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## OBSAH

### Ekonomika

- Zoltan Zeman, Agnes Gabor, Barczy Judit, Zsolt Gal.** Účel kontroly během statického rozvoje a konkurenci.....7
- Abdulghani Al-sabai.** Kava a kat pro život v Jemeni.....19
- Kiriienko Daria.** Ekonomické hodnocení reitingových vysokých škol jako prostředek hodnocení kvality služeb vysokoškolského vzdělání na území Ukrajiny .....32
- Malevych Nazar, Sydoruk Borys, Hevko Roman.** Odůvodnění způsobů zlepšení investiční podpory v systému ekologizaci zeměvyužití.....39
- Maryanenko Gennadij.** Likvidace Národní banka Ukrajiny v budoucí perspektivě přechodu na krypto-měny, zavedení inovativních mechanismů pro vytvoření nového národního bankovního systému .....47
- Plekan Uliana.** Metodický přístup k strategickému plánování společenských aktivit .....56

### Filozofie a teologie

- Mokienko Michail.** Časopis "evangelista" jako faktor identifikace hnutí křesťanské evangelistské víry.....65
- Ushakova Julia.** Móda jako univerzální kultura.....71

### Pedagogika a psychologie

- Chychuha Marina, Boyko-Busyl Yulia.** Předcházení ničivým duševním stavům a kvalitám personálu trestních institucí Ukrajiny .....78
- Chabirrova Larisa.** Účel tolerance učitele ve formování tvůrčí iniciativy školáků v kontextu výchovné euro integrace .....85

### Medicína a fyziologie

- Asmolova Anna.** Vztah mezi vznikem dlouhodobých komplikací po implantaci zubů s tvarem kostry obličeje .....91
- Zabolotna Iryna.** Role minerálních vod při komplexní léčbě pacientů s nealkoholickou tukovou nemocí jater.....98

**Kuznecova Olga, Nefedova Elena, Zadessenec Igor.** Zvýšení efektivity vzdělávacího procesu na lékařské škole pro anglicky mluvící studenty.....106

**Romanova Julia, Dizik Světlana.** Klinické a laboratorní zdůvodnění komplexu prevence a léčby onemocnění parodontálních tkání u žen s syndromem polycystických vaječníků..... 112

**Semenov Konstantin, Denga Oksana, Verbitskaya Tamara.** Výsledky genetických vyšetřování u pacientů s onemocněním šlach..... 119

**Yakymets Anzhelika, Drogomyretska Miroslava, Krut Anatolij, Leporsky Dmitrij.** Léčba pacientů s vrozenou adenitou horních laterálních řezáků ..... 126

### **Historie**

**Trembitsky Anatolij.** Osobní a individuální svět Jaroslava Sičinského.....133

### **Filologie a lingvistika**

**Atamanchuk Viktoriya.** Zvláštnost konfliktních situací v literárních dílech Elisei Karpenko "Podzimní noc" a "Země" ..... 140

**Rubinska Bronislava.** Aktivní přístup k výběru a organizaci materiálů v komunikativním minimu pro výuku komunikace studentům nehumanitního profilu..... 147

## CONTENTS

### Economics

**Zoltan Zeman, Agnes Gabor, Barcsi Judit, Zsolt Gal.** The role of controlling in sustainable development and competitiveness.....7

**Abdulghani Al-sabai.** Coffee and qat fight for life in Yemen.....19

**Kiriienko Daria.** Economic measurement of ranking universities as a mean of assessment of the quality of higher education services in Ukraine .....32

**Malevych Nazar, Sydoruk Borys, Hevko Roman.** Reasoning the ways to improve the investment support in agricultural land use ecologization system .....39

**Maryanenko Gennadiy.** Elimination of the National Bank of Ukraine in prospect of future transition to cryptocurrency, introduction of innovative mechanisms of forming new national banking system .....47

**Plekan Uliana.** Methodological approach to strategic planning of corporate social activities .....56

### Philosophy and theology

**Мокиенко Михаил.** Журнал «Евангелист» как фактор идентификации движения христиан евангельской веры .....65

**Ушакова Юлия.** Мода как универсалия культуры .....71

### Pedagogy and psychology

**Chychuha Marina, Boyko-Busyl Yulia.** Prevention of destructive mental states and qualities of the personnel of establishments of execution of punishments of Ukraine.....78

**Хабирова Лариса.** Роль толерантности педагога в формировании творческой инициативы школьников в условиях образовательной евроинтеграции .....85

### Medicine and physiology

**Asmlova Anna.** The relationship between the occurrence of long-term complications after dental implantation with the shape of the facial skeleton .....91

**Заболотная Ирина.** Роль минеральных вод в комплексном лечении больных

неалкогольной жировой болезнью печени .....98

**Кузнецова Ольга, Нефедова Елена, Задесенец Игорь.** Повышение эффективности образовательного процесса в медицинском вузе для англоязычных студентов ..... 106

**Романова Юлия, Дизик Светлана.** Клинико-лабораторное обоснование комплекса для профилактики и лечения заболеваний тканей пародонта у женщин с синдромом поликистозных яичников ..... 112

**Semenov Konstantin, Denga Oksana, Verbitskaya Tamara.** Results of genetic research in patients havingtemporomandibular joint diseases..... 119

**Yakymets Anzhelika, Drogomyretska Miroslava, Krut Anatolij, Leporsky Dmitrij.** Treatment of patients with congenital adentia of upper lateral incisors 126

#### History

**Trembitsky Anatolij.** Personal and individual world of Yaroslav Sichinsky.....133

#### Philology and linguistics

**Atamanchuk Viktoriya.** Conflict peculiarity in literary works of Elysey Karpenko “The Autumn Night” and “The Earth”..... 140

**Rubinska Bronislava.** Activities approach to the choice and organization of materials into communicative minimum for teaching students of non-humanities profile to communicate .....147

## **ECONOMICS**

### **THE ROLE OF CONTROLLING IN SUSTAINABLE DEVELOPMENT AND COMPETITIVENESS**

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**Annotation.** *As a result of the complex crises (economical, environmental and ecological) it has become an important question which strategy should be followed to develop the economy, to create more jobs. Moreover, it is also relevant to pay attention to innovation and different ideas, which can help improve the eco-friendly sectors. The Visegrád Group has realized that “Green economy” could be a developing point. We must change and solve some problems regarding the use of fossil fuel during production as it increases the risk of the security of supply and pushes up prices.*

*During the determination of strategies, business organisations applying eco-controlling always takes into account the impact of the competitors' steps related to the protection of the environment. If a future oriented eco-controlling wishes to constitute an integral part of care about the company's future, then it should not focus only on individual actions and intervention points but it must involve also the entire product life cycle into its perspectives. Our study illustrates the green or eco-controlling information aspirations for the strategic management in the preparation of decision-making.*

**Key words:** *eco-controlling, green-economy, competitiveness, geo-economics, V4 countries.*

**Introduction.** Among the changes of recent decades which affected business life, one of the most significant one is that the role of the natural environment has become more appreciated in business thinking and leadership. This process is closely in line with the general revaluation of the role of natural factors, furthermore, with the development and spreading of the concept of sustainable development. Sustainable development has always meant a competitive advantage for business organisations; still, the first more radical change occurred only from the 1970's. The next turning point was meant by the environmental world conference of the United Nations, held in 1992 in Rio de Janeiro, where a different light was put on these issues. Consequently, sustainability as a principle has put economic development in front of such problems to be solved which should take into account the environmental values and their protection. It should be noted that as of that date, the economy must take into account the energies and materials used and it has to manage them so that it can generate profit, while simultaneously serving environmental interests, as well.

The increasing need to maintain and improve the quality of the environment encourages but also forces corporations to explore the environmental impact of their activities and to eliminate and prevent the polluting impact of their activities so that no similar ones can emerge in the future. The strategic importance of environmental factors and the increasing cost sensitivity in the field of environmental protection makes it inevitable to manage and control the environmental resources in a goal-oriented way. As much as this decision seemed to be well-functioning in the long run, it was just as hard at the level of corporate sphere to find the way in which this sustainability principle can be operated. Everything that involves innovation, means costs, as well; especially in the periods after the crisis and only a few people opted for this innovation. An environmentally conscious corporate management means that not only a single functional department or an environmental officer is in charge of environmental protection or the fulfilment of tasks occurring in relation to this issue but all departments and workers of the corporation are permeated by the consideration of environmental aspects.

This can only be achieved if the protection of the environment is not isolated from daily decisions but integrated into the responsibility and incentive system of the corporation. This, however, requires the implementation of comprehensive organisational changes. In the implementation of this latter task, the establishment of an eco-controlling system can help a lot - it is the instrument of strategically oriented environmental activities and the strategic and operative controlling. On one hand, it fulfils integration functions, i.e. ensures the inclusion of the environmental management function into the planning activities of corporate management. In our studies we would like to introduce an example from the business practice and highlight how we can use the theoretic tools in the practice.

**Literature review.** The G20 meetings and environmental conferences were supported by many environmental changes (drastic population growth, water shortages, climate change, etc.). It has become a global problem which had to be handled also at corporate level. So far it has been “enough” if the corporation paid compensation for damages caused to the environment. More and more people were looking for an effective solution, until the American corporation 3M presented a new plan the so called 3P program. 3P (Pollution, Prevention, Pays), i.e. pollution prevention pays off. This program can be treated as the first milestone in the history of environmental accounting. During this program, several new actions have been taken which use materials and energy in a more optimal and environmentally friendly way, by which significant cost savings could be realized at corporate level. After these, the establishment of environmental accounting, eco-controlling, green accounting, environmental controlling and ecological accounting was just the next step.

The basic objective of environmental accounting is to provide the most realistic picture possible on the financial situation of activities related to the protection of the environment and their aspects. Therefore, it has to provide information on the environmental (protection) aspects of the corporation’s investment decisions, it must be able to demonstrate their environmental exploration, analysis and the definition of



environmental (protection)-related items of the revenues originating from them, together with the analysis of financial data related to the performances made for the purpose of (protection of the) environment and their adaptation for a good decision-making. As Figure 1 shows, environmental accounting can be divided into two main levels:

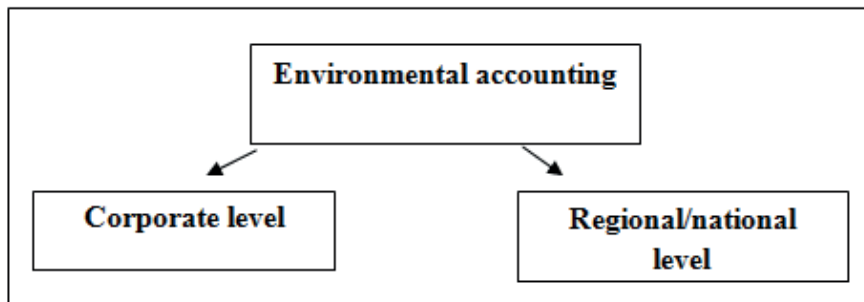


Fig. 1. Levels of environmental accounting.  
*Source: own work*

In addition to environmental accounting, it is important to mention also ecological accounting, which presents the corporation’s impact on the environment by using physical measurement units. Its significance is manifested in informing the corporation’s partners, thus it can provide external information.

By contrast, the already aforementioned environmental accounting focuses on the impacts of the protection of the environment on the financial position of the corporation. Consequently, in corpo-rate practice we distinguish between environmental management accounting and environmental financial accounting. The focus of environmental management accounting is on internal analyses and making the management decisions easier. The environmental financial accounting focuses pri-marily on the communication of environmental obligations to the external stakeholders, and subordinate’s data collection and analysis to this. The internal ecological accounting focuses on analysis, while external ecological accounting organizes ecological accounting around the preparation of reports prepared from data. In his work titled ‘Environmental Financial Accounting’, Schaltegger (1996) focuses primarily on the communication of environmental obligations to the external stake-holders, and subordinate’s data collection and analysis to it.” (Csutora-Kerekes, 2004).

Eco-accounting (green accounting) can provide information to both internal and external users. Its task is to take into assess the changes occurred in the natural resources as a result of management activities and to explore the environmental costs and their causes. To this end, it produces, collects, processes and analyses data and information related to the environment.

- Its objective: to facilitate the optimization of the decision according to ecological as-pects by allowing the assessment of environmental damages and impacts and the de-termination of social marginal costs and marginal utility of a product.

- Its instrument: the cost-benefit analysis, ecological accounting and preparation of eco-balances, furthermore, determination of recycling impacts from the aspect of cost and revenue.

- Its area of investigation: the connection between the soft and hard elements of the corporate body and the environment.

- Methodology: Analysis of connection points of management areas in this context.

#### 2.1. Environmental controlling and its functions.

A prerequisite for the success of environmental controlling is to realize integration into the corporate controlling system, furthermore, to take into account also the specificities of the area studied by it when selecting the methods applied. This means that eco-controlling cannot be independent from the corporate controlling system, but it supports the operation of the corporation that is optimal from environmental aspects in a way integrated into the corporate controlling system, similarly to the other special controlling areas (financial controlling, human controlling, etc.). Environmental controlling facilitates the preservation of environmental values, furthermore, the improvement of environmental actions' efficiency and of the investment-profit ratio.

Thereby it contributes to the exploration of environmental reserves and a more efficient management related to natural resources. Its introduction is recommended primarily for those corporations which can oversee their activities related to the environment and which have already built out an acceptable measurement and registration system in this regard. According to Schaltegger and Sturm, eco-controlling determines those strategic tools which mean a solution to the environmental problems and their systematic treatment - starting from data management through decision support, control and implementation to communication. The conceptual elements of its operation are shown in Figure 2.

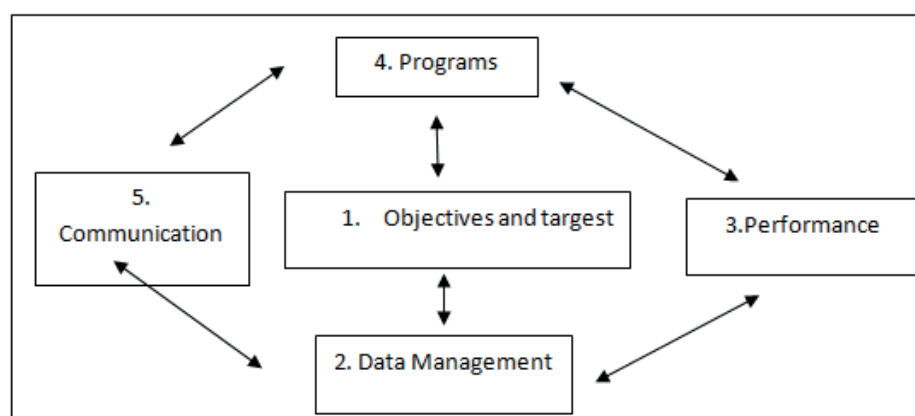


Fig. 2. The concept of eco-controlling  
 Source: own work based on Sturm (1997)

Eco-controlling can be divided into 5 major modules:

1. module: Goals and objectives
2. module: Data (base) - management
3. module: Performance evaluation
4. module: Value-based environmental programs
5. module: Communication

The successful cooperation of these five modules creates the sustainable process that is necessary for an efficient operation of green accounting and eco-controlling and for making the corporation “more green”, i.e. that puts the environmentally friendly activities of its operation into the fore. Based on the theories of Schaltegger and Strum, we can examine and measure the extent to which the corporation correctly applies the basic principles set by eco-controlling. The corporation is able to realize sustainable development by maximizing the ratio of the positive margin percentage and PP (Pollution added point) while simultaneously eliminating the ratio of the negative margin percentage and the PP.” The EPM Portfolio is a very good example for us on how to use these busi-ness units successfully. As you can see in Fig. 3, the EPM portfolio determines four categories to determine and rank, whether the eco-controlling used by us is useful or not or whether it is sustain-able in the long run or not. On the figure 3 we present the EPM portfolio.

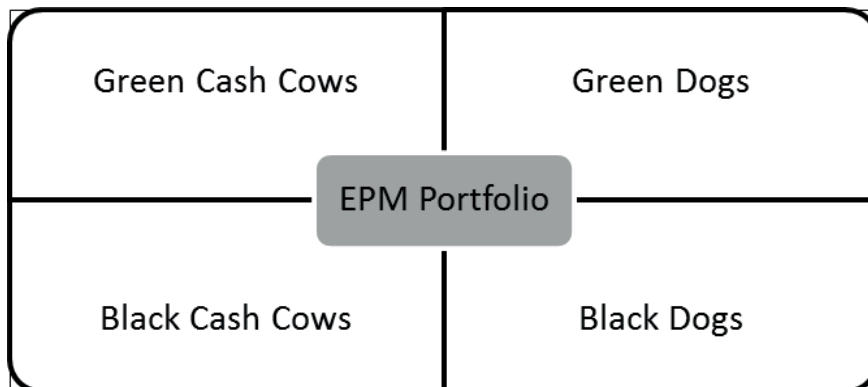


Fig. 3. Four basic categories of EPM Portfolio

*Source: own work*

**Green Cash Cows:** When we speak about the Green Cash Cows we must think of those products with a low pollution and high contribution margin. Products that are produced using integrated and 'clean' technologies which result much more ecological solution. Their environmental impact needs to be already optimized at their development stage. In this way, Green Cash Cows' devel-opment means a sustainable growth strategy for a company.

**Black Cash Cows:** In this case, we must think of that thing which created by the

quantitative growth strategy. That means that were characterized by relatively high financial revenue plus a high pollution added with we can't protect our environment.

**Green Dogs:** Green products are typically products which, are environmentally friendly, but achieve a relatively low contribution margin. "In this category we often find products that we have been ecologically improved by using end-of-pipe technologies." (Sturm, 1997) Green dogs products generally achieve a comparatively lower contribution margin than products that were conceived to be more ecological through using integrated technologies."

**Black Dogs:** Products that have a high pollution added and a negative contribution margin. Especially these products which are economically uninteresting and generally cause enormous environmental damage.

**Importance and challenges of environmental controlling.** One of the most important tasks of the future will be the provision of that information, which will enable the successful, efficient and goal-oriented application of environmental resources and the development and preservation of environmental values. In order to meet the obligation to provide information, the environmental controller must maintain a constant contact with the persons in charge of the specific business areas. The current accounting systems are not suitable for monitoring environmental processes for several reasons; they need improvement. The new methodology is the green accounting, the tools of which are: the cost-benefit analysis, ecological accounting and preparation of eco-balances. One of the most important tasks of environmental controlling is the comparison of data and analysis of differences.

During the determination of differences - in addition to the comparison of plans and facts - temporal and/or territorial comparisons will be identifiable, as well. Therefore, it can inform the dangerous areas about the formation of environmental damages in time, but the signals depend also on the way the planning system operates or whether it satisfies the environmental information criteria, or not. Planning of the management of environmental resources must be an integral part of corporate planning. Environmental controlling therefore integrates and gets involved into the accumulated corporate planning process, similarly to the corporate plans. Its areas are the following:

- Planning of environmental objectives related to the long-term corporate goals broadly.
- Detailed design of environmental objectives related to medium-term corporate goals.
- Detailed planning of environmental objectives and actions related to the short-term corporate goals.

The planning block must rely on the monitoring and accounting system, in which the system of the metrics and indicators used must be determined.

**Measuring competitiveness.** According to Horvath (Horváth P.,2009) competitiveness consists the following in terms of controlling purposes:

- According to the pragmatic approach to competitiveness, it is the ability of firms' adaptation; how they can use technical and organizational solutions which had been

successfully adapted elsewhere, best practices spirits (benchmarking). At this point in the region and the country depends on the competitiveness of firms operating in the totality of adaptation capabilities, which is also decisive action to develop the eco-controlling background.

- According to the environment perceptions, competitiveness means that the company is able to optimize the economic environment, that is the economic base of the elements (capital and labour markets, quality of inputs, infrastructure). At this point, the region and the country is competitive, which is providing for the dominant industries operating there, the high-quality economic base of course, considering the environmental standards and the standards to be met even country level.

- According to the capital development concept, competitiveness means that how a company or sector is able to accumulate human and physical capital, develop the technology. A region or country can be competitive when attracting investments for new production sites and service creation activities that are related to large, mainly international companies. Of course, these companies have largely been addressed and incorporated into the environmental requirements and expectations.

The competitiveness of Visegrad countries has been affected by many geopolitical and geo-economic factors. In order to examine and find the main differences of the competitiveness, companies should be measured according to the following criteria:

- Knowledge transfer: The knowledge applied on time and in the right way plays a key role in corporate competitiveness. Competitive advantage of the company can only be achieved if information and knowledge is sooner acquired, adapted to planning and production.

- Geographical factors, infrastructure: Nowadays the markets have become global, so the distance as a factor in the competitive market conditions, it has transformed their characteristics. To the questions of global challenges, new geopolitical and new business strategic responses are required, which are generated by changing the interpretation of space and distance. However, it can be stated that the race has become global about the sustainable competitive advantage in the innovation of business organizations and knowledge transfer, where the role of geographical factors significantly changed.

- Adaptation of innovation solutions: The proper use of innovation defines the company's success. "The innovation in the information society does not characterize a distinct sphere of the world, but also acts as a natural attitude and the result of pressure to adapt." (Borsi 2004) Therefore, it is important that innovation or information as soon as possible serve corporate interests, such as rapid introduction of new technologies, techniques and applying them effectively, resulting a sustainable competitive advantage. Given that "innovation is looked at it is a key source of competitive advantage in modern economies." (Hallbrook- Wolfe, 2002) The information, which means the basis of knowledge, its acquisition and use in an effective manner determines the development opportunities of regions and their competitiveness as well.

- Project planning: The Visegrad Four (as well as Romania and Bulgaria) in respect of the operation of the projects is characterized by the following four components:

- time limit,
- quality (extent),
- the relevance of management information for the project implementation,
- resource constraints (both financial and human factors).

The objectives of the projects, in some respects are the same as corporate goals, ie. long-term survival, and market competitive advantage and maximizing profit position. To all of these, it is essential to have a system-wide and future-oriented management thinking.

- Language skill as a competitive advantage: Language skill is vital after the global opening. This criterion can be both a threat and potential, because if the company is not aware of this, it will lose the competitive advantage already gained, or can not keep up with the pace dictated by the market, depending on geographic conditions not able to employ foreign workers.

These factors are proved by the World Economic Forum study, examining the competitiveness of the Visegrad countries, which shows that in 2004 Hungary led the overall list, and in 2008 the Czech Republic, Slovakia and Poland were ahead of us. The order remained the same in the year of 2013, then in 2015 came forward to third. Hungary must keep in mind in the following years that long-term competitive advantage can be achieved by precise design, innovation, continuous improvement of language skills and knowledge.

**Main environmental indicators.** Of course, a well-designed eco-controlling system contains environmental indicators for a transparent design and accounting. In particular, the environmental indicators support primarily the assessment of the corporation's environment related status. When developing the system of indicators, the environmental loads must be taken into account by type. The values should also be specified which are regarded as available or desirable in case of release. The official regulations, the standards specifying maximum emission, furthermore, the exact knowledge of the corporation's status provide significant help for the development of expectations and threshold values. The environmental indicators, i.e. the planned indicators and the indicators wanted to be achieved can be as follows:

- The emission mass of solid waste or other liquid or gaseous pollutants emerging periodically, per type, expressed in natural measurement units.
- The extent of proceeds from the sale of waste, expressed in monetary value.
- The proportion of waste that can be further used within the total waste, expressed in percentages.
- The total cost or ratio of waste disposal in relation to other costs.
- The proportion of recyclable products within the production value.
- The proportion of recyclable materials within the emerging waste.

The solution that has become known as the Winter model contains 28 checklists in six main groups, which cover all environmentally related areas of corporate life. The application of the method is particularly useful in the period of preparation for the obtainment of environmental certification, based on the model of which the corporations

can develop similar ones on their own, too; thereby helping the decision support related to the environmental tasks of the management. (Winter, 1997)

**Successful model application.** One of the companies successfully adapting the model is the French Union Invivo, which has significant domestic subsidiaries and establishments in Hungary (Vitafort.hu,2016). The company's business is divided into four areas:

- Sale of agricultural seeds and complementary products.
- Grain trading and storage.
- Fodder production (production of premix, additives, manufacturing, production of animal health products.
- Providing laboratory services and nutrition and operation of hobby gardening and retail business nationwide through franchised store network called Gamm Vert.

Due to a merger between the animal feed and animal health activities of Union Invivo and Evialis corporations, Invivo NSA (Nutrition et Santé Animale) was established, becoming a dominant player in the market in Western, Eastern and Central Europe, in addition to Central and South America as well as in the Middle East, Asia and Africa (Invivo-group.com, 2016). Every year, more than 25 million tons of finished feed is made using Invivo NSA technology throughout the world. The company's revenue for the 2011-2012 fiscal year: EUR 5.7 billion, which contributes to the fact that the company successfully applies eco-controlling, green accounting. The company aims to develop and disseminate new agricultural solutions that guarantee high quality and takes into account the ecological and natural resources, so that consumers and their health can be advantageous.

The company mentioned above is an exemplary success story of the Visegrad countries plus Bulgaria and Romania competitive ambitions. The development of the most measurable competitiveness of small -medium-sized enterprises (SME) sector actors. A document published in 2013, "2020 Entrepreneurship Action Plan" to boost employment, and increase the number of SME aimed at highlighting the indispensability of these three pillars (European Commission, 2013):

- Education of entrepreneurship development training
- Creating the right business environment
- Role models and how to address specific groups

The measures mainly focused on improving competitiveness, thanks to which SMEs can take advantage of the opportunities offered by the EU. According to Incze Hungarian SMEs committed themselves to a lesser extent to the international global market, mostly because they perceive it as a threat to the natural process of globalization, multi- and transnational corporation's appearance of the domestic economy.

**Conclusions.** Eco-controlling can primarily be used where leadership is ready to carry out considerable organizational changes in order to control the relationship with the environment of the company. If participants can expect financial disadvantages it can violate interests eg. ecologically weak or hazardous exploration points. Such disadvantages could be for example the compensation, loss of bonuses, massive costs



of environmental remediation. Accordingly, particularly in the initial stages of the implementation period should be careful to identify and repair the deficiencies. It should be pointed out that eco-controlling is a useful tool, and companies that are committed to promote environmental protection worth to apply such a system. Note that conventional accounting systems do not take into account the environmental factors. Methodology is not suitable for assessing the company's environmental assets, taking into account the interests of present and future related to the environment and to detect the impact of activities on the environment.

In order to develop eco-controlling it is necessary to have further developments of the accounting system, which satisfy the applicability of certain conditions. Traditional accounting approach is primarily based on the neoclassical economic model. This feature treats certain natural resources as "free goods", unlimited and ignores the existence of externalities. The current accounting statements therefore can not tell how much a company uses non-renewable natural resources, and how production waste relates to the capacity of environment pollution. The methodology currently used does not take into account the time factor and should only occur for short-term events, and effects. Environment-related recovery, recycling and other costs, however, often years, decades after production occur, so there is no real method of recording them beside estimation.

Competitiveness has become an element of development of which management should not ignore. We saw that there are companies that focus on green management, but not neglecting corporate interests, production and profits. Of course, first farmers disliked it, because no one wanted to give up the tried and tested machinery, pesticides, feeds, etc. The example of ours was the same, but the company used farmers of eight different regions who had many years of experience and have combined this experience with a new way of thinking. Due to their success, today 15-20% of French farmers converted to ecological-intensive farming. New attitudes and thinking is needed to successfully adapt the green economy, eco-controlling.

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## COFFEE AND QAT FIGHT FOR LIFE IN YEMEN

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**Annotation.** *The race between coffee and qat production is one of the most striking aspect of Yemen's economic policy, however it has rarely been subject of policy analysis or discussion. This study is an attempt to put the facts on the table and to discuss them objectively.*

*The purpose of this paper is to provide fundamental insight to this issue, as a prelude to suggestions for policy options. The study explores this issue as a social and economic phenomenon that raises the question whether cultivation and trade of qat is better opportunity for Yemen than coffee.*

*Qat, as a unique, local phenomenon still plays important role in economic and social life of Yemen. During the recent three decades it became the major agricultural crop, squeezing out sorghum and coffee in many areas and secures profits up to ten times as high as those achieved by cultivating other crops and especially coffee.*

**Key words:** *Yemen, Agribusiness, Qat, Coffee.*

**Introduction.** Qat (*Catha edulis*) is a popular, long-harvested and stimulant plant in the countries of East Africa (Somalia, Ethiopia, Djibouti) and Yemen. Qat is actually a shrub with leaves and fresh shoots consumed or chewed. Cathinone is the active substance that has a similar effect on amphetamine. It is a psychoactive stimulant that has been listed by the World Health Organization (WHO) in 1965 as a drug causes moderate dependence.

It is a slowly growing shrub, but it can grow onto a tree. Its height ranges from 1.5 meters to 20 meters, depending on the region in which it is grown or surrounding weather. Qat leaf is licking in the mouth and not swallow. After being chewed, the gum is absorbed.

According to the Yemen Statistical Office (YSO), 90% of men and 25% of women in Yemen are regularly chew qat. The people spend more money on qat per year than on food, and because of the large volume of exports, qat production threatens the country's land and water resources. Yemen has been facing shortage of water for thousands of years, but the problem has only been exacerbated by qat's long-consumed drug-plant, which has been widely used in its leaves as a stimulant. Qat, grown by 70% of Yemen farmers consumes 40% of water resources. The qat shrub grows year after year at the expense of traditional food and coffee. (<http://www.yemen-nic.info>).

The first coffee plantations were established in Yemen by the monks in the 15th century, but in the Persian, Egyptian, and Turkish regions a number of plantations were established for the next century. Study have shown that, so much coffee has grown so fast that it has been consumed in the regions instead of forbidden alcohol for religious reasons (Yemen Nic).

**The objectives of the Research.** In view of this, the centuries-old tradition in Yemen has been a major challenge to coffee in the form of a beautiful qat shrub. Qat leaves are freshly eaten raw due to their invigorating effect. In Yemen, part of the company's life is that men gather in the afternoon and ate qat, this has been spread to other countries like in Somalia, Ethiopia and Djibouti. One of qat's shrubs, qatin, is listed among the forbidden substances on the list of the International Anti-Dopping Agency. This study seeks to examine the effect of qat and coffee production on Yemen economy growth.

**Material and method.** The data was collected from primary and secondary sources, these includes the YSO has been studied in relation to the land area and qat and coffee production. Also, interview conducted among the Yemenis, intellectuals, information from the journals and internet. It has been deduced from the data that Yemeni farmers have a constant fear of the spread of the qat plant at the expense of coffee beans.

In the first step of the study, the existing data has been standardized. Thereafter, the findings as shown in Taiz city, where qat and coffee are produced in several quarters and my observation in several fields, examined how mathematically can be organized into production groups. By standardization, I have eliminated the size differences between country's states. In the research course, testing methods were supplemented by deep interviews along with secondary research.

**Yemen, the cradle of coffee and its importance in the country's GDP growth.**

Although the coffee was founded in Ethiopia town, but economic significance of coffee was realized in Yemen. The word coffee itself comes from the name of the Ethiopian Kaffa province, the word Mokka is in the name of the city of Mokha in Yemen or the name in Arabic al-Mukhá. It is no coincidence that many people consider Yemen to be the cradle of coffee, as the first coffee was grown here for the first time, and the Arabs began to trade it first.



Fig. 1. Coffee tree

Source: *Alum's social enterprise (2014)*

In Yemen, the preparation of coffee beans differs from the usual, because the coffee beans are dried out all over, and the fruit juice on coffee beans is removed only in the first phase of grinding, making coffee. Coffee is a refreshing, high antioxidant content. The Yemen often eat cold several times daily with ginger, cardamom and cinnamon. Because

it does not burden the stomach at all, so many people do not drink water.

Traditional cafes are only visited by men, but in modern cafés, women and younger generation men are found. The coexistence of the two cultures is a good example of the fact that the centuries-old traditions and development can fit together, even here in the cradle of coffee-making.

**The issue of Qat and water in Yemen.** In Yemen, water has become more valuable for people today, more valuable than oil, as the state of the Arabian Peninsula is predicted to be the first country to run out of water. Both the Yemeni government and experts agree that Sanaa, Capital City of Yemen, still has enough water supplies for about ten years according to current water consumption and then water wells are drowning. However, the population of Sanaa (approximately, two million) is growing and meanwhile more people are forced to leave their homes due to the worsening water shortage.



Fig. 2. Qat tree

*Source: Agriculture in Yemen*

In Yemen, which is one of the countries with the highest population growth rate (last year, 3.46%), water shortages have become critical and as a result there is an increasing turmoil among people. On yearly basis, each person has 100-200 cubic meters of water as a human consumption, which is below the international limit of 1000 cubic meters. Water in the soil is used by the population more quickly than it could be in reproduction. This is especially true for Sana, where water wells once the water was below 20 meters below the surface - it is now to be drilled for 200 meters deep.

People in desperation are drilling unconscious buckets, which will only aggravate the problem. In Taiz, southern Yemen, tap water is only once in every 45 days. In the north, in the mountain Malhan region, women and children crawl at a height of 1500 meters high to get water from a source there.

Hosny Khordagui, Director of the Water Administration Program of the Arabic States, said: "If they cannot find a solution, we will witness as people advance to the big city, poor quarters emerge, criminality rises, spreads of sexually transmitted diseases, violence and even fanaticism. Fanatics will find fertile ground for recruiting people and creating infrastructure." Yemen's people have been forced to live with water for thousands

of years, but the problem has only been exacerbated by the extensive cultivation of qat's long-consumed drug plant, which has a stimulant in its leaves. Qat - grown by 70% of Yemeni people - consumes 40% of water resources (Al-Motarrab, 2010).

The sustainable and economical management of water resources has a key importance in Yemen where water resources are very much limited. The latter, however is a global problem. Neszmélyi (2014) pointed out in relationship with the Nile-basin countries that shortage of water has become and increasing risk factor from the point of food security. Li M., Zeman Z., Almadi B. 2016. have got opinion it is same, they also agree with this global problem all over the word.

