развития. Но между ними есть принципиальное различие. Если опевание для русской и западноевропейской музыки является одним из типов интонирования, которое составной частью входит в более сложные закономерности развития мелодической линии, то в азербайджанской народной музыке процесс опевания органически обогащается изнутри другими типами интонирования. Но еще более важно то, что всякое достижение ладовой опоры принимает в азербайджанской музыке мелодический вид опевания и становится **главным ладовым выражением, ладо-высказыванием**, поскольку именно опевание образует те нормативные каденционные попевки, которые определяют лад, являясь его «индикатором». В народной музыкальной практике эти ладовые каденционные формулы либо вуалируются, либо рассредотачиваются в общем движении, но в любом случае орнаментируются. Это явление можно наблюдать в любом произведении любого жанра. Это – аксиома интонационного развертывания. Порой орнамент настолько «вуалирует» ладовые отношения своих звуков, что опорные качества тоники едва улавливаются. Орнаментальность децентрализует: часто стержень, вокруг которого вьется орнамент, является неустойчивым звуком, требующим разрешения, а опевание вспомогательного звука занимает значительно больше времени, чем опевание центрального устоя. В целом, надо сказать, что орнаментальность является одним из интересных аспектов ладотонального процесса в темообразовании мугама. Орнаментальность, вьющийся мелодический рисунок, как частное выражение «жизни лада», является тем качеством, которое сообщает азербайджанской музыке особый профиль ее динамики и является нормативом мелодической линии.

Приведу еще одну выдержку из работ И.В.Абезгауз: «Постепенность, плавные секундовые шаги в одном направлении служат здесь (в азербайджанской музыке) лишь **интервальной основой**, контуром и даже схемой основной мелодии. Значение же **норматива** приобретает мелодия, отягченная опеванием и

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движущаяся не прямолинейно-гаммообразно, а секвентно или просто уступчато: мелодия ветвистообъемная, немислимая без вспомогательных и как бы резонирующих звуков».

Речь идет об орнаментальности «узорности» азербайджанской мелодии и тоничности азербайджанской музыки. Как бы широко и пышно не «расцвела» орнаментальная мелодика, она завершается так или иначе на тонике. Примечательно, что тоника – всегда **центр** орнаментального мелодического рисунка. Расположение в разных фактурных плоскостях тоники и орнамента создает неповторимый эффект.

Такая интонационная насыщенность тематизма не раз отмечалась в исследованиях других авторов. Так, по наблюдению Н.Алиевой, в мугаме «зерно темы часто очень краткое, лаконичное, в нем словно сосредоточена вся «квинтэссенция» мелодического материала, тот импульс, который дает толчок дальнейшему тематическому развороту» [3, с. 12]. Эта особенность азербайджанского мелоса позволила исследователю констатировать элементы многоголосия в азербайджанской народной музыке: «Длительное вариантное опевание, естественно, оставляет в памяти активный звуковой след в виде «остинатных» интонаций, что рождает в известной мере и элементы «скрытой» полифонии» [3, с. 55].

Значение опевания для азербайджанской музыки вряд ли можно переоценить. Опевание здесь является не только типом интонирования, но и «грамматической» (синтаксической) составной частью музыкального языка азербайджанского фольклора, поскольку является первичной стереоосновой, из которой произрастает и к которой возвращается движение. Именно поэтому опевание интонационной ячейки приобретает значение структурной единицы в народной музыке. Целом же опевание представляется нам первичной стереоосновой, в геометрии «круга», из которой произрастает материя народного искусства. В результате весь мугам оказывается особым монолитом, обрастаемым изнутри. Так создается важнейшее эстетико-выразительное свойство мугама – сосредоточенность формы на некоем центре.

Заострение исследовательского внимания на мелодических каденциях раскрывает глубинный пласт мугамного формообразования, форму-процесс мугама – взаимодействие переменности и тоникальности, поскольку переменность функций азербайджанской ладовой системы, как в зародыше, заключена в каденциях. И действительно, присутствие в исходной тонической каденции переменных, опор,

обладающих потенциальной силой динамики, открывает путь к переменности в мугаме.

Активное функционирование мелодических каденций происходит в условиях кристаллизации определенных принципов постепенного выявления, постепенного раскрытия главной ладотональности, поскольку **только функциональное взаимодействие фигур опевания (имею в виду «фигуры функциональной логики»)** рождает логику мелодической линии, которая, в свою очередь, диктует логику формообразующую.

Переменные устои мугамной мелодии тесно переплетаются с тоническими. Об этом говорится во многих работах. При признании удивительной тоничности азербайджанских ладов подчеркивается и их своеобразная переменность, ладовая многозначность, возникающая в процессе интонирования, живого звучания музыки. Исследуя интонационный мир мугама, мы постоянно сталкиваемся с явлением переменности. Это та тончайшая и в то же время основная составляющая «краска» в мугаме, которая передает особенный эмоциональный строй переживаний. Приведем цитату: «Ладотональность песенных мелодий, характеризующаяся удаленностью тоники, оттягиванием ее основной функциональной роли в заключение песенной формы, выявляется не сразу... Тоника часто «приберегается» для каденционных построений, приобретающих особо важную роль в определении ладотональности мелодии. Каденция в азербайджанских мелодиях ... является безупречным определителем лада, так как заключает в себе его особо характерное интонационное зерно. Она не только завершает музыкальную композицию, но и нередко впервые определяет ее ладовый строй» [4, с. 221].

В «Основах» У.Гаджибеги по этому поводу высказано много ценных мыслей, хотя термин «переменность» не употребляется. Приведу некоторые из них.

Уже в разделе «Способы соединения тетраордов» появляется утверждение тоникальности ступеней азербайджанских ладов: «Каждая ступень тетраорда, построенного по формуле $1 - 1 - \frac{1}{2}$ (основной), а также по формуле $1 - \frac{1}{2} - 1$ (побочный) пригодна для удовлетворительного окончания музыкальных фраз для каденции» [1, с. 24]. У.Гаджибеги так отмечает эту особенность: «Во всех ладах полная каденция обыкновенно оформляется остановкой мелодии на тонике лада. Из азербайджанских ладов «Шуштер» и «Хумаюн» в этом отношении составляют исключение. Так, например, в ладе «Шуштер» остановка мелодии на тонике производит впечатление половинной каденции, остановка же на нижней кварте тоники запечатлевается как удовлетворяющее окончание

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мелодии» [1, с. 25]. Приведу еще одно, казалось бы, парадоксальное положение: «Ввиду того, что в тональном отношении тоника лада «Чаргах» несет несколько функций (основного тона, кварты и терции), - нередки случаи, когда фраза, оканчиваясь на тонике, производит впечатление половинной каденции» [1, с. 57]. На наш взгляд, У.Гаджибейли вовсе не нивелирует центральное главенствующее значение тоники ни шуштер, ни хумаюн, ни чаргах. Речь, вероятно, идет о другом, а именно: о соотношении основного ладового центра с ладовой периферией, то есть о переменности ладовых функций.