In Yemen, extensive arable crops are favored by climatic zones. In the Arabian Peninsula, the greatest potential for development in agriculture would be for any nation here. Agriculture is an important part of the economy (accounting for 17% of GDP in 2001), although scarcity of land, water scarcity, intermittent droughts and difficult terrain make farming difficult. Agricultural employment accounts for more than 64% of the workforce, but only 3% of the area is the arable land. Yemen's ability to create self-sufficiency in agriculture is very remote. Since 2001, Yemen imports 857,200,000 US agricultural products (National Statistical Center, Yemen 2016).

Hisham Sharaf, Deputy Minister of Planning of Yemen, said: "We are struggling with water shortages that will slowly turn into people's struggles. If we continue to waste so much water for Qat, Sanaa, the capital has been back for 10 to 15 years. "The government has been considering the establishment of a seawater transformer, i.e desalination plant. However, this is a very expensive solution and may be too late for that. The only option would be to limit agricultural production, which would mean that Yemen would have to import more food (Al-Motarrab, 2010).

Just in the last few years, Yemen has been getting lots of attention; from Alkhanshali, from Andrew Nicholson of Rayyan Coffee, and from Shabbir al-Ezzi (a long-time exporter of Yemeni coffees), much work is being done in-country to get these coffees to market. USAID started the 24.5 million USD CASH (Competitive Agriculture Systems for High Value Crops) food security project in February 2014, with Land O'Lakes providing facilitation, and CQI supporting the coffee-specific tasks related to the project. World Coffee Research, based at Texas A&M's Borlaug Institute, is genetically fingerprinting Yemeni coffee varieties (including Tuffahi, Dawairi, Ismaili, and Jaadi), as well as experimenting with Near Infrared Spectroscopy (NIRS) to fingerprint specific compounds in green coffee by using light refraction (Gilman, E. 2015).

**The history of Qat shrub in Yemen.** "Qat" - a scientific name known as *Catha edulis* - is an indigenous psychotropic plant in Yemen and Ethiopia, which has been popularized by its populace due to its euphoric and sympathomimetic effects. In Qat Yemen, for more than one simple plant, it determines people's lifestyle and has a role in marriages, celebrations, and political gatherings.

Qat rises above 1 to 3,000 feet above sea level and has grown up to 6 meters in height. Magnificent plant, it explains that it did not spread out of the region. Its leaves and branches can be collected throughout the year, and the drought is well tolerated.





Fig. 3. Qat leaf pictures  
*Source: Panoramio (2012)*

The alkaloids responsible for the psychotropic effects of qat were first isolated in 1887 by scientists and five types of active substances were distinguished: cathin, cathinin, cathidin, edulin and ephedrine. Among these, cathin is the most significant. The plant also contains tannins and vitamin C (150mg / 100g fresh leaf).

The pharmacological effects of some scientists are most similar to amphetamine and caffeine. For beginners, qat often results in insomnia, but with tolerance this symptom ceases. Chronic users have frequent mouth and gum infections - although this is due to hygiene conditions. As it increases blood pressure, it may be dangerous for people who are sensitive to it. With physical withdrawal symptoms, the sudden abandonment of the use of the drug does not result, but it often results in mental symptoms.

In the Yemen houses there is a separate room for chewing the qat, where only men's and men's guests can live with the plant. Women and girls have separate qat-chewing séances, though they are less common than similar men's meetings.

**Results and findings.** The spread of Western-style life is also a challenge to the qat culture. The typical Yemeni citizen spend less than 8 hours a day working, and often abandons all his money-making activities after lunch to eat qat among his friends. This invariably increases strength to work for longer period or duration, based on the observation their nonchalant attitude to work often attributed to present state of the country. For instance, crisis which led to many companies' shutdown, government agencies and parastatals closed, lack of social activities, existing institutions degraded and among others. This traditional way of life was criticized by Yemen Western intellectuals, who were highly trained and civilized.

In Yemen, extensive arable climatic zones have the greatest potential for the development of agriculture for any nation in the Arabian Peninsula. Agriculture is an important part of the economy as it has 28.1% of Gross Domestic Product (GDP) in 2015. Although there is a little land, water scarcity, intermittent droughts, and difficult terrain. Agriculture accounts for more than 64% total employment but only 3% of the area is the arable land, thereby, the ability to reach self-sufficiency in agriculture is

inaccessible (Yemen.nic.info).

Except for preliminary data, real GDP growth is estimated to be 12.9% at 2014. This is due to several reasons, mainly is the crude oil crisis in the first half of 2014, which lasted for about four months. Just like armed conflicts during the second half of 2014 in the capital city of Sanaa and other provinces. Furthermore, the critical situation of the national budget, especially the declining public investment was spending about of 26.3%. Just as trust decline in domestic and foreign private investment. As a result, GDP per capita was 1,343 USD in 2013 and 1,261 USD in 2014 which shows a decrement of 82 USD.

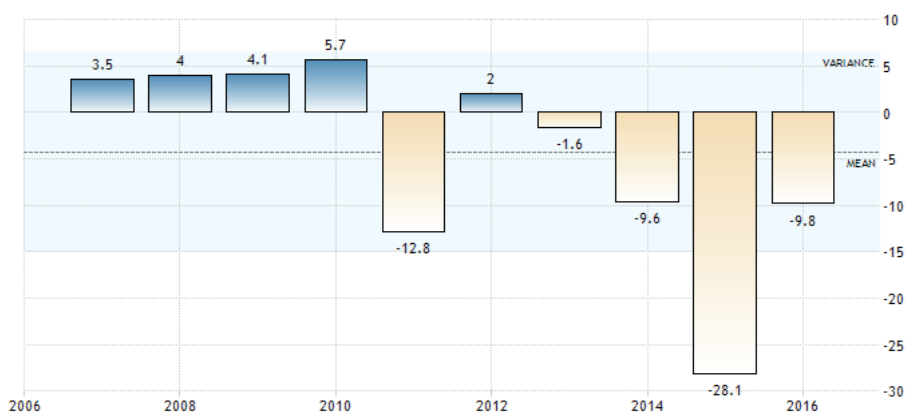


Fig. 4. Yemen's annual GDP growth rate  
 Source: CIA World Factbook, 2017

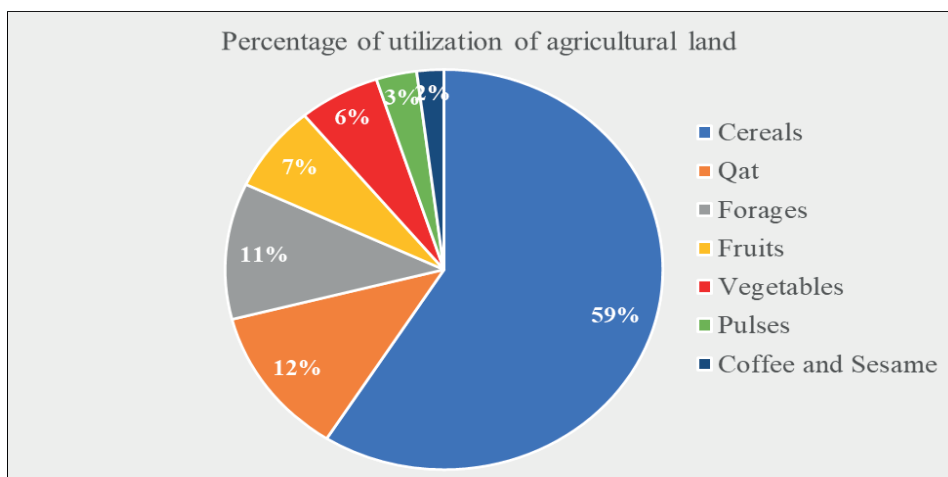


Fig. 5. Percentage of utilization of agricultural land in 2013  
 Source: Yemen-nic.info



The popularity of Yemeni coffee is due to its high quality compared to other types of coffee produced in other countries. Therefore, the demand and competition between the French, British and Dutch companies increased during the 1750s. The highest production of Arabic coffee came in 1720 after the establishment of a Dutch coffee factory in the Mukha region in 1708. They began to export it. Then the French set up another factory in the Mukhaa area in 1709. During that period, the ports of Mukha, Hodeidah and Al-Lahia witnessed a great movement of coffee trade. The figure below illustrates how the coffee production was decreasing over centuries.

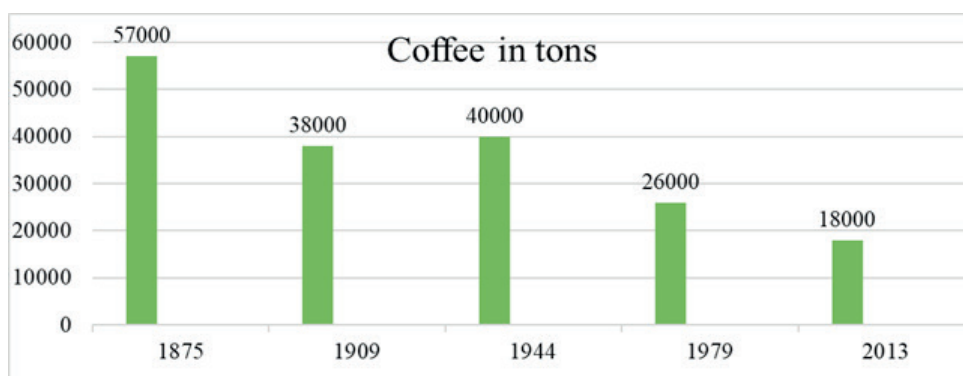


Fig. 6. Coffee production history  
 Source: Own edition on the basis of Saif Yafi (2012)

From the figure above, the coffee production in 1875 were about 57,000 tons, in 1908 (38,000 tons) and it was slightly increased 1944 to 40,000 tons after then continue to decrease gradually due to lack awareness of the farmers while Qat the increased geometrically.

The Area and Quantities of Coffee Production From 2011-2015

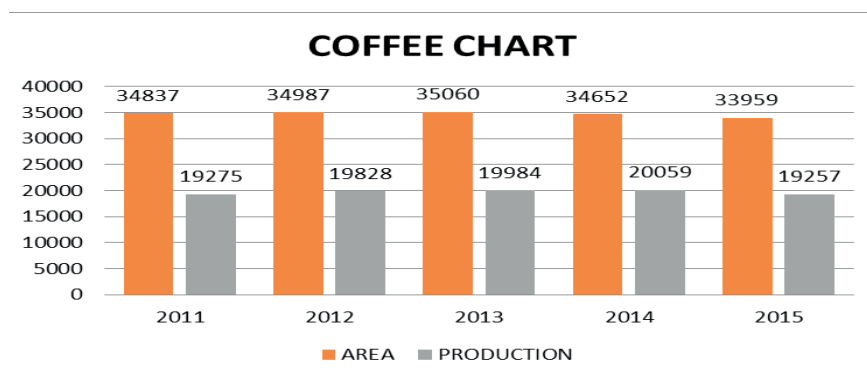


Fig. 7. Coffee chart  
 Source: Own editing on the basis of Yemen-nic.info

The above chart depicts the production level of coffee at various area of land spanned from 2011 to 2015.

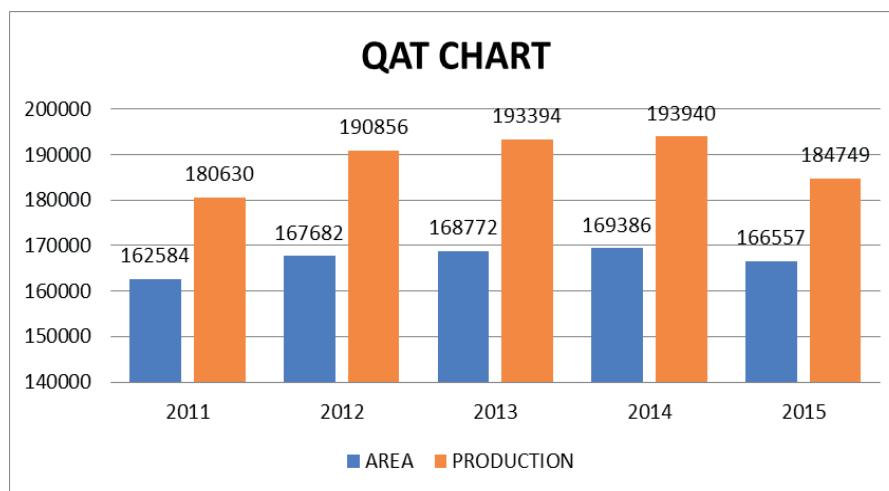


Fig. 8. Qat chart  
Source: Own editing on the basis of Yemen-nic

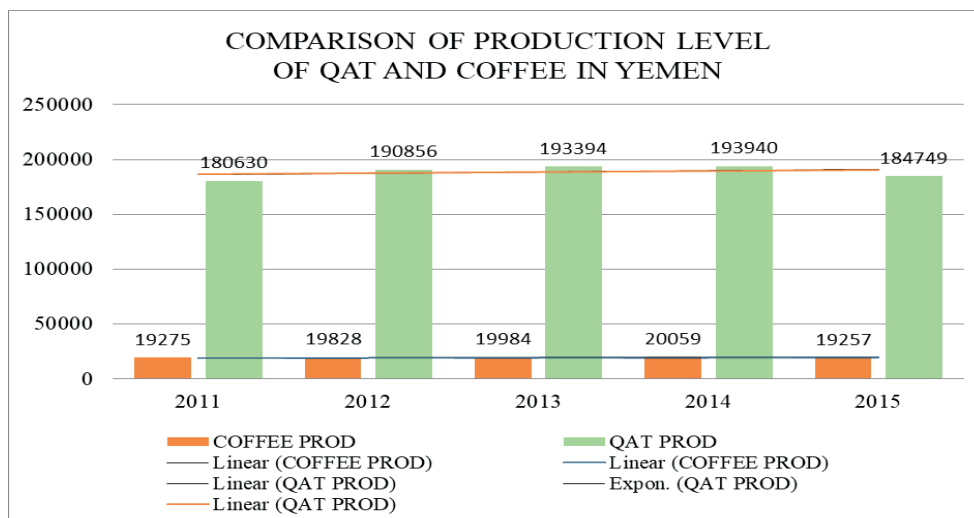


Fig. 9. Coffee and Qat production chart  
Source: Own editing

From the chart above it can be deduced that their high significance difference in the production of qat compare to coffee production in Yemen. The trendline indicated the margin between the both crops, taken from 2011 to 2015 respectively. In the year 2011, coffee produces 19, 275 tons while qat 180, 290 tons on various area of land. From

2013 the qat production increases drastically and vice versa. Based on the interview conducted, the increase in qat production can be attributed to the frequent harvest i.e. usually harvested three times annually and locally generated more revenue to the farmers. But the coffee was harvested once a year, and traded at international market.

However, coffee is still among the most important crops and exports in Yemen, although the number of coffee plantations has decreased drastically over the centuries. At the same time coffee culture has changed a lot in the country, which continues to play an important role in the Yemeni life.

**Qat and its social consumption.** The impact of qat's corporate mood comes shortly after the first leaf is trimmed, resulting in euphoric behavior and friendly joking.

The initial euphoric-friendly atmosphere lasts for about 2 hours, followed by a deeper two-hour period, during which many problems are often discussed. The second stage is serious, sometimes irritable.

**Effects of Qat.** Qat only produces a lasting psycho-social change for a small number of users, and these people do not count as deviant: society has integrated this behavior as well. Qat consumers were found of these symptoms like schizophrenia, talk unconcerned, often avoid social contact, pupil swelling, dry mouth and thirst, increased blood pressure, and a quick pulse. Allegedly, the ability to work also increases temporarily.

Although the Koran prohibits believers from being seduced by drugs, it only refers to alcohol. The consumption of qat only became popular after the 16th century Osman conquest. Some Arab countries are strictly punished for consuming qat, but in Yemen, even religious leaders indulged in this habit.

When, in 1957, the Western-educated South Yemen leadership ruled out the "barbarian" habit of qat-chewing, thousands of demonstrators flooded the streets of the capital and Aden. Although the government failed in 1958 as a result of demonstrations and the economic crisis, qat influenced and divided Yemen's political life for a long time. Politicians have often received indications from the public, such as "Qat Party" or "Anti Qat." In 1972, the massive anti-qat campaign of the North Yemen government also led to the outbreak of a short war (National Statistical Center, Yemen 2016).

However, qat has been an economic relevant since the 20th century. According to some surveys, 80% of Yemen's production areas were qat cultivation, which indirectly decreases the water supply to some affected area.

Even today, most of the time, male and female activity in the afternoon is 2 to 6 hours long. The good-spirited conversation with plenty of (and for non-alcoholic reasons) drinking and usually smoking is a bold, but eventually unfulfilled, plan that will not be remembered the next day. Ceremonial qat consumption is also an indispensable part of family gatherings and formal negotiations, especially in Yemen. Qat chewing is also a social event, men of the same social class often cling together ... it is said that many shops and marriages have been made by the qat letter.

The chewy chewing of the qat leaves, fresh or even a few days ago, causes speech, liberation, mild euphoria and appetite loss. Typical physical symptoms that develop with qat include

Among the many alkaloids of the qat shrub plant, the psychostimulatory effect on noradrenaline and / pseudoephedrine-like catechin or catkin. Although the active ingredients are called "natural amphetamines," the lower the potency. The structure of the main body responsible for the impact was determined in 1975 by the Research Scientist at Szeged, Szendrei Kálmán, at the United Nations Laboratory for Drugs in the United States. Ephedrine-type proto-alkaloid in the central nervous system, on the one hand, stimulates the release of the dopamine stimulant, and inhibits its withdrawal. The resulting behavioral responses are mainly caused by increased dopamine concentration in the synapse (dopaminergic effect).

Qat, in the mid-1990s - "thanks to the daily delivery of fresh shoots", has also appeared in North America and Western Europe, though mostly to meet the needs of East African or Yemen immigrants who are just about to adhere to their habits.

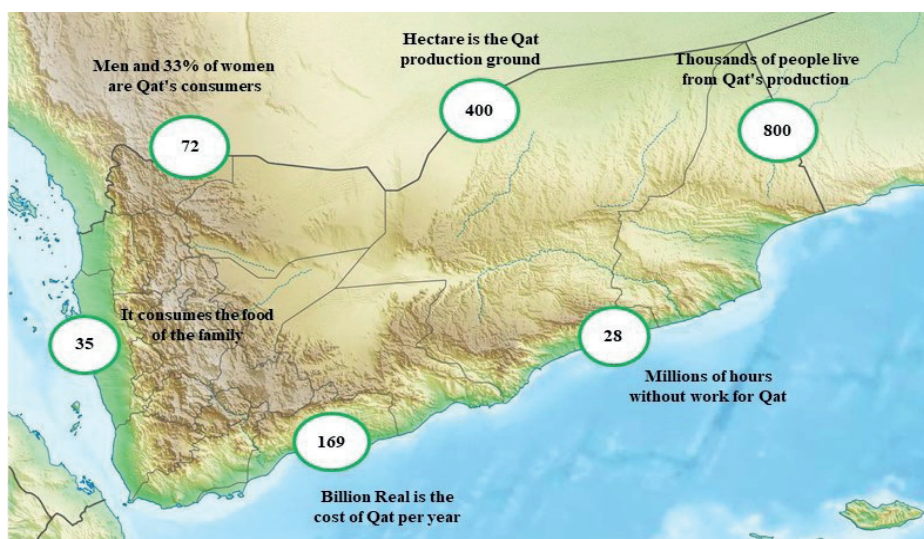


Fig. 10. Qat ratio in Yemen

Source: Jahlan, 2015

#### The negative effects of qat

1. Qat cannot be traded at international market either can it generate national revenue to the country. It is simply regarded as domestic food which is expensive and traditionally consumed by men every day.

2. It is also harmful to agriculture, because it can be harvested more than once annually while other crops were produce per year and qat were mostly substitutes with fruit tree, vegetable and buffalo production and coffee production, which would be very useful in the country's GDP since it can be exported.

3. It causes many diseases and is harmful to health as it contains harmful substances.

4. Loss of appetite resulting in small and thin Yemenis.

5. It causes oral cavity, mouth and tongue illness or bad breath.

6. Since it is expensive and many people need to eat every day, it is a sign of the greed because payment is not enough for the food, clothing, and comfort and this encourages the family to ask money from their clients at work.

7. It distracts the attention of the young people from the production, the unserious or ineffectiveness of the coworkers, since after lunch it has to sit down and chew up qat to evening in spatial form, causing low level of production to work around the country.

8. He plays a great deal in social life because he is indispensable in the wedding and feast days.

9. Qat causes many havoc or dangers to the Yemen society that it has its own designed living room for each house which decreases available accommodation to the family.

**The positive effects of coffee.** Coffee is a source of support for the national economy in its export phase. It was the source of the foreign currency of the country, which is the most acceptable commodity for export in Yemen and important agricultural products. It is exported by the private sector. Currently, the crop covers domestic consumption and exports to the Gulf States and the world countries, but not the quantity previously recognized due to the deterioration factors faced by this crop, and we have already mentioned, but it is highly recognized as a strategic crop and is still and will remain a strategic support for the national economy, so there must be continuous preservation from extinction and develop its cultivation and increase its yield.

**Conclusions and recommendations.** On the economic side, coffee was one of the most important export items, generating more income or revenue to government purse and having a major impact on the gross domestic product. The coffee sector was one of the pillars of the economy. For example, around 1720 the country recorded highest production of Arabic coffee after the establishment of a Dutch coffee factory in the Mukha region in 1708.

In many countries in the world agriculture is heavily subsidized in order to improve or maintain competitiveness of the sector. According to Neszmélyi (2004) in South Korea procurement prices increased by 6% annually between 1985 and 2000. South Korean producers who work at their miniature-sized farms cannot produce rice and other products competitively, therefore, even for decades they have been subsidized by the government and their activity is basically co-ordinated and integrated into a two-tier co-operative system. Besides South Korea Neszmélyi (2017) also pointed out the case of Taiwan where the government operates various payment systems and procurement programmes with price guarantee.

In this context, the Yemen Bank for Reconstructions and Development will continue to lend support to the farmers and governments in the region as they consolidate their economies on the basis on increased efficiencies and competitiveness in coffee production. Furthermore, the Bank has attached high priority to reducing poverty and decreasing economic and social inequality in the country via provision of loan with less interest rate on lending.

Furthermore, the government has come up with programs and policies that have a positive impact on small coffee producers, promote employment, and raise income

levels of the poor farmers are well within the scope of the country priorities such as support for environmentally friendly projects, and it is open to projects that focus on sustainable development. Lentners (1998,2006,2007.) opinion it is the same in that conclusion contact with Hungarian agriculture.

The intellectuals and educated elite in Yemen have played a vital important role on encouraging the local farmers to boost the coffee production and discouraged the qat production. Qat has more negative effects such as qat consumers were found of these symptoms like schizophrenia, talk unconcerned, often avoid social contact, pupil swelling, dry mouth and thirst, increased blood pressure, and a quick pulse. Allegedly, the ability to work also increases temporarily and less economic significance compare to the coffee.

Therefore, the Government must come up with policies that will replace or support the qat cultivation area with coffee farms, subsidized the agricultural farming tools. It should create and expand local and foreign market for agricultural produce. There should be adequate water supply and provide more fund to agricultural sector.

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## ECONOMIC MEASUREMENT OF RANKING UNIVERSITIES AS A MEAN OF ASSESSMENT OF THE QUALITY OF HIGHER EDUCATION SERVICES IN UKRAINE

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**Annotation.** *The scientific approaches to the definition of the economic measurement of ranking of Ukrainian universities are analyzed in the article. The concept and purpose of economic competition of institutions of higher education as a means of competition among consumers of higher education services and competition among higher education institutions are highlighted. The main economic indicators (indexes, criteria) are proposed to be taken into account while developing the National ranking of higher educational institutions of Ukraine.*

**Key words:** *higher education, higher education quality, ranking, economic measurement of ranking, economic indexes of ranking.*

One of the compulsory signs of a modern market economy is economic competition between institutional units (economic entities) in order to achieve, through its own achievements, some advantages over other institutional units (economic entities). University ranking is a means of competitive struggle of universities for economic benefit, which in its turn meets the principles of a market economy. Economic competition in higher education is a competition between consumers of higher education services and competition between higher education institutions - producers of higher education services for achieving certain economic benefits through their own achievements.

The purpose of competition between consumers of higher education services is to receive higher education services in higher education institutions that correspond to their religious, philosophical and pedagogical preferences, their level of preparation for higher education, their awareness of the conditions of provision and the quality of higher education services they expect to get in the certain institutions of higher education, the price policy of higher education institutions for higher education services.

The purpose of the competition between institutions of higher education is also confirmed by the producers of higher education services in order to obtain the optimal volume of state and / or regional orders for the production and provision of higher education services with payment from the state and / or local budgets in the amount that fully makes compensation for their actual costs for the production and provision of higher education services; the optimal volume of corporate and / or individual orders for the production and provision of higher education services with non-budgetary sources of funding in the amount that fully compensates their actual costs for the production and provision of higher education services and which allows the formation of funds for the development of a higher education institution; receiving of targeted non-repayable financial assistance from state authorities and local government bodies for



the development of a higher education institution; receiving of donations, valuable gifts, grants from the non-state sector of the economy; the involvement with higher levels of education into educational activities in their higher education institutions will enable them to provide higher education services of a higher quality and improve their business reputation as a higher education institution with a high quality of higher education services.

The effectiveness of ratings in higher education institutions, in its turn, has become the research theme for many researchers. The approaches of Ukrainian scientists to the problem of ranking in higher education, which is illustrated in the works of such scientists as: S. Kyrbatov, O. Slyusarenko, V. Lughovui, J. Talanova, O. Lunovutska, O. Sharova, V. Bahrushina, O. Spivakovskuii, have become widely used. The problem of ranking in higher education is developed and investigated by foreign scholars: A. McCormick, M. Vander Wade, D. Salmi, S. Marginson, G. Niva, A. Preidz, E. Hezelkorn, K. Hodson and others. It may be agreed with the statement of S. Kurbatov, who, in his thorough study "Phenomenon of the University in Context of Temporal and Spatial Challenges" noted, "... that ranking as a technical and technological process is based on the principle of comparison. Moreover, this comparison is carried out on the basis of certain parameters (criteria and (or) indicators), which assess the related qualities which the objects of comparison can carry. The identification of similar related fields is an important task for each ranking compiler, otherwise there is a risk of comparing warm and green, or, as the English would say, "compare pears and apples" [4]. Instead, it should be pointed that at present, the problem of rating of higher education institutions is not practically investigated by experts in economics.

A scientific discussion of university ratings and their quality has been ongoing over the last decade. According to the free explanatory dictionary of Ukrainian, the rating is the most concise assessment of the state or success of something or someone [5]; the modern economic dictionary considers this concept to be an assessment of the significance, magnitude, importance of the firm, the bank, as well as the credit rating index to characterize the company's creditworthiness [6]. The National Business Rating in Ukraine gives its definition of what the rating is "... an objective, independent, transparent business assessment based on a comprehensive analysis of the indicators of financial and economic activity ..." [7]. The content of certain rating categories is formulated in domestic normative legal acts. Thus, in particular, the Law of Ukraine "On State Regulation of the Securities Market in Ukraine" [8] in Article 1. "Definition of Terms" declares that the rating should be understood as "... the activities of providing professional services in the securities market, aimed at determining of the creditworthiness rating of a rated entity that can be carried out by the rating agency".

In addition, the Decree of the Cabinet of Ministers of Ukraine "On approval of the concept of creating a system of rating assessment of regions, sectors of the national economy, business entities" [9] specifies the rating assignment of rating assessment in Ukraine: "... Rating scale is introduced in Ukraine to determine credit risk in terms of regions, branches of the national economy and business entities. Using the results of

the assessment will enable investors to determine the investment attractiveness of its objects". It is also emphasized that the credit rating outlook (positive, stable or negative) is a commentary on the prevailing trends that affect credit rating in terms of its possible (but not mandatory) changes in the future. The rating can be withdrawn if the borrower does not provide the authorized agency with the information necessary to update the rating, or for other reasons.

**The research objective.** Prove that the purpose of rating is to identify the winners in competition for the purpose of obtaining economic benefits.

**The statement of basic materials.** Joining the European Union has been proclaimed a near-term perspective by Ukraine. However, in the Constitution of the European Union, it is established that "The Union's activities are aimed at the sustainable development of Europe, based on ... highly competitive socially-oriented market economy ..." [1]. The Association Agreement between Ukraine and the European Union, which entered into force in full from September 1, 2017, states that Ukraine has committed itself to "... to build ... a market economy; ..." and that "the Parties recognize that, that the principles of a free market economy form the basis for their relations ..." (Article 3) [2]. In connection with the abovementioned, measures to reform public relations in Ukraine (including the relations for obtaining higher education by Ukrainian citizens) should be, according to our convictions, considered obligatory on their compliance with the principles of a modern market economy.

One of the main indicators of modern economic activity is the gross domestic product (hereinafter - GDP). According to the internationally agreed standard for the calculation of gross domestic product - education is one of 21 equal types of economic activity, the results of which are part of the specific values of the gross domestic product in the corresponding period. Data on the economic measurement of the economic performance of institutions of higher education of Ukraine are presented in Table 1.

Table 1

**Value of higher education services of Ukraine in 2010-2015**

	2010	2011	2012	2013	2014	2015	2015 – 2010, %
Billion, UAH	39,2	41,3	44,8	45,5	42,1	48,7	24
In % to:							
Total output of goods and services (in the country)	1,5	1,3	1,3	1,3	1,2	1,0	- 0,5
GDP	3,5	3,0	3,0	3,0	2,7	2,5	- 1,0

*Source: National Accounts of Education of Ukraine in 2015: Statistical Bulletin / State Statistics Service of Ukraine - P.88*

According to the above data, the value of the volume of higher education services, as a result of the economic activity of higher education institutions of Ukraine, amounted to UAH 39.2 billion in 2010, or 1.5% of total value of all goods and services, and 3.5%

of GDP. In 2015, the value of higher education services amounted to UAH 48.7 billion, or 24% more than in 2010. However, a share of services in the sphere of higher education in total value of goods and services decreased by 0.5 percentage points (from 1.5% to 1%), while the reduction in the volume of GDP amounted to 1.0 percentage points (from 3.5% to 2.5%). It is necessary to add that the source of statistical information on the production and delivery of higher education services in Ukraine is the official data of the national accounts of Ukraine, which are drawn up in accordance with the Methodological Regulations on the compilation of auxiliary (satellite) education accounts in Ukraine, approved by the order of the State Statistics Committee dated 15.02.2010 № 57.

It should also be noted that the UNESCO International Institute for Educational Planning and the UNESCO Institute for Statistics in 2016 issued the National Education Accounts Methodology, based on the principles of international standards such as the National Accounts System (SNA 2008 is an internationally agreed standard for that, how to compose indicators of economic activity [3].) and International Standard Classification of Education 2011 (ISCED 2011 is a member of international family of economic and social classifications of the United Nations). ISCED is a statistical framework for organizing educational programs and corresponding qualifications by levels of education and specialization [3]). As stated in the Foreword of this document, "... the development of qualitative data on current funding is important, because it is necessary for governments to understand how funds are distributed, which groups turned out to perform under unfavorable conditions according to the access to funding, where are the potential points of loss, and what can be made to improve economic and overall efficiency. Currently, many countries are not able to calculate the full unit cost of education.

The lack of cost breakdown is also an obstacle to effective policy planning aimed at improving learning outcomes. The lack of national data leads to gaps in the international data system and makes difficulties to carry out the effective monitoring of progress towards the goals of the Education 2030 Program and the fourth goal of sustainable development, as well as realistic calculation of value at the national and international levels ..." [3]. The abovementioned provisions of the Constitution of the EU, the Association Agreement between Ukraine and the EU, official statistics that characterize the economic dimension of the economic performance of institutions of higher education of Ukraine in the structure of the value of all goods and services and in the structure of the country's GDP, UNESCO reputable institutions position according to the importance of economic dimensions of the results of the economic activity carried out by institutions of higher education gives, in our opinion, enough grounds for the conclusion that the ranking of universities is obliged to take into account appropriate economic indicators (indexes, criteria).

We offer the following ones:

1. Share of the value of the services of higher education produced by the institution of higher education of Ukraine in the total volume of the value of services of higher education, produced by all institutions of higher education of Ukraine, %, for the

calendar year. The indicator will characterize the place of a certain institution of higher education based on its economic activity and its contribution to the production of GDP of the country.

2. Share of applicants for higher education (consumers of higher education services) who received a diploma in a certain higher education institution of Ukraine in the total number of higher education graduates (consumers of higher education services) who received a diploma in all higher education institutions of Ukraine, %, for the calendar year. The proposed indicator will determine the place of the institution of higher education in ensuring the constitutional right of Ukrainian citizens to get higher education. If a certain institution of higher education in a given year has ensured the implementation of the constitutional right to get education for the largest number of citizens, it should be included among the best institutions of higher education of the country with the right to obtain appropriate economic benefits.

3. Share of applicants for higher education (consumers of higher education services) who have received a diploma in a higher education institution of Ukraine within funding through the budget under the terms of state order in the total number of higher education graduates (consumers of higher education services), who received a diploma within funding through the budget under the terms of state order in all institutions of higher education of Ukraine, %, for the calendar year.

The proposed indicator will determine the place of higher education institution in training specialists for public purposes, defined to be a priority by the state. The best results in fulfilling the state order should become the basis for obtaining certain economic benefits for higher education institutions. The need to introduce the proposed indicators of measuring the results of economic activity in the practice of management of higher education institutions and their ranking will be demonstrated by an example of the analysis of the provisions of the Decree of the Cabinet of Ministers of Ukraine № 912 dated on 22 November 2017 "On Approval of the Procedure and Criteria for a Higher Education Establishment to be given a National Status, Confirmation or Deprivation of the status"[10], adopted in accordance with Part II of Article 29 of the Law of Ukraine "On Higher Education" [11]. As stated in the Article of the Law, the national higher education institution has the priority right to receive state funding to carry out science, research and technical activities, conduct fundamental and applied scientific research, perform scientific programs and projects of state importance in the quantity of no less than 10 (%) per cent of state budget funds allocated for its maintenance and has the priority right to receive funding to buy scientific and educational equipment, computer programs etc., at the expense of the state budget. Consequently, the status of the national higher educational establishment provides certain economic advantages for the institution of higher education in competition with a higher education institution that does not have a national status.

However, among the approved criteria specified by the Cabinet of Ministers of Ukraine for providing and confirming the status of a national institution of higher education (5 mandatory, 13 comparative, 5 top-grade), actually, there are no criteria to

characterize a national institution of higher education as an economic entity and their contribution to the development of the national economy. From the above, it follows that a higher education institution as an economic entity, which carries out its activities within a market economy, may receive the status of a national university having the worst economic indicators. Instead, among the mandatory criteria are: 1) the implementation of the Laws of Ukraine "On Education" and "On Higher Education", Regulations on Licensing Educational Activity; 3) the absence of violations of Regulations on Licensing Educational Activity revealed"; "5) placement of mandatory information provided by law on the official web site of the higher education institution". In our opinion, if a higher education institution does not comply with the Laws of Ukraine, violates Regulations on Licensing Educational Activity or does not post mandatory information provided for by law, such higher education institution should be considered for the purpose of liquidation rather than considering it to be an applicant for the status of a national institution of higher education.

**Conclusions.** In the current conditions of reforming of higher education in Ukraine, based on the technology of accounting for individual and collective achievements of all participants in the educational process (applicants, consumers), ranking of institutions of higher education as a modern mean of influencing the improvement of the quality of higher education services should take an important role. The above-mentioned statements give the reason to claim that the ranking of institutions of higher education is primarily the identification of winners in competition with each other for obtaining economic benefits. Rankings are tools for the accumulation of information and assessment of the quality of higher education services, certain programs, teaching and research activities carried out in the institution of higher education.

1. Reforming and introduction of modern methods of regulation of social relations in Ukraine (including the relations in the field of higher education) caused to carry out their implementation based on the principles of a modern market economy.

2. Ranking of Ukrainian universities as an institutional tool for the normalization of economic competition of an institution of higher education with the proper use of economic measurement is not carried out.

3. To recommend to the Ministry of Education and Science of Ukraine to issue an order for the Cabinet of Ministers of Ukraine to work out a draft resolution " On the National Ranking of Higher Educational Institutions of Ukraine", in which the following measures should be specified:

- creation of a working group for drafting a resolution of the Cabinet of Ministers of Ukraine "On the National Ranking of Higher Educational Institutions of Ukraine";
- development of the Methodology for calculating the achievement index of Ukrainian universities taking into account economic measurement and obligatory indication of the above abovementioned economic indicators;
- substantiation of proposals for the formation of a separate budget program "Ranking of Universities of Ukraine" as part of the State Budget of Ukraine.

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**REASONING THE WAYS TO IMPROVE THE INVESTMENT  
SUPPORT IN AGRICULTURAL LAND USE  
ECOLOGIZATION SYSTEM**

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**Annotation.** *The article analyzes the importance of the processes of investing in ecologization of agrarian production in the direction of ensuring the development of the agricultural sector. The directions of practical realization of investment of ecological safety in agrarian branch are offered. The main components in the system of regulation of investment processes of ecologization of agricultural activity at different levels of management are considered.*

**Key words:** *agrarian production, ecologization, ecological safety, ecological investment, land use, investment climate, investment project, level of management, stimulation.*

**Introduction.** The ecological component in the system of development of agricultural land use plays a decisive role in the formation of an eco-friendly environment of the society and in the improvement of the ecological and economic efficiency of land resources usage.

At the present stage of development of the agrarian sector in many countries of the world, the proper level of environmental safety is largely ensured through the use of alternative eco-friendly technologies in the production of agricultural products and is determined by the quality of natural resources within the agronomic sphere. However, in order to support the dynamic development of eco-friendly agricultural production, certain stimulus measures and their financial support are important, which will develop the potential of this industry and promote its effective functioning.

In this aspect, expansion of investment activity in the field of ecologization of agrarian production and formation of an attractive environment for inflow of investments is decisive.

The intensification of investments in the ecologization of the agrarian sector is a determining factor, which is being worked on by scientists and practitioners in many countries around the world. For Ukraine, this problem is especially urgent due to the significant deterioration of the quality of agricultural land, because of their pollution and intensive use. Negative phenomenon is also the tendency to “extinction of the village”, the reduction of the number of rural settlements and their labor resources as a result of the consolidation of agricultural producers, due to the use of large-scale equipment,

especially in the field of plant growing.

The issue of investing agricultural formations is considered in the research of many Ukrainian scientists, such as I.P. Boreiko, I.I. Vinichenko, N.I. Demchuk, M.Yu. Kozhemiakina, N.I. Kolyshkina, N.A. Mazur, L.V. Smolii, H.V. Spaskyi, M.H. Stupen, M.V. Shchuryk etc. (Boreiko 2009; Vinichenko 2008; Kozhemiakina 2009; Mazur 2009; Smolii 2009; Spaskyi 2008). As for the solving the problem of investing resources and financing the ecologization of the agricultural sector, it is worth allocating N.M. Andryeyeva, O.M. Vishnevskaya, O.I. Hutorov, O.V. Prokopenko, O.I. Shkuratov and others. (Andryeyeva 2005; Hutorov 2008; Prokopenko 2010; Shkuratov 2010).

The purpose of the study is reason the ways to improve the investment provision of ecologization in the field of agricultural land use and the production of eco-friendly agricultural products.

According to the goal, the following tasks were defined:

- to study the main factors influencing the state of investment attractiveness of eco-friendly agricultural production;
- to reason the directions of regulation of investment processes at different levels of management in the field of ecologization of agrarian production.

**Material and Methods.** The research was conducted using the dialectical method of knowledge of the effect of economic laws and the systematic approach to the study of economic phenomena and processes, which involves achieving the balance of economic benefits and ecological safety in land use; monographic method was used during the processing of scientific publications on the concepts of “environmental investment” and “environmentally-oriented investment”, as well as the classification of this kind of investment; abstract-logical method – for making theoretical generalizations and formulation of conclusions.

**Results and Discussion.** In the broad sense, the concept of “investment” is treated as an activity associated with the investment of capital in order to increase and develop the object of investment. In this case, the possibility of increasing investment capital and obtaining positive effects should be so significant as to offset an investor's refusal to use funds to meet his personal needs in the current period and reward him for the risk of loss and impairment in the future. Thus, investment is connected, first of all, with the processes of expanded reproduction and determines the pace of economical, environmental and social development.

In our understanding, environmental investment in the agrarian sector is a process of current investment in the resource-ecological sphere of agricultural activity, and environmentally-oriented investment in agrarian activities is investment which takes into account the achievement of environmental goals and priorities, namely the investment of various types of property and intellectual property in agrarian activities. Their aim is to reduce and eliminate the negative anthropogenic impact on the environment, to preserve, restore and rationally use the land resources potential in order to achieve the environmental safety of the system management (Andryeyeva 2005).

Proceeding from the peculiarities and directions of implementation, ecologically



oriented investments in the agrarian sector should be classified as follows: ecological investments on preservation and restoration of the land resources potential; investments directed to the sphere of achievement of resource and ecological safety of agrarian production; ecologically oriented innovative investments for improving the technical and technological component of agrarian production (Andryeyeva 2000).

If we analyze the statistical data on the volume of capital investment in the protection and rational use of natural resources in the field of agriculture, hunting and the provision of related services in Ukraine, there is a sharp fall of them from 187,660.2 thousand UAH in 2013 to UAH 18,424.3 in 2015, which is only 0.07% of the amount of capital investments in the development of this industry (State Statistics Service of Ukraine 2014; State Statistics Service of Ukraine 2016). This requires the development of a system for encouraging investment in environmental agriculture in the agricultural sector.

In the process of developing incentive mechanisms for investing in the production of eco-friendly agricultural products, one should proceed from the fact that, in market conditions, environmental activities should be economically feasible.

According to the world experience, it is investment-friendly to create environmentally friendly production within the framework of specific enterprises, which forms the principle of profitability (utility) (Reid 2008; McKinsey & Company 2011).

Consequently, investments aimed at ensuring the resource and ecological safety of the agrarian sector are considered as the investment of resources that ensure the preservation of vital components of the natural resource environment of the agricultural sector.

The formation of a favorable investment climate in the field of eco-friendly agricultural production should be based on a number of factors, namely:

- 1) political (support by the authorities of investment environmental projects, restrictive measures against “dirty” industries, legal terms of investment, level of legislative support);
- 2) social (social stability in society, level of social sphere development, consumer potential, social conditions of the population);
- 3) economic (trends of regional economic development, features of specialization, capacity of local and regional markets, level of investment activity, inflation rate, economic impact of foreign investors, placement of territory relative to consumers and suppliers);
- 4) ecological (level of environmental pollution, natural and climatic conditions, qualitative indicators of soils);
- 5) innovative (availability of new developments, intellectual level, information provision).

Mechanisms for stimulating the investment process for ecologization the agrarian sector should cover the effects of these factors and include different levels of management (country, region, specific entity). The practical implementation of the provision of investment in the environmental safety of agricultural activities must be carried out within the framework of two main areas oriented towards the implementation of the

latest scientific and technological progress and have the greatest potential: ecological reorganization of agrarian production (at the level of the region and state) and ecological modernization of technological processes (at the level of individual business entities).

Ecological reorganization is a process of environmental protection restructuring of the sectoral structure of the agrarian economy, either by reducing the demand for the products of “dirty” production or modernizing the industries consuming the products of these “dirty” productions (Dziadykevych et al. 2016). Environmental modernization touches on the changes that result from the major technical and technological upgrading of production.

In this case, the main efforts should be focused on attracting financial resources and funds on the local and regional levels. It is also worth paying attention to the attraction of foreign investment resources in order to stimulate the development of eco-friendly agricultural production. All this indicates the need to form and implement, first of all, a regional investment policy that will ensure the accumulation of internal ecological and economic potential and improve the investment attractiveness of the ecologization of the agricultural sector.

It is important to justify the following components for the development of effective economic and environmental investment projects:

- taking into account the ecological component in the system of economic efficiency achievement;
- organizational component for the implementation of the idea;
- resource support for project proposals;
- product markets for manufactured environmental products;
- competitive situation on the markets of this product;
- types of expected effects from project proposals;
- strategic component in the implementation of the principles of environmental safety.

In this case, in order to create the investment attractiveness of the idea of environmental safety in the agricultural sector at the regional and local levels it is important to consider factors such as ensuring and maintaining a high reputation of business entities and sales potential of new or improved quality products. After all, the combination of organic and intensive farming systems contributes to the overall improvement of the ecological state of the soil and the improvement of the quality of the products obtained (Broshchak et al. 2013).

The formation of a mechanism for regulating investment activity in the field of environmental security at the regional level should be directed to deep structural changes in the regional economy, to increasing the degree of justification of investment priorities in agro-production and to ensuring the readiness of business entities to implement eco-safe innovations.

The necessity of state stimulation of investment processes in the field of environmental safety of land use is determined primarily by the need to protect national interests in connection with the significant development of environmental agroproducts

in developed countries of the world. This indicates a significant investment attractiveness of this sphere of activity in Ukraine.

So we can state the fact that the investment attractiveness of the environmental component is closely related to the level of economic development of the country. Investing in the ecologization of the agrarian sector creates the basis for further economic development and stimulates new economic interests and needs, formation of a qualitatively new level of consumption and growth of the country.

State incentives should include incentives related to the creation of a new Ukrainian investment and innovation law that should be aimed at ensuring environmental safety in the agrarian sector, as well as stimulating the implementation of eco-friendly investment projects, as well as incentives for negative motivation (the normalization of harmful emissions, fines for non-compliance with norms, fees for pollution of the environment, etc.).

To activate investment activity in the direction of ecologization of agricultural production, first of all, it is necessary that the problems that exist in the field of achieving environmental safety of this industry, and developing measures for their solution should be taken into account. Therefore, it can be argued that one of the most important factors for ensuring investment attractiveness is an effective investment program, on the basis of which the investor can receive answers to questions concerning the return on investment and provision of guarantees. In this case, it is a question of long-term investment projects, which will result in the implementation of a comprehensive ecological and economic effect.

Thus, solving the problem of stimulation of environmental safety measures in the field of land use in the agricultural sector should be ensured by the following tasks:

- development of methods for assessing the ecological and economic efficiency of land use;
- development and implementation of effective economic mechanisms for ensuring responsibility for pollution and promoting the improvement of environmental safety in the agricultural sector;
- creation of the complex of normative documents in order to guarantee environmental safety in the field of agrarian land use.

It is worth paying attention to the fact that investing in ecologically oriented agricultural activity provides for the growth of the competitiveness of manufactured products.

When calculating the efficiency indicators of the implementation of investment decisions in the field of environmental security at the level of the national economy, the following indicators are important (in value terms):

- final production results (revenue from sales in the markets of all manufactured goods). This also applies to proceeds from the sale of property and intellectual property rights created during the execution of an investment project;
- social and environmental results, calculated on the basis of the impact of the results of the implementation of investment decisions on the health of local residents,

social and environmental situation in the regions;

- direct financial results (economic efficiency);
- customs duties on import of technologies and equipment for ensuring environmental safety.

Investment measures aimed at the protection and restoration of land are of particular importance, since they are the main means of agricultural production (Buttel 1992).

Foreign sources of investment resources play an important role in the process of investing in environmental security in the field of agricultural production. This is due to a number of reasons:

- limited internal investment resources as a result of economic crises;
- the formation of new productions will contribute to the intensification of Ukraine's participation in world integration processes;
- creation of new segments in the market of goods and services will promote the development of competition and improve the competitiveness of the represented types of environmental products;
- formation of a market environment with regulatory mechanisms in accordance with requirements operating in developed countries of the world;
- quality assurance of manufactured agrarian products in accordance with world standards.

Thus, the representation of the regions in the intergovernmental commissions on economic cooperation needs to be strengthened in order to represent their interests at the international level and to identify prospects for further investment.

An important prerequisite for creating the investment attractiveness of ecologization, which provides for the receipt of resources for the needs of reproduction and protection of land in the agrarian sector, is to conduct a general inventory of the land fund of the agrarian sector to identify problems that exist in this field. This procedure will help to assess the quality of land for the purpose of determining the possibility of their use in environmentally hazardous agricultural production.

**Conclusions.** The agrarian sector of Ukraine should play a key role in solving global environmental and economic problems, and for this there is a significant potential for economic and environmental development. The investment support of the environmental safety of the Ukrainian agrarian sector will contribute to the formation of such an economic and ecological potential that will provide a comprehensive solution to environmental problems in the field of agricultural activity and expand the opportunities for economic development of the agrarian sector.

Investing in environmental processes in the agrarian sector will contribute to the formation of prerequisites for the economic development of rural areas and the sustainable development of the agrarian sector in Ukraine.

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## ELIMINATION OF THE NATIONAL BANK OF UKRAINE IN PROSPECT OF FUTURE TRANSITION TO CRYPTOCURRENCY, INTRODUCTION OF INNOVATIVE MECHANISMS OF FORMING NEW NATIONAL BANKING SYSTEM

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**Annotation.** *In the article, the author researches the National Bank of Ukraine, private and commercial banks, in general, the world and entire Ukrainian banking system that is not working for Ukraine's economy and economies of other countries and serves the interests of political clans and oligarchs. Society is at the beginning of the rapid urbanization of cities, nanotechnology boom, cyborgization of neuroelectronic interfaces, merger of biological and digital intelligence, as it is important today to determine trends in the development of future technologies, such as electronic money (cryptocurrency) as an important segment of the financial market, its transformation and reorientation in conditions of automation and global information society. Anything that can be digitized will be digitized because financiers will go into the back burner. Who will control the NBU banking financial algorithms, those will perform the actual function of the regulator to work for the people of Ukraine, or will usurp more financial and monetary power against people. The main question whether the National Bank and commercial banks are necessary for the people of Ukraine in this format or not.*

**Key words:** *National Bank of Ukraine, the banking system, singularity, cyborgization of neuroelectronic interfaces, a symbiosis of biological and digital intelligence, artificial intelligence, information society, digital technologies, electronic government, civil society, monetary policy, money, cryptocurrency.*

**Relevance of research.** The National Bank of Ukraine (NBU) is the central bank of Ukraine, a special central body of state administration, its legal status, tasks, functions, powers and principles of organization were determined by the Constitution of Ukraine and other laws.

Since the moment Ukraine became an independent state, the NBU, private banks and, in general, the entire Ukrainian banking system did not work for the Ukrainian economy, but for the economy of other countries and thus did everything possible to devalue its own currency and generally destroy the Ukrainian currency. Therefore, having set the rate on hryvnia loans more than 100% than the dollar-rate loan, the National Bank of Ukraine thus laid the foundation for inflation, UAH depreciation and future default [4].

As the percentage for using dollar loans was 2 times less than the interest rate on loans in UAH, it was more profitable for citizens to take dollar loans as it happens massively. However, why do banks generally provide loans to the population in dollars, if in Ukraine it is legally prohibited to pay for goods or services in foreign currency? The answer is one - in order to destroy the Ukrainian hryvnia and plunder the people in order to create hundreds of thousands of currency exchange points and, through them, to



"launder" money stolen from the budget [4].

The biggest Ukrainian banks that belonged to the people are no longer Ukrainians, but sold to foreign financial groups (French, German, Italian, etc.) and have access to relatively cheap foreign currency resources. Using cheap financial resources derived from "parent" foreign groups, Ukrainian banks provided citizens with loans in USD and EUR at their own, much higher rate [4].

Banks do not mind in general anyway, the dollar rate rises or decreases; they will receive their profit from the people's pocket in any case. Banks themselves set the USD rate to UAH, and you can buy this dollar only from the bank. Citizens receive a salary in hryvnias. Thus, if a citizen took a dollar loan in a bank, in order to return the loan, he must sell the hryvnia (at the rate set by only banks) and buy dollars, which he will give then to the bank. However, the dollar can be obtained only in the bank and at the price offered to him by bankers [4].

Thus, by providing loans in dollars in the prohibition of payments in foreign currency, banks, by establishing the exchange rate of the dollar to UAH themselves, determine how much a person should give them blood-earned UAH in order to return a dollar loan!

**Setting of the problem.** Let's establish the true state of affairs regarding the current status of the NBU, for what purpose this structure was created, and its impact on the state of Ukraine.

The NBU is not a structure that acts in the national interests of Ukraine, but is a branch of the Federal Reserve System of the USA (a private corporation that emits USD) - which also applies to the situation with the Central Bank of the Russian Federation. The central bank is almost vital for the prosperity of commercial banks for their professional activity as producers of new money by issuing illusory stock receipts for standard cash [8].

The NBU does not operate in the national interests of Ukraine, and the executive power does not have sufficient levers to influence the NBU. Articles of laws require clarification. Article 54 of the Law of Ukraine "On the National Bank of Ukraine". The NBU must not grant loans in the national or foreign currency, both directly and indirectly, through a public institution or other legal entity which property is state-owned, with the purpose of financing the expenses of the State Budget of Ukraine. The NBU must not purchase in the primary market any securities issued by the Cabinet of Ministers of Ukraine, a public institution or other legal entity which property is state-owned [6].

What is a state-owned bank that does not lend its state and state development program of Ukrainian state? In accordance with the Constitution of Ukraine, we have banknotes, and upon the fact of a receipt of the bank - banknotes that are not backed up.

Article 53 of the Law of Ukraine "On the National Bank of Ukraine" stipulates that any interference of the public authorities, other public institutions or their officials, any legal entities or individuals in the exercise of functions and powers of the NBU, NBU Council, NBU Board or the NBU employees shall be prohibited, except for within the limits stipulated by the Constitution of Ukraine and this Law.

The NBU shall report to the public authorities and other public institutions and furnish them with information in the cases set forth by the Constitution of Ukraine and this Law [6].

All matters related to the NBU functions may only be defined and altered by this Law. Any provision of this Law may only be changed by amending the Law.

Article 48 of the Law of Ukraine “On the National Bank of Ukraine” stipulates that the gold and foreign exchange reserve shall not be used for granting credits and guarantees and other commitments to residents and non-residents of Ukraine. So why do we need a gold reserve if it is not used to increase the money supply within the country, trade turnover, production and population lending, first of all in the interests of the Ukrainian people, is it at all? [6]

Elimination of the NBU as a criminal system for theft of the Ukrainian people, an instrument for enriching the oligarchs and the political elite, financing the party system, converting and withdrawing money abroad to offshore zones, which resulted in the destruction of the economy and independence of our state. The introduction of the new National Banking Financial System is appropriate to the protection and development of the well-being of the people of Ukraine in the direction of the management of the monetary market, the mastery of the latest monetary instruments, considering that in the future everything that can be digitized will be digitized. Therefore, today it is necessary to understand that the use of banknotes and the existing banking system is outdated; there is a new era of electronic money - cryptocurrency (bitcoin, etc.). We do not know in what format it will be final, but for sure. Therefore, we must develop and implement a truly people’s National Banking System [7].

Statements of basic material. The NBU is a special central body of the state administration, its emitting center, conducts a single state policy in the field of money circulation, credit, strengthening of the monetary unit, organizes banking transactions, coordinates the activities of the banking system as a whole, and determines the currency exchange rate against the currencies of other countries. The National Bank of Ukraine selects denominations of banknotes and coins, their security features, fitness for use criteria and design. The NBU maintains reserve funds of currency, precious metals and gold and foreign exchange reserves, accumulates gold and foreign currency reserves and carries out transactions with them and bank metals. The NBU establishes the procedure for determining the discount rate and other interest rates for its operations gives permission to create commercial banks by registering them and issues licenses for banking operations, sets for banks and other financial and credit institutions the standards for mandatory reserve funds. The purpose of this work is to find out the main goals, tasks and purposes of the Central Bank [6].

This is one side of the coin that is intended to be viewed by the people of Ukraine, and in fact, we will try to understand whether the mission of the NBU corresponds to national interests.

The NBU shall report to the public authorities and other public institutions and furnish them with information in the cases set forth by the Constitution of Ukraine and

this Law. All matters related to the NBU functions may only be defined and altered by this Law. Any provision of this Law may only be changed by amending the Law [6].

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The Federal Reserve System is also not accountable to anyone. It has no budget, is not subject to audits, no Congress committee knows about its operations and cannot control them. The Federal Reserve System, in fact, completely controls the monetary system of the country, does not report to anyone, and such a strange situation is considered as a benefit [8].

It is not allowed to use the gold and foreign exchange reserves to provide loans, guarantees, and other obligations to residents and non-residents of Ukraine.

So why do we need a gold reserve if it is not used to increase the money supply within the country, trade turnover, lending to production and the population, first of all in the interests of the Ukrainian people? Or a specific question, and whether it is in general, who saw it, is there a video in the presence of the press in the repository, such as in the repository of the Federal Reserve System of UAE (hereinafter - the FRS). In addition, we have the same problem, which is a taboo under seven seals [2].

The lending rate introduced into the state of Ukraine, the discount rate of the NBU since 13.06.2013 - 6.5% The NBU Regulation of 12.06.2013, since 14.04.2017 - 14% Regulation No. 209. The US Federal Reserve lends to 0.5% and the state can take loans from the FRS, and the state of Ukraine in its National Bank does not have such a possibility. The NBU functions as a currency exchange stand according to the system for the third world countries. The Currency board is the direct correspondence of all the money supply in Ukraine to its currency reserves, namely in USD, EUR, etc. But the money - USD from the FRS, the IMF and the World Bank, this is the line with a certain amount of zeros in the computer line and that's all, sometimes when cash is needed, banknotes are printed and brought to our country, after which they are freely bought by oligarchs through the exchange, including the population through exchange offices [4].

I do not see in the activities and functions of the NBU anything that reflects the interests of the Ukrainian people.

In the modern world, when Internet technologies no longer surprise anyone, and payments are made every second through the Internet, the term "cryptology" is increasingly heard. In addition, we will try to understand what it is.

Cryptocurrency - from the English "cryptocurrency", that is, the virtual currency protected by cryptography. First, cryptocurrency is a fast and reliable system of payments and remittances, based on the latest technology and uncontrolled by any government. In the world there are quite a lot of cryptocurrency (Bitcoin, Litecoin, Ethereum, Peercoin), but the most famous and fast growing is Bitcoin (Bitcoin). In 2015, the European Court released Bitcoin from taxation, which in fact recognized it as a complete monetary unit [1].

What is it and how are virtual money applied in our lives?

Cryptocurrency is a digital currency that has an encrypted code. While decoding this code a coin is appeared and it can be used for payments. Regulators undertook steps to strengthen the global financial system, eight years after the collapse. However, this is not enough - new technologies can increase the endurance of the global financial system. These technologies include blockchain - a key to cryptocurrency [1].

Now, the financial system is fragile and weak, as undercapitalized banks and other centralized hubs control payments and trading - key functions of the financial system. The losses of such hubs instantaneously apply to the entire economy, despite all the efforts of regulators. The regulators work blindly, and this is even worse. They do not have the opportunity to assess the situation in real time and understand where exactly the risks arise. Blockchain can solve both problems [1].

Trust is the main property of the financial system. It is necessary to make payments between strangers. Who owns and who owes - financial institutions found answers by various ways. However, at the same time, financial institutions became centers of vulnerability of the system.

Blockchain ensures trust by the following means: the system creates a distributed registry that records all transactions of system participants. Blockchain confirms transactions and records the network from millions of computers around the world. Therefore, the need to trust in a single source is excluded. The information is distributed and stored in such an enormous number of media that it is funny even discussing the issues of its authenticity and preservation. Now we only have to imagine such a distributed registry with records of all transactions in the world. This will allow anyone to monitor the system and detect risks in real time. In addition, the regulator will not have to worry about securing transactions if there is a problem with the system bank. You can list many more advantages of the Blockchain system, but it is already clear that, ultimately, financial regulation will become much easier [1].

Thus, we can conclude that the cryptocurrency is a future money!

As for Ukraine, we have in fact the same problem as in more civilized countries technology is ahead of legislation. The problem is one; approaches to the solution are different. According to the Law of Ukraine "On Payment Systems and Transfer of Funds in Ukraine", electronic money is the unit of value stored on an electronic device, accepted as a means of payment by other persons than that who issues them, and is a monetary obligation in cash or in non-cash form. The issuance of electronic money can be carried out exclusively by the bank, which has obligations to repay them. Due to its technology, Bitcoin does not fall under the Ukrainian definition of "electronic money," because it does not contain an obligation of the issuer to repay it, has no single issuing center, and is not linked to any cash or non-cash funds. In turn, "non-cash funds" under the Ukrainian legislation can exist only in the form of records on bank accounts. Banks do not participate in the process of issuance and circulation of cryptocurrency, so Bitcoin cannot be considered as "funds". Bitcoin does not fall under the definition of "payment system" as the main and obligatory function of the payment system is the transfer of

funds [1].

Those who controls money, controls the world and the development of society, such people are very few. We allowed them innumerable riches, so what do they aspire to, what is their purpose. The secret purpose is full world domination.

They already control:

- money;
- water;
- energy (hamper the development of alternative energy sources);
- agriculture;
- health care (preventing the development of alternative methods of treatment);
- information and our response to its receipt;
- spy on citizens, keep track of all aspects of our lives;

In general, they are all ready to rule the world [4].

If we do not understand what is happening, we expect the dictatorship of the military, everything will be concentrated in the hands of a “handful” of greedy people.

They began to embody their plan, they divided the world into super objects - the European Union, the African Union, working at the creation of the American and Pacific Union, during the crisis the G20 was created [4].

The gold reserve of Ukraine for the year 2017 was 26 tons. After the global sale of the reserve in the middle of autumn, by the end of the year, the media reported that the reserve bank still managed to increase its capital a bit. According to official data, by the end of January 2015, the country's gold amounted to about 0770000 troy ounces against the December figure of 0760000 troy ounces. It can be said that in the dollar equivalent Ukrainian gold reserves in January 2015 increased from 911.09 to 967 250 000 dollars. Gold reserve continue to decline at a rapid pace. This is because the IMF tranches were detained, while the need to pay for external debt and gas remained in the winter [2].

President of Ukraine Mr. Petro Poroshenko said that during the fifth meeting of the Council for Regional Development in Kyiv, “Ukrinform” informs: "Gold and currency reserves flooded like snow in the spring, and in February 2015 they have dropped to almost \$ 5 billion, today they amount to \$ 15.5 billion». I think that an average citizen does not understand such an increase in the GCR - in 2015 it was 26 tons of 967 billion, in 2017 it was 15.5 billion, while it is not speaking about the gold, the thing is only about the currency (the line with zeros in the computer), where is the nation's gold? In 2014, there were 42.61 tons of gold! [3]

Ukraine ranks 53rd in the world in terms of the amount of gold stored in state reserves. In 2014, the gold reserves of Ukraine dropped significantly - by more than 19.01 tons. At the beginning of 2017, the gold reserve of the central bank of Ukraine has a volume of 25.5 tons [3].

The President stressed that the loans from the IMF went precisely to the country's gold and currency reserves. The practice of enslavement of states by the IMF and World Bank lending policy, theft and exodus of natural resources continues. It is about the world banking system, and what concerns us, Ukrainians directly? If we consider the

global financial system as a deck of playing cards, then our commercial banks in it are six, and the NBU is a trump card. A prerequisite for the successful functioning of the banking system of any society is the trust of citizens!

I argue that the NBU and the banking commercial system need to be eliminated, in this form it is not needed! In any way I do not call for the destruction of private property, but in this case, let the bankers and oligarchs invest their personal money in the deposit of state-owned banks, rather than risk depositors' deposits in their private banks by applying a partial reservation scheme. As practice shows, bankers often steal money of depositors with impunity, the NBU as a regulator guards the interests of thieves-bankers, and not the people of Ukraine, huge billions of sums are covered and paid from pockets of tax payers to cover losses as a result of withdrawal of capital in offshore, fictitious bankruptcy, when it turns out that the bank's assets include a desk and a ballpoint pen, and other schemes. And what about security and information protection, the oligarchs and the political elite, having access to operations and fluctuations in the exchange rate through the NBU, every day earn millions on the exchange rate, who and when will be responsible for the collapse of the country's economic potential for crimes against its people ?!

Money is one of the pillars of our civilization. However, using them every day, most of us do not know for sure what that money is. The usual system of institutions, processes, interconnections, operating according to our laws remains the usual legacy of banknotes, bank accounts and exchange rates.

Since the Bretton Woods system exhausted in the mid-1970s, fiat money runs the show. Fiat money is legal means of payment, the nominal value of which is established, ensured and guaranteed by the state through its authority and power, and which do not have any independent value [4]. That is, money is an abstract mathematical expression of value, and information technology brought out this abstract to a new level. Most payments in the world take place in non-cash form - these are trillion sums of various money, which change billions of hands every day simply in the form of numbers on the computer screen. However, along with conservative electronic media, special attention should be paid to cryptocurrency. While asking what cryptography is, you will most likely hear the answer that it is electronic money. At first glance, this may be so, but a closer acquaintance with cryptocurrency shows how true this is the superficial judgment [1].

In any case, cryptocurrency is a promising technology, and it will evolve, despite resistance or misunderstanding. The number of people who trust cryptocurrency is steadily increasing, as well as number of those for whom it became a serious business. True, the Ukrainian official is not yet ready for such things because of the specific features of the psyche. Indeed, even at this stage of the development of cryptocurrency can compete with the national currency regarding the reliability or even international monetary liquidity.

In the world, computers and robots already calculate most financial and banking algorithms, the bank of the future is a huge ATM without staff [7]. At this moment,



the efficiency of the work of banking personnel is still focused on the human factor, not on the ability of modern technology, but we understand that this is not for a long time. We must already understand today that the attitude towards human resources in the future ensuring of the quality of banking products will be significantly reduced, and the profitability of the bank in connection with the reduction of staff costs will grow rapidly and uncontrollably. Under such conditions, the interest rate, the discount rate should decrease substantially, but we understand that the bankers themselves will not do that they will only be further enriched at the expense of Ukrainians.

**Conclusions.** The problem of the Gold and Currency Reserve (hereinafter - GCR), how to form it, due to what? If we understand the need and strive for the introduction of a truly national banking system, why the people of Ukraine can not be co-owner of the GCR, and the shareholder of the National Bank. Society owns not only currency, but also gold in a huge tonnage and the equivalent of troy ounces. For example, any citizen of our country can create a share in GCR and receive dividends, thus he does not need to differentiate from the currency to hand over it, only to register without the right to export abroad.

Deposits and investments let the bankers and oligarchs invest their personal money in the deposit of state-owned banks, rather than risk depositors' deposits in their private commercial banks, using a partial redundancy scheme and planned theft. Henry Ford said: it is good that people in our country do not understand our banking and currency systems. If they understood them, the revolution would begin tomorrow morning. It must now be absolutely clear that we can not count on the NBU, the IMF, the World Bank, the US Federal Reserve System, that they will fight against chronic inflation, which has ruined our savings, destroyed our currency, made a hidden redistribution of income and wealth, and brought with it devastating economic booms and crises. Contrary to the propaganda of the establishment and our political elite, the NBU, the Federal Reserve System and private commercial banks are not "inflationary hawks," as they like to call themselves. The Federal Reserve System and banks are not part of the solution to the problem of inflation; on the contrary, they are part of the problem. In fact, they are the problem itself. The world and our economy are suffering from chronic inflation, from devastating booms and crises, as inflation is continuously generated by the Federal Reserve System itself and its affiliates of the IMF, the NBU. In essence, this role is aimed at their existence: to unite private commercial banks into a cartel and to help them solve the inflation of money and credit, pumping reserves into banks and providing them with financial assistance when they fall into a "difficult" situation.