Указанная особенность азербайджанских ладов объясняется, как правило, многоустойностью их, последнее же дает повод многим исследователям говорить об азербайджанских ладах как переменных ладах. Такое суждение представляется неверным, поскольку только констатация нескольких устоев еще не говорит о функциональной неопределенности лада. Подобный обобщенный подход вынуждает нас рассмотреть азербайджанскую ладофункциональную систему как самобытный феномен, требующий к себе более дифференцированного и глубокого подхода. В этом смысле трактовка азербайджанского лада как функционально стабильной централизованной системы дает ключ и к пониманию явления переменности в азербайджанской музыке.

На наш взгляд, азербайджанские лады, оказываясь на практике функционально устойчивыми, не являются переменными. Но в процессе развития формы в азербайджанской музыке устанавливается определенное соотношение ладового центра с ладовой периферией на основе переменности функций. В этом смысле особое значение приобретает переменность ладовых функций в мугаме. Азербайджанская ладовая система потенциально заключает в себе многоплановые ладовые сопряжения, что создает динамические предпосылки для развития ладотональной драматургии формы. Более того, ладовая переменность функций в мугаме выступает как ведущий фактор его формообразования. Именно возникновение в мугаме, по мере роста формы, переменности ладовых функций организует здесь единство двух противоположных тенденций: централизацию процесса формообразования и его разомкнутый характер. Ладоинтонационная стабильность мугамных разделов аналогична заданному тексту: разделы базируются на определенных ладовых устоях. Но при этом может возникнуть и иное. Ладоинтонационная стабильность, конструктивная уравновешенность часто нарушается переосмыслением ладового значения опорных звуков. Интонационный процесс тем самым усложняется, так как

смещение ладового центра и обнаружение переменной опоры влечет за собой прежде всего интонационно-драматургические сдвиги внутри раздела, просцируясь затем на форму в целом. Поэтому нельзя соглашаться с теми исследователями, которые в каждом разделе мугама видят только одну ладотональность, один интонационный тезис. Любой мугамный раздел – это полимотивная структура, потенциально содержащая в себе переменность, реализуемая либо нереализуемая!

Переменность исходит из разных предпосылок, которые заключаются в самой ладовой системе. Так, например, азербайджанские лады относятся к ладам с неоктавной периодичностью функций, то есть к таким ладам, где функциональная повторяемость ладовых структур опирается не на октаву, а на кварту или квинту, сексту. Поэтому одним из факторов «запрограммированности» мелодико-функциональной переменности в структуре лада – звукоряда является то, что один и тот же звук может выступать в качестве и устоя, и неустоя в процессе развития формы, ибо октавный дублер несет – противоположную функциональную нагрузку. Такую закономерность можно проследить во всех азербайджанских ладах.

Другой исток переменности азербайджанских ладов заключен в крайней слитности всей ладовой системы азербайджанской музыки, тесной соподчиненности азербайджанских ладов. Поэтому возникает встречный вопрос: каким же образом при колоссальной степени взаимодействия, взаимозаменяемости, слитности азербайджанских ладов каждый из них все-таки сохраняет свое ладовое «лицо»? Вероятно, главным фактором является то обстоятельство, что «не все тоника азербайджанских ладов одинаково обставлены теми ступенями, которые подчиняются тонике и обслуживают ее» [1, с.]. Эти «неподчиняемые» ступени и создают ту интонационную «атмосферу» переменности, многозначности, которая и становится проявлением взаимозаменяемости, открывая тем самым путь к переменности азербайджанских ладов. Так, очень часто модуляции в азербайджанских мугамах происходят именно на тех ступенях, которые «не подчиняются» тонике.

Главное свойство азербайджанской народной музыки, как культуры монодической – в результате мелодического опевания получать ладовую устойчивость, - утвердилось в истории азербайджанской теоретической науки как единственно возможное. Между тем в мугаме буквально «ежеминутно» несовпадение мелодических и ладовых, ладотональных опор. Здесь идет беспрестанная «борьба» мелодических и ладовых устоев, что является выражением и

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глубинного драматизма азербайджанского мугама. Мугамная ткань постоянно чревата этим несовпадением, что в огромной степени воздействует на выразительный подтекст, создавая динамическое «подводное течение формам». Так, в азербайджанской музыке существует специфическая форма сопровождения, назовем ее системой остинатных басов. Во-первых, такой «органый пункт» в процессе развития выявляет дифференциацию ладовых и мелодических опор. И это играет немаловажную роль в определении ладотональности произведения, поскольку, если ладовая опора в азербайджанской музыке совпадает с мелодической, то мелодическая опора не всегда совпадает с ладовой. Как правило, мелодические опоры весьма подвижны и свободны. Буквально «расцветая» целыми гроздьями, они опираются на длительно выдерживаемые ладовые опоры в нижнем голосе. Таким образом, в развитии музыкального материала большой удельный вес приобретает то устойчивая тоничность (совпадение ладовых и мелодических опор), то отрицание ее (несовпадение, уход мелодии от своей тоники).

Таким образом, здесь мы сталкиваемся с тем принципом оттягивания появления тоники путем собирания неразрешающего напряжения, который музыкальной практикой каждой эпохи и музыкальной культуры решался по-своему. Напряженность этого принципа в азербайджанской музыке заключается в том, что лидирует мелодическая логика ладораскрытия, тоника утверждается мелодически. Но мелодическое развитие, мелодический «уход» от тоники должен обуславливать новые утверждения, новые тоники, однако этого не происходит, поскольку в момент ухода мелодии ярче высвечивается функция «органного пункта» как тонической опоры. В одних случаях мелодия действительно возвращается к своей исходной тонике, сказывается сила ее тяготения. Но в других оказывается сильнее логика мелодического ладораскрытия, напряженность мелодического развертывания. Закономерно в последнем случае возникновение модуляционной ситуации. Это еще раз говорит о том, что даже вертикальное соотношение голосов полностью

подчинено мелодической логике развертывания. Более того, напомним также, что басовая опора получает тонический статус только в результате ее мелодического опеования. Иными словами, только укрепившись мелодически, она «застывает» в виде органного пункта. Конечно, учитывая, что весь этот процесс происходит в пределах определенного масштабного отрезка формы.

Система остинатных басов – система динамическая, открывающая путь политональности. «Самые прочные позиции в восточной музыке занимает бурдон, имеющий глубокие исторические корни. Он выполняет здесь особые конструктивные и эстетические функции, усиливает выразительность мелодии, делает рельефным ее эмоциональный образ» [5, с. 208].

Таким образом, переменность ладовых функций следует предполагать в интенсивности ладомодуляционных процессов, получающих высшее напряжение в мугамной ладовой функциональной системе. Переменность функций создает в мугаме особое напряжение, особую, присущую только мугаму конфликтность: переменные тоники не легко переходят друг в друга, процесс перехода часто длителен.

Достижение тоники в азербайджанской музыке отмечено тщательной подготовкой ее, постепенным ее прорастанием. Разрешение в тонику идет путем многократного подхода и отхода от нее, сменой тоник, гибкой игрой отношений устойчивости и неустойчивости. Вместе с тем, видимая плавность, бесцезурность движения в мугаме отнюдь не означает аморфности формы. Музыка азербайджанских мугамов отличается выраженной тоничностью и ясностью функциональных ладовых отношений, что говорит о присутствии четкой организованности, устойчивости централизованной ладотональности. Разнообразные приемы оттягивания тоники, обилие половинных кадансов, подход к тонике как бы исподволь, постепенно, придает азербайджанской музыке в целом, и в частности мугаму, характер импровизационного прелюдирования. В то же время тоника в азербайджанской музыке действует наподобие магнита, ориентируя и направляя развитие.

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Article



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ARTISTIC THINKING AS THE MAIN LAYER OF MODERNISM

Abstract: The article deals with the artistic thinking of mankind, and modernism, as the main, completely new, direction of the 20th century. One of the brightest representatives of this trend is F. Kafka, who truly stands as a pillar among the writers of that time, developing novelistic thinking, that now many literary critics tacitly divide literary work into “before” and “after” Kafka.

Key words: metamorphoses, modernism, artistic thinking, novelistic thinking, existential and absurd literature, creative originality, symbol.

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Introduction

The world has become not only a convenient place for people to live, eat, drink and spend the day, but various metamorphoses have appeared, aimed at discovering their inner world. Segments of stratification in society increased among the representatives of the upper class, who swam in the maelstrom of human desires and lusts, and the situation of the poor was very similar to each other. Intellectuals such as Franz Kafka could not stomach this attitude and began to write compositions with his didactic words “**From a certain point there is no going back. This point must be reached**” aimed at the public. Writers like Joyce and Camus used the same principle as a pointer. Kafka puts forward the following thoughts on this matter: “He who renounces the world must love all people, for he also renounces their world. At the same time, he begins to understand what the true essence of humanity is: since you belong to humanity, it is impossible not to love him.” [3] It can be seen that Kafka gives a voice for this world, like a real person, about the importance of putting aside all worldly ambitions, whims, convinced wealth and career.

LITERATURE ANALYSIS AND METHODOLOGY

A stratum also appeared, asserting that Kafka's work entered the artistic thinking of mankind without

understanding, and later they came to the conclusion that it was necessary to understand Kafka himself. This also testified to the flowering of a new ism in literature - modernism. The following comments by W. Hamdam confirm our thoughts above: “In world literary criticism, there is an opinion that “the history of world literature is divided into two parts: before Kafka and after Kafka.” Of course, this opinion is an exaggeration. But it is not for nothing that this recognition is used in relation to Kafka: for, after Kafka, there was a sharp turn in world literature. Yes, Franz Kafka is indeed a great writer with the status of a classic, who had a significant impact on the development of world literature. Along with such writers as Joyce, Camus and Proust, Kafka is one of the founders of the new, modernist literature. For almost a century, Kafka has not lost its significance in the development of the artistic and aesthetic thinking of mankind. This upsurge of artistic thinking was a new step in world literature after Tolstoy, Dostoevsky, Chekhov. [4] The truth is that we mentioned the names of these three Russian writers and briefly compared them in the form of Kafka and his generation. On the basis of such a comparison lies a step towards elucidating the Kafka phenomenon and its place in the development of novel thought. Although certain changes took place in the literature and art of Europe and other countries of the world during the era of Kafka, modernism was not deepened. It is well known

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that artistic thinking, not lagging behind fine or musical art, is of great interest to other people. Kafka's metaphor - mixed with sorrows (symbols and tones) - prepared a broad ground for harmonizing and mixing the evolution of the inner man with the outer. The image of Gregor Samza in a number of cases appears in this way in the works of the Uzbek writer Nazar Eshonkul. We have certain grounds for saying so. That the point of inner and outer evolution, arising from the story, leads to the separation of life by water, which Kafka emphasizes, is a clear proof of our thought.

All of Kafka's work is compared to a painful and endless dream. Awakening from this dream is the eternal peace of the soul. When the soul rests. Only when he really wakes up from this nightmare. As if Kafka left a testament to all mankind with the interpretation of a dream from which he will never wake up. The meaning of life is absurd for them, and therefore they cannot get along with the life of society. At this point, a controversial and justified discussion arises. Markhabo Kochkarova, Doctor of Philology, writes in her study: "There is neither gratitude nor hope in the minds of absurd heroes. Such characters live only and only in a world of decline, dark, abstract thoughts, incomprehensible, vague, terrible emotions. Such atheistic literature is opposite to the optimistic spirit of Uzbek literature, which has an Islamic basis and enlightenment. That is why literary scholars looked with disgust, in a certain sense, at samples of "absurd" and "modernist" literature. They are right in this sense. Because, according to these scientists, such literature will surely decline someday, and they believe that existential and absurd literature will have a negative impact on the human psyche. In our opinion, for those who defame absurd literature, even if there is evidence, both representatives of absurd literature and the works created by him have the status of "heresy".[5] It is impossible to agree with the opinion of the scientist in this source. Because not a single person was created without the will of the Almighty. In religion, it is also not indicated to divide into: "you are unfaithful", "you are a Muslim." If his actions correspond to such a basis, the scientists were only offered to call on the path of truth. In this case, the scientist gives his opinion on the one hand without any scientific basis. This causes heated debate among people of all religions and worlds. However, the tradition laid down by Kafka has now been absorbed into Uzbek literature and has become the basis for the emergence of a unique stylistic originality. Therefore, the assertion that the "ism" or "trend", which is not a "tradition" today, is destined to receive its price in due time, also fully justifies itself.[1]