Money is a conditional equivalent of the quantity of productive labor. Man works: he spends his time, energy, health, applies knowledge, experience, qualifications and receives a salary. The society entrusts and trusts politicians and the NBU with the power to generate money and make their emission. No one in the world has the right to take away the results of our work from us, that is, the money and property that we earned, and therefore our primary duty is to ensure the preservation of the results of labor, the money of every citizen of Ukraine.



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## METHODOLOGICAL APPROACH TO STRATEGIC PLANNING OF CORPORATE SOCIAL ACTIVITIES

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**Annotation.** *The paper has explained the key approaches to the concept of corporate social responsibility. Algorithmic process to monitor the data while planning socially responsible corporate activities has been proposed. Economic and mathematical model to form social responsibility for the strategic planning improvement of socially responsible corporate activities has been developed.*

**Key words:** *social responsibility, strategic managerial solutions, socially responsible corporate activities, planning, economic and mathematical model.*

Statement of the problem. Currently, well-weighed and substantiated behaviour of an enterprise meeting the needs of both economic and social development interaction is the essential imperative of an enterprise functioning. Corporate social behaviour defines the dynamics of changes in terms of economic and social values of an enterprise; thus, it should be taken into consideration while forming strategic plan of development to improve both economic and social state of an enterprise. The available set of organizational and economic limitations while implementing various socially responsible activities discourages the enterprise authorities to put into practice all the social initiatives. However, economic prosperity and simultaneous achievement of the strategic social objectives result in certain profit of an enterprise. The aforementioned emphasizes the importance of corporate socially responsible management; in addition, the complexity and lack of a unified method to evaluate the performed and planned social initiatives actualizes studying of the problem and forms the necessity of methodological support to control socially responsible activities.

**Analysis of studies and publications.** Scientific sources consider a wide range of the problems concerning corporate social responsibility. The problem is considered in the scientific developments by such famous foreign scientists as H. Bowen [1], P. Becker [2], A. Wicks, M. Velasquez, D. Windsor, G. Dowling, K. Davis, H. Johnson, A. Carrol [3], J. McGuir, M. Porter [4], J. Post, L. Preston, S. Sethi [5], P. Söderbaum [6], M. Friedman [7], M. Schartz, J. Shepard, P. Steuer and others.

Strategic planning of corporate social responsibility can be found in scientific papers by R. Ackoff, I. Ansoff, K. Bodwell, S. Vedock, P. Drucker [8] and other scientists. Nevertheless, the formation of the methodology to determine the efficiency of corporate social responsibility to make strategic managerial decisions have not been highlighted and substantiated properly in the context of modern scientific papers.

**Objective of the paper.** Objective of the paper is the development of methodological foundations to evaluate the results of socially responsible activities while making strategic managerial decisions.

**Statement of the main material.** Social aspects of enterprise activity are the basis of its sustainable development and the factor to form long-term success of the economic entity under modern conditions of the increased dynamics of the external environment.

Harmonization of the social activity components involves the formation of the social responsibility (SR) phenomenon rooting gradually into day-to-day operation of an enterprise and being reflected in social policy as well as in economically sound business-running (to ensure its profitability), and in environmentally safe activities [9].

The majority of scientists emphasize the importance of the implementation of socially responsible method to manage enterprises for their efficient functioning both in medium- and long-term context. However, representatives of the “corporate egoism” concept (headed by M. Friedman) state that “the only way to run the business is to maximize the profits in terms of following the current rules of the game” [7, p.122]. The concept followers distinguish between the direct responsibility (law-abiding behaviour) and intermediate one (ensuring the employment and innovations). In their opinion, any other socially responsible activity is of artificial nature [10, p.60].

Nowadays, scientific discussions concerning the problem of the essence of SR behaviour in terms of a business entity are still in progress. Semantic development of the “social responsibility” category is connected with the differences in its interpretation, i.e. the degree of substantiation, vector of the research, and completeness of the mentioned definition background [11; 12; 13]. The idea that a socially responsible business controls its activity to create positive influence upon the society is the common basis of the definitions. Difference of the definitions can consider mostly ethical behaviour, stable development, environment, and philanthropic idea.

We believe that under the concept of socially responsible corporate activities one should mean systematic specially arranged and strategically aimed activity having value-based initiative character and controlling social responsibilities of a business entity by implementing certain managerial decisions.

The proposed interpretation makes it possible to focus our attention on a harmonic co-existence of an enterprise within the social medium owing to systematic implementation of socially responsible activities; it takes into consideration the fact that the enterprise functioning based on the principles of social responsibility is the regulating factor of the relations with the external environment and strategically important factor.

Strategic orientation of SR activities means its principles considering while developing the enterprise business strategy.

The process of SR strategic planning includes:

- determining both social mission and purposes of the activities;
- performing the analysis of both internal and external environments of an enterprise;
- developing strategic alternatives of the activities;
- defining the efficiency of certain socially responsible initiatives and alternative social programs;
- selecting and adopting the optimal SR strategy.

According to the managerial process logics, SR planning is preceded by information

and analytic work to prepare and process the input data, being changeable in their nature or being the limiting factor for the systems of SR control.

Operations with the information required to plan and implement SR is the foundation for the mechanism to manage SR activities since the processed authentic and topical data of both internal and external environments are the basis to develop the model of socially responsible corporate behaviour. A system of informational and analytical support for the efficient management of SR enterprise activities is characterized by a stage-by-stage approach which can be represented in the flow-diagram form (Fig. 1).

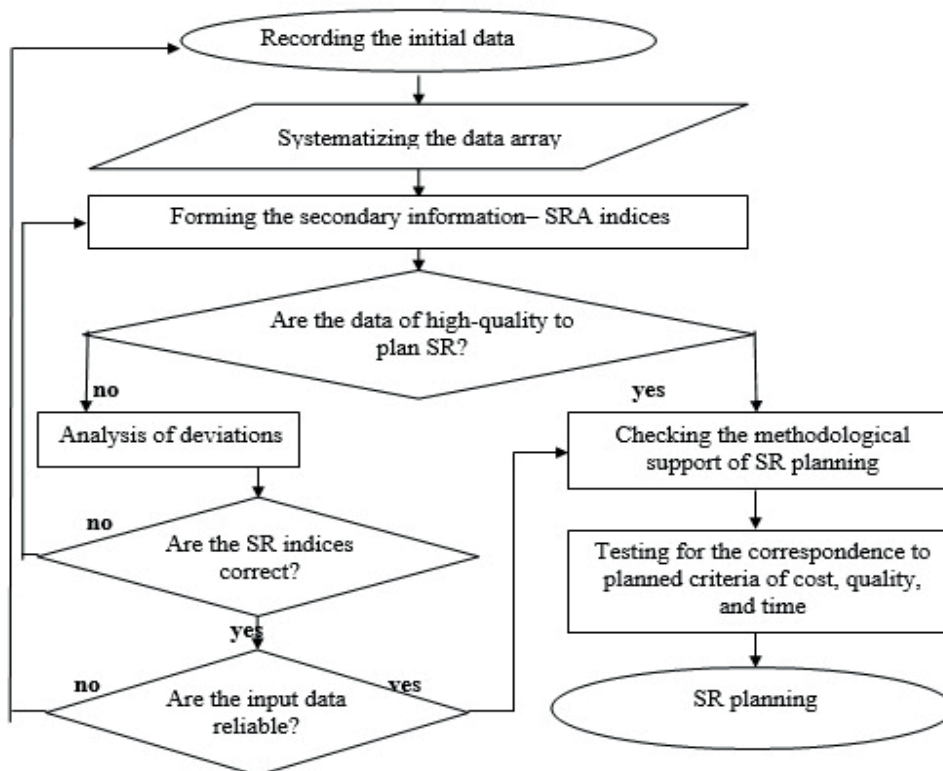


Fig. 1. Algorithmic process to monitor data while planning SR activities of an enterprise  
 Source: the author's development

Sequence of the activities proposed in Fig. 1 starts with the recording of the initial data. Internal documentation, talks with workers, and various data of the external medium are the sources to obtain the initial information flows.

Secondary information is figured out on the basis of the collected data – the indices of SR activities proposed by us to be divided into 4 groups: indices of financial and economic responsibilities; relations with the stakeholders (including personnel responsibility), information responsibility, and environmental responsibility.

Evaluation of the efficiency of SR activities makes it possible to determine the

expediency of a specific social initiative or a complex social program within the certain period of time being characterized by the set of both internal and external modeling factors. It should be emphasized that the prospects of SR integration into the everyday enterprise activities depend upon the fact how the subject perceive the social conditions under which certain social process takes place, innovative total effect of SR control indices; at the same time, means to implement the mechanisms depend upon the enterprise policy and authorities' actions. We will consider the mentioned actions as the set of various-type actions.

Single out the totality of social responsibilities (Fig. 2) and represent them in the form of  $\sum_{i=1}^n$  multitude where  $i$  is the index of social responsibility,  $n$  is the number of all the possible social responsibilities.

Corporate social responsibility depends upon an enterprise development; its area of activity is its integral part. Each enterprise regulates structural SR independently as it is individual for every enterprise taking into consideration peculiarities of its development. Thus, planning of SR activities for enterprises means the implementation of the two key moments: formation of conceptual SR model and determination of effects of key estimations for each SR type.

Basing upon the mentioned ideas, the aim to model social responsibility control can be formulated as follows: it is required to find such optimal composition of socially responsible corporate initiatives and their rational structure where SR context will be the maximum one. The formulated task is static; that is why it should be considered, if SR is formed for the corresponding scheduled period.

Introduce a number of assumptions to develop economic and mathematical model [14] aimed at the analysis of corporate SR. Consider a situation for the enterprises when the current composition of SR activities has already been formed, i.e. specified. Define for the general case that  $SV=F=\{\text{financial and economic responsibility; relations with the interested parties (including personnel responsibility); information responsibility; environmental responsibility etc.}\}$ .

It is a problem to identify a structure of many of the above listed groups of corporate social responsibilities; among other things, that depends upon their incommensurability. Thus, we believe it is wise to compare each potential social responsibility  $i$  with certain totality of measures  $M_i$ . Note that one and the same measure may be applied multiply as for the different types of responsibilities.

Represent the SR model structure in the form of the Figure 2:

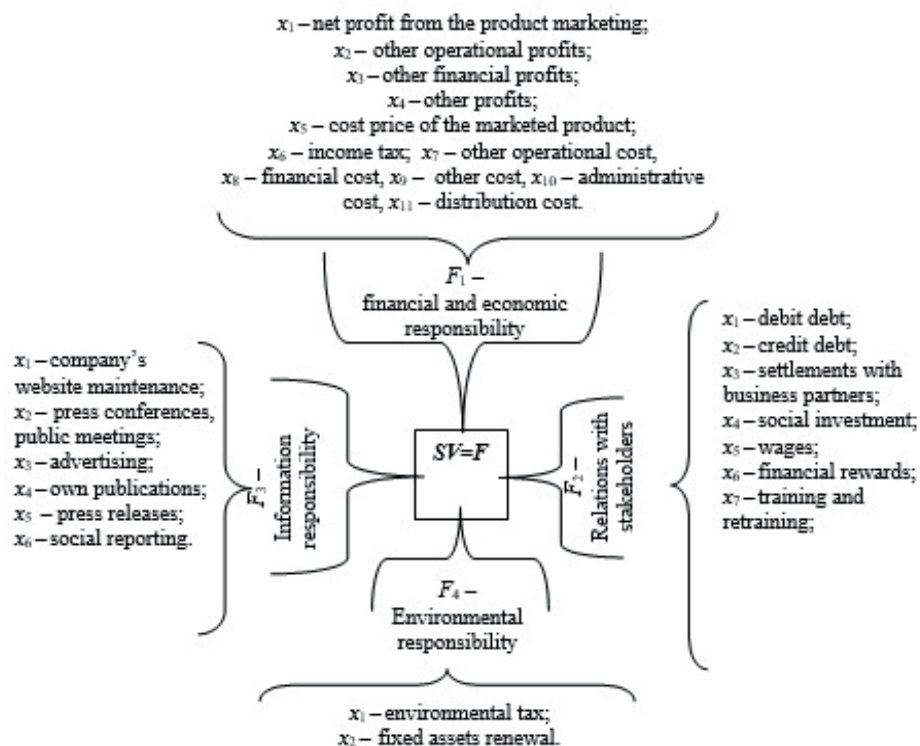


Fig. 2. Model of the enterprise SR  
Source: the author's development

As a result, we obtain a ratio of “social responsibility” – “measure” type representing it in the form of a matrix:

Measures

$$[V_{ij}] = \begin{bmatrix} V_{11} & V_{12} & V_{13} & \dots & V_{1m} \\ V_{21} & V_{22} & V_{23} & \dots & V_{2m} \\ \dots & \dots & \dots & \dots & \dots \\ V_{n1} & V_{n2} & V_{n3} & \dots & V_{nm} \end{bmatrix} \quad \text{Social responsibility}$$

where  $i$  is index of measures used to form  $i^{\text{th}}$  social responsibility,  $j \in M_j, \{j = \overline{1, m_i}\}$ ;  $M_i$  is the totality of measures for  $i^{\text{th}}$  type of social responsibility;  $m_i$  is the number of measures of  $i^{\text{th}}$  type of social responsibility; and  $i$  is the index of a type of social responsibility,  $i = \overline{1, n}$

$$V_{ij} = \begin{cases} 1 - \text{if } j \text{ measure is applied for } i \text{ social responsibility;} \\ 0 - \text{alternativ ely.} \end{cases}$$

The matrix will characterize a structure of attraction of social responsibility types to form a program of corporate **SR** strategy. However, the characteristic is incomplete since a value of the measures description is not available. Construction of the model formalized scheme should involve a dynamic character of a mechanism to form corporate **SR**.

Assume the following to construct the model:

- a) Socially responsible corporate initiatives are equal;
- b) The enterprise cannot attract all its available financial resources for social responsibility; and
- c) Socially responsible corporate initiatives are stipulated; they should grow and improve for the further development of **SR** activities.

Introduce additional symbols to construct the formalized scheme of the model:  $F_i$  is **SR** totality of certain  $i^{\text{th}}$  type;  $t$  is the period index,  $t = \overline{1, T}$ ;  $a_{it}$  is cost value to use the  $i^{\text{th}}$  social responsibility during the  $t$  period;  $A_t$  is total cost value appropriated by an enterprise to form financial and economic responsibility for the  $t$  period;  $x_{it}$  is undetermined value meaning the types of social responsibility aimed at the implementation of **SR** of an enterprise during  $t$  period; and  $B_t$  is a coefficient characterizing the cost efficiency while **SR** forming  $t$  period.

Consider the amount of money appropriated to implement **SR** activities and efficiency of cost for **SR** activities for each planned  $t$  period as certain matrix components. In this context, their values may differ from zero; the fact proves the variants of possible introduction of  $j^{\text{th}}$  measure for the implementation of  $i^{\text{th}}$  type of corporate **SR**. Otherwise, the indices gain zero values; that is they are not used in the context of the  $i^{\text{th}}$  type of **SR**.

Basing upon the introduced symbols, formulate a criterion of corporate **SR** and describe limitations of our problem.

Thus, we need solve the  $\{x_{it} \geq 0, i = \overline{1, n}; j = \overline{1, m}; t = \overline{1, T}\}$  problem which will offer total maximum corporate social responsibility:

$$SV = \sum_{i=1}^n F_i(a_{it}x_{it}) \rightarrow \max, t = \overline{1, T}$$

if following limitations are completed:

- 1) in the context of the use of available amount of the funds appropriated for  $i^{\text{th}}$  type



of **SR**:

$$\sum_{i=1}^n a_{it} \cdot x_{it} \leq A_t;$$

2) corporate **SR** is specified; moreover, for the future development it should advance to be effective expectedly:

$$\sum_{j=1}^n \frac{a_{it} \cdot x_{it}}{F_i} \geq B_t$$

To implement the developed model ( $F_{it}(a_{it}x_{it})$  dependence), consider several potential variants for the determination of corporate **SR**:

- corporate **SR** may be of such a kind that during  $t$  period  $i^{\text{th}}$  social responsibility is  $F_i = Q_{it}$ ; moreover, it has already been determined. If so, then corporate **SR** is:

$$SV = \sum_{i=1}^n F_i(a_{it}x_{it}) + Q_{it} \rightarrow \max, t = \overline{1, T}.$$

- while implementing social projects, it is quite possible that for  $i^{\text{th}}$  social responsibility, results of  $j^{\text{th}}$  measure will be lagged; if so, then  $i^{\text{th}}$  social responsibility is time-lagged being in the form of:

$$F_{it} = \sum_{\tau=0}^N a_{i,t-\tau} x_{i,t-\tau} \quad i = \overline{1, n}, \quad t = \overline{1, T},$$

where  $\tau$  is the lag index,  $\tau = \overline{0, N}$ ;  $N$  is the number of lag periods.

A structure of the developed model involves the conditions of corporate social responsibility as well as measures of its formation. The model is of dynamic structure since the use of certain measures is connected with lag variables of technological and organizational nature. Optimum in its structure corporate **SR** is calculated relying upon the developed model.

Formation of corporate **SR** should be based upon qualitative estimation of the potential effect:  $F_{it} = E - B$ , where  $E$  is the potential effect and  $B$  is cost.

Since functional indices are of probabilistic nature, then it is possible to use either mathematical expectation  $M(F_{it}) \rightarrow \max$  or probability  $P(F_{it} \geq \alpha) \rightarrow \max$  if  $\alpha = \text{const}$ , or  $\alpha \rightarrow \max$  procedure, if  $P(F_{it} \geq \alpha) = 1$  as a criterion of qualitative estimation of **SR** profitability.

For the preset process of corporate **SR** modeling, develop stochastic economic and mathematical model. In this context, values of the target function, parameters of the

model, and normative coefficients are considered as random values.

Assume that  $\mathbf{L}$  is a set of elementary events  $l$  with  $F$  system of its subsets preset on it forming  $\sigma$ -algebra; then the economic and mathematical model (1)-(3) in stochastic form taking into account the above taken symbols and random parameter  $\mathbf{I}$  will be as follows:

$$M\left\{\sum_{t=1}^T \sum_{i=1}^n F_{it}(l, x_{it})\right\} \rightarrow \max$$

if:

$$1) P\left\{\mathbf{L} : \sum_{i=1}^n \frac{a_{it}(l)x_{it}(l)}{F_{it}(l, x_{it})} \geq B_t\right\} \geq \alpha_t, \quad t = \overline{1, T};$$

$$2) P\left\{\mathbf{L} : \sum_{i=1}^n a_{it}(l)x_{it}(l) \leq A_t\right\} \geq \beta_t, \quad t = \overline{1, T};$$

$$3) P\left\{\mathbf{L} : x_{it}(l) \geq 0\right\} \geq \gamma_{it}, \quad i = \overline{1, n}, \quad t = \overline{1, T};$$

where  $\alpha_t, \beta_t, \gamma_{it}$  are probabilities to meet the corresponding limitations.

To imitate the process corporate of SR formation, stochastic model (7)-(9) can be applied; as a result, optimum corporate **SR** involving probabilistic properties will be developed.

The stochastic model can be used to determine optimum composition of corporate **SR** initiatives; the process involves previous setting the parameters of the limitation system and adjusting the parameters of a model to select social responsibilities of an enterprise on the basis of retrospective financial analysis of the enterprise activities.

**Conclusions.** The use of a model of corporate **SR** makes it possible to determine optimum strategy being considered as a programmed trajectory of managerial decision set by a sequence of target states distributed dynamically.

Qualitative estimation and analysis of the degree of reliability of socially responsible corporate initiatives help select their optimum combination which will serve as the most probable possibility to provide such a program of corporate SR activities making it possible to obtain maximum potential **SR** effect.

The proposed technique for SR planning helps determine the most optimum SR composition and structure. That defines the prerequisites for effective medium- and long-term management of corporate **SR** activities. It should be noted that the model is suitable for enterprises of different scales of activities and different industries. In this context, each enterprise can take into consideration features of its functioning and peculiarities of the implemented **SR**.

Strategic socially responsible reaction of an enterprise for social changes of the environment is possible at the expense of effective **SR** management. **SR** effect on the

basic indices of enterprise activities should be measured and estimated.

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## **PHILOSOPHY AND THEOLOGY**

### **ЖУРНАЛ «ЕВАНГЕЛИСТ» КАК ФАКТОР ИДЕНТИФИКАЦИИ ДВИЖЕНИЯ ХРИСТИАН ЕВАНГЕЛЬСКОЙ ВЕРЫ**

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***Mokienko M. The journal "Evangelist" as an Identification Factor the movement of the Christians of the gospel faith.***

***Annotation.*** The article analyzes the role of the journal "Evangelist" in the theological identification of Christians of the Gospel faith in the 1920s. It is proved that the printed edition ensured not only the consolidation of communities into a single movement, but also contributed to the unification of various Pentecostal views. The pages of the journal were dominated by the articles of the pneumatologic, missiological and eclesiological plan, which substantiated the naturalness of the appearance of the Pentecostal movement, its correspondence to the forms of apostolic spirituality, legitimized differences from evangelical and Baptist communities and approaches. The materials of the publication record changes in the self-consciousness of believers, which manifested itself in the weakening of eschatological expectations against the background of the strengthening of the hierarchical and ethical components of the Pentecostal doctrine. It is proved that the authors of the journal opposed the extreme manifestations of mysticism, which had a positive effect on the identity of Pentecostals and allowed to survive the times of the Soviet persecutions.

***Key words:*** Pentecostalism, Christians of the Evangelical Faith, "Evangelist" magazine, baptism with the Holy Spirit.

Журнал «Евангелист» – периодическое издание Всеукраинского Союза христиан евангельской веры, которое оказало значительное влияние на становление пятидесятнического движения в бывшем Советском Союзе. Для церквей христиан евангельской веры (ХЕВ), находившихся в стадии богословского оформления и создания целостной конфессиональной структуры, единый информационный и обучающий центр был крайне необходим. В сокращенных временных рамках ограниченной религиозной свободы 1920-х годов, периодическое издание ХЕВ поспособствовало теологической идентификации пятидесятничества, консолидации общин крещенных Святым Духом, утверждению миссионерских акцентов религиозного движения.

Печатные органы религиозных течений являются ценным источником исследования не только истории конфессий, но и основных параметров богословской, духовно-практической, социальной и межконфессиональной жизни. В их анализе в отечественном религиоведении выделяются несколько направлений, которые мы можем условно назвать аналитическим и нарративным. Представители

первого направления (А. Игнатуша, О. Борноволоков) в печатных изданиях протестантов 1920-х годов стараются находить факты, проследить влияние журналов на институализацию церковных движений, а также уделяют внимание продолжающемуся десятилетиями влиянию на идентичность протестантских церквей. Исследователи, использующие достижения современной философской герменевтики (И. Богачевская, С. Ставрояни), выявляют основные нарративы, их роль в формировании образцов идеальной общины и идеального верующего.

Цель данной статьи состоит в том, чтобы с помощью публикаций в журнале «Евангелист» определить идентичность движения христиан евангельской веры.

Всеукраинский Союз Христиан Евангельской Веры с центром в г. Одессе сформировался в середине 1920-х гг. Энергичная евангелизационная деятельность ХЕВ, образование надцерковных структур и издание печатного органа стали возможными благодаря т.н. «золотому десятилетию для сектантов». Большевицкая власть в 20-е гг., нуждаясь в «легитимизации» в глазах населения, на время отказалась от политики «военного коммунизма», что проявилось в НЭПе, коренизации и определенной лояльности к религиозным меньшинствам. До 1929 г. евангельские течения в СССР развернули бурную деятельность, включая издательскую.

Новообразованный пятидесятнический союз церквей столкнулся с целым рядом вызовов. Прежде всего, он нуждался в оформлении собственных вероучительных взглядов. Исходя из того, что на раннем этапе развития движения большинство верующих были выходцами из баптистской и евангельской среды, необходимо было продемонстрировать существенные отличительные черты пятидесятнического учения. Кроме этого, в среде ХЕВ неоднозначно было воспринято решение о лояльном отношении к советской власти и необходимости несения верующими военной службы. Наконец, пятидесятническое объединение церквей требовало целостной конфессиональной структуры и официального информационного источника.

Для адекватного ответа этим вызовам И. Воронаев планировал открыть библейско-богословские курсы. Не получив от властей разрешения, он пытался восполнить этот пробел учреждением печатного органа.

Название журнала коррелируется с миссиональным акцентом раннего пятидесятничества в котором преобладал евангелизм. Теме благовестия в «Евангелисте» посвящено немало статей включая пневматологические и экклесиологические заметки. Журнал метафорически соотносился с крещенным Святым Духом пятидесятником задача, которого «...разнести везде и повсюду радостную евангельскую весть, начиная с юга до севера и от запада до востока» [10, с. 2]. Церковь в «Евангелисте» представлена как «...Божественное учреждение, основанное непосредственно действием Духа Божьего и через искупление кровью Иисуса Христа», задачей которого есть «...неустанно вести усиленную проповедь о Царствии Божьем и о спасении душ всего человечества» [9, с. 7]. Активная евангелизационная позиция вменялась в обязанности членов церкви после

этических и дисциплинарных обязательств.

Важно отметить, что на страницах «Евангелиста» пневматологический фактор в миссии преобладает над апокалиптическим, в целом соответствуя изменениям в самосознании крещенных Святым Духом в 20-е гг. XX в. Если ранние идеологи движения Ч. Пархам и У. Сеймур указывали на «сокращенность времени» используя этот момент как толчок для активизации миссионерской деятельности, то представители ХЕВ живут идеей распространения собственных взглядов, созданием «одного мощного духовного союза в СССР», а в будущем «созданием Всемирного Союза детей Божьих». Для этого «все верующие в Господа Иисуса Христа, в новой духовной своей природе не могут оставаться довольными своим личным счастьем во Христе... стремятся возвестить благовест всему миру, всем грешникам...» [2, с. 14-15].

Пневмацентризм на страницах «Евангелиста» подкреплялся декларированием необходимости возвращения к первоапостольским традициям. Подводя читателей к этой мысли, авторы статей в журнале образно высказывались, что церковные организации стали «очагом без огня, светильником без масла». Выход из этого «печального и ненормального положения» мыслился через «возвращение к первоначальной апостольской практике» с выбрасыванием за борт «ненужного излишнего балласта, того, что противоречит слову Божию» [11, с. 9-10]. В разделе «Назад к Пятидесятнице» пневмацентризм церкви в Иерусалиме соотносился даром исцеления и других чудес, способностью преодолевать противостояние иудаизма, язычества и оккультизма [5].

Теме Святого Духа, в частности учению о крещении Святым Духом со знаменем иных языков, «Евангелист» посвящает исключительное внимание. Так, творческое действие Духа уподобляется новому в то время в использовании электрическому току или дрожжам, которые преобразовывают тесто. Действие Духа описывается как на индивидуальном, так и общинном уровне. Духовный опыт для И. Воронаева мыслился как консолидирующий фактор для христианства, так и общества. Как считает исследователь А. Игнатуша, именно фактор духовной уверенности, убежденности ХЕВ сделал привлекательным это вероучение в мировоззрении многих людей, которые устали от социальных потрясений и искали психологического укрытия, определенности в будущем и «были готовы довериться Силе могущественной, мудрой и доброй» [4, с. 110].

Особенности пневматологических взглядов определили отношение пятидесятников к другим религиозным течениям, в частности евангельским христианам и баптистам. В ответ на критику в журнале «Баптист Украины», в «Евангелисте» эмоционально указывается: «...когда эти «трясуны», в силе Святого Духа, проникают в общины баптистов или евангельских христиан, то до основания растрясает их общины и оставляют только щепки да осколки. Их постройки из сена и соломы сгорают, потому что были воздвигнуты без силы Святого Духа» [7, с. 23]. Также пятидесятники критиковали таинства православной церкви миропомазание и елеосвящение, которые «не выражают истинного духовного содержания и вводят

верующих в обнадеживающий обман, однако не способствуют спасению» [7, с. 22]. Велась полемика и с адвентистами седьмого дня.

Значительная часть «Евангелиста» посвящена пятидесятническому пониманию Церкви. Здесь Церковь описывается через образы горлицы, невесты, тела и строения. При этом пневматологический фактор в еклесиологии выражен даже больше чем христологический. Особый акцент делается на экстатичность, глассолалию и пророчества, характеризующие действительную Церковь Христову, которая имеет помазание Святого Духа. Для достижения этого состояния использовались не только молитвы, но и вдохновляющие проповеди. Гомилетика И. Воронаева, кроме общепризнанных частей включала патетическую часть, в «которой выражалась высшая степень личного одушевления проповедника, трогающего сердца слушателей и воспламеняющего их чувства» [1].

Важно отметить, что в 20-е гг. для ХЕВ не характерен взгляд на Церковь, как на «малое стадо», который сформируется уже в условиях гонений. Церковь эпохи издания «Евангелиста» живет мечтой о мировом пробуждении, однако делает акцент на духовную дисциплину и подчинение пресвитерам. От членов пятидесятнических общин ожидалось соблюдение высоких этических стандартов, осознание и понимание целей и задач общины, строгое соблюдение воскресенья, активное служение, выражающееся прежде всего в миссии и т.д. Тема «доктринальной чистоты» и поведения христиан часто поднимается на страницах журнала. Конкретные параграфы учили как вести себя с нарушителями дисциплины [9, с. 7]. В целом для ХЕВ характерен веслианский акцент на святость общины, при этом в материалах журнала не прослеживается учения о «трех благословениях», т.е. обоснования взаимосвязи крещения Святым Духом с усилиями человека в процессе освящения. Это может быть объяснимо контактами основателя движения И. Воронаева в 1919-1920 гг. с деноминацией «Ассамблея Божья», которая отвергла «веслианский путь крещения Святым Духом» и отстаивала подход согласно которому освящение является частью процесса спасения [Подробнее: 3].

Характерной чертой протестантских течений является признание Библии единым источником веры. В журнале «Евангелист» есть значительная библиологическая информация. В № 6-7 «Евангелиста» представлен состав библейский книг, а также аннотация ключевых библейских жанров. Верующих стимулируют к чтению Писания утверждением, что «наука Христова стоит выше всех других наук ... это не только книга учености, но и книга мудрости, она полнее за все науки. Хочешь изучать астрономию? Здесь она есть... Влечет ли тебя к геологии и минералогии? Ты можешь изучать их здесь... Хочешь изучать историю? Здесь древнейшая история человеческого рода» [8, с. 14]. Таким образом руководители ХЕВ пытались примирить науку и религию, утвердить Писание как исток научных исследований, демонстрируя его превосходство над современной наукой.

Однако в отличии от протестантского подхода о возможности толкования



Писания каждым верующим, в журнале «Евангелист» указано, что не все христиане имеют на это право. Подчеркивая иерархическое устройство церкви на основании Послания к Ефесеям 4:11, пятидесятнические лидеры утверждают, что «толковать св. Писание должны только действительные пастыри и учителя Церкви Христовой». Верующие предостерегались об опасности самостоятельного «переистолкования» Писания, «так как это непременно приведет к их собственной духовной гибели».

Тема отношения ХЕВ к советской власти и воинской повинности требует отдельного исследования. Отметим только то, что пятидесятническое руководство использовало «Евангелист» для распространения резолюции Всеукраинского Съезда 1926 г. в которой указывалось: «Каждый христианин евангельской веры, призванный в Красную Армию, как в мирное, так и в военное время, обязан нести эту службу на общих основаниях со всеми гражданами страны». При этом, те кто отказывается от военной службы «тем самым показывает свое нелояльное отношение к Советской власти, недостойно звания христианина и будет исключаться с наших рядов» [6, с. 19]. Подобная категоричность к «отказникам» обусловлена желанием пятидесятнического руководства продлить время религиозной свободы. Журнал при этом выступал инструментом с одной стороны, заверения советской власти в лояльности со стороны ХЕВ, с другой – информационным рупором для утверждения официальной точки зрения в церковных кругах.

В контексте современных дискуссий внутри пятидесятнических общин, обращают на себя внимание вопросы женского и музыкального служения, которые нашли отражение в журнале «Евангелист». Как известно, раннее пятидесятническое движение отстаивало возможность женского служения в церкви, утверждая, что «критерий для служения не пол, а призвание». Женщины составляли значительную часть верующих в общинах, были среди активной части распространителей учения на будничном и бытовом уровне, путем межличностного общения. В Союзе ХЕВ был создан специальный женский отдел, которым руководила член Правления Союза П. Кушнерева. Она входила в число 5-ти благовестниц, которые были санкционированы на это служение I Всеукраинским съездом, часто проповедовала, имела значительный авторитет среди руководства. Журнал «Евангелист» опубликовал ее статью программного значения, где были очерчены основные направления женской деятельности начиная от материнства и заканчивая «несением благой евангельской вести в страдающие народные массы» [5, с. 24-25]. При пятидесятнических общинах создавались сестринские советы, женские молитвенные группы, кружки кроя и шитья, ликвидации безграмотности, помощи нуждающимся. После 1926 г. П. Кушнеревой были созданы миссионерские курсы для женщин. Спецификой движения ХЕВ стало наличие специального служения диаконис. На страницах журнала этот институт обосновывался упоминанием в Новом Завете Фивы, диаконисы церкви Кенхрейской (Послание к Римлянам 16:2). В обязанности диаконис входило посещение вместе с пресвитером больных, молитва за них и присмотр, а также попечение за столами церкви, выпекание

хлебов для причастия, помощи в омовении ног.