RESULTS

In each work of N. Eshonkul, one feels not a blind adherence to Kafka, but a modification of the literary influence from Kafka. This means that one

should not conclude that the writer created a direct Uzbek copy of the Western literary trend. True, it is important to find the key to the deep layer, since the plot and the object of the image remind us of realistic prose, which is very "traditional" in Uzbek literature. The key to the deep layer appears like the golden rules of life, the richness of symbols and metaphors of which is reflected in the psyche of a real oriental person. If this is taken into account, then the literary waves of Kafka are clearly embodied not only in the work of Nazar Eshonkul after the 90s, but also in the artistic research of Khurshid Dostmuhammad, Murad Muhammad Dost, Shadigul Khamro, Ulugbek Khamdam. Methods of representation in the poetic researches of N. Eshonkul were and are used by many writers. Nazar Eshonkul updated the poetic interpretation. Simply put, he put on her Uzbek "caftan". It's no secret that life (absurdity) as you know it is at its core. Such thoughts about Kafka allow us to analyze Nazar Eshonkul more closely: "Kafka's language does not contain images, comparisons, allusions, ornaments, tonal accents, metaphors, metonyms, feelings, passions. His language is cold, only reflecting information and status. There is simply there, there are no insidious silences in it. The cut is also a bare cut and nothing more. The determinant only determines, does not give emotions and colors. In general, Kafka expresses reality and actions without coloring. He does not give in to emotions, does not reveal his feelings, but is limited to showing actions and situations. Even in the dialogues you will not feel emotions, colors of joy, anger, hatred." [6] Indeed, it can be assessed as the most acceptable interpretation of the writer about the writer. Kafka appears before our eyes as a man closed from the inside and with an open soul. He is very mysterious and, as if, foresees what the person in front of him wants to say in his soul. The reader cannot understand in one reading that the symbolic metaphor in the story "The Metamorphosis" is in some sense transferred to the novel "The Trial", that the main characters experience pure suffering in the struggle for existence and staying alive. This unconsciousness divides the audience of readers into two: followers and skeptics. Approaching Kafka's works in this category not only opens the door to good scientific conclusions, but also allows us to understand how the free and free life of the individual is achieved with great difficulty:

"Dear parents," the sister said, clapping her hand on the table to call for attention, "it's impossible to live like this any longer. If you may not understand this, then I understand it. I will not pronounce the name of my brother in front of this monster, and I will only say: we must try to get rid of him. We did everything that was in human power, we looked after him and endured him, we, in my opinion, cannot be reproached with anything.

"She's a thousand times right," said the father quietly. The mother, who was still choking, began to

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cough hollowly into her fist with an insane expression in her eyes.

The sister hurried over to her mother and held her head in her hand. The father, whom his sister's words seemed to have led to some more definite thoughts, straightened himself in his chair; he played with his uniform cap, which lay on the table among the plates still uncleaned after dinner, and from time to time glanced at the hushed Gregor.[3]

DISCUSSION

It is here that the characters of the father, mother and sister in the story are revealed with reality. Pay attention: did Gregor Samsa suddenly become like that? Who was he before he turned into a centipede in the story's prologue? These two things are the main key to the meaning that Kafka wants to convey. In order to give an answer to these two aspects, and, more precisely, for the reader to find the answer himself, Kafka hurries to the causes and consequences of the evolution of the material world from the evolution of the human psyche. Society itself was already full of tragedy in the true sense that Kafka emphasizes. In fact, this was done in order to show that the lost goods of humanity were a useless rag under their feet, and that it was a GREAT TRAGEDY to remain human already. The writer put forward a great philosophical conviction that millions of people who dreamed of the collapse of the great empire of Napoleon Bonaparte and the beginning of real life, thinking that they had entered a living age, would be greatly mistaken. What significance can these deals have for the true peace of mind of a mob marching aimlessly - towards aimlessness? No wonder Kafka

himself was horrified when he showed this scene! After all, the moral decline of Europe, the gap in mutual distrust is revealed in the image of one family. The author says that this is the real face of this political and social system. "Kafka uses symbols to show the ingratitude and unkindness of people. But he doesn't use symbols that have been used by other artists for millennia, he doesn't use any symbols that have a vital basis. Perhaps creates a person who is not like anyone else, an incredible symbol. If a writer wants to describe the absolute boundless and endless loneliness of a person, to show his miserable state with all its horror, he will turn a person into a centipede. He could turn a person into a stump or a piece of his own body, and it would change almost nothing." [7]

Terrible turns in the image of the family are measured by the fact that they manifest not only Gregor, but also compassion, which is considered a sacred concept in the family, as one of the great treasures lost by mankind. These are the aspects that Kafka symbolizes not as a centipede inside, but as a human being invading the centipede family. And this emotional perception is reflected in vivid pictures in the story "Bahouddin's Dog" by the Uzbek writer Nazar Eshonkul. It becomes clear that man is a slave to his passions.

CONCLUSION

Thus, literary influence and creative originality mean a synthesis of the literary studies that preceded it, not only the literature of a certain period. Nazar Eshonkul creates a symbol from symbols. It is as if Kafka discovers the synthesis of symbols. Thus, he increases the poetic value of his style.

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Article



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CHALLENGES AND DEMAND IN TRANSLATION STUDIES: A FOCUS ON SCIENTIFIC AND TECHNICAL TEXTS

Abstract: This article covers the topics of common problems in translation studies. Also, the current demand of translation studies and its role in society are shown. Today, the rapid development of modern globalization and intercultural relations, the expansion of international relations, the development of trade-economic and financial relations between countries, the strengthening of the process of integration of European countries and the whole world, the development of science and technology, the continuous flow of scientific and technical information Nowadays, the importance of foreign languages as effective factors of organic exchange deserves great attention. In the process of translation of scientific and technical texts, the following requirements should be followed: translation equivalence, translation accuracy, quality of translation data, logicity of translation and quality of its coverage.

Key words: text, translation, lexicon, term, translation problems, transformation (change), information, quality of translation, scientific and technical texts.

Language: English

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Introduction

Today, the rapid development of modern globalization and intercultural relations, the expansion of international relations, the development of trade-economic and financial relations between countries, the strengthening of the process of integration of European countries and the whole world, the development of science and technology, the continuous flow of scientific and technical information Nowadays, the importance of foreign languages as effective factors of organic exchange deserves great attention. Also, at the stage of economic, scientific, technical and cultural development, a foreign language is widely used as a means of oral and written communication between representatives of different peoples of the world.

Due to the rapid development of knowledge and technologies, translators - specialists who have practical skills in translating scientific and technical texts related to various fields, covering all aspects in today's society and modern economy are changing

conditions. worthy of the need. Therefore, the need for highly educated translators is increasing day by day.

Due to the development of modern technologies, today scientists from different countries of the world have the opportunity to quickly exchange information and conduct joint research, and thanks to these means of communication, unprecedented results are being achieved in modern science. In such conditions, the need for high-quality translation of scientific literature is significantly increasing in many production organizations. Translators must constantly add translations of scientific literature to their vocabulary, increase their ability to understand terms and know their meaning.

Therefore, when translating scientific and technical terms, the translator should first of all pay great attention to the meaning from the existing scientific and technical point of view, and then it is necessary to have the ability to compare with narrow scientific and technical terms [1.10].