Издание было закрыто в сентябре 1928 г. из-за сворачивания религиозной свободы в СССР. Через короткое время прекратит деятельность и Союз ХЕВ.

В целом, журнал «Евангелист» сыграл ключевую роль в вероучительном оформлении движения христиан евангельской веры. Издаваясь максимально в краткие сроки, он аккумулировал достижения пятидесятников предыдущих лет и поспособствовал идентификации движения в преддверии сталинского запрещения религии. Это позволило движению крещенных Святым Духом в послевоенное время сохранить особенности вероучения и практики в составе Всесоюзного Совета евангельских христиан-баптистов.

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## МОДА КАК УНИВЕРСАЛИЯ КУЛЬТУРЫ

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***Ushakova J. Mode as a cultural universal.***

***Annotation.*** The article deals with the clarification of the status of mode in the structure of culture. Much attention is given to the definition of the concept of cultural universal. The features of the historical and modern scientific understanding of the basic elements of culture are explored. The correlation of cultural universals and universals of civilization is determined. Mode is affirmed as a cultural universal that constantly penetrates through the anthroposphere of different historical periods and shapes them.

***Key words:*** mode, culturology, cultural universals, universals of civilization, anthroposphere.

Одновременно с научной рефлексией термина «человечество» целью многих гуманитарных дисциплин стал поиск базовых составляющих структурного единства самой культуры. Размытые границы универсальной модели культуры как некой концепции единого остова разнообразных культур были обозначены еще на уровне XIX века такими исследователями, как Л.Морган, Г.Спенсер. Впоследствии это позволило в теории культурологии выделить понятие «универсалий культуры». Актуальность темы данной статьи обусловлена тем, что устойчивого единения в понимании и описании универсалий культуры, а так же в определении относящихся к ним структурных единиц в настоящее время не существует. Поэтому утверждение моды как одной из культурных универсалий становится веховой задачей на пути глубинного анализа и всестороннего изучения этой важной составляющей культуры.

Первые доскональные исследования по выявлению культурных универсалий принадлежат американскому антропологу Дж. Мёрдоку, который сделал попытку описать объединяющие, всеобщие характеристики культур, возникающие в связи с универсальными потребностями человека: «...все человеческие культуры, несмотря на их разнообразие, имеют в основе своей много общего и что эти общие аспекты культуры поддаются научному анализу» [2, с. 487].

Поиск и исследование основополагающих, обобщающих черт культуры потребовали объединения этнографов, социологов, социопсихологов и в результате вызвали к жизни саму культурологию – науку на стыке различных гуманитарных дисциплин. Так, основоположник новой науки Лесли Уайт одним из первых начал с синтеза теоретических пластов и практических наработок этнологии [6]. Цель рождения культурологии заключалась в более высоком, качественно ином уровне развития науки, основанном на продвижении от тщательных, базовых этнографических описаний, от этнологического сравнительного изучения локальных культур к выявлению закономерностей человеческой культуры в целом.

Но и по сей день многовекторность подходов относительно дефиниции универсалий культуры детерминирована разноплановой научной ориентированностью исследователей. Преимущественно это является причиной отсутствием единства в оценке и признании существования вечных констант человеческого бытия. В настоящее время в теоретических разработках выделяется различное количество универсалий культуры: от десятка «основных» до восьмидесяти и более наименований. Многие направления гуманитаристики претендуют на самостоятельное изучение универсальных структур культуры, но без философской рефлексии выделить культурные универсалии, распознать их смыслы и соответствующие значения, а также полноценно исследовать связанный с ними круг вопросов невозможно. Так, Дж. Пассмор занимает справедливую и принципиальную позицию относительно вопроса о культурных универсалиях, указывая тем, кто сомневается в их существовании на малоубедительность их сомнений и напоминает представителям культурной антропологии о необходимости взаимодействия с философами: «В антропологии утверждается, что все культуры различны. Но это еще не повод для отрицания существования культурных универсалий... Для защиты идеи существования культурных универсалий необходимо философски обосновать саму возможность существования чего-то не изменяющегося во времени. Этой проблемой занимались многие философы как прошлого, так и современности, что свидетельствует о том, что вопрос об универсалиях имеет эпистемологическое (связанное с теорией познания) измерение» [4, с. 111].

Фактически из универсалий культуры состоит самый высокий уровень организации самой культуры – общечеловеческий. В широкой трактовке корректно определить универсалии можно как черты, нормы, правила, традиции, ценности, свойственные подавляющему большинству культур вне зависимости от их географического положения и исторического периода существования. Действительно, есть нечто общее между культурой каннибалов первобытной Африки и культурой древних египтян, между античными греками, средневековыми японцами и нами – современниками техногенной цивилизации. Это объединяющее по сути и является всеобщим, то есть универсальным.

Идея существования этих «универсалий культуры» обладает огромным исследовательским потенциалом, она является основой для понимания законов существования самой антропосферы, оценки её границ и потенциала, для прогнозирования возможностей будущности человеческого сообщества. Подобно несущим стенам здания, универсалии являются необходимым базисом существования, тем, без чего культура не реализуется во времени и пространстве. Все элементы культуры связаны воедино посредством этих обязательных структурных образований, и никакая уникальность не может быть построена на полном отказе от них. Иначе говоря: разнообразие культур ни в коей мере не отрицает, да и не может отрицать обязательности наличия неизменного остова, являющегося носителем фундаментальных смыслов и целей существования

культурного пространства.

Создание нового основано на особой, имманентной человеку способности к творчеству. Это дает ему возможность выступить в роли креациониста, создателя ранее не существующего. Новаторство во многом обусловлено индивидуальными чертами личности творца, его уникальным опытом жизни, особым хитросплетением внутреннего пространства антропогенного свойства. Появившееся на свет новое (или кардинально обновленное) несет в себе заряд уникального воплощения культурного мира отдельной личности, хоть и не исчерпывается этим. Результаты творческого осмысления мира становятся благодатной средой для будущей моды. Но в контексте рассмотрения освещаемой темы необходимо помнить, что не все новое в процессе разворачивания модного цикла станет востребованным и популярным. Будет проведен жесткий отбор, ибо, как справедливо заметил ещё Габриэль Тард, «всякая новая мода имеет стремление превратиться в обычай, но это не всегда ей удастся, подобно тому, как не всякое зерно дает росток» [5, с. 328].

Что же требуется для актуализации нового, для принятия новшества в антропогенной среде? Ответ на этот вопрос видится в единстве универсального и уникального, т.е. в объединении результата уникального творческого акта с универсальными потребностями, смыслами культуры. В этом контексте уместно рассмотреть идеи, представленные в последней книге Ю. Лотмана «Культура и взрыв» [3]. Автор описывает культуру как целостный механизм, основу которого составляют динамические элементы двух видов: эволюция и взрыв. Взрыв, по утверждению Лотмана, это новаторство, непредсказуемое изменение. К этой сфере автор относит и моду: «Включение в моду - непрерывный процесс превращения незначимого в значимое. Семиотичность моды проявляется, в частности, в том, что она всегда подразумевает наблюдателя. Говорящий на языке моды - создатель новой информации, неожиданной для аудитории и непонятной ей. Аудитория должна не понимать моду и возмущаться ею. В этом - триумф моды. Другая форма триумфа - непонимание, соединенное с возмущением» [3, с. 126].

Действительно, так и происходит: в момент своего появления новое может оказаться тем самым «взрывом», который существенно изменит культуру. Однако новое может быть и отторгнуто. Тогда оно, канув в лету, практически не оставляет сколько-нибудь существенного следа. Только получив постепенное признание, распространение, пройдя путь от исключительного к популярному, новое становится модным. Таким образом, мода начинается с непредсказуемого взрыва, но далее живет по законам поступательного, эволюционного развития, переживая пик и постепенное угасание. В антропогенном пространстве цикл моды «взрыв-эволюция» происходил, происходит и будет происходить несчетное количество раз.

Пусть сегодня довольно сложно восстановить первичные смыслы новаторства периода архаической или древней культуры, но утверждать, что всегда существовал некто первый, сделавший непривычное и наделивший это непривычное своими смыслами, вполне уместно. В контексте повторяемости,

фактически универсальности подобных событий совершенно не важна привязка к пространству и времени, в лоне которых это произошло. В глубокой первобытности кто-то первым отметил себя татуировкой, скарифицированием (искусственное шрамирование) или иным преобразованием естественной телесности, что стало отправной точкой, своеобразным взрывом, с которого началась модификация культуры. Для начальных новшеств человека первобытного общества был наиболее актуален девиз «измени себя!», именно это стало стартом, попыткой расширить, буквально взорвать границы допустимого, неосознанным противопоставлением себя биологическому миру, экзистенциальной обреченности быть субъектом природы. На пути преодоления инстинктивной «программной» заданности животного бытия появилась сама человеческая культура. И пусть не вводит наблюдателя в заблуждение последующие множественные трансформации первичного девиза изменения, например, легковесный тезис «укрась себя!», так часто сопутствующий моде. Это все то же перманентное, универсальное стремление человека противостоять нативному природному состоянию.

Всегда был кто-то первый, надевший набедренную повязку, скроивший первое платье, уложивший волосы в прическу, раскрасивший лицо и тело, придумавший шутку или мем, и были те, кто приняли, распространили новшество. Можно утверждать, что подобные циклы повторялись неоднократно начиная с самых ранних этапов становления культуры и по нынешнее время являются её существенной характеристикой.

Поэтому, подобно Дж. Пассмору, который задается вопросом «является ли музыка культурной универсалией?», постараемся понять, не относится ли и мода к универсалиям культуры [4]. Коллизия складывается та же. Можно говорить, что «настоящая» музыка – это полифония постсредневекового звучания, отказывая таким образом первым ритмическим формам в имени «музыка». Можно считать, что ударные ритмы первобытности или монофония древности – лишь намек на будущее появление одного из видов искусств. Однако справедливо ли отказывать ритмам доклассической эпохи в принадлежности к музыке, например, традиционной народной мелодике? Разве звуки первобытных тамбуринов или древней лиры Орфея это не музыка?

Равно также рассуждают многие исследователи в отношении моды, которая по их мнению, которая появляется лишь в Новом времени. Эти рассуждения представляются ошибочными, так как нарастающая массовость моды в период с XVII века не являются моментом её истинного появления. Совершенного верно, что с течением времени мода принимает императивный характер и влияние её невозможно игнорировать. На уровне архаики, древности, средневековья мода была лишь вектором, указывающим направление, но с формированием массовой культуры она приобретает значимость неписанного правила, нормы, которую надобно соблюдать и невозможно не заметить. Однако заметность феномена моды не может считаться «точкой отсчета», временем её появления. В поисках универсальности моды необходимо исследовать, основываясь на рассмотрении



всех этапов культурно-исторического развития, не вычлняя какой-либо период отдельно.

Сегодняшние моды похожи на пандемии, охватывающие целые континенты, и это привлекает повышенное внимание к самому феномену. С позиции исследователя, мыслящего в контексте парадигм Нового и Новейшего времени, мода всегда явление гипермассовое. И это действительно так, ибо мода активнее реализована в канве массовой культуры, которая является одной из примет цивилизации, актуальной в последние, как минимум, почти три века. Но так было не всегда, факты говорят о другом. Была ли мода на «лотосные» ножки в Древнем Китае, на деформацию черепа в культурах мезоамерики, на ношение париков в средневековой Европе такой уж массовой? Ответ будет отрицательным. Таким образом, становится понятно, что даже минимальная локализация моды не повод для отрицания её существования.

Изучая феномен моды глубинно, на протяжении всего доступного для рассмотрения культурно-исторического процесса, необходимо помнить, что мода лишь «отпечаток» культуры, следствие формирующихся или уже сформированных смыслов антропространства. Связь функциональна, практически линейна: культура локальна и мода локальна, культура медленна, размеренна и мода длительна, устойчива, культура стабильна и мода стагнирована, культура динамична и мода стремительна. То есть новые характеристики, функции, которые появились у моды вовсе не безусловно имманентны ей, это иногда лишь те черты, которые появились у нее под влиянием культуры. Попытки многих исследователей экстраполировать особенности моды актуального для нас культурно-исторического периода на моду в целом вводят в заблуждение и приводят к отрицанию моды как постоянной и неотъемлемой части культуры.

Сужение области исследования путь опасный. Например, локальное рассмотрение периодов постцивилизационного этапа развития культуры приводит к некоторым теоретическим коллизиям. Так, существует довольно распространенное противопоставление универсалий культуры и универсалий цивилизации. Однако этот конфликт имеет искусственно созданный характер, основанный на нарушенном понимании структуры самой культуры. Не может цивилизация противопоставляться культуре, так как она лишь её часть, логическое воплощение прежде всего материальной сферы.

Культура противопоставлена биологической, естественной природе, суть «*cultura contra natura*», т.е. «вторая» природа, искусственно созданная человеком: от домов и их микроклимата до виртуального пространства самореализации. Неоднородность же культуры состоит в том, что её источником служат рациональные и иррациональные посылы человека. Как следствие этого культура нераздельно включает в себя как сферу духовных преобразований, так и материальных, что позволяет разделить универсалии цивилизации (преимущественно относящиеся к области материальных достижений в технологической деятельности, в производстве) и универсалии духовного освоения мира человеком, те, о которых



так мало пишут современные исследователи и осмысление которых дело будущего.

Относительно моды и частой негативной оценки этого феномена можно отметить, что лишь при становлении массовой культуры она становится «заметной» для исследователей и получает статус предмета достойного изучения. Постоянно нарастающее развитие материального сектора культуры в Новом и Новейшем времени служит основанием для утверждения моды в качестве феномена исключительно этого культурно-исторического периода. Такое положение вещей позволяет исследователями маркировать моду максимум как универсалию цивилизации, что иногда справедливо, но не исчерпывает все её исторические и антропогенные смыслы. Мода есть своего рода вечный спутник культуры на протяжении всех культурно-исторических периодов начиная с глубокой архаики: «...моду невозможно мыслить вне определенных изменений культуры и связанных с ними форм. Однако их существенный недостаток заключается в том, что причины и механизмы, обуславливающие указанные изменения и формы, неизбежно выносятся при этом за пределы «моды» как внешние для нее факторы. Их не называют модой, и они не включаются органически в ее структуру. Подобная точка зрения, ограничивающая моду исключительно областью меняющихся «форм», порождает описательность в анализе моды, делает моду, несмотря на всю ее изменчивость, явлением, по существу, мертвым, лишенным жизни и внутреннего движения» [1, с. 43].

Именно такое отношение к моде как неизменному спутнику культуры позволяет определить её как одну из универсалий культуры, которая может быть идентифицирована на высоком уровне технико-технологического развития и как универсалия цивилизации, что не противопоставляет моду культуре в целом. И совершенно неважно, чего именно касается мода: науки, технологий, политики, религии, форм одежды, увлечений и т.д. Это может быть повальное увлечение нанотехнологиями, спиннерами, ловлей покемонов или ношением искусственно «состаренной» одеждой. Всё это лишь постоянное отражение социальных процессов. Например, спиннеры так массово обаяли миллионы людей лишь по причине простой возможности включиться в монотонный процесс с целью избавиться от тревожной необходимости реагировать на постоянную непредсказуемость стремительного изменения окружающей действительности.

Человек всегда был вынужден балансировать между желанием обрести стабильность и стремлением удовлетворить жажду нового, как развлекающего и отвлекающего от бытовой рутины. Современность же только обостряет проблему необходимости поиска равновесия между устойчивым, традиционным и новаторским, так часто непредсказуемо врывающимся в жизнь и разрывающим ткань привычного бытия. Эти полюсы в условиях повышенной культурной динамики Новейшего времени активно отдаляются, что приводит к тяжким последствиям для антропосферы. Она сверх меры перенагружена обновлениями, которые значительно опережают уровень восприятия срединного человека, не приспособленного к такому лавинообразному потоку обновлений.

Сегодня уместно говорить, что взаимодействие традиционного и новаторского, локального и общечеловеческого, уникального и универсального предельно обострено, вплоть до агрессивного противостояния. Самый эффективный путь изменения, снижения конфликтности ситуации состоит во взвешенном сочетании разумного этноцентризма и культурного релятивизма. Это неизбежно предполагает принятие как универсальной общечеловеческой культуры, так и уникальной культуры индивидуальности. Отдельный человек, испытывая чувство принадлежности к культуре своего социума, будучи приверженным образцам этой культуры, способен понять другие культуры, принять и признать их право на существование. В этом отношении мода обладает огромным объединительным потенциалом, так как она создает образцы, основанные на универсальном восприятии срединного человека, что, в свою очередь, ведет к возникновению крайне необходимых интеграционных тенденций в антропопространстве.

**Выводы:**

1. Существование универсальных элементов культуры признается подавляющим большинством исследователей в сфере гуманитаристики.
2. Мода сопутствует культуре на протяжении развития всех культурно-исторических периодов: от Первобытности до Новейшего времени включительно.
3. Мода может быть отнесена к универсалиям цивилизации, что не противоречит возможности обозначить её как одну из культурных универсалий.

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## **PEDAGOGY AND PSYCHOLOGY**

### **PREVENTION OF DESTRUCTIVE MENTAL STATES AND QUALITIES OF THE PERSONNEL OF ESTABLISHMENTS OF EXECUTION OF PUNISHMENTS OF UKRAINE**

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**Annotation.** *The article is intended to draw attention to the problem of prevention of destructive mental states and qualities of the personnel of establishments of execution of punishments of Ukraine. Destructive mental state of employees of penal institutions are considered as negative mental states, which at different stages of service are different and have a significant impact on the efficiency of the professional activities and contribute to negative changes in the personality structure of the employees. The article draws attention to the fact that the prevention of destructive mental states and qualities of employees of penal institutions should be performed in the personnel, organizational, managerial, and especially in psychological areas. It was proved that the content, structure and direction of prevention of destructive mental states of employees of the penal institutions determine their personal qualities and characteristics at different stages of service.*

**Key words:** *personality, mental state, degradation, prevention, training, referral, staff of the penitentiary institutions of Ukraine.*

Prevention of destructive mental states of the personnel of the penitentiary institutions of Ukraine is an urgent problem because destructive mental conditions adversely affect mental and physical health of the person performing a devastating effect on the psyche and actions of the individual employee of the penal institutions and contribute to the development of professional burnout and professional deformation, which in turn negatively affects the their performed professional activities.

Service in penal institutions of Ukraine is organized like the military service and has a distinctive paramilitary character. It manifests itself in the obligation to wear the uniform, weapons and rules which allow you to use the weapon in the hierarchy of service levels, obedience of subordinates, demand of the immediate execution of commands and orders of the management. Due to the implementation of specific employment activities under the influence of peculiarities of the service and on the basis of individual psychological characteristics of the employee the emergence of destructive mental states is rather frequent phenomenon [1]. Destructive mental state of employees of penal institutions we interpret as negative mental States, which are at different stages of service are different and have a significant impact on the efficiency of the professional activities and contribute to negative changes in the personality structure of the employees.

Prevention of destructive mental states and qualities of employees of penal institutions should be undertaken in the personnel, organizational, managerial and psychological directions [3]. The personnel aspect is aimed at the prevention of destructive mental states by: quality professional selection of candidates for service; effective selection of senior staff; clear definition of functional responsibilities of personnel; full employment for the positions; the exchange of professional experience of employees at the level of other regions and outside the country; the work of the young worker under an experienced mentor who has experience in a similar position during not less than 5 years; reducing loads on the worker, transfer to other positions, not related to his work in the department of socio-educational and psychological work with convicts, or transfer to service in other institutions. Organizational and managerial vector causes to raise the status of the staff of penal institutions and improve the prestige of the service; generate a decent attitude to the staff of penal institutions; to properly allocate the working time; to reduce the number of daily meetings and pay more attention to practical activities; to reduce the amount of paperwork (filling logs, answering emails and orders); to improve communication of services, departments and divisions of penal institutions; to improve the material support of the institution; to facilitate the payment of benefits to employees of institutions of execution of punishments for the payment of utility services and / or to provide compensation to pay for rented dwelling; to stimulate the workers financially for diligent performance of professional duties; to provide full medical support for all service workers and members of their families. Psychological focus is important in the prevention of destructive mental states and qualities of the personnel of penal institutions. Let us reveal it in more detail.

Problems of destructive mental states and qualities of the personnel of penal institutions worried quite a limited circle of scientists and researchers (Ye. Yu. Barash, N. S. Guk, I. V. Zhdanova, V. S. Medvedev, N. E. Miloradova, L. V. Moroz). The researches of M. M. Chychuha are among the most modern and thorough ones [4], the researcher explored the mental state of the employees of socio-psychological service of the penal institutions of Ukraine in their professional activities. Experimental work by the author was conducted among the employees of the socio-psychological service of the penal institutions of the state penitentiary service of Ukraine in Kyiv and Kyiv region, employees of socio -psychological service of the penal institutions of the State penitentiary service of Ukraine in Chernihiv region, students of the correspondence faculty of the Institute of Criminal-Executive Service, National Academy of Internal Affairs, who are employees of socially-psychological service of the penal institutions from different regions of Ukraine. Overall, the study involved 375 males, ranging in age from 23 to 40 years old having higher legal education and working on the positions of heads of departments of socio-psychological service of the penal institutions.

To study the relevance of the problem of destructive mental states for personnel of penitentiary facilities of Ukraine, the author carried out a questionnaire survey aimed at self-assessment and analysis by the employees of penitentiary facilities, availability and reasons of emergence of negative mental states. 145 Department heads of penal

institutions took part in the survey. It was revealed that 100% of respondents confirm the existence among employees of institutions of execution of punishments of the problems of negative mental states. 84,63% of the respondents indicate the manifestation of negative mental states. 89,66% of staff said that they noticed the manifestation of negative mental states in employees of their department, other departments and managers. The most frequent negative mental states that arise among the employees of penal institutions are: the mental states that workers of socio-psychological service notice about themselves – stress (42,07%), irritability (42,07%), apathy (26,21%), anxiety (20,69%), aggression (16,55%), worries (15,86%), frustration (of 11,03%), anger (of 11,03%); the mental state that employees notice about their colleagues – irritability (52,41%), apathy (26,21%), stress (26,21%), indifference (15,86%), aggression (15,86%), fear (11,03%), worries (11,03%), depression (11,03%). The results of the survey showed that the reason the staff of the penal institutions has negative mental states, according to the respondents, is the contingent, the specific conditions of work, lack of rest, tiredness, low wages, overload, insecurity, career futility, irregular work schedule, bias of management, careless attitude of employees to their duties, low level of professionalism, family problems, indifference, selfishness, lack of personnel, bad financing of the establishments, the fact that managerial positions are occupied by young professionals with no managerial skills and experience in this department.

Depending on the experience in service activities in penitentiary institutions the researched people were divided into groups: group I – the number of years of service in penal institutions – up to 1 year (44 people); group II – the number of years of service in penal institutions – 1 to 3 years (72 people); group III – the number of years of service in penal establishments – from 3 to 5 years (26 people); group IV – the number of years of service in penal establishments – from 5 to 10 years (20 people); group V – the number of years of service in penal establishments – from 10 to 15 years (18 people).

We have used the following complex of psychodiagnostic methods, which included: “16-factor personality questionnaire by R. N. Cattell (16-PF-105 – C)”, methodology for the identification of neuropsychological sustainability by V. Yu. Rybnikov “Prognosis 2”, method of “Evaluation Scale of situational and personal anxiety by Ch. D. Spielberg – Hanin Yu. L.”, a questionnaire to determine the level of professional deformation OPD. S. Medvedev, the questionnaire to determine the level of professional burnout “MBI”, developed by K. Maslach, S. Jackson, and adapted by V. S. Medvedev.

The used diagnostic tools gave the opportunity to clarify that the employees who work in establishments of execution of punishments during up to 1 year demonstrate the following features: high level of suspicion, elevated levels of personal anxiety, the average level of professional burnout, mental stability, moral normativity of behavior, stress, flexibility, low level of sociability (asociality), courage and sensitivity (rigidity), radicalism (conservatism), the initial level of professional deformation, which are associated with destructive mental states. The employees with length of service from 1 to 3 years demonstrate higher than in the previous group level of isolation, timidity, suspicion, anxiety, stress, lower self-control, the initial level of professional deformation,

medium personal anxiety, psychological stability and professional burnout. Individuals who work from 3 to 5 years have higher than the respondents who work in institutions of up to 3 years level of rigidity, suspiciousness, communicative ability and courage, and less level of asociality, shyness, initial level of professional deformation, the average level of professional burnout, personal anxiety, medium, but an increased level of neuropsychic stability. Respondents who work more than 5 year have higher, in contrast to the previous respondents, level of suspicion, conservatism, courage, high level of neuropsychic sustainability, medium level of personal anxiety, professional strain and burnout that causes changes in personality characteristics influenced by their professional activities.

Also we determined empirically the relationship between destructive mental states and personal qualities and characteristics of workers at different stages of life. So, people who work for less than one year, with an increase in personal anxiety have increased tension; with increasing situational, personal anxiety, mental stability they have increased level of reduction of personal achievement (a component of professional burnout). Employees with length of service from one to three years, with an increase in personal anxiety have increase in tension, suspicion, self-control, courage, independence, sensitivity and flexibility of behavior; with the increase of mental stability they have increased level of flexibility of behavior, self control, radicalism, courage, self-reliance, sensitivity, suspicion, tension. Respondents who work in institutions from 3 to 5 years, with the increasing levels of personal anxiety have increased flexibility, sensitivity, moral standard of conduct; with increasing situational anxiety they have increased professional deformation; with the increase of reduction of personal achievement they have increased level of radicalism and tension. Respondents who work less than 5 years in case of increase of situational and personal anxiety, have increased level of radicalism, that is, the higher the anxiety level is, the higher readiness of workers to the new changes will be. Individuals who work from five to fifteen years in case of increase of tension have reduced situational anxiety, which testifies to the adaptability and personal preparedness; if the anxiety increases the level of courage and moral normativity of behavior decreases; if personal anxiety increases the level of professional deformation increases, too; the increase of such a component of the professional burnout as reduction of personal achievements leads to reduced flexibility of behavior.

It was discovered that destructive mental states and qualities that are most in need of correction and prevention include: isolation, mental instability in extreme conditions, the moral dynamics of the behavior, shyness, rigidity, suspiciousness, low level of diplomacy and flexibility of behavior, personal anxiety, conservatism, tension, medium level of professional burnout, in particular, the average level of emotional exhaustion, high level of depersonalization, the initial level of professional deformation.

Psychological prevention of destructive mental states and qualities of the personnel of the penitentiary institutions can be divided into primary, secondary and tertiary. The most important is primary prevention, which is aimed at professional selection of candidates, psychological support of service activities, timely identification of



destructive mental states, providing necessary knowledge to the workers regarding the most effective means of preventing the emergence of destructive mental states, getting knowledge on the forms and methods of self-regulation.

We are convinced that training is one of the effective methods of prevention and correction of destructive mental states, as it is the most productive form of learning and formation of professional performance of the employee of any organization. Let us introduce the author's "Training for the prevention of destructive mental states of the personnel of penitentiary facilities of Ukraine" [5].

The goal of this training is to prevent destructive mental states and optimize the personal qualities of the personnel of penal institutions.

The objective of the training is to identify actual problems of destructive mental states in the work of staff; to identify the main destructive mental states that are present in the professional activities; to teach methods of self-regulation of mental states; to reduce existing destructive mental states, to optimize personal qualities and characteristics, to form the necessary professional skills, to prevent destructive mental states.

Modules of the training program:

1) understanding of destructive mental states in the work of the staff of penal institutions (definition of destructive mental states, determining the actual problems of destructive mental states in the work of staff, analysis of changes in destructive mental states in the course of the working day);

2) identification of the main destructive mental states that are present in the professional activities of the staff of penal institutions (identifying the signs of destructive mental states, causes, factors affecting their development, determination of the main ways of preventing destructive mental states);

3) methods aimed to minimize the appearance and destructive influence of mental states on performance and personality of the personnel of penal institutions (training of self-regulation of mental states: the ways of normalization of the mental state, regulation of respiration, methods of control of the muscle tone and movements and methods of self-regulation of mental states related to the impact of words (self-orders, self-programming, self-motivation);

4) formation of an active personal position on combating the emergence and influence of destructive mental states on the effectiveness of professional activity and personality of the personnel of penal institutions (with the correction of destructive mental states and qualities (aggressiveness, anxiety, fear, suspicion, isolation) and formation of professional qualities necessary to prevent destructive mental conditions, in particular: self-esteem, mental stability, confidence in oneself and one's actions, determination, courage, flexibility, diplomacy, interpersonal skills, restraint).

Duration of the training: 6 lessons, 2 lessons a week for 6 hours. The number of program hours – 36 hours.

The principles of organization of the training: activities, which suggest that the professional qualities of a personality as a subject of activity are formed in the same activities or activities which model it; the equivalence of training activities, simulation



games to real actions; activities: openness to new experiences, active involvement of participants in cooperative activities; problem approach to learning, the implementation of the problem-cognitive activity; personal orientation, which involves a focus on the interests and needs of the staff of penal institutions, creation of conditions that stimulate creative approach to solving professional tasks, self-expression, development of psychological mechanisms of self-consciousness, self-knowledge, self-acceptance [2].

Methods of training: brainstorming, work in groups, discussion, active listening, exercises, role-playing, case study.

Based on the goals and objectives of the training program a number of authors of training exercises was developed, for example, the aim of the exercise “Aggressive employee” is to reduce the level of anxiety and the formation of emotional stability, self-confidence when interacting with prisoners; exercises “Puppet” and “Blackmail” are focused on helping employees to overcome their fear, uncertainty, anxiety, to neutralize the negative manifestations on the part of the chief and convicted, to see that the solutions to complex situations really exist; communicative activity “Dialogue” is focused on formation of emotional stability and self-control, the development of communicative skills of flexibility and diplomacy.

The effectiveness of the implemented training program was confirmed by significant changes of destructive mental states and qualities of the respondents after the formative experiment: the levels of withdrawn isolation, stress, personal anxiety, mental instability in extreme conditions decreased, as well as the levels of emotional exhaustion, depersonalization, moral dynamism, cruelty, suspicion, conservatism, professional deformation, reduction of achievement; the levels of flexibility, diplomacy, the level of neuropsychic resilience, self-control increased.

**Conclusions.** Destructive mental states of employees of penal institutions mean negative mental states that at different stages of service are different and have a significant impact on the effectiveness and results of professional activity and cause negative changes in the personality structure of the employees. Destructive mental states are associated with the personal qualities and characteristics of employees of institutions of execution of punishments. Primary prevention of destructive mental states of employees of penal institutions play a major role in the preservation and restoration of their mental health, optimization of professional activities, preventing the formation of the mental disorders that occur during military service, and the complex application of these methods is very important. The most effective method of prevention and correction of destructive mental states is training that is necessary to be introduced by psychologists of the penal institutions within social-psychological work with the personnel of the penitentiary institutions of Ukraine.

Prospects of further studies lie in improving the areas of prevention of destructive mental states of employees of penal institutions at different stages of service.

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## РОЛЬ ТОЛЕРАНТНОСТИ ПЕДАГОГА В ФОРМИРОВАНИИ ТВОРЧЕСКОЙ ИНИЦИАТИВЫ ШКОЛЬНИКОВ В УСЛОВИЯХ ОБРАЗОВАТЕЛЬНОЙ ЕВРОИНТЕГРАЦИИ

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***Khabirova L. The role of teacher's tolerance in forming a creative initiative schoolchildren in the conditions of educational euro-integration.***

***Annotation.*** This academic paper is focused on problems of students' creative initiative formation. This work shows author's definition of «creative initiative» concept, schematically demonstrated essential difference of this definition from the term «initiative». This paper presents that there is some inner aspiration prior to showing initiative and that follows after correlation of external circumstances and personal opportunities. Within the frame of educational process, assessing factor of external conditions that encourage or discourage the student to show the initiative can be tolerant or intolerant teacher's attitude to students.

***Key words:*** creativity, initiative, creative initiative, activity, tolerance, teacher, student.

Постановка проблемы. Современное социальное пространство характеризуется широтой и насыщенностью информационного поля, многоуровневостью общественных отношений и заявленным плюрализмом во всех социальных сферах жизни. Такая динамичность течения общественной жизни, поликультурность социального пространства требует поиска оптимальных способов налаживания эффективного взаимодействия между людьми.

Современное реформирования образовательной системы базируется на компетентностном подходе, суть которого заключается не столько в сумме усвоенных знаний учениками, сколько в умении использовать и применять полученные знания в практической деятельности. Именно поэтому вопрос развития творчески инициативной личности есть наиболее актуальным ныне.

Изучению проблемы формирования творческой инициативы учащихся способствуют научные работы таких ученых, как: Л.С. Выготский, С.Л. Рубинштейн, А.Н. Леонтьев, Г.С. Костюк, Г.А. Балл, В.А. Роменец, А.В. Петровский, Д.Б. Богоявленская, В.В. Клименко, С.Д. Максименко, В.А. Моляко, В.В. Рыбалка и др.

Цель работы заключается в анализе взаимосвязи субъективной оценки учащегося уровня толерантного отношения педагога со степенью выявления творческой инициативы и активности школьника. Иными словами, мы попытались определить значение толерантности педагога в формировании и выражении творческой инициативы ученика.

А.А. Леонтьев понимает творчество не как процесс создания нового, а как

способность человека «действовать в неопределенных ситуациях». Условием этой способности является самореализация (самоопределение) личности, предполагающая самостоятельное налаживание системы отношений между отдельной личностью и социальным и предметным миром, косвенно превращая их через собственную деятельность [7].

Я.А. Пономарев трактует творчество как процесс взаимодействия, который ведет к развитию [6]. Ученый выделяет две функции психики по отношению к внешнему миру: творчество (как создание новой реальности) и адаптация (приспособление к существующей реальности) [6].

В.А. Петровский и А.С. Огнев обосновывают идею творчества как феномена активной неадаптивности, одной из «форм единого цикла самоценной активности человека - порождение и воспроизведения себя как субъекта». Творчество трактуется как процесс развития личности человека, что характеризуется ее саморождением в качестве субъекта новообразования [6, с. 17].

Украинский ученый В.В. Рыбалка отмечает, что творчество возникает не только как процесс создания индивидуального и общественно ценностного продукта, но и как процесс самосозидание, саморазвития, самореализации, самообъективации личности - на основе усвоения и обогащения общественно-исторического опыта [7, с. 53].

Исходя из теоретического анализа существующих в науке подходов к определению понятия «творчество», мы понимаем последнее как деятельность человека, результатом которой является качественно новый и оригинальный продукт (для субъекта этой деятельности), который имеет личностное (в первую очередь) и общественное значение.

Мы считаем, что именно творчество дает возможность человеку глубже познать себя (свои сильные и слабые стороны), оценить красоту индивидуальности восприятия и трактовки, именно творчество расширяет границы сознания, из-за отсутствия заданных рамок и шаблонов. Творческая деятельность - это пространство для материальной реализации мыслей, чувств и ощущений. Творчество в любой сфере дает возможность личности объективировать субъективную картину реальности, а завершенное творческое произведение позволяет лучше узнать себя.

Термин «инициатива» семантически как бы включает в себя понятие активности, начинания, стремления, действия.

К.А. Абульханова понятие активности определяет как типичный для данной личности, обобщенный, ценностный способ отображения, выражения и осуществления жизненных потребностей. К числу последних относятся: потребность в объективации (С.Л. Рубинштейн, Д.Н. Узнадзе) как потребность в активном, жизненном самовыражении, потребность в признании [1, с. 10].

Инициатива, по мнению К.А. Абульхановой, - это некая свободная форма самовыражения и реализации личностных потребностей субъекта деятельности. Инициатива представляет собой опережающую внешние требования или встречную по отношению к ним свободную активность субъекта, которая затем

реализуется в интеллектуальной или практической сферах [1, с. 109].

По мнению Д.Б. Богоявленской качественным показателем, определяющим степень взаимодействия личности с окружающим миром, выступает творческий (продуктивный) или репродуктивный (пассивный) характер проявления активности в конкретном акте деятельности [2].

Инициатива, по нашему мнению, является формой проявления активности, которая опережает запрос извне, результатом чего является реализация, объективация «внутреннего» во внешнем социальном пространстве. Инициатива есть внутренне обусловленным актом проявления активности.

Приложение «творческая» к дефиниции «инициатива», на наш взгляд, характеризует некую направленность, характер проявления последней, результатом чего выступает субъективно оригинальный и новый продукт – как внешний, материальный (картина, произведение, песня, создание прибора, оборудования), так и внутренний (новая идея, умозаключение, суждение и т.д.).

Под творческой инициативой мы понимаем форму проявления активности личности, опосредованную ее отношением к конкретной деятельности, результатом чего выступает качественно новый и оригинальный продукт (объект), личностно значимый для субъекта.

Творческая инициатива предполагает выход за рамки внешней ситуации, поисковую активность, будто выходит за пределы заданных условностей, которая расширяет внешние и внутренние возможности.

Схематично наше понимание понятия «творческая инициатива» представлено на рис. 1.

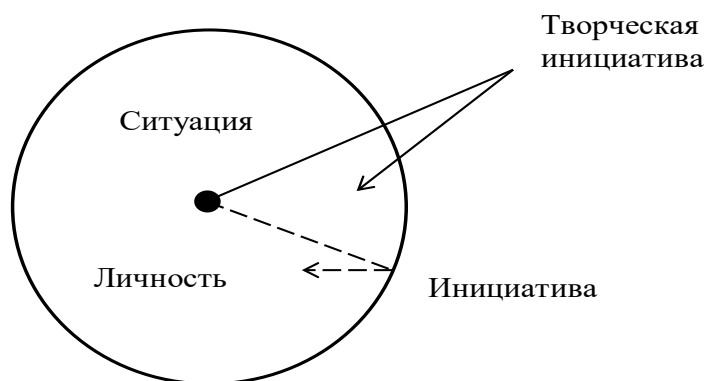


Рис. 1 Проявление творческой инициативы личности

Выявлению инициативы предшествует некоторое внутреннее стремление, которое следует после соотношения внешних обстоятельств и личностных возможностей. Мы допускаем, что внешними обстоятельствами, которые припадают под оценочный анализ, в рамках образовательного процесса, может выступать педагог, и в частности уровень его толерантного отношения к ученикам.

Проанализировав дефиницию «творческая инициатива», перейдем к понятию толерантности и толерантного отношения.

В философских словарях можно найти такое определение: толерантность (от лат. *tolerantia* – терпимость) – термин, которым обозначают доброжелательное или по крайней мере сдержанное отношение к индивидуальным и групповым различиям (религиозным, этническим, культурным, цивилизационным) [4, с. 642].

В 1995 году во время проведения конференции ЮНЕСКО Организацией Объединенных Наций была принята «Декларация принципов толерантности». Согласно декларации толерантность определяется как уважение, восприятие и понимание богатого многообразия культур нашего мира, форм самовыражения и самоутверждения человеческой личности. Кроме того, стоит обратить внимание, что толерантность, и мы с этим абсолютно согласны, определяется не как уступка, снисхождение или потворство, а прежде всего как активная позиция, которая формируется на основе признания универсальных прав и основных свобод человека [3].

В психологии развития личности, толерантность рассматривается как личностное образование (Г.У. Солдатова, Д.В. Зиновьев, П.Ф. Комогоров, А.Б. Скрябина и другие авторы), включающее в себя следующие характеристики: адекватная самооценка; ответственность за свои поступки; чувство юмора; приверженность к другим; самообладание; терпение способность к рефлексии; общительность, умение выражать свое несогласие, аргументировать отказ от сотрудничества; отсутствие стереотипов, предрассудков [5].

Мы понимаем толерантность как способность воспринимать и принимать другого человека во всем многообразии его проявлений (мнения, позиции, утверждение, поведенческие проявления, внешний вид, мировоззрения, мировосприятия и т.д.), при этом сохраняя, уважая и не нарушая собственные личностные границы.

Дихотомической противоположностью толерантности есть понятие интолерантности, в основе которой находится категоричность взглядов и позиций, бедность и узость представлений и мыслей, некая направленность личности исключительно на себя, односторонность восприятия, отсутствие поливариантности интерпретаций и трактовок окружающей действительности, безапелляционность выводов.

Результаты проведенного исследования. В своем исследовании мы выходили из предположения, что субъективная оценка учащегося толерантного/интолерантного отношения учителя к ученикам так или иначе влияет на формирование и меру выявления творческой инициативы школьника.

Исследование проводилось на базе СОШ №38 в ноябре 2017 года. Объем выборки составляет 141 человек, среди которых учащиеся 9-11 классов.

Первый этап нашего исследования заключался в определении уровня творческого (креативного) мышления учащихся. Согласно цели первого этапа, как инструмент диагностики нами был выбран тест дивергентного (творческого)

мышления Вильямса, который позволяет диагностировать уровень креативности учащихся.

В ходе обработки результатов исследования, мы разделили респондентов на три группы, в зависимости от уровня проявления оригинальности мышления соответственно возрасту: ученики с высоким уровнем (6,6%), со средним уровнем (63,5%) и с низким уровнем (29,9%) креативности.

Следующим этапом нашего исследования было определение субъективной оценки учениками уровня толерантности учителя. Для начала, мы попытались определить кто как понимает понятие «толерантность». Среди опрошенных нами учеников 76% считают, что толерантность – это уважительное отношение к другому человеку, 12% считают, что это вынужденное терпимое отношение и сдерживания своих отрицательных чувств к представителям других национальностей, рас, людей другого цвета кожи, вероисповедания, 10% – правовое требование общества, 2% – не смогли дать точный ответ на этот вопрос.

Проанализировав дефиницию толерантности в целом, и, в частности, отличительные особенности толерантного отношения людей друг к другу, мы предложили респондентам анонимно (без указания имени и фамилии) выделить и записать 2-3 школьных предмета, на уроках которых они чувствуют наиболее толерантное отношение к себе со стороны учителя. С этических соображений, мы не просили указывать наименее толерантных педагогов, и по той же причине мы не указываем предметы, которые были зафиксированы респондентами.

После проведения второго этапа исследований, обработав все полученные в ходе опроса результаты, мы определили триаду наиболее «толерантных предметов» для каждого класса. Мы не включали в этот список физическую культуру и трудовое обучение, потому как сама организация учебного процесса этих дисциплин несколько отличается от других предметов.

Третий этап нашего исследования заключался непосредственно в наблюдении, в естественных для респондентов образовательных условиях, за особенностями поведения, уровнем активности учащихся на уроках. Нами было отмечено, что на уроках, где по субъективной оценке учеников, к ним выражают наиболее толерантное отношение, респонденты с высоким и средним уровнем креативности мышления выявляли достаточно высокий уровень активности и инициативности, не боялись выдвигать различные варианты ответов, даже если заранее понимали высокую имоверность ошибки. Следует отметить, что не все ученики с высоким уровнем креативности мышления были инициативны на уроках выделенной ими триады «толерантных предметов». Мы можем лишь предположить, что это связано с некоторыми субъективными на то причинами. Большая часть учеников с низким уровнем креативности не выражали активности и инициативности практически на всех уроках.

Следует отметить, что некоторые респонденты, выделяя три предмета, на уроках которых чувствуют наиболее толерантное отношение к себе со стороны учителя, указывали причины такого выбора, среди которых: «я не боюсь сказать



свое мнение», «... никогда не кричит», «всегда подбадривает, когда у меня что-то не получается», «... всегда объяснит, когда что-то непонятно», «на уроке интересно, интересные задачи».

Исходя из результатов проведенного нами исследования, результатов наблюдаемого нами уровня выражаемой инициативности и креативности мышления учеников непосредственно на уроках, мы допускаем, что толерантность учителя имеет значительную роль в формировании и выявлении творческой инициативы учащихся. Следует отметить, что здесь мы имеем в виду именно субъективную оценку учащимися уровня толерантности педагога, выражаемого по отношению к ним.

**Выводы.** Под творческой инициативой мы понимаем форму проявления активности личности, опосредованную ее отношением к конкретной деятельности, результатом чего выступает качественно новый и оригинальный продукт (объект), лично значимый для субъекта. Творческая инициатива предполагает выход за рамки внешней ситуации, поисковую активность, будто выходит за пределы заданных условностей, которая расширяет внешние и внутренние возможности личности. Выявлению инициативы предшествует некоторое внутреннее стремление, которое следует соотносить со своими личностными возможностями с внешними обстоятельствами. Наше исследование позволяет предположить, что одним из внешних факторов может выступать толерантность педагога по отношению к учащимся.

Результаты проведенного нами исследования нельзя считать исчерпывающими, но они могут послужить основой для дальнейших исследований в этом направлении.

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## **MEDICINE AND PHYSIOLOGY**

### **THE RELATIONSHIP BETWEEN THE OCCURRENCE OF LONG-TERM COMPLICATIONS AFTER DENTAL IMPLANTATION WITH THE SHAPE OF THE FACIAL SKELETON**

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**Annotation.** *Hemeroteca and mesoprosopic shape of the facial skeleton and the thickness of the bone plate over the tooth root less than 0.5 mm predispose to MPS. The development of the mandibular postimplantation syndrome is uniquely associated with the DI and the quality of the anatomy of the facial skeleton and the quality of the bone tissue of the alveolar process.*

**Key words:** *maxillary post-implantation syndrome, facial index.*

One option for the effective replacement of dentition defects or the treatment of full or partial adentia is dental implantation. Intraosseous dental implantation as well as any surgical intervention is accompanied by complications. The least studied it long-term complications after dental implantation [1, 2]. The vast majority of remote dental implantation complications occurs in the region of the upper jaw, due to its more complex anatomy and physiology, especially its topography, bone quality, proximity to the nose and orbit [3, 4].

Variant of remote complications in patients 1-5 years after dental implantation on the upper jaw – maxillary post-implantation syndrome – simultaneous presence of rhinological, ophthalmologic and neuro-stomatologic symptomatology. On the basis of the materials [1-5], it can be assumed that the pathogenesis of the maxillary post-implantation syndrome is to some extent related to the condition and characteristics of the anatomical barrier, represented by the anatomical-topographic relationship of the maxillary sinus, the alveolar process and the roots of the teeth of the upper jaw. In the first place with the geometry of the barrier – the distance from the roots of the tooth of the upper jaw to the bottom of the maxillary sinus.

Little is known of attempts to conceptually adequately perform an objective analysis of an array of data on the problem of distant complications after a trauma of the facial skeleton in dental implantation (DI) to identify interrelated and interdependent pathological processes in bone tissue and organs of the facial skeleton, head and neck.

An analysis of the literature suggests that the impact of improving implant systems and additional practical skills on dental implantation results is rather limited, and the number of adverse outcomes of dental implantation in different researchers does not decrease less than 5-10 % [3, 8].

The purpose of the work is to determine the main anatomical and topographic relationships of the maxillary sinus, the alveolar process and the roots of the maxilla in the system of the human face, leading to the development of the maxillary post-implantation syndrome.

After dental implantation on the upper jaw for partial or complete secondary adentia, the development of chronic postimplantation maxillary sinusitis [9,10,11] or maxillary postimplantation syndrome can be developed in the long term [2,3].

**Materials and methods of research.** Processed diagnostic computer tomography images of 41 patients (control group) with complete toothpaste on the upper jaw and 132 patients after dental implantation (main group): 72 (34 men and 38 women) - with remote consequences of dental implantation in the form of maxillary post-implantation syndrome, control group 2 - 60 (31 persons and 29 women) - without complaints about dental implantation. The face index (FI) is the ratio of the height of the person (distance from the middle of the base of the mandible to the middle of the frontal nasal septum) to the cervical width (the distance between the arches of the foreskin), expressed as a percentage. There are 3 forms of the skull: FI hameprosopic form: from 78 to 84% (wide and low face); middle, mesoprosopic: FI from 84 % to 88.9 %; leptoprosopic form: face index > 89% (high and narrow face). Face index was determined according to the known method [5]. Measurement of anatomical structures was performed on three-dimensional reconstruction of the skull on tomograms in the software package "Vision" of the DICOM format.

**Results of the research and their discussion.** In the control group of patients without any complaints about the long-term consequences of dental implantation, hypopneummary upper jaw sinus was detected in 23.3 % of the observations, isopneummary – in 55.0 %, hyperpneummary – in 21.7 %, in patients with maxillary post-implantation syndrome – in 29.2 %, 47.2 %, 23.6 % of observations, respectively.

In the control group, the leptoprosopic form of the facial skeleton was observed in 65.0 % of patients, mesoprosopic – in 26.7 %, hameprosopic - in 8.3% of patients, in patients with maxillary post-implantation syndrome - 20.8%, 29.2%, 50, 0% respectively. Almost hameposopic shape of the facial skeleton is a risk factor for the development of maxillary post-implantation syndrome. Results of identification of the shape of the facial skeleton in patients selected by the type of structure of the maxillary sinus, are presented in Table 1.

In medicine (in orthopedics and traumatology the term bone quality is used very superficially, but there are no classifications), the only application of the quality concept is known, and it is within the framework of dentistry in the treatment of partial / full adentia for satisfying 2 vital needs - there is. This classification of the quality of the bone tissue of the jaws by Mish [8].

Table 1

**Dependence type craniofacial area of extent of the upper  
jaw body pneumatization**

Pneumatization	Shape					
	hameprosopic		mesoprozopic		leptoprozopic	
	aбс	%	aбс	%	aбс	%
Control groupe 1 (n= 41)						
hypo -	1	2,3	2	4,6	4	9,3
iso -	3	7,0	7	18,6	11	27,9
hyper -	2	4,6	5	11,6	6	13,9
ALL	6	13,9	14	34,9	21	51,2
control group 2, after dental implantation (n= 67)						
hypo -	0	0,0	2	3,3	12	20,0
iso -	2	3,3	13	18,3	25	33,3
hyper -	3	5,0	5	5,0	5	11,7
ALL	5	8,3	20	26,7	42	65,0
patients with maxillary postimplantation syndrome ( n=72)						
hypo -	12	16,7	6	8,3	3	4,7
iso -	16	22,2	10	13,9	8	11,1
hyper -	8	11,1	5	6,9	4	5,5
ALL	36	50,0	21	29,2	15	20,8

Based on the analysis of computer tomograms [12], an alternative classification of the quality of the bone tissue of the jaws from 6 types of architectonics of the bone tissue of the jaws is proposed:

I type - the bone tissue of the jaw is represented almost completely compact layer. This type of architectonics is more often recorded in the frontal part of the lower jaw, less often in the lateral sections and in the frontal part of the upper jaw with varying degrees of atrophy and residual bone volume.

II type - the ratio of compact and spongy layers is 1: 1. The spongy layer is represented by a few but very thick trabeculae; the thickness of a compact layer is 3-5 mm or more.

III type - the ratio of compact and spongy layers is 1: 3. The thickness of the compact layer is 2-3 mm. The spongy layer is represented by a uniform, well-developed network of trabeculae. This type of architectonics is more common in the region of molars of the lower and upper jaws, less often in the frontal region and in the region of the mandibular bumps.

IV type – the ratio of compact and spongy layers is 1: 4 or more. The thickness of the compact layer is 1-2 mm. The spongy layer is represented by a loose network of thin trabeculae. It is observed in the zone of tubercles and alveolar process of the upper jaw in the region of molars and the region of molars of the lower jaw.

V type – the thickness of a compact layer is 2-4 mm. The spongy layer is practically absent. Observed with pronounced atrophy of the jaws and only in the lateral parts (zone of the chewing group of teeth).

VI type – the thickness of a compact layer is not more than 0.5-1.5 mm. The sponge layer is absent. Observed with moderately pronounced atrophy in the lateral parts of the jaws.

In accordance with the quality of bone tissue, the design, size and configuration of the implant system are created to ensure the bi-and intercortical location of the intraosseous elements. The quality of the anatomy of the facial skeleton should be considered. The significant variability in the structure of the maxillary sinuses determines the variety of clinical manifestations of the sinusitis and their course, which makes possible the development of orbital and intracranial complications.

Depending on the degree of pneumatization of the maxillary sinuses, variants of their anatomical structure are distinguished: agenesis, hypogenesis, hypergenesis, normal pneumatization. Taking into account the morphology of the maxillary sinuses and the topographic-anatomical relationships of the maxillary bone with adjacent bone structures, the sinuses are pinched: alveolar, palatine, malar, infraorbital or anterior tear (prelacrimar), sphenoid, palatine bone. The presence of such pockets contributes to the development of the maxillary post-implantation syndrome.

In terms of creating a classification of the quality of the facial skeleton, we note that the maxillary sinus in 15.5 % of patients with acute and chronic sinusitis consists of 2 cells isolated from each other [14]: this anomaly complicates and burdens the treatment of any sinusitis. Anatomical abnormalities of the nasal cavity and osteomeal complex are the main factors in the development of acute maxillary sinusitis and maxillary post-implantation syndrome, as blocking the sinuses of the paranasal sinuses, they lead to a violation of drainage and oxygenation functions.

We note the frequency of elements of anomalous potentially dangerous anatomy in patients with maxillary post-implantation syndrome and patients with a favorable status after dental implantation: nasal septal deformities – 100.0 % and 48.2 %, abnormalities of the hook-shaped process – 39.39 % and 17.86 %, anomalies of the middle nasal shells – 37.88 % and 14.29 %, the anomalies of the latticed bubble – 21.21 % and 12.5%, the nasal tubercle cell – 43.94 % and 19.64 %, the "Haller's cell" – 7.58 % and 3.57%, extramural frontoethmoidal cells – 13.64 % and 5.36%, dehiscence of the medial wall of the orbit – 15.15 % and 3.57 %, hypertrophy of the nasal tubercle cell – 9.09 % and 3.57 %, additional australia hnechelyustnoy sinus – 21.21 % and 7.14 %.

Table 2 shows the thickness of the alveolar sprout from the root of the tooth (or implant) to the maxillary post-implantation syndrome in all groups of the subjects. Measurement of the distance from the incisors to the maxillary sinus was performed diagonally on the specially selected oblique sections of the CT, since the bone plate of the alveolar sprout above the incisors is actually a little thinner and separates the root of the tooth not from the maxillary sinus but from the cavity of the nose. Left and right patients of the same name often have been in an ambiguously identified position.

For example, usually the root of the third tooth enters the bone plate of a considerable thickness over it, but the posterior and posterior-lateral surfaces of its root often borders on the small pre-medial buckling maxillary sinus, because of which the distance from the tooth root to the maxillary sinus is minimal.

Table 2

**The distance from the roots of the tooth of the upper jaw to the bottom of the maxillary sinus (in mm)**

Teeth upper jaw	Patients without indications for DI	Patients with DI without disturbed complications	Patients with syndrome
8	0,83±0,12	0,74±0,16	0,43±0,13
7	0,78±0,12	0,68±0,14	0,45±0,12
6	0,91±0,10	0,77±0,17	0,47±0,14
5	0,81±0,11	0,67±0,15	0,48±0,12
4	1,18±0,13	1,03±0,18	0,58±0,15
3	2,71±0,14	2,51±0,27	2,44±0,25
3	2,81±0,16	2,48±0,30	2,12±0,21
4	1,38±0,11	1,23±0,22	0,52±0,19
5	0,89±0,12	0,71±0,14	0,54±0,12
6	0,84±0,11	0,71±0,15	0,51±0,14
7	0,85±0,10	0,74±0,16	0,45±0,13
8	0,82±0,11	0,67±0,15	0,48±0,12

The main rethink before the development of the maxillary post-implantation syndrome is topography and anatomy of the bottom of the upper branch of the upper and lower crusts of the upper crusts of the upper crust: the upper root of the tooth is glued to the bottom of the sinus with a mucous membrane or a layer of bone tissue with a thickness of 0.2 to 12 mm [6, 7].

There is no reliable difference in the distances from the root of different teeth to the maxillary sinus on the right or left side is absent. The bone barrier between the countries of the upper jaw teeth has been studied repeatedly in connection with the potential danger of perforation of the bottom of the maxillary sinus in endodontic interventions, for example, in studies [5-7]. One of the main factors contributing to the gradual development of maxillary post-implantation syndrome is the reduction of the layer of the alveolar process between the root of the tooth bone plate above the root of the tooth about 0.5 mm. At lower values of this index, the percentage of the appearance of the maxillary post implantation syndrome after dental implantation is significantly increased. This is due to the anatomical and topographic features of the structure of the upper jaw and the shape of the facial skeleton [5, 7]. Among patients with mesoprosopic and leptoprosopic forms of the facial skull in the control group, sinuses with hypo- and isopneumatization are found in 60.4 % of the observations, in the control group 2 – 74.9

% of the observations, in patients with maxillary postimplantation syndrome – only 38.0 % of observations. It is quite realistic to form groups of risk by facial index.

**Conclusions.** The leading anatomical factor in the genesis of a remote complication after dental implantation is an excessively thin bone plate above the root of the tooth. The main prerequisite for the development of the maxillary post-implantation syndrome is the topographic-anatomical ratio of the bottom of the maxillary sinus and the tops of small and large root teeth of the upper jaw. The chameprosopic and mesoprosthetic forms of the facial skeleton and the thickness of the bone plate above the root of the tooth are less than 0.5 mm contribute to the development of the maxillary posterior implantation syndrome.

The development of the mandibular postimplantation syndrome is uniquely associated with the DI and the quality of the anatomy of the facial skeleton and the quality of the bone tissue of the alveolar process. A similar approach based on the concept of quality can be realized with respect to the remote complications of any other operated organs.

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## РОЛЬ МИНЕРАЛЬНЫХ ВОД В КОМПЛЕКСНОМ ЛЕЧЕНИИ БОЛЬНЫХ НЕАЛКОГОЛЬНОЙ ЖИРОВОЙ БОЛЕЗНЬЮ ПЕЧЕНИ

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**Zabolotna I. The role of mineral water in complex treatment of patients with nonalcoholic fatty liver disease.**

**Annotation.** The article presents an experimental substantiation of the effectiveness of the application of sulfate mineral water in rats with a model of nonalcoholic fatty liver disease. As a result of the experimental studies, the morphological picture of the liver was improved under the influence of the course drinking of mineral water. Clinical trials have shown improvement in the clinical course of the disease, restoration of the functional state of the liver, reduction in signs of dyslipidemia and insulin resistance.

**Key words:** non-alcoholic fatty liver disease, mineral water, insulin resistance, dyslipidemia.

Неалкогольная жировая болезнь печени (НАЖБП) является актуальной проблемой современного здравоохранения и занимает первое место по распространенности среди всех заболеваний печени [1-4]. Согласно результатам последнего мета анализа 86 клинических исследований в 22 странах мира частота НАЖБП в общей популяции составляет 25 %, достигая максимальных значений среди населения Ближнего Востока и Южной Америки [5]. При этом предполагается, что к 2030 г. НАЖБП станет основной причиной трансплантации печени в развитых странах [4, 6].

В развитии НАЖБП ведущую роль играют инсулинорезистентность (ИР), ожирение, дислипидемия, нарушение секреции адипоцитокинов [4, 7, 8, 9]. В настоящее время не существует какой-либо общепринятой терапии для НАЖБП. Современное лечение этого заболевания определяется присутствием ассоциирующихся с НАЖБП факторов риска у конкретного пациента. Общей целью должно быть улучшение качества жизни пациента и в перспективе – снижение сердечно-сосудистой и печеночной заболеваемости и смертности.

Терапевтические подходы по лечению НАЖБП основаны на диетических рекомендациях, режиме физической активности, длительном употреблении нескольких классов лекарственных препаратов [1, 2, 7, 10]. Препаратами выбора при лечении НАЖБП являются инсулиносинтетайзеры, статины, антиоксиданты, гепатопротекторы, витамин Е. Однако результаты такой терапии далеки от желаемых, сопровождаются побочными действиями и риском полипрагмазии [2, 7, 10, 11], что делает актуальным поиск новых немедикаментозных терапевтических стратегий лечения.

История изучения особенностей и лечебного действия минеральных вод (МВ) на территории Украины насчитывает многие десятилетия. Украинская бальнеологическая школа, занимавшаяся развитием и освоением природных лечебных факторов, накопила за долгие годы своего существования колоссальные знания в этой области. Ее научные достижения позволили сделать вывод, что лечение минеральными водами является одним из основных методов терапии заболеваний органов пищеварения и нарушения обмена веществ, поскольку, по своим лечебным эффектам МВ превышают многие медикаменты. При этом они не оказывают побочных эффектов и аллергических реакций, перегружая организм пациента химическими веществами [12, 13, 14].

В связи с вышеизложенным, представляет научный и практический интерес изучение действия МВ на метаболические нарушения при НАЖБП через влияние на деятельность инсулярного аппарата. Известно, что МВ, действуя через энтеральную ось, активизируют инсулинстимулирующий потенциал кишечинальных гормонов, повышая чувствительность организма к собственному инсулину.

Наиболее ярко «гепатопротекторные» свойства выражены у сульфатных МВ. При их курсовом внутреннем применении наблюдается восстановление пигментного обмена, уменьшение признаков цитолитического синдрома, улучшение желчеобразования и желчеотделения, восстановление печеночной гемодинамики, повышается уровень обмена и интенсивность репаративных процессов [11, 13, 14].

Именно поэтому, целью работы явилась оценка эффективности внутреннего применения сульфатной минеральной у крыс с моделью неалкогольной жировой болезни печени и обоснование целесообразности и эффективности ее использования в комплексе лечения больных с НАЖБП.

**Материалы и методы исследования.** Эксперимент проведен на белых крысах-самках массой тела 180,0-200,0 г, в соответствии с рекомендациями и правилами, регламентированными соответствующими документами [15, 16]. Исследования проводились в экспериментально-биологической клинике (виварии) ГУ «Укр. НИИ медицинской реабилитации и курортологии МЗ Украины», г. Одесса. Животные были разделены на две группы. Первую группу (10 особей) составляли животные с моделью НАЖБП, получавшие в режиме зондирования отстоянную водопроводную воду. Вторую группу (10 особей) составляли животные, которые на фоне развития модели НАЖБП в режиме зондирования получали сульфатную разведенную МВ скважины (сув). № 3-к. Воду животным вводили в пищевод мягким зондиком с оливкой, один раз в сутки курсом с 15 по 30 день, в дозе 1 % от массы тела, в вечернее время, учитывая особенности суточного биоритма животных.

Модель НАЖБП у крыс воспроизводили путем подкожного введения 70 % раствора хлороформа на подсолнечном масле, 2 раза в неделю в течение одного месяца из расчета 0,04 мл/л на 100 г массы тела крысы. К обычному

рациону животных (полноценный комбикорм и зерновая смесь в количестве 20 г) добавляется 5 г свиного сала, перетертого с 5 г белых сухарей на одно животное. Вместо питьевой воды крысы получают в режиме свободного доступа только 5 % водный раствор фруктозы.

Животных по завершению эксперимента выводили из опыта под эфирным наркозом и проводили макро- и микроскопические исследования печени. Проводили гистохимические реакции по установлению активности сукцинатдегидрогеназы (СДГ) и лактатдегидрогеназы (ЛДГ) в условных единицах оптической плотности.

Методические приемы и методики, использованные при проведении экспериментальных исследований отражены в руководстве [17]. Статистическую обработку полученных данных проводили с использованием программ для медико-биологических исследований Statistica и Excel. Достоверными изменениями считались те, что находились в границах достоверности по таблицам Ст'юдента  $< 0,05$ .

В клинических исследованиях использовались такие методы как анамнестический и клинический, осуществлялось исследование общеклинических, биохимических показателей крови, в том числе, показателей липидного обмена, оценивалась инсулинорезистентность по данным индекса НОМА-IR, проводилось ультрасонографические исследования органов пищеварения. Полученные результаты обрабатывались общепринятыми методами вариационной статистики — рассчитывали средние величины, их ошибки, критерий достоверности Фишера-Ст'юдента.

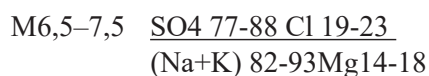
Клиническая часть исследований проводилась в государственном учреждении ДП "Клинический санаторий им. Горького" ЗАТ Укрпрофздравница г. Одесса. Под наблюдением находилось 40 больных НАЖБП. Из них 62,5 % человек имели НАЖБП на стадии стеатоза, остальные имели неалкогольный стеатогепатит минимальной степени активности.

Диагноз верифицировали на основании комплексного обследования, включая такие методы, как анамнестический и клинический, осуществлялось исследование общеклинических и витальных показателей, биохимических показателей крови, в том числе показателей липидного обмена, иммуноферментным методом оценивали инсулинорезистентность (ИР) по данным индекса НОМА, уровень адипоцитокинов – лептина и адипонектина, проводилось ультрасонографическое исследования органов пищеварения. Полученные результаты обрабатывались общепринятыми методами вариационной статистики, рассчитывали средние величины, их ошибки, критерий достоверности Фишера-Ст'юдента.

В исследование не входили больные хроническими вирусными гепатитами и сахарным диабетом 2 типа. В ходе исследования было сформировано 2 группы больных. Первую группу (контрольную) составляло 20 человек, в комплексе лечения получали диетотерапию и режим дозированных физических нагрузок. Вторую группу (основную) составляло 20 человек, которые в комплексе курортного лечения дополнительно получали МВ скв. № 3-к в разведении 6,5-7,5 г/дм<sup>3</sup>.

Время приема воды определялось кислотообразующей функцией желудка: за 30-45-60 мин. до приема пищи. Курс лечения составлял 21-24 дня. Среди пациентов преобладали женщины, средний возраст составлял  $(53,56 \pm 2,18)$  лет.

В исследовании использовали минеральную разведенную воду скв. № 3-к (с общей минерализацией 6,5-7,5 г/дм<sup>3</sup>) курорта Моршин (Львовская область, Украина). По химическому составу данная МВ вода относится к среднеминерализованным сульфатным минеральным водам. Формула химического состава имеет следующий вид:



Результаты и их обсуждение. Через 30 дней от начала моделирования НАЖБП визуально печень не увеличена, поверхность гладкая, блестящая, передний край острый, ткань печени коричнево-желтого цвета. При гистологическом исследовании дольчатая организация печеночной ткани сохранена. Центральная вена тонкостенная, застойно полнокровная. В отличие от интактных животных, визуально в части долек возле центральной вены определяются небольшие скопления лимфоцитов. Гепатоциты в центральной части дольки собраны в балках, которые радиально расходятся от центральной вены. Гепатоциты средних размеров, цитоплазма их слабо базофильная, комковатая. В значительной части гепатоцитов жирные вакуоли разных размеров. Межбалочные пространства расширены. Клетки Купфера по стенкам пространств с набухшими ядрами. Что касается гепатоцитов, то среди них клеток с двумя ядрами не встречается. Много крупных светлоокрашенных ядер и гепатоцитов с мелкими темными ядрами. Гепатоциты по периферии дольки распределены неупорядоченно, они в основном, средних размеров, цитоплазма их комковатая, у части клеток пренуклеарная зона свободна. В части этих гепатоцитов можно наблюдать мелкие жировые вакуоли. Междольковые пластинки визуально утолщенные, в них определяются набухшие ядра фиброцитов.

Активность СДГ равномерная по всей поверхности среза дольки и составляет —  $(5,0 \pm 0,27)$  условных единиц оптической плотности (усл. ед. опт. плотн.). Активность ЛДГ сохраняется равномерной по всей поверхности среза и составляет —  $(6,0 \pm 0,19)$  усл. ед. опт. плотн.

Вышесказанное свидетельствует о снижении интенсивности функциональной активности печени (дистрофии), очевидно, за счет ослабления окислительно-восстановительных процессов энергетических циклов, и ослабления в связи с этим других сторон метаболизма, в том числе обмена липидов.