In the process of translation of scientific and technical texts, the following requirements should be

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followed: translation equivalence, translation accuracy, quality of translation data, logicity of translation and quality of its coverage. In order for a scientific and technical text to have a quality translation, the translator must have the following knowledge and skills:

It is necessary to have knowledge of foreign language theory, phonetics, lexis and grammatical structure of the language;

- Translation of scientific and technical texts to the practice of the skills;

- Linguistic practical knowledge (translation methods, transformation, the ability to replace the equivalent of words, the ability to add words, the ability to describe with terms, etc.);

- In the process of translating the text, it is necessary to have extralinguistic knowledge and ability to use the content of sentences and sentences (in this case, it was required to have sufficient information in translating a special scientific-technical text)[2.253-259].

One of the main unknown problems in translation is that the translator does not have a complete understanding of what "scientific translation" is. In order to successfully perform scientific translation, the translator must have an idea of how it differs from other types of translation. In general, the translation of the scientific method includes many texts related to the research topic - starting from theses, it includes abstracts and reviews of articles, diplomas, dissertations and monograph manuscripts.

- When translating the above types of work, attention should be paid to the following factors: the purpose of translation, the method of translation, the organization of the text in the translation and the relationship between its parts.

- In addition to the external structure of academic texts (chapters, sections, paragraphs), there is also an internal structure. The translation of scientific texts has its own characteristics - it is a method of defining material problems from general information and presenting their solution. For example, English has a number of words and phrases that are used for different purposes, to connect parts of the text together, as well as to move from the meaning of one phrase to another. For example:

- also (in addition, furthermore, furthermore...);
- in spite of (although, however, despite, in spite of, nevertheless...);

- when expressed in other words (in other words);

- for example (for example, for instance...)[3.50-54].

Terminology problems in translation

It is one of the leading forms of scientific thinking and it is related to the concepts of understanding and perception of meaning. Almost

every term in a scientific text is a lexical unit, and it expresses one of the meanings of special lexical units. These lexical units belong to the category of terms.

In general, a term is a word or phrase that is specific to a certain field in the field of science and technology. The term has clear semantic boundaries in linguistics. It follows that terms are a system of concepts reinforced by verbal expressions related to a particular subject. If a word in the common language (except for a term) has many meanings, but it falls into the category of terms, this word will have a specific meaning, and its meaning in the term is used in the translation.

Therefore, one of the main mistakes that a translator makes when translating a scientific text is that he does not have enough skills to use scientific dictionaries or does not have a clear knowledge of the subject specific to the term - this situation is even his own. can also be observed in the mother tongue. In terms of application and quantity, special dictionaries of terms are more widely used in scientific method texts than other types of dictionaries. They are: nomenclature names, professional vocabulary and terms, professional jargon, etc. This lexicon is widely used in all areas of scientific text (that is, text classification, text structure and its function, text components and factors are also taken into account). On average, terminological or terminological vocabulary makes up 20% of the total vocabulary of scientific texts.

Grammatical problems in translation.

The style of scientific communication has its own grammatical features.

For example, when some texts are translated from English to Uzbek, in some cases the lexical meaning is lost and the verbs have an abstract meaning.

For example:

- It **seems** very interesting – Bu juda qiziq ko'rinadi.

- He probably **got** a cold – Balki u shamollab qolgan.

- Ali **feels** himself strange – Ali o'zini g'alati his qilayapti.

In these cases, we can see that the semantic load falls on verbs instead of nouns. In other words, verbs perform an important grammatical function in these sentences.

Also, abstract verbs are often used in scientific method texts in English:

- **Many houses were built in short term** – Ko'pgina uylar qisqa mudatda qurilgan;

- **Some new planets were discovered in mid of 2000's** – 2000-yillarda bir qancha yangi sayyoralar kashf qilingan (topilgan).

As it can be seen in the above examples, abstract nouns are also widely used in English, and the main focus is on verbs, that is, on passive relative verbs.

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Another interesting aspect of the research is that in today's linguistics, the percentage of the use of present tense verbs in English is equal to that of past tense verbs, which of course depends on the context of the scientific text.

In general, a scientific text must have a clear statement of logic, and providing a correct and high-quality translation of this logic is one of the most important tasks of a translator. Texts in the scientific style often have a homogeneous appearance, and these texts have expressive features. Interrogative sentences are rarely used in such texts, and even if they are used, they are directed to draw the attention of the reader who is familiar with the text. One of the characteristics of scientific texts is that emotional expressions are not used [3.203].

General theory of translation.

The general theory of translation systematizes the conclusions derived from the concrete experience of translation and creates a basis for it. During the translation process, the results of the translation and its ideas are summarized, and the conditions and factors specific to the translation are taken into account in the translation activity.

The concept of the general theory of translation was developed by the Russian linguist and linguist A.V. Fedorov's works are widely and fully covered. According to this concept, any quality translation text should begin with a philological analysis of its linguistic basis and end with an artistic creation or scientific editing[4.335].

A special theory of translation.

The special theory of translation (or research on translation focused on one pair in linguistics) should take into account the equivalents and variants of the correspondence between two languages, as well as the factors and criteria for their selection in a specific situation. Within this theory, the main method of studying translation phenomena is the comparison of two languages. For example: Uzbek and Russian, or Russian and English, or English and German.[12]

Transformational theory of translation

The transformational theory (model) of translation is expressed by making changes to the translated text during the translation activity. The reason is that in some cases the meaning of the text cannot be fully translated or it is difficult to translate.

For example:

Not long-ago computers were considered an amazing invention. Today they form part of our everyday lives. The latest thing today is Virtual Reality. A Virtual Reality system can transport the user to exotic locations such as a beach in Hawaii or the inside of the human body.

Uzbek language translation:

O'tgan davrda kompyuterlar ajoyib ixtiro deb hisoblanar edi. Bugungi kunda ular bizning kundalik hayotimizning bir qismini tashkil qiladi. Oxirgi ixtrolardan biri - bu Virtual haqiqat. Virtual haqiqat tizimi foydalanuvchlarni Gavayidagi plyaj yoki inson tanasining ichki qismi kabi ekzotik joylarga olib borish imkoniyatiga ega.

As we can see in the example, the translation from English to Uzbek was not completely translated, but instead underwent a transformation. That is, the meaning of the original text in Uzbek language is clarified with other words.

The transformational model of translation is related to the ideas of "transformative or generative grammar" of the American linguist N. Chomsky. Within this theory, the process of creating a translation text is considered as a syntactic transformation of the units and structures of the source language into the units and structures of the translated language, where great attention is paid to the stages and methods of the translation process. Also, this theory is supported by American translators K. Naide, B.O.[13] It is also mentioned in the works of Kads and V. Koller. In general, the ideas of transformational theory are one of the important methods that allow translation studies to identify the structures and units that are related to each other in the translation process of a pair of languages.