Через 30 суток от начала моделирования НАЖБП у крыс получавших сульфатную МВ, при макроскопическом исследовании печени установлено, что поверхность печени гладкая, блестящая, влажная, передний край заострен, цвет ткани коричневый. При микроскопическом исследовании установлено, что

частичная организация структуры печеночной ткани сохранена. Междольевые интерстициальные пластины плотные, составленные из фиброзных волокон, сливаются и созданные с небольшого количества фибробластов. Сосуды триад умеренного кровенаполнения, с некоторым фиброзом стенки, междольевые желчные протоки свободные, тонкостенные. Гепатоциты в дольках, как и во всех предыдущих группах на 2/3 площади центра доли собраны в балках, на остальной пространства представлены массивом. Центральная вена с фиброзом стенки, застойно полнокровная. Диапедезные выход лимфоцитов не фиксируется. Гепатоциты в балках и в массиве основном средних размеров, хотя встречаются и мелкие. Цитоплазма слабо базофильная, в перинуклеарной зоне она более светлоокрашенные, чем по периферии, в целом цитоплазма гомогенная. Ядра гепатоцитов в основном мелкие, темные, хотя в части клеток они умеренно увеличены или светлоокрашенные с нечеткими границами. Межбалочные пространства распространены. Клетки Купфера на их стенках плоские.

Гистоэнзиматични исследования показали, что активность СДГ одинакова по всей поверхности среза и составляет  $(6,0 \pm 0,17)$  усл. ед. опт. плотн. Активность ЛДГ также монотонная по поверхности среза доли и сословное  $(6,0 \pm 0,27)$  усл. ед. опт. плотн.

Полученные результаты экспериментальных испытаний стали основанием для проведения клинических исследований.

Клиническая картина НАЖБП у пациентов, входивших в исследование, отличалась олигосимптомностью течения. Так, только треть лиц беспокоили проявления болевого синдрома (тяжесть или боль в правом подреберье, болезненность при пальпации этой области), большинство же больных (77,5 %) предъявляла жалобы, которые характеризуют синдром желудочной и / или кишечной диспепсии (горечь во рту, тошнота, изжога, отрыжка, вздутие живота, запоры), которые больше были связаны с сопутствующей патологией органов пищеварения.

У подавляющего большинства больных (80,0 %) определена избыточная масса тела или ожирение I-II степени — индекс массы тела (ИМТ) равен в среднем  $(31,98 \pm 1,16 \text{ кг/м}^2)$ . Согласно биохимическому исследованию выявлено повышение уровня общего билирубина за счет непрямого его фракции у 32,5 % больных, уровня щелочной фосфатазы и гаммаглутамилтранспептидазы (ГГТП) — до 1,5 N у 40,0% человек.

Нарушение липидного обмена характеризовались повышением уровня общего холестерина (ОХ) в среднем до  $(6,63 \pm 0,19)$  ммоль/л,  $\beta$ -липопротеидов —  $(66,18 \pm 2,15)$  ед., триглицеридов —  $(3,14 \pm 0,14)$  ммоль/л, ЛПНП в среднем до  $(4,18 \pm 0,28)$  ммоль/л, снижением уровня ЛПВП в среднем по группе до  $(1,32 \pm 0,16)$  ммоль/л. Коэффициент атерогенности составлял в среднем  $(4,58 \pm 0,32)$  ед.

При изучении показателей углеводного обмена уровень глюкозы сыворотки крови составлял в среднем по группе  $(5,86 \pm 0,39)$  ммоль/л. Концентрация инсулина была несколько повышенной и составляла в среднем  $(19,24 \pm 0,97)$  мкЕД/

мл. Индекс НОМА равнялся ( $4,52 \pm 0,43$ ) ед., что свидетельствует о выраженной инсулинорезистентности у обследованных пациентов. Уровень лептина у пациентов был повышен ( $p < 0,05$ ) и составлял в среднем ( $28,17 \pm 3,62$ ) нг/мл, уровень адипонектина был снижен ( $p < 0,05$ ) и в среднем составлял ( $12,15 \pm 1,86$ ) нг/мл.

Таблица 1

**Динамика показателей функционального состояния печени и индекса НОМА у больных НАЖБП под влиянием лечения, (M $\pm$ m)**

Показатели	Исходный уровень	I группа		II группа	
		до лечения	после лечения	до лечения	после лечения
Общий билирубин, мкмоль/л	повышенный	23,83 $\pm$ 3,36	21,14 $\pm$ 1,89	26,54 $\pm$ 2,95	14,77 $\pm$ 2,16**
	нормальный	17,75 $\pm$ 2,11	18,02 $\pm$ 2,35	16,19 $\pm$ 1,40	11,74 $\pm$ 0,66
Щелочная фосфатаза, Ед/л	повышенный	139 $\pm$ 6,02	136,56 $\pm$ 5,87	142,05 $\pm$ 4,23	127,66 $\pm$ 3,19*
	нормальный	114 $\pm$ 4,29	116 $\pm$ 5,06	115,78 $\pm$ 5,78	112,89 $\pm$ 6,02
ГГТП, Ед/л	повышенный	58,02 $\pm$ 5,26	56,11 $\pm$ 6,09	59,23 $\pm$ 5,63	38,48 $\pm$ 5,20 *
	нормальный	34,85 $\pm$ 3,19	33,89 $\pm$ 4,52	28,75 $\pm$ 3,92	25,45 $\pm$ 4,16
АлАТ, ммоль/(ч·л)	повышенный	0,91 $\pm$ 0,19	0,73 $\pm$ 0,13	1,17 $\pm$ 0,12	0,71 $\pm$ 0,09 *
	нормальный	0,36 $\pm$ 0,16	0,29 $\pm$ 0,19	0,28 $\pm$ 0,16	0,22 $\pm$ 0,10
АсАТ, ммоль/(ч·л)	повышенный	1,04 $\pm$ 0,06	0,99 $\pm$ 0,06	0,62 $\pm$ 0,05	0,40 $\pm$ 0,05*
	нормальный	0,34 $\pm$ 0,09	0,30 $\pm$ 0,03	0,22 $\pm$ 0,06	0,23 $\pm$ 0,07
Общий холестерин, ммоль/л	повышенный	7,03 $\pm$ 0,48	6,97 $\pm$ 0,43	6,15 $\pm$ 0,16	5,10 $\pm$ 0,21 **
$\beta$ -липопротеиды, ед.	повышенный	66,84 $\pm$ 2,09	62,17 $\pm$ 1,90	64,06 $\pm$ 3,65	51,17 $\pm$ 2,32 **
Триглицериды, ммоль/л	повышенный	2,90 $\pm$ 0,31	2,88 $\pm$ 0,23	3,62 $\pm$ 0,37	2,39 $\pm$ 0,29 *
ЛПВП, ммоль/л	сниженный	1,52 $\pm$ 0,11	1,54 $\pm$ 0,12	1,14 $\pm$ 0,10	1,31 $\pm$ 0,11
ЛПНП, ммоль/л	повышенный	3,57 $\pm$ 0,20	3,36 $\pm$ 0,18	4,95 $\pm$ 0,38	3,92 $\pm$ 0,29*
Глюкоза, ммоль/л	нормальный	6,02 $\pm$ 0,36	5,87 $\pm$ 0,42	5,42 $\pm$ 0,24	5,13 $\pm$ 0,22
Инсулин, мкЕд/мл	нормальный	18,74 $\pm$ 0,82	16,67 $\pm$ 0,94	19,94 $\pm$ 1,67	14,53 $\pm$ 1,42*
Индекс НОМА, ед	повышенный	5,29 $\pm$ 0,44	4,11 $\pm$ 0,56	3,78 $\pm$ 0,36	2,69 $\pm$ 0,29*

Примечание. \* $p < 0,05$ , \*\* $p < 0,01$  — достоверность изменений в сравнении с показателями до и после лечения

Параллельно наблюдалось существенное снижение концентрации общего холестерина ( $p < 0,01$ ), триглицеридов ( $p < 0,05$ ),  $\beta$ -липопротеидов ( $p < 0,01$ ), ЛПНП ( $p < 0,05$ ), а также тенденция к повышению ЛПВП ( $p > 0,05$ ).

Согласно результатам ультразвукового исследования у 100% лиц констатировано сонографические признаки стеатоза печени (диффузное увеличение «яркости» печеночной паренхимы, дистальное затухание эхосигнала, нечеткость сосудистого рисунка, его «размытость»), гепатомегалия определена в 77,5 % больных.

Проведенное курсовое питьевое лечение сульфатной МВ сопровождалось



улучшением изучаемых показателей, чего не наблюдалось в группе контроля. Применение сульфатной МВ характеризовалось существенной положительной динамикой клинического течения НАЖБП ( $p < 0,01$ ), сопутствующей патологии билиарного тракта ( $p < 0,01$ ) и функциональных заболеваний кишечника, протекающих с запорами ( $p < 0,003$ ).

Биохимическое исследование продемонстрировало выраженный положительный эффект в отношении нормализации уровня общего билирубина ( $p < 0,01$ ) и маркеров холестаза ( $p < 0,05$ ). Важно, что под влиянием данной МВ происходило нивелирование гипертрансфераземии у больных с стеатогепатитом минимальной степени активности ( $p < 0,05$ ), что детально представлено в таблице 1.

Изменения углеводного обмена характеризовались положительной динамикой ИР согласно индексу НОМА ( $p < 0,05$ ). Изменение уровня адипоцитокинов характеризовалось положительной динамикой под влиянием курсового питьевого лечения в основной группе. Так, уровень адипонектина достоверно повысился и составлял в среднем  $(21,47 \pm 2,14)$  нг/мл ( $p < 0,05$ ), а изменение уровня лептина характеризовалось тенденцией к снижению, что составляло в среднем по группе  $(15,72 \pm 3,76)$  нг/мл ( $p > 0,05$ ).

Существенных изменений ультразвуковой картины печени под влиянием питьевого лечения не наблюдалось, хотя у трети пациентов зафиксировано улучшение визуализации органа, снижение акустической плотности паренхимы печени и улучшение прохождения ультразвукового сигнала в ее глубокие слои.

**Выводы.** Таким образом, проведенное лечение с использованием сульфидной среднеминерализованной минеральной воды способствовало уменьшению стеатоза печени по данным морфологического исследования биоптатов у экспериментальных животных, благоприятной динамике клинического течения заболевания, улучшению функционального состояния печени, нормализации липидного обмена, снижению инсулинорезистентности, восстановлению секреции адипонектина — ключевых патогенетических факторов формирования и прогрессирования неалкогольной жировой болезни печени. Результаты клинических исследований подтверждаются экспериментальными данными. Все вышесказанное дает основания для использования минеральных вод в комплексе мероприятий по лечению и профилактике прогрессирования НАЖБП.

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## ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ ОБРАЗОВАТЕЛЬНОГО ПРОЦЕССА В МЕДИЦИНСКОМ ВУЗЕ ДЛЯ АНГЛОЯЗЫЧНЫХ СТУДЕНТОВ

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*Kuznetsova O., Nefedova E., Zadesenets I. Increase of the effectiveness of the educational process at the medical university for English-speaking students.*

*Annotation. For improving the effectiveness of the education of English-speaking students, the Department of Clinical Anatomy, Anatomy and Operative Surgery of the Dnipropetrovsk Medical Academy has developed a model of the educational process, which is based on a comprehensive versatile approach to the teaching of discipline aimed at professional and personal development of future specialists from different countries of the world.*

*Key words: teaching methods in the medical academy, a comprehensive educational process, medical education for English-speaking students.*

С каждым годом всё больше иностранных студентов стремится получить высшее медицинское образование в Украине. И на то у них есть целый ряд положительных причин как качественного, так и экономического характера. Полноценное медицинское образование у иностранных студентов рассматривается как необходимое условие достижения высокого уровня жизни в своей стране. Все чаще студенты зарубежных стран выражают желание учиться на их родном языке - английском. Для повышения эффективности преподавания дисциплин англоязычным студентам в медицинских вузах необходимым является введение новых инновационных методов обучения, повышение квалифицированной подачи дисциплин на английском языке. В целом, решение вопросов качественной подготовки англоязычных студентов не только способствует укреплению материально-технической базы учебного заведения, но и повышает международный престиж вуза и украинской системы образования [1].

На сегодняшний день в сфере современного высшего образования для подготовки будущих специалистов любой отрасли, в том числе и в медицинских вузах, используется внедрение компетентного, контекстного подхода образовательного процесса [2]. Каждый вуз стремится к обновлению учебно-воспитательных методик преподавания дисциплин, программно-технологического обеспечения, к утверждению гуманистического приоритета в образовательных целях, личностного и профессионального развития будущих специалистов из различных стран мира [3].

В организации учебного процесса для англоязычных студентов есть свои особенности. На теоретических кафедрах в большинстве обучаются

первокурсники, поэтому основными ведущими проблемами организации учебного процесса является языковой барьер, уровень начальной подготовки иностранного студента, различия профессиональной отечественной и зарубежной медицинской терминологии. Для эффективного обучения иностранных англоязычных студентов на кафедре клинической анатомии, анатомии и оперативной хирургии ГУ «Днепропетровская медицинская академия МЗ Украины» была разработана модель организации и управления учебно-воспитательным процессом – система норм педагогической деятельности с классической организацией системы обучения в сочетании с динамично развивающимися инновационными технологиями.

На первом месте в организации учебной работы рассматривался вопрос квалифицированного знания английского языка преподавателями кафедры как необходимой базы для учебной работы с англоязычными студентами и для качественного разностороннего общения с ними. На сегодняшний день все преподаватели, которые проводят занятия с англоязычными студентами по дисциплине «Анатомия человека», имеют сертификаты знания английского языка различного уровня, в том числе 37,5% – международные сертификаты DELF B2. Все преподаватели посещают курсы английского языка в международных сертифицированных языковых центрах, проходят подготовку на курсах повышения знаний английского языка при академии, совершенствуют язык с его носителями в частном порядке.

На английском языке для каждой специальности («Стоматология», «Медицина») на кафедре разработаны учебно-методические комплексы, которые, согласно утвержденной вузом учебной программы изучения дисциплины «Анатомия человека», содержат: 1) учебники; 2) учебные пособия, разработанные преподавателями кафедры (с грифом МЗУ); 3) атласы, номенклатурные словари, справочную литературу, 4) методические указания студентам для практических и для самостоятельных занятий, 5) практикумы для практических занятий; 6) базу тестов и вопросов для тематического контроля; 7) перечень обязательных практических навыков по дисциплине; 8) базу тестов для экзаменационного контроля.

Учебные программы, разработанные на кафедре к каждой дисциплине, связаны с материалами и программами отечественных и зарубежных вузов. Между рабочими программами и учебными календарно-тематическими планами существует тесная связь. В рабочих программах четко отражены необходимые знания, умения, компетенции, коммуникации, автономия и ответственность, получаемые англоязычными студентами по конкретной дисциплине.

Важной составной частью учебно-методического комплекса кафедры, направленного в первую очередь на систематизированное обучение, являются разработанные преподавателями на английском языке учебные пособия с грифом МЗУ, учебно-методические пособия, утвержденные центральной методической комиссией вуза, методические разработки, рабочие тетради для практической работы. На кафедре на английском языке разработаны методические указания и

для преподавателей – к лекциям, практическим занятиям, темы, предлагаемые для индивидуальной работы студентов. Только в 2016-2017 учебном году для дисциплины «Анатомия человека» было издано на английском языке 10 методических разработок для студентов и преподавателей, 3 практикума для практических занятий.

Созданный учебно-методический комплекс воплощает в себе технологию формирования профессиональной и коммуникативной компетенции, является информационным импульсом при получении необходимых знаний англоязычными студентами. Все методические и учебные материалы на английском языке представлены в свободном доступе на сайте кафедры в Интернет сети. На странице кафедры для англоязычных студентов отражается вся учебная и организационная информация: контакты кафедры, аудиторное расположение групп, темы и даты лекционных, практических и самостоятельных занятий, все учебные материалы кафедры, вопросы организационного или информационного характера взаимной работы кафедры и студентов. Англоязычные студенты также имеют обратную связь с преподавателем через закрытые группы в социальных сетях, где в любое время могут получить ответы на свои вопросы по предмету, по учебной и воспитательной работе.

В образовательном процессе применяется технология тематических разделов. Каждая тема раздела содержит цели и задачи, междисциплинарные связи, перечень знаний и навыков, формируемых в результате изучения дисциплины, задания для самостоятельной работы. К каждому тематическому разделу прилагаются на английском языке: список практических навыков, тестовые задания, ситуационные задачи, моделирующие медицинские случаи, контрольные вопросы. По итогу выученного раздела студенты комплексно подтверждают знания устным ответом на вопросы и компьютерным тестированием.

Для целенаправленной, систематизированной подготовки к тестовому контролю преподавателями кафедры разработаны на английском языке базы тестов к каждому практическому и семинарскому занятию, к итоговому контролю по дисциплине, к комплексному экзаменационному тестированию, комплекты ректорского тестирования, база тестов для заключительного тестирования Единым Центром тестирования МЗУ для студентов-медиков. Все тестовые задания прошли экспертизу Центра тестирования МЗУ. Англоязычным студентам предоставляются электронные тренировочные образцы тестовых заданий для внеаудиторной работы. Созданный компьютерный класс дает возможность студентам пройти тренировочное тестирование, а в аудиторное время позволяет преподавателю за короткий период времени проверить реальные знания каждого англоязычного студента. Комплекты тестовых заданий ежегодно обновляются в достаточном количестве (не менее 32 вариантов на одно занятие – отдельного варианта для каждого студента в группе) и обязательно включают новые тесты с дисциплины, ежегодно разрабатываемые преподавателями кафедры. На сегодняшний день общая база тестов для англоязычных студентов включает более 900 ситуационных

заданий. В конце каждого семестра проводится комплексная тестовая проверка знаний за семестр, которая является обязательной. Баллы за тестовый контроль включены в итоговое семестровое и экзаменационное оценивание студента.

На каждом лекционном, практическом и семинарском занятии англоязычным студентам преподносится материал дисциплины «Анатомия человека» в контексте анатомических знаний, необходимых для полноценной теоретической и практической подготовки будущих медиков, на их основе строится последующее изучение медико-биологических и клинических дисциплин.

Модернизация системы высшего образования, как показывает инновационный отечественный и зарубежный опыт, предполагает повышение роли самостоятельной работы студентов [4]. Самостоятельная работа иностранных учащихся – это планируемая работа, выполняемая по заданию и при методическом руководстве преподавателя, но без его непосредственного участия. Она способствует углублению и расширению знаний, формированию интереса к познавательной деятельности, овладению приемами процесса познания, развитию познавательных способностей. Организация самостоятельной работы англоязычных студентов является важной и одновременно сложной проблемой. Сложность изучения дисциплины «Анатомия человека» на 1 курсе для англоязычных граждан связана, в первую очередь, с начальным этапом обучения в медицинском вузе, с неоднородностью контингента учащихся, приезжающих из разных стран мира, с различной базовой подготовкой по предмету. Для успешного овладения знаниями на кафедре разработан график ежедневной внеаудиторной консультативной работы преподавателей. Самостоятельная работа англоязычного студента проходит под наблюдением преподавателя-консультанта в вечерние часы после занятий и в субботу. Так же полученные неудовлетворительные оценки и пропущенные занятия англоязычный студент может отработать и в субботу, и ежедневно дежурному преподавателю после занятий.

Работа по формированию практических умений и навыков проводится преподавателями кафедры систематически, на каждом практическом занятии, как при сообщении нового материала, так и при осмыслении и закреплении знаний, при подготовке к итоговому тематическому и к рубежному экзаменационному контролю знаний. Для каждого практического, семинарского, итогового контрольного занятия разработан на английском языке перечень практических навыков, с которым студенты в любое время могут ознакомиться на сайте кафедры, из методических рекомендаций и рабочих тетрадей для практических занятий. Получению практических навыков способствуют приобретенные академией новейшие анатомические модели и муляжи. Только в 2016-2017 учебном году академией были приобретены 25 учебных пластиковых муляжей органов опорной, мышечной, пищеварительной, дыхательной, выделительной, половой, нервной систем, 2 разборных фантома анатомического строения человека в полный рост с наличием всех органов в их топографическом расположении и с необходимыми анатомическими структурами, 1 фантом анатомического строения человека в



нескольких горизонтальных сечениях всех полостей, 2 учебных пластиковых скелета. Всего на кафедре имеется 528 демонстрационных препаратов – табличные пластиковые модели, гипсовые и пластиковые муляжи, сухие препараты костей скелета, черепа, влажные препараты мышц, суставов, внутренних органов, влажные формалиновые препараты. Работа с ними англоязычным учащимся помогает повысить прочность усвоения знаний по дисциплине, активизировать внимание и тактильную память, развивать познание, что способствует интенсификации процесса обучения.

На кафедре работает студенческое научное общество, которое помогает англоязычным студентам ознакомиться с профессиональными навыками будущей профессии. По мере освоения дисциплины за ее содержанием начинают «просвечиваться» контуры профессиональной реальности, появляется интерес к специализации. Эта сторона изучения дисциплины, для иностранных студентов является значимой. Мотивационные возбуждения приобретения профессиональных навыков и знаний в студенческом научном обществе, которые не рассматриваются в ходе аудиторной работы, но интересны иностранным студентам, стимулируют их аналитико-синтетическую мыслительную деятельность и приводят к повышению эффективности обучения. Студентам предлагается разработка теоретических проектов по интересующим темам с подготовкой мультимедийных презентаций с целью более глубокой проработки отдельных вопросов, получение более глубоких практических навыков и знаний в ходе обучения выполнения первичных хирургических манипуляций.

Средством активизации учебной деятельности англоязычных студентов и организации их самостоятельной работы выступает рейтинг учебных достижений, который добавляет баллы к итоговому экзаменационному оцениванию. Основными видами деятельности, оцениваемыми в ходе рейтинга, являются успеваемость по предмету и заинтересованность в его изучении, учебно-познавательная деятельность и личностно развивающие виды работ – участие в семинарских обсуждениях, заседаниях кружка, в олимпиаде по предмету.

Внедряемый комплексный учебно-воспитательный процесс на кафедре клинической анатомии, анатомии и оперативной хирургии ГУ «Днепропетровская медицинская академия МЗ Украины» дал положительные результаты. По анализу успеваемости англоязычных студентов по дисциплине «Анатомия человека» в 2017-2018 учебном году уровень качественной успеваемости вырос на 30,5% (с 36,0 баллов до 51,8 балла), средний бал успеваемости также увеличился – с 3,31 балла до 3,63 баллов.

Созданные на кафедре условия образовательного процесса способствуют личностному развитию англоязычных студентов в будущей специальности, формированию у них профессиональных важных качеств, компетенций, знаний, умений. Использование разностороннего подхода обучения в учебном процессе способствует соединению учебной деятельности академического типа с будущей профессиональной деятельностью. Описанная модель преподавания для студентов



англоязычных групп в образовательной практике медицинского вуза является средством повышения педагогического мастерства преподавателей и эффективности работы самих студентов в достижении более высоких образовательных результатов в системе их будущей профессиональной деятельности.

Основопологающими направлениями развития учебно-методической работы кафедры с англоязычными студентами в дальнейшем являются: 1) внедрение в учебный процесс «кейс-метода» преподавания дисциплин; 2) активное использование компьютерных программ для текущего тестирования студентов; 3) создание видео-лекций и методических пособий на английском языке; 4) привлечение студентов 1-го и 2-го курса к использованию свободной системы управления обучением Moodle, ориентированную на организацию активного взаимодействия между преподавателем и учениками.

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## **КЛИНИКО - ЛАБОРАТОРНОЕ ОБОСНОВАНИЕ КОМПЛЕКСА ДЛЯ ПРОФИЛАКТИКИ И ЛЕЧЕНИЯ ЗАБОЛЕВАНИЙ ТКАНЕЙ ПАРОДОНТА У ЖЕНЩИН С СИНДРОМОМ ПОЛИКИСТОЗНЫХ ЯИЧНИКОВ**

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*Romanova Y., Dizik S. Clinical and laboratory substantiation of complex for prevention and treatment periodontal diseases in women with polycystic ovary syndrome.*

*Annotation. Clinical and laboratory substantiation of complex for prevention and treatment periodontal diseases in women with polycystic ovary syndrome (PCOS) based on the assessment of periodontal status, hormonal status and changes of biochemical markers of homeostasis in oral cavity.*

*Key words: generalized periodontitis, polycystic ovary syndrome, sex hormones, homeostasis of oral cavity, complex for prevention and treatment.*

**Актуальность темы.** Воспалительные и воспалительно-деструктивные заболевания тканей пародонта (хронический гингивит и пародонтит) являются одной из наиболее важных медицинских и социально-экономических проблем современного общества. Это обусловлено как массовостью распространения данной патологии (с тенденцией к дальнейшему повышению показателей), что является одной из основных причин полной потери зубов, так и негативным влиянием очагов хронической инфекции в пародонтальном комплексе на состояние соматического здоровья [2, 4, 6, 9]. В соответствии с данными ВОЗ около 95 % взрослого и 80 % детского населения планеты имеют те или иные признаки заболеваний пародонта. Высокий уровень заболеваемости отмечается в возрасте 20-44 года (65-95 %) и 15-19 лет (55-89 %), при этом женщины болеют чаще, чем мужчины [1, 4, 6, 7, 9].

Возникновение заболеваний пародонта тесно связано как с влиянием внешних факторов, так и с нарушениями функций внутренних органов и систем организма [2, 4, 6, 7, 9]. Данные клинических и экспериментальных исследований свидетельствуют о неблагоприятном влиянии эндокринных нарушений, в частности дисбаланса женских половых гормонов, на состояние тканей пародонта. [2, 6, 7, 12].

Одним из наиболее распространенных эндокринных заболеваний у женщин репродуктивного возраста, которое сопровождается дисбалансом половых гормонов, является синдром поликистозных яичников (СПКЯ). Основной причиной заболевания является нарушение нейроэндокринных механизмов, регулирующих овуляторную и стероидпродуцирующую функцию яичников, в

результате чего уменьшается уровень эстрогенов и возрастает уровень андрогенов в организме женщины. Нередко СПКЯ сопровождается избыточной массой тела, инсулинрезистентностью и компенсаторной гиперинсулинемией. Поэтому в настоящее время СПКЯ рассматривается как составляющая метаболического синдрома, который может быть причиной таких грозных осложнений как сахарный диабет II типа, артериальная гипертензия, дислипидемия и ишемическая болезнь сердца, риск инфаркта миокарда при этом возрастает в 7 раз [1, 3, 5, 10, 11].

Неблагоприятное влияние дисбаланса половых гормонов на состояние тканей пародонта подтверждается результатами как экспериментальных, так и клинических исследований [2, 4, 6, 7, 9]. Системные гормональные нарушения в организме женщин с СПКЯ сопровождаются снижением антиоксидантной защиты тканей пародонта и слизистой оболочки полости рта. Это способствует повышению распространенности и степени тяжести заболеваний тканей пародонта, в том числе генерализованного пародонтита [2,6,7]. Поэтому разработка и оценка эффективности мероприятий, направленных на коррекцию гомеостаза полости рта и метаболических нарушений в организме женщины с целью профилактики и лечения заболеваний тканей пародонта является актуальной задачей современной стоматологии.

**Цель исследования.** Клинико-лабораторное обоснование комплекса для профилактики и лечения заболеваний тканей пародонта у женщин с синдромом поликистозных яичников на основании оценки пародонтального, гормонального статуса и биохимических маркеров гомеостаза полости рта.

**Материалы и методы исследования.** Стоматологическое обследование женщин с СПКЯ проведено на базе клинических подразделений кафедры терапевтической стоматологии Одесского национального медицинского университета в течение 2015-2017 гг. Оно включало сбор анамнеза и объективное обследование с определением пародонтальных индексов: РМА (%), CPI, SBI и индекса гигиены полости рта ОНI-S (Green and Vermillion, 1964). Для оценки изменений в костной ткани альвеолярного отростка проводили рентгенологическое исследование (внутриротовая контактная рентгенография, панорамная рентгенография с последующей цифровой обработкой и анализом изображений) [4]. Было обследовано 75 женщин, из которых 50 женщин фертильного возраста с СПКЯ и хроническим генерализованным пародонтитом I-II степени тяжести (основная группа) и 25 практически здоровых женщин без СПКЯ (контрольная группа). Средний возраст обследованных женщин составил 35,9 лет.

Изучение гормонального статуса, а именно определение уровней лютеинизирующего (ЛГ), фолликулинстимулирующего (ФСГ) гормонов, пролактина, тестостерона и эстрадиола в сыворотке крови проводилось с помощью иммуноферментного анализа (ИФА) в лаборатории молекулярно-генетических исследований ОНМедУ (г. Одесса).

Биохимические исследования ротовой жидкости выполнены в отделе лабораторной диагностики и иммунологии ГУ "Институт патологии позвоночника и

суставам имени проф. М.И. Ситенка НАМН Украины” (Свидетельство об аттестации № 100–287/2015 от 20.11.2015 г). В ротовой жидкости определяли концентрацию уреазы, каталазы, глутатионпероксидазы, лизоцима, супероксиддисмутазы (СОД), диеновых конъюгат (ДК) и малонового диальдегида (МДА).

Статистическую обработку цифровых данных проводили с помощью компьютерной программы Microsoft Excel с использованием критериев Стьюдента и Вилкоксона с определением медианы (Me) и процентилей [11], расхождения результатов считали статистически достоверными по значению  $p < 0,05$ .

Результаты и обсуждение. Изучение содержания половых гормонов в сыворотке крови женщин с СПКЯ выявило достоверные отличия концентрации всех исследуемых гормонов по сравнению женщинами без гормональных нарушений (контрольная группа) (табл. 1).

Таблица 1

**Содержание половых гормонов в сыворотке крови женщин с синдромом поликистозных яичников**

Группа	Эстрадиол, (pg/ml)	Тестостерон, (nmol/L)	ЛГ, (МЕ/л)	ФСГ, (МЕ/л)	Пролактин, (мМЕ/л)
Контрольная группа (женщины без СПКЯ)	185,4±0,75	2,03±0,14	6,5±0,653	5,4 ±0,42	710,0±3,58
Основная группа (женщины с СПКЯ)	69,1±0,62*	4,9±0,24*	19,2±0,37*	7,6±0,51*	550,0±4,15*
Референтные значения (норма)	15 - 190	0,0 - 4,1	1 - 17	2 - 12	120 - 800

Примечание: \* - достоверность различий между показателями контрольной и основной групп составляет  $p < 0,01$

Как свидетельствуют данные табл. 1, у женщин с СПКЯ (основная группа) по сравнению с пациентками контрольной группы выявлено значительное повышение в сыворотке крови содержания лютеинизирующего гормона (ЛГ) (более, чем в 3 раза). Содержание тестостерона повышено более, чем в 2 раза, при этом концентрация эстрадиола была достоверно сниженной, что свидетельствует о наличии гипоэстрогемии у данной категории больных.

В литературных источниках описано многогранное действие эстрогенов на организм женщины, особенно на сосудистую и костную системы. Установлено, что в тканях десны имеются рецепторы к эстрогенам, расположенные в базальном слое эпителия, на фибробластах, эндотелиальных клетках, стенках мелких сосудов [2, 4, 6]. Поэтому дисбаланс половых гормонов, в частности снижение уровня эстрогенов, способствует развитию воспалительных и воспалительно-деструктивных процессов в тканях пародонта. При этом отмечается угнетение функции остеобластов, повышение чувствительности рецепторов костной

ткани к остеорезорбтивному действию паратиреоидного гормона. Нарушается динамическое равновесие между процессами остеорезорбции и остеосинтеза, что является причиной развития остеопороза, в том числе в альвеолярной кости [2, 3, 4, 7, 9]. Поэтому разрушение костной ткани альвеолярного отростка у пациенток с генерализованным пародонтитом в условиях дефицита эстрогенов происходит быстрее, чем у женщин с неизменным гормональным статусом.

В результате изучения пародонтального статуса пациенток с СПКЯ нами установлено, что распространенность заболеваний тканей пародонта у них составила 100 %, в то время как у женщин с неизменным гормональным фоном этот показатель был достоверно ниже и составил 74 % ( $p < 0,05$ ). При этом распространенность хронического генерализованного пародонтита I-II степени тяжести у женщин с СПКЯ составила 67 %, у женщин без СПКЯ – 48% ( $p < 0,05$ ). Результаты индексной оценки тканей пародонта представлены в табл. 2.

Таблица 2

**Результаты индексной оценки состояния тканей пародонта у женщин с СПКЯ**

Показатель	Основная группа (женщины с СПКЯ) n=50	Контрольная группа (женщины без СПКЯ) n=25	Достоверность различия показателей
Индекс гигиены полости рта ONI-S	2,83±0,44	1,97±0,35	* $p < 0,05$
Индекс РМА, (%)	58%	31%	* $p < 0,05$
Индекс CPI, (количество пораженных секстантов)	5,8±0,3	3,6±0,3	* $p < 0,05$
Глубина пародонтальных карманов, мм	4,6±0,12	3,7±0,13	* $p < 0,05$
Индекс SBI, (баллы)	3,9±0,21	3,1±0,24	* $p < 0,05$

Примечание.: \* - достоверность различий исследуемых показателей,  $p < 0,05$

Развитие воспалительных и деструктивно-воспалительных процессов в тканях пародонта у женщин с СПКЯ сопровождается нарушением гомеостаза в полости рта, которое проявляется усилением процессов перекисного окисления липидов и снижением уровня антиоксидантной защиты, что отражается в показателях биохимических маркеров ротовой жидкости (Табл. 3).