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FEATURES OF GERMAN CULTURE IN THE ASPECT OF THE FORMATION OF SOCIO-CULTURAL COMPETENCE

Abstract: This article devoted to features of German culture in the aspect of the formation of socio-cultural competence. The definition of the concept of "socio-cultural competence", the content of this concept, its components should be specified in relation to a certain native speaker - in this case, such addressees are representatives of German culture. Solving the main problem of the article, it seems necessary to consider such a component of socio-cultural competence as culture a component of the concept. It is necessary, considering the issue of socio-cultural competence, to note the high level of regulation of life in Germany, the requirement of strict obedience to existing laws (a favorite saying in Germany is "Ordnung muss sein" - "There must be order in everything").

Key words: German language teaching, culture, communication, vocabulary, misunderstanding, competence, confidence, interference, grammar, cultural awareness, communicative activities.

Language: English

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Introduction

The knowledge that makes up the socio-cultural competence is acquired in such a volume that ensures the achievement of the goals of professional and personal communication of graduates of a non-linguistic university - future bachelors. As for the norms of non-verbal behavior (which characterize the formation of socio-cultural competence at the professional level), then, taking into Of great importance for solving the problem facing us - the formation of socio-cultural competence among students of the German language - is the knowledge of the phenomena of the life of the German people (facts, phenomena, morals, customs, traditions, norms, frames, norms of speech and non-speech behavior), formalized by this literary norm of the modern German language.

Account the more complex goals and specifics of this competence formed in students of a foreign (in this case, German) language, and such a component of this competence as the non-speech behavior of communicants, it is advisable to attribute the solution

of this task to the next level of training students of a non-linguistic university - future masters.

Nevertheless, such a component of socio-cultural competence as non-verbal behavior of German speakers is of interest. It should be noted that this specificity of the non-verbal behavior of Germans is characterized by native speakers of this language differently than Uzbek people. In the views of Uzbek specialists, communication with German business partners has a number of features. These features relate to:

- a) Standards of conduct not expressed verbally, namely:
 - the dominance of plans and schedules, lack of flexibility in their forced change;
 - Mandatory participation of everyone in the exchange of views in negotiations and discussions;
 - maintaining distance in business communication;
 - unavailability after hours;
 - Compliance with plans, which is more important than maintaining human relationships;
 - Work discipline above all;

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- inconsistency with our understanding of hospitality;

- the desire to be constantly informed instead of obtaining information themselves as well as to those features that are expressed verbally in the form of corresponding linguistic cultures:

- irreverence towards superiors (such linguistic cultures as referrals to "you" or by name, etc.);

- refusal to help and lack of caution (for example, phrases such as: "unfortunately, I can not help in any way", "here I am powerless", "sorry, it's not in my competence", etc.);

- the presence of a number of mandatory written instructions/prescriptions (for example: You should ..., you should ..., you need ..., you should not in any case ... etc.)

German statements about the Uzbek business world and about Uzbek generally reflect the following:

- lack of willingness to self-initiate and take risks;

- Isolation of groups and inaccessibility of members of these groups to the external environment;

- Lack of divergent voices in discussions and negotiations;

- Deference to superiors;

- active participation in discussions and negotiations of only a small part of the team with the traditional passive participation of the rest;

- the competence of partners, not always assessed by their professional abilities;

- The absence, as a rule, of those responsible or guilty for the decision;

- solving personal problems during working hours (at the workplace) as the norm;

- extension of the influence and power of the superiors to the personal time of the lower ones;

- curious interference of foreign partners in the sphere of personal life;

- frequent festivities and feasts ("drinking"), forced drinking and toasting

Thus, certain features are observed that show the difference (to some extent) in the speech and non-speech behavior of German and Russian communicants. The researchers emphasize that these features are manifested mainly in the process of business communication of Uzbek partners with German colleagues and reflect certain features of the culture of these societies, influencing the success of business contacts. Accordingly, this provision should affect the content and specifics of the formation of socio-cultural competence in the specified contingent of students and be expressed in the use of an adequate, effective methodology for the formation of this component of the content of teaching German to students of a non-linguistic university who master this foreign language at the bachelor's level.

As an example, we can cite several more situations of business communication, in which the

emergence of misunderstanding is associated with the difference between Uzbek and German cultures and norms of behavior. For example, in Germany, the manager expects the employee to be responsible, to take the initiative in solving a number of issues – that is, the manifestation of the individualistic model of behavior characteristic of German culture, according to which the success of the enterprise depends on the active work of each of the participants.

In the case of working with Russian subordinates in this situation, discommunication may occur due to the status distance between the manager and the subordinate adopted in Russia, which does not allow the employee to easily turn to a superior with an initiative proposal - that is, in this situation, the employee is configured exclusively to fulfill the orders of the boss.

In German firms, even mid-level specialists have the authority to develop and make decisions, provided that they are competent in this matter, which distinguishes the German business culture from the Russian one, where only people occupying senior positions in the company have full power.

MATERIALS AND METHODS

In connection with the above, the works of foreign authors who polemicize on this issue with domestic researchers are of particular interest. So, for example, M. Klein and A. Wierzbicka consider in their studies the expansion of the use of the so-called "familiar" form of address, which arose in German communication in recent decades the titles of Professor, etc., on the address Herr/Frau (Mr./Madame).

The concept of culture was clearly defined in the work of the British ethnologist Edward B. Taylor, dating back to 1871. [1,78]

In this definition, the scientist identifies culture with civilization, understanding this phenomenon as "a complex whole that includes knowledge, faith, art, morality, law, customs, as well as all other abilities and habits that a person assimilates as a member of society" [1,83] that is, in a broad ethnographic sense. American cultural anthropologists, having presented and analyzed in the book "Culture" about 160 definitions of the concept of "culture", found that most modern definitions of the term "culture" are somehow based on the original definition of B. Taylor. Further refinement of this concept was reflected in the works of modern German researchers in the field of intercultural communication. In these works, the authors define culture, on the one hand, as a set of subjectivities (Subjektivationen) - values, norms, ideas, worldview attitudes, and on the other hand, as a set of objectifications (Objektivationen) - activities, ways of behavior, language, artifacts that people assimilate in the process of enculturation and which are used by them to master the living space and everyday orientation in it. Developing the problem of

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this dissertation in relation to students of a non-linguistic university studying German as a foreign language at the bachelor's level, it is necessary to further consider in detail for methodological purposes the features of German culture (including the culture of business communication), which is an indispensable condition for preparing (in terms of socio-cultural competence of future bachelors - graduates of a non-linguistic university) for communication in German. In our article, we will use the so-called "high German" language (Hochdeutsch), which is the literary norm of the modern German language throughout the German-speaking countries (this language functions synchronously with many dialects of modern German, which are not the object of attention in our study).

The lack of such knowledge (including their names) is, as evidenced by the data of many studies (A.V. Guseva, E.Y. Dolmatovskaya, V.E. Lapina, O.V. Perlova, etc.) the reason for the ineffective results of cooperation between representatives of our country and German language speakers. Sometimes for this reason, unfortunately, a number of misunderstandings and even conflicts can arise.

RESULTS AND DISCUSSION

It is necessary, considering the issue of socio-cultural competence, to note the high level of regulation of life in Germany, the requirement of strict obedience to existing laws (a favorite saying in Germany is "Ordnung muss sein" - "There must be order in everything"). Germany is known for a large number of prohibitive regulations (for example, the words *vetboten* are extremely widespread in the country – forbidden ("Durchgang verboten!" – "Passage is prohibited") and *nicht gestattet* – not allowed ("Der Zutritt durch nicht berechtigte Personen ist nicht gestattet!" – literally: passage without the permission of an authorized person is not allowed) [Wierzbicka 2001].

The emergence of discommunication in the process of contacts between representatives of Russian and German cultures, associated with a misunderstanding of the communicant, is based on ignorance of the peculiarities of culture, socio-cultural norms of behavior inherent in each of the cultures and not taken into account in the process of implementing communication. For example, in business communication, German colleagues "prefer debatability, allowing for conflict issues, strategies of confrontation in relation to the opinion of others, a critical approach to decision-making. Representatives of this nation are characterized by a clear distinction between the problem and the personality, which is often identified in the Russian environment, for which the mixture of interpersonal relations and service situations is not uncommon.

Effectiveness for German colleagues lies mainly in the correctness, usefulness and quality of the decision made, and not in compliance with the status hierarchy and conflict-free communication, which is often found in Russian communication" (Slembek 1998; Kulikova 2004, p. 30). As the researchers have shown, representatives of the German nation define themselves primarily as individuals, or individualists – often isolated and with a tendency to solitude – and only then as members of a group, rarely violating the zone of personal autonomy, which allows them to feel comfortable in any environment or alone.

This manifests itself at the level of both verbal and non-verbal signals. In particular, German speech communication "is marked by a number of communicative taboos of a speech and thematic nature, "guarding" the boundaries of the individual space of the individual".

CONCLUSION

1. Teaching foreign language communication as a prerequisite for the effectiveness of interethnic contacts is fixed as a mandatory requirement for training in a foreign language in existing programs of various types of educational institutions, including in the new program of teaching a foreign language at the bachelor's level in universities of non-linguistic specialties.

2. Possession of this socio-cultural competence implies that a graduate of a non-linguistic university - a bachelor-non-philologist who has mastered a certain specialty, must have certain qualities, which include:

- the presence of a culture of thinking, the ability to generalize, analyze, perceive information, to set a goal and choose a way to achieve it;
- the formation of the ability to logically correctly, reasonably and clearly build oral and written speech;
- development of the desire for self-improvement, improvement of one's skills;
- formation of the ability to analyze socially and professionally significant problems;
- knowledge of the basic methods, methods and means of receiving, storing and transmitting information, including in a foreign language.

3. Mastery of socio-cultural competence presents a number of difficulties that must be taken into account for the successful formation of this competence. Such difficulties may be caused, in particular, by certain topics related to the culture, understanding and comprehension of certain traditions, manners and customs that exist in the country /countries of the foreign language being studied and have no analogues in our country, as well as difficulties of a linguistic, informational and extralinguistic nature that occur in materials containing information of a socio-cultural plan.

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THE BASIC SKILLS SPEAKING AND LISTENING IN GERMAN

Abstract: This article is about the four basic skills in German. The general term "skill" is according to the Duden dictionary "as dexterity acquired by carrying out certain activities. Synonymous with this term here are the words: "competence, experience, knowledge, Sensitivity, agility or ability. With the term "skill" we meet in all areas of the human Action. In fashion, for example, skill is seen as a certain talent for combining Color and shape understood, making a beautiful garment or fashionable accessory arises.". In constructive mechanical engineering, skill is defined as a certain cognitive The ability to combine certain physical processes is understood, resulting in a new Machine or new functions and technical solutions emerge that give people the opportunity to Making life easier. Here, the skill is understood as a certain way of thinking.

Key words: German language teaching, skill, speaking, listening, reading, writing, competence, experience, knowledge, sensitivity, agility, ability.

Language: English

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Introduction

Today's linguistics distinguishes 4 basic language skills – the listening comprehension, reading comprehension, speaking and writing. Depending on the way of language acquisition, these basic skills can be divided into 2 specific groups namely:

1. Receptive skills – reading comprehension and listening comprehension are counted in this group.

2. Productive skills – writing and speaking are included in this group counted

Let us now consider the four basic skills from the point of view of receptivity and Productivity closer and more complex.

Receptive skills – In receptive skills, the reception and Processing of acoustic and optical signals, directly with the receptors of a People (eyes or ears) connected. How these signals are perceived depends This depends on each recipient himself, because on the understanding of these signals his

Expectations, attitudes or existing knowledge have an influence. Thus, the The process of understanding can also be understood as an individual and subjective process. To the receptive skills include reading and listening. Productive skills - Productive skills Writing and speaking are associated with the process of so-called "production". As opposed to receptive skills Here, the recipient must actively generate certain language material. There will be new content generated by written or oral statements, which must be as grammatical, lexical and semantically correct as possible so that the reader or listener can use them well can understand.

Much research shows there are people who develop receptive skills. Many are afraid of speaking or writing. From my own experience, I can say that we are more concerned with reading and listening. Speaking is a central component of human interaction and, in addition to listening, reading and writing, is

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one of the skills that should be developed and trained in foreign language lessons. When we speak, we pass on information, ask questions, make suggestions, argue or express e.g. wishes, hopes or feelings. All of this must also be learned and trained in the foreign language. We assume that you can only learn to speak by speaking, i.e. by speaking as often as possible in situations that require speaking, as explained in the time-on-task principle. To actively involve the learners in the classroom and to get them to speak as often as possible is a particular challenge for the teachers and the design of the lesson. Sometimes you speak to make initial contact or to avoid appearing impolite. It is possible to speak without direct reference to the person you are speaking to, but this usually requires special opportunities or situations, for example in presentations or lectures (monologic speaking). Usually, however, one speaks to a partner (dialogical speaking) with whom a relationship is to be established. So speaking is a social interaction. Interaction means related actions.

In production, the students are therefore active and have to create new content through create already known (predefined) structures. These structures are often supported by the Reading or listening gained. Thus, certain common dependency of receptive and productive skills.

That the process of production is more difficult than the process of reception and more complicated, was emphasized by the didactic P.R. Portman: "... Accordingly, in the production to do much more language work than in the reception".

Although receptive skills used to be considered passive, productive skills as active This is not justified today, because general language acquisition is in any case, an active process. In both productive and receptive skills, high This requires the student's mental performance, which cannot be described as passive.

MATERIALS AND METHODS

When we speak, we pass on information, ask questions, make suggestions, argue or express wishes, hopes or feelings, for example. All of this must also be learned and practiced in the foreign language. We assume that one only learns to speak by speaking, i.e. by speaking as often as possible in situations that require speaking. Actively involving the learners in the lesson and getting them to speak as often as possible is a particular challenge for the teachers and the lesson design. Sometimes you also speak to make a first contact or to avoid being impolite. You can also speak without direct reference to the person you are talking to, but this usually requires special opportunities or situations, such as presentations or presentations (monological speaking). Normally, however, one speaks with a partner (dialogical speaking) with whom a relationship is to be established. So speaking is a social interaction.

Depending on the social group in which we move, speaking takes place in more or less fixed, interculturally often very different forms of conversation. We speak differently with our colleagues at work than with friends in a sports club, with our children differently than with our parents, with strangers we speak differently than with familiar people. After that, it is not only decided how formal or informal our language has to be (e.g., use the formal or formal language), but also which phrases, conversational routines and forms of politeness we use ("leave me alone" you might say to your friend, but not to his boss) and which topics we can talk about.

Also in the field of language the term "skill" gains a specific meaning. Linguistics refers to the term "linguistic Competence in the specific field of language". Barbara Dahlhaus defines it more precisely: "The linguistic skills are the result of the complex interplay of linguistic skills. (words, sounds), non-linguistic (intonation, intonation) and extralinguistic (Content knowledge, world knowledge) Elements. [1,12]

Although a distinction is made between productive and receptive skills, it is not possible to use them in isolation in the classroom. All skills are interdependent and together form a complex process of language acquisition, as already described by B. Dahlhaus in her definition of skills (see definition above). And also the didactic B. Kast, who is primarily dedicated to the skill of writing, says that: "Writing develops above all through the frequent reading of foreign-language texts." [2,59]

Listening skills play a dominant role in everyday communication, which is due to many psychological and didactic studies and research have been proven. According to this Studies dominate hearing in everyday communication with 42%, with speech 32%, reading 15% and writing only 11%. [3,893].

Despite this, listening comprehension used to benefit others in foreign language teaching. Skills neglected. Only with the development of new technologies such as radio, Record, cassette, CD or computer technology, it became possible to fully listen and fully integrated into foreign language teaching, thus improving the listening skills of the to develop foreign language students.

Until then, the skill was realized only by reading aloud by the teacher, where by any listening and pronunciation exercises were missing and the complex lessons as we do today know was technically not possible. Only in the 60s - thanks to the development of the new Teaching methods - put listening as a skill at the centre of teaching.

In these cases, methods were audiolingual and audiovisual methods, later communicative didactics and intercultural use. Because the listening skills of the Communication dominates, the central task of teaching the students is intensive and successfully

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participate in oral communication and the ability to understand what is spoken is conveyed.

RESULTS AND DISCUSSION

Speaking in and of itself is very complex and has numerous characteristics, including typically face-to-face communication (exception: on the phone) and depends on the respective extra-linguistic context, e.g. on the situation in which the person is speaking, and depends on the prior knowledge of the communication partner. For example, the sentence "Don't you have a trash?"

Is not to be understood as a question, but as an indirect invitation to clean up, which both interlocutors must know in order for the speech act to have an effect.

Other features of spoken language include that:

- a sentence once spoken can only be corrected afterwards,
- you usually have to react spontaneously to verbal statements,
- sentence breaks, incomplete or grammatically incorrect sentences, repetitions or pauses can occur,
- non-verbal elements (gestures and facial expressions) accompany and support speaking,
- linguistic routines and formulaic expressions are usually used automatically.

These characteristics must also be taken into account in speaking skills training in order for learners to be able to speak fluently. What actually happens in your head when you speak? The best-known model is that of Levelt (1989), who starts from a conceptualization, formulation and articulation phase. The communication is planned in the conceptualization phase. The knowledge of the world that the speakers have, their knowledge of the respective conversation situation and the way in which one speaks to one another, as well as their addressee knowledge, i.e. they know who they are talking to, help. In the formulation phase, the words are searched for and the grammatical and phonological structure of the utterance is built up. To do this, the speaker uses his speech memory (mental lexicon), in which the vocabulary, grammar and sounds are stored.

This means that the formulation first exists internally in the head before it is pronounced aloud in the articulation phase, for which we need the voice and the corresponding muscles for mouth and tongue movements, etc. All mental processes are checked again and again, either by an internal monitor (conceptualization phase) or by the listening

comprehension system (formulation and articulation phase). So we always speak the words mentally and check them. The speaker listens in while he is planning and while he is speaking. If we do not agree with what we are saying, we break off the articulation, e.g. if we have made a promise. Speaking without hearing is, strictly speaking, hardly possible. When we speak, we train to hear at the same time.

However, the different processes do not run one after the other, as the model might suggest, but take place simultaneously. When speaking, articulatory, phonological, grammatical, semantic, textual skills and world knowledge have to interact - and very quickly. In contrast to writing, when speaking you don't have time to first look for the right word in your head, then, for example, think about an ending and then connect the word with the next word, etc. The person you are talking to becomes restless when between the words too much time passes when the spoken language is not fluent. Therefore, not only speaking as such, but above all fluent speaking must be practiced in class, as provided by the learning field model.

CONCLUSION

In order to learn to speak, we need to train vocabulary, structures and pronunciation (formulation phase). Since speaking is a form of human action that takes place in social interaction, it is also important to build up culturespecific action knowledge, as shown in the conceptualization phase of the level model, and to train it through application, in that the learners get to know different situations and roles and in and with them Act. This has important consequences for practicing speaking in task-oriented lessons, which are intended to prepare for language action.

The process of understanding the foreign language is associated with several problems. The most striking difference between the comprehension process of a native speaker and In the case of a foreign language student, the latter is required to work in a linguistic environment. Where he often cannot fall back on his knowledge of the world or previous knowledge.

Often he must anticipate the meaning from what he hears or gain it through redundancy. The The second difference is that with a native speaker, the listening process is intuitive and without that he would be aware that he is running in a foreign language student, the process is aware and associated with cognitive competence.

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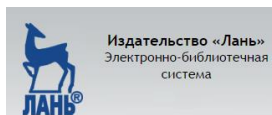
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