Как следует из данных табл.3, у женщин основной группы с СПКЯ и заболеваниями тканей пародонта в ротовой жидкости был достоверно повышен уровень малонового диальдегида, диеновых конъюгатов, супероксиддисмутазы, глутатионтрансферазы, уреазы на фоне достоверно сниженных концентраций лизоцима и каталазы. Полученные результаты подтверждают нарушение

гомеостаза в полости рта пациенток с СПКЯ и генерализованным пародонтитом и необходимость его коррекции.

Таким образом, результаты клинико-лабораторного обследования женщин с СПКЯ свидетельствуют о выраженных воспалительно-деструктивных изменениях в тканях пародонта, которые развиваются на фоне достоверно измененных показателей гормонального статуса и сопровождаются достоверными изменениями биохимических показателей гомеостаза полости рта.

Таблица 3

**Биохимические маркеры ротовой жидкости у женщин с СПКЯ  
и заболеваниями тканей пародонта, (Ме, %25 – %75)**

Биохимические маркеры	Контрольная группа (женщины без СПКЯ), n=25	Основная группа (женщины с СПКЯ) n=50
Уреаза, мккат/л	0,058 0,041–0,072	0,189 * 0,177–0,197
ДК, мкмоль/л	6,10 5,90-6,32	10,13 9,34-11,13
МДА, мкмоль/л	0,130 0,100–0,140	0,230 * 0,213–0,275
СОД, ус.ед/л	0,400 0,320-0,425	0,750 0,665-0,848
Каталаза, мккат/л	0,160 0,150–0,170	0,100 * 0,080–0,110
Глутатионпероксидаза, нмоль/ схл	3,40 2,95–4,30	7,50 * 6,45 – 8,55
Лизоцим, Ед/мл	0,132 0,129–0,142	0,084 * 0,074–0,097

Примечание: \* – достоверность различий по Вилкоксоу по сравнению с показателями контрольной группы,  $p < 0,05$

Установленные факты стали основанием для разработки лечебно-профилактического комплекса для профилактики и лечения заболеваний тканей пародонта у женщин с СПКЯ. В его состав входят:

- препарат “ЭКСО” из семян сои – источник фитоэстрогенов и антиоксидантов - по 2 таблетки 3 раза в день после еды в течение 20 дней;
- препарат с антиоксидантным действием “Амарант Королевский” - за 30 минут до еды по 1 ч. л. 2 раза в день;
- местно для аппликаций - мукозальный гель “ЭКСО” (нанесение с помощью каппы на десну после чистки зубов);
- эликсир “Биодент-4” с фитоэстрогенами – 1-2 ч. ложки эликсира на 1/4 стакана воды для полоскания полости рта 3-4 раза в день после еды.

**Выводы.** 1. Результаты клинико-лабораторного обследования женщин фертильного возраста с СПКЯ свидетельствуют о высоком уровне поражения у них тканей пародонта. Распространенность хронического генерализованного пародонтита I-II степени тяжести составила 67 %, в то время как у женщин такого же возраста без СПКЯ – 48 % ( $p < 0,05$ ). Гормональный статус обследованных женщин с СПКЯ характеризовался снижением содержания в сыворотке крови эстрадиола ( $84,2 \pm 1,51$  pg/ml), возрастанием концентрации тестостерона ( $4,7 \pm 0,14$  pmol/L) и лютеинизирующего гормона (ЛГ  $21,25 \pm 0,95$  МЕ/л).

2. У женщин с СПКЯ и генерализованным пародонтитом выявлено повышенное содержание в ротовой жидкости уреазы, диеновых конъюгатов, малонового диальдегида, супероксиддисмутазы, глутатионпероксидазы на фоне сниженного содержания лизоцима и каталазы. Это свидетельствует об активации процессов перекисного окисления в полости рта, что приводит к снижению локального иммунитета и прогрессированию патологического процесса в пародонте.

3. Выявленные изменения стоматологического статуса и биохимических показателей сыворотки крови и ротовой жидкости у женщин с СПКЯ стали основанием для разработки лечебно-профилактического комплекса для профилактики и лечения заболеваний тканей пародонта у такой категории больных. В состав комплекса включены препараты, содержащие в своем составе фитоэстрогены и антиоксиданты с целью нормализации метаболических нарушений, гомеостаза полости рта и стабилизации патологического процесса в тканях пародонта.

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## RESULTS OF GENETIC RESEARCH IN PATIENTS HAVING TEMPOROMANDIBULAR JOINT DISEASES

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**Annotation.** *A hereditary defect of connective tissue formation is one of the factors causing development of the temporomandibular joint pathology. This defect may be identified based on genetic markers. Genetic markers, characterizing a predisposition and a type of course of temporomandibular joint diseases (TMJ) include: changes in collagen gene of type II (COL2A1); a mutation in matrix metalloproteinase gene – 1, mutation in genes coordinating the state of estrogen receptors ER -  $\alpha$  and ER -  $\beta$  in osteoblasts and their physiological activity; cytokine expression, first of all of IL-1 and TNF- $\alpha$ , which play a major role in the development of morphological changes; GSTM gene mutation.*

*Changes in genes characterizing the development or predisposition to the development of TMJ pathologies were defined based on scrapes of the buccal epithelium of oral mucosa of patients. 10 patients: 5 women and 5 men at the ages from 25 to 50 took part in the research.*

*The analysis was made in the DNA testing laboratory “Germedtekh”, Odessa. The prognosis of the pathologic behavior was made and further treatment measures were taken following the genetic research based on the definite set of genetic markers and their digital values.*

**Key words:** *temporomandibular joint diseases, patients, results of genetic research.*

Diagnosis of joint diseases and articular syndromes is an urgent task for modern therapy. Arthritis, arthrosis, pain dysfunction are the most common diseases of the temporomandibular joint (TMJ). A prerequisite for the occurrence of pathological changes in the joint is a primary focus (foci) of inflammation of an infectious or traumatic nature.

Arthritis is a heterogeneous group of diseases with inflammatory and degenerative changes in the entire tissue complex of the joint: cartilaginous tissue, subchondral bone, synovial membrane, ligaments, capsules, periarticular tendons and muscles, but the most serious changes occur in the cartilaginous tissue. The cartilaginous tissue, which undergoes significant mechanical loads, is constantly forced to self-regeneration, which is provided by the chondrocyte system. Their function is to regenerate the connective tissue matrix, the main components of which are collagen and proteoglycans. In the case of arthritis, the regeneration of chondrocytes is affected and, as a result, the destructive processes in the matrix predominate over regenerative processes.[8,9]

Arthrosis develops in cases where the cartilage and subchondral bone are not able to adequately withstand the mechanical load that is due to the restriction reparative abilities

of these tissues. The hyaline cartilage is the main lodgement of pathological changes development. This is the place where not only the number of chondrocytes is reduced, but the decrease of their metabolic activity occurs. This leads to a decrease in collagen synthesis in the matrix of cartilage and sulphated proteoglycans – chondroitin sulphate, keratan sulphate, proteoglycan-hyaluronic aggregates, as well as hyaluronic acid.

The most important constituent of these changes is a deficit in the synthesis of proteoglycans, which are the main structural component of the cartilage matrix. In the case of arthrosis not only quantitative synthesis of proteoglycans is decreased, but their qualitative composition is also changed, namely production of complete proteoglycans with high molecular weight. [8, 9].

Temporomandibular pain-dysfunction syndrome is a temporomandibular joint pathology, characterized by the disorder of neuromuscular mechanism that regulates all articular movements. Occlusal (joining of teeth) disharmonies, which may occur due to lack of teeth, abnormal bite, improper denture treatment and other factors. In the case of occlusiven pathologies, changes in the nature chewing are observed. And this leads to a constant overloading of chewing muscles on the one side and their unsynchronous activity. All this causes imbalance in the joint. Psychogenic factors (stresses), as a result of which a state with a strong compression of teeth and, accordingly, muscle spasm develops. Scientists have proved that more than a half of patients suffering from the temporomandibular pain-dysfunction syndrome have a psychogenic or neurogenic disorders. Grinding of teeth (bruxism), as a result of which an increased activity of chewing muscles is observed and clenching of teeth occurs is a common cause of this disease development.

A panoramic X-ray of the TMJ is to be made for every patient complaining about the pain in the joint. This pathology is not characterized by radiological changes in the bone tissue of articular heads of the lower jaw, however their asymmetric position and different width of the joint space to the left and right is often found [8, 9].

Rheumatoid arthritis is an autoimmune disease of unknown etiology. It is characterized by a symmetrical cartilage and bone tissue damage. This systemic disease of connective tissue with a predominant damage of small joints in terms of erosive and destructive polyarthritis of unknown etiology with a complex autoimmune pathogenesis. The disease is frequently accompanied by the development of a wide range of systemic symptoms. In most cases the rheumatoid arthritis has chronic course and in case of the lack of timely treatment it leads to the deformation and malfunctioning of joints, and deterioration of the quality of life. The disease may occur in any age and it is mostly spread among women. More often the disease affects hands, fingers, knees, feet, and elbows.

The exact cause of the disease is unknown. It is known that in the case of autoimmune diseases, to which the rheumatoid arthritis is also referred, the immune system perceives healthy tissues as alien agents and combats its own body.

In addition, the role of a wide range of infectious and non-communicable factors that may indirectly participate in the development of the rheumatoid arthritis in connection

with the genetic predisposition is being studied. These factors include: Epstein-Barr virus, parvovirus B19, retroviruses, antigens and stress-related bacteria proteins, smoking, coal dust, drugs, some components of mineral oils, and various chemical compounds [9].

A genetic research was conducted to refine the clinical diagnosis. Changes in genes characterizing the development or predisposition to the development of TMJ pathologies were defined based on scrapings of buccal epithelium from the oral mucosa of patients.

**The objective of this research is:** to confirm the clinical diagnoses of patients based on the results of a genetic study and their numerical expression for the further development of a Preventive and Curative Intervention Pla

**Research Materials and Methods.** 10 patients: 5 women and 5 men at the ages from 25 to 50 took part in the research. Buccal epithelium of the oral mucosa was scraped in every patient. The epithelium was collected into an Eppendorf tube containing sterile saline solution. All received biomaterials were transported to the laboratory in special thermocontainers at the temperature of 4 °C.

Isolation and purification of DNA from buccal cells was made according to the method of Dellaporta (Dellaporta S.L., Wood J., Hicks J.B. A Plant DNA Mini Preparation: Version II // Plant Mol. Biol. Rep. 1983. V. 1. P. 19-21). The collected material was carefully stirred, 100 µl were put into a sterile microtube, 1000 µl of Dellaporta lysis solution were added. Then the material was vortexed (vortex microspin FV – 2400) and incubated at 65°C for 40 min. After incubation 285 µl of 5M potassium acetate were added and the mixture was vortexed (vortex microspin FV – 2400). Incubation for 10 min in ice. It was centrifuged for 5 minutes at  $v = 13,000$  rpm (at centrifuge: eppendorf Centrifuge 5424). Then the whole of supernatant was transferred into a new microtube and an equal quantity of isopropanol was added, the mixture was carefully vortexed (vortex microspin FV – 2400). Then it was incubated for 30 minutes in a deep-freeze chamber (-20°C) for DNA precipitation. It was centrifuged for 15 minutes at  $v = 13,000$  rpm to precipitate DNA (at centrifuge: eppendorf Centrifuge 5424). The supernatant was removed. 500 µl of 70% ethyl alcohol was added to the DNA sediment. It was vortexed (vortex microspin FV-2400). It was centrifuged for 5 minutes at  $v = 13,000$  rpm (at centrifuge: eppendorf Centrifuge 5424). The supernatant was removed. 300 µl of acetone were added. It was vortexed (vortex microspin FV-2400). It was centrifuged for 1 minutes at  $v = 13,000$  rpm (at centrifuge: eppendorf Centrifuge 5424). The acetone was removed, as completely as possible and the tube was left open. The sediment was dried a little in DryBlock for 1-1.5 min at  $t = 50^\circ\text{C}$ . The DNA sediment was dissolved in 100 µl of deionized H<sub>2</sub>O. It was vortexed (vortex microspin FV-2400). The content of DNA was defined at a spectrophotometer (Nanophotometr, Implen), by taking 5 µl of aliquot directly from the tube with DNA solution.

The allelic variants of genes Col2A16846C>A, MMP1-1607insG, IL1B C3954T rs1143634, TNF G (-308)A Rs1800629 were assessed by the allele method with a specific polymerase chain reaction (PCR). Investigated sections of genes were amplified in parallel in two eppendorfs for the normal and mutant variant of the gene in 20 µl of a buffer solution (Fermentas firm) and 100 nm of each oligonucleotide primer, 100-150 ng of DNA.

The allelic variants of ER-alpha gene rs2234693, rs9340799 revealed polymerase chain reaction-RFLP by processing the amplifications with PvuII, XbaI restriction enzymes.

Table 1

**Sequence of primers and conditions for PCR analysis**

Name	Gene	Polymorphism	Sequence oligonucleotides	T °C annealing	Fragments (p.o.)
Glutathione-S-transferase	GSTM1	deletion	f-TGCTTCACGTGT TATGGAGGTTTC r-GTTGGGCTCAA ATATACGGTGG	60	219, deletion
Collagen of bone tissue	Col2A1	6846C>A	f-GTTGTCTAGGTG CTGGAGGTT r-GGCGAGGGAGGA GAGAAGG Ar-CCCGCCCACATT CCCTGG Cr-CCCGCCCCCATT CCCTGG	63	350-общ., 154 N/M
Matrix metalloproteinase 1	MMP1	-1607insG	Test-system "SNP-express" Liteh		
Estradiol alpha receptor	ER	Pvu II – A/G	F-ATCCAGGGTTATGTGGCAATGAC R-ACCCTGGCGTCGATTATCTGA	60	PP-527,pp-427, 100, Pp 527,427, 100 п.о
Estradiol alpha receptor	ER	XbaI rs9340799	F-ATCCAGGGTTATGTGGCAATGAC R-ACCCTGGCGTCGATTATCTGA	63	XX-527 xx-382,145 Xx-27,382,145
Tumor necrosis factor alpha	TNF	(-308)A Rs1800629	G-ATAGGTTTTGAGG GGCATGG A-AATAGGTTTTGA GGGGCATGA R-TCTCGGTTTCTT CTCCATCG	55	184
Interleukin 1B	IL1B	C3954Trs1143634	Cf-GCT TTT TTG CTG TGA GTC CCG Tf-CTC AGG TGT CCT CGAAGAAAT CAA R-GAATTAGCAAG CTGCCAGGAG	60	C-230 T-240

A polymorphic version of the glutathione-S-transferase M 1 gene (GSTM1 gene) - the availability or lack of a deletion was determined by PCR method with the appropriate

primers.

The PCR was carried out at BIO-RAD amplifier (USA), the required program for changing the temperature and duration of each reaction step to determine the polymorphism of the studied genes were selected experimentally. The initial denaturation was 95 °C for 10 min. The PCR during 40 cycles: denaturation at 95 °C for 30 seconds, annealing at the temperature of 55 to 65 °C, depending on the locus of specific oligonucleotide primers for 30 seconds and elongation at 72 °C for 30 sec, final elongation for 3 min at 72 °C. The amplified products were fractioned in a horizontal 2% agarose gel, prepared on a singletris-boratebuffer (1xTBE), at a voltage of 100 V during 45 minutes. Molecular weight markeris DNA pUC19: Msp1.

The agarose gel was stained with ethidium bromide and visualized in the transmitted ultraviolet light (Table 1).

**Results and their discussion.** The genetic risk of osteoarthritis and osteoarthrosis development was defined based on the results of the analysis of GSTM1, Col2A1, MMP1, ER, IL1B, TNF genes, involved in the metabolism of osteochondral tissue of the joint. Alleles of the norm were given 1 score, heterozygotes – 2 scores, mutation – 3 scores. The results are shown in Table 2.

**Table 2**

**Assessment of polymorphism in genes involved in the metabolism of osseous tissue of the joint, genes of inflammation and detoxification markers.**

Genes	GSTM1	Col2A1	MMP1	ER	ER	IL1B	TNF	Scores
Polymorphism	+ (0)	6846C>A	1607insG	Pvu II -A/G	Xba1	3954 C/T	308G/A	Mutations
Rheumatoid arthritis	3	3	1	3	3	3	1	15
Temporomandibular pain-dysfunction syndrome	3	2	2	2	3	1	1	6
Arthrosis	1	2	3	2	3	3	1	9
Arthritis	1	3	1	2	2	3	2	6

The following combination of genetic markers indicators is characteristic for rheumatoid arthritis: mutation in GSTM gene, which is responsible for the synthesis of epoxy hydrolase, glutathione transferase, glucuronyltransferase, acetyltransferase, etc., which transform toxic metabolic intermediates of phase I into the polar water-soluble non-toxic compounds – the second phase of detoxification; mutation in COL2A1 gene; mutation in genes coordinating estrogen receptors ER $\alpha$  and ER $\beta$ ; mutation in IL1B gene, which is responsible for the activity of cytokines. [1,3,4,5]

The following is characteristic for the pain-dysfunction syndrome of the joint: mutation in GSTM1 gene, responsible for the synthesis of enzymes transforming toxic metabolic intermediates of phase I into the polar water-soluble non-toxic compounds

– the second phase of detoxification; mutation in ER gene leading to poor condition of estrogen receptors in osteoblasts, which affects their physiological activity and thus affects the osseous tissue metabolism. [2]

Arthrosis is characterized by a combination of the following indicators: mutation of MMP-1 gene, which is responsible for the synthesis and activity of metalloproteinases, primary degradation of collagen molecules occurring when they are accumulated; mutation in ER XbaI gene and mutation in IL1B gene responsible for cytokine activity. [4,6,7]

A combination of the following indicators is characteristic for arthritis: mutation of COL2A1 gene, which is responsible for the qualitative composition of collagen; mutation in IL1B gene, which is responsible for the activity of cytokines. Proinflammatory cytokines that depress the formation of cartilage matrix, stimulate the synthesis of metalloproteinases and reduce products of tissue inhibitors of matrix proteinases. [3]

The analysis of the total set of mutated genes allows us to distribute patients and to identify the reversibility and irreversibility of pathological changes on the part of the pathological process development, which further allows us to create an individual minutes of preventive and curative interventions in patients having TMJ pathology. The results of gene mutations are shown on the histogram: Figure 1.

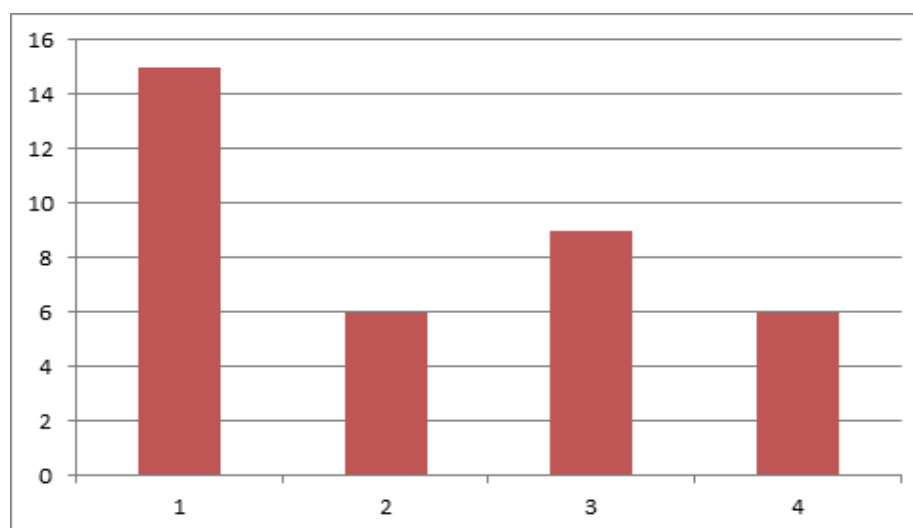


Fig. 1. Mutation of genes related to TMJ diseases

1. Rheumatoid arthritis: 7 genes analyzed, 5 mutations, 15 scores.
2. Temporomandibular pain-dysfunction syndrome: 7 genes analyzed, 2 mutations, 6 scores.
3. Arthrosis: 7 genes analyzed, 3 mutations, 9 scores.
4. Arthritis: 7 genes analyzed, 2 mutations, 6 scores.

According to clinical observations, the availability of mutations scoring from 6 to 9 indicates the reversibility of processes and persistent remission if preventive and



curative interventions in the dentoalveolar apparatus are taken. When mutations get min. 9 scores, an advice of related professionals is required to normalize the mineral and metabolic processes of the body.

The percentage of patients from the examined group having rheumatoid arthritis made 20 %, temporomandibular pain-dysfunction syndrome – 20 %, arthrosis – 30 %, and arthritis – 30 %.

**Conclusions.** 1. Clinical diagnoses were refined and confirmed based on the genetic research for a specific set of genetic markers and their analysis.

2. A certain set of genetic markers and their numerical value allows us to make a prognosis for the course of the pathological process and take preventive and curative interventions based on them, as well as to develop the individual minutes for treatment of patients having TMJ diseases.

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## TREATMENT OF PATIENTS WITH CONGENITAL ADENTIA OF UPPER LATERAL INCISORS

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**Annotation.** *To summarize the results of clinical and anthropometric and radiological studies and proposed a new solution of a scientific problem - improving the efficiency of orthodontic treatment in the complex rehabilitation of patients with congenital lateral edentulous maxillary incisors with developed diagnostic and therapeutic algorithm. Clinical examination of 97 patients with congenital edentulous upper lateral incisors revealed bilateral absence of 75.2 %, and one-sided - in 24.8 % of patients. Class I occlusal relationships by Engle was observed in 49,5 %, II class y 23,7%, III class - in 26.8 % of patients. In 45.4 % of the persons found normal vertical overlap, open bite and deep overlap in the frontal area - at 24.8 % and 29.8 %, respectively.*

*Dynamics of changes in anthropometric parameters correlated with the timing of moving teeth and point to more effective treatment of persons who are non-removable orthodontic appliances were used, which is confirmed by X-ray and TRH studies, namely the normalization of angles of inclination of the central incisors and canines to the midline, at the opening area of the defect - wide enough for further rehabilitation of patients, normalization of angles and inclination angle.*

**Key words:** *congenital adentiya lateral incisors of the upper jaw, removable and non-removable orthodontic equipment, orthodontic treatment.*

**Introduction.** When planning the treatment of patients with congenital absence of upper lateral incisors, there are a number of important points that need to be clarified for further effective and adequate treatment-invasiveness (Drogomyretska MS, 2009;).

In particular, it is necessary to determine with the available volume of space in the tooth row, the age of the patient, the type of jaw correlation and the occlusion abnormality, the condition of the teeth that limit the defect of the tooth row. Moreover, this list is not final, since in the planning of treatment with the use of orthopedic and surgical methods, there is a need for further research (Khoroshilkin F. Ya., 2006; Mirabella A. D., Kokich V. G., Rosa M., 2012).

To solve this problem, there are two principal possibilities: replacing the defect of the tooth number with the orthodontic movement of the fangs, and, conversely, opening the gap for further orthopedic replacement (Patil P. G., Karemore V., Chavan S., 2012).

However, not always the plan for treatment of adentia of lateral incisors of the upper jaw is obvious. The reason for this is the variety of the clinical picture, which is formed not only by the position of the adjacent teeth and the type of occlusion relations, but also by the shape, color of the adjoining teeth, the condition of the bone tissue and the volume

of the bone offer in the adentia zone, the size of the bases of the jaws and others. (Kokich V. O., Kinzer G.A., Janakievski Jr., 2011).

**Goal.** Taking into account the foregoing, it is urgent to create a diagnostic algorithm based on statistical analysis of the initial diagnostic data and, thus, would allow with a certain degree of reliability to state which factors, affect on the form of pathologies in a particular clinical case and should be hurt when creating the treatment plan .

**Materials and methods of research.** In the course of the study, we made a complex examination and orthodontic treatment of 97 patients 12 - 16 years old who applied to the Department of Orthodontics of the Institute of Dentistry NMAPE named after P.L. Shupik with complaints of aesthetic defect due to the lack of one or two lateral incisors of the upper jaw at I, II and III classes of anomalies of occlusion by Angle at I skeletal class.

**Results and discussion.** Depending on the class of anomalies of occlusion by Angle, all patients were divided into 3 groups of the study.

The first group consisted of 48 people with 1st class by Angle, the second group included 23 persons with II class by Angle, and the second group - 26 persons - with the third class by Angle. Patients with no marked changes in periodontal tissues and without a marked general-somatic pathology were included in the observation groups.

The control group consisted of 15 practically healthy persons of the same age with intact dental rows and physiological (orthognathic) bite.

Patients in the 1st group (Class I by Angle) were treated both as a method of opening the adentia zone and by the method of its closure.

In the 2nd treatment group, due to a definite discrepancy between the apical jaws bases, only the closure of the defect zone was performed. Persons of the 3rd group conducted exclusively the opening of the defect zone.

Depending on the applied orthodontic technique, patients of all groups were further allocated to subgroups: And the subgroup used non-removable orthodontic equipment (bracket system 3MUnitek 22 grooves, by firm 3MUnitek) and II - removable (mechanically acting orthodontic devices).

Treatment was considered to be complete after obtaining positive clinical and anthropometric (normalization of occlusion relations in all planes, body displacement of teeth, normalization of correlations of apical bases, normalization of anthropometric indices) and radiological parameters.

Clinical examination of patients was carried out in accordance with the "medical card of the orthodontic patient" with the definition of the nature of occlusion relations in three mutually perpendicular planes: sagittal, transversal and vertical. Also, a definite level of location of the ascetic edge of the fangs relative to the central incisors, the size of the fangs to the potential size of the missing lateral incisors (according to Mish C. E., Armbruster P. C.) and the definition of the color of the central incisor and the fangs on the "VITA" scale were carried out.

Determination of the width of the dental arc was carried out using the method of A.Pont, and the length of the frontal section of the dental arc - by G.Korkhaus method. The

analysis of the ratio of apical bases was performed using Rees method. Anthropometric measurements were made on diagnostic models.

We also conducted X-ray studies. A total of 194 orthopantomograms and 194 lateral cephalogram were obtained and decoded.

During the analysis of orthopantomograms, the angles of inclination of the central incisors and the fangs to the midline (according to Weber J. C.) were taken into account in order to determine the possibility of carrying out the cranial displacement of the lateral teeth area; the width of the adentia area in the zone of the alveolar ridge and the width of the adentia between the roots of the central incisors and the fangs at the level of the tip of the central incisor to determine the further method of orthopedic intervention.

Cephalogram analysis of the head in the lateral projection was performed using Steiner and WITS techniques.

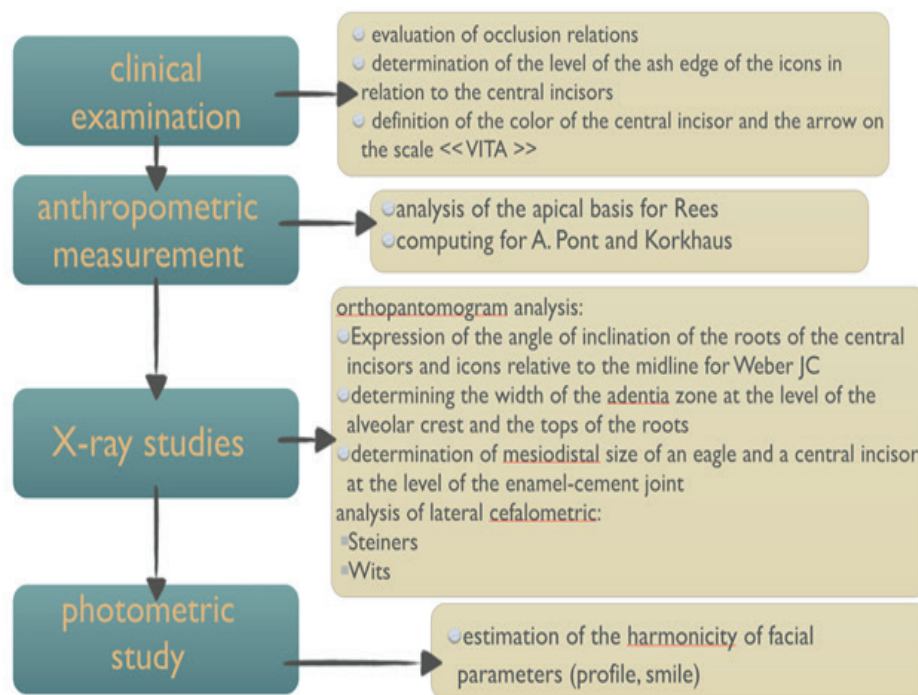


Fig.1. Diagnostic algorithm for the examination of patients with congenital adentia of the upper lateral incisors.

Clinical examination of 97 persons with congenital adentia of the upper lateral incisors revealed bilateral absence of 75.2% and unilateral in 24.8% of patients. And the class of occlusion relations by Angle was determined at 49.5 %, the second grade – 23.7 %, the third grade – in 26.8 % of the surveyed persons. In 45.4 % of patients, normal vertical overlap was observed, open bite in the frontal area – 24.8 %, and a deep overlap

in the frontal area – in 29.8 % of patients.

The most pronounced inadequacy of the size of the width and the anterior length of the upper dental arch was found in patients of the third group, and the smallest differences were observed in patients of the 1st group at the 1st class by Angle.

In 43.8% of patients in the 1st group, the correlation of the apical bases was within the normal range ( $8.01 \pm 0.7$  mm). In the 2nd group, normal (approximated to the upper limit) and more norm ratios were determined, while in the 3rd one 61.5 % of subjects were less than normal ( $1.12 \pm 0.27$  mm) and 38.5% - within the lower boundary of the norm ( $3.17 \pm 0.58$  mm).

The orthopantomograms study showed a significant deviation of the inclination angles of the central incisors and fangs to the median line and the reduction of the width of the adentia area in persons of the 2nd and 3rd groups ( $4.05 \pm 0.44$  mm and  $2.21 \pm 0.4$  mm against  $5.56 \pm 0.31$  mm - for persons of the 1st group at the level of the alveolar crest) ( $p \leq 0.05$ ).

The cephalometric of patients (determining the angles of SNA, SNB, ANB) was confirmed by the 1st skeletal class of jaw correlations. The average ratio of values of NSL / Go-Gn ( $27, 0 \pm 2.0^\circ$ ) indicated a horizontal type of jaw growth. In persons of the 2nd and 3rd groups, were marked changes in dental-alveolar ratios were observed: pronounced changes in the angles of inclination of the upper and lower incisors and the incision angle (Upper Inc. / NA -  $9.7 \pm 2.7^\circ$  and  $26.6 \pm 1, 5^\circ$ , Lower Inc. / NB -  $10.2 \pm 2.0^\circ$  and  $8.9 \pm 3.2^\circ$ , and  $-174.7 \pm 4.1^\circ$  and  $140.7 \pm 5.3^\circ$  respectively control group -  $22.4 \pm 2.0^\circ$ ,  $24.0 \pm 2.0^\circ$  and  $133.0 \pm 2.5^\circ$ ).

The performed orthodontic treatment of patients, taking into account the results of clinical anthropometric and X-ray examination by various methods, indicated the displacement of the lateral group of teeth by the method of opening the gap in patients of the 1st and 3rd groups in the period of 12-15 months in only 25.9 % of patients in the 1st group, after 15-18 months – 63.0 % of the first and 50.0 % of the 3rd group, and in the period from 18 months - to the rest of the patients.

When using the closure method, the treatment period of 12-15 months is determined in 33.3 % of the 1st and 30.4 % of the 2nd group, in 15-18 months – 47.6 % and 47.8 % respectively, more than 18 months - for the rest of the patients.

4. With the use of removable equipment, we have in no way observed the effectiveness of orthodontic treatment in the period of 12-15 months, while when using non-removable technology efficiency in this period is defined in 34,4% of people. In 63.6 % of patients who used non-removable equipment, the average treatment time was 15-18 months, and in the case of the use of removable equipment - in most (55.0%) the effectiveness of treatment was determined in 18-24 months.

The dynamics of changes in anthropometric indices correlated with the timing of tooth movement and indicated a higher effectiveness of treatment for persons who used non-removable orthodontic equipment, which was confirmed by the data of panoramic and cephalometric studies, namely: the normalization of the inclination angle of the central incisors and the canines to the median line, in case of opening the defect zone -

sufficient width for further rehabilitation of patients, normalization of inclination angles and intercostal angle.

Table 1

**Algorithm of the choice of the method of treatment of patients with adentia of the upper lateral incisors (I skeletal class)**

Treatment groups		
Group I		Group II
Opening a defect zone		Closure of the defect zone
Patients in the 1st and 3rd grade by Angle	1	Patients in the 1st and 2nd grades by Angle
The level of the gum edge of the icons in relation to the central incisors is greater than 0.5 mm	2	The level of the gully edge of the icons in relation to the central incisors does not exceed 0.5-1.0mm
The difference in the color on the scale "VITA" has no meaning	3	The difference in the color on the scale "VITA" by more than 1.0 tons requires additional interference of adjacent specialists.
Anthropometric measurements by A.Pont, Korkhaus (premolar and molar index - less than normal; anterior length of the upper dental arc-reduced	4	Anthropometric measurements by A.Pont, Korkhaus (premolar and molar index and anterior length of the upper tooth - within the norm
The ratio of apical bases for the Rees norm, or less than the norm	5	The ratio of apical bases for Rees-norm, or more than normal
Angles of inclination of central incisors and icons to the median line should be taken into account for the selection and planning of further rehabilitation.	6	Angles of central incisors and midsole icons should be taken into account in order to avoid recurrence after treatment
Determination of the width of the adentiza zone at the level of the alveolar crest and the tops of the roots	7	Determination of the mesiodistal size of the fangs and the central incisor at the level of the enamel-cement joint
Cefalometric analysis by Steiner: - Class I skeletal, horizontal type of growth. Kut Up incl-diminished (for patients with Class I by Angle)	8	Cefalometric analysis by Steiner: - Class I is skeletal, horizontal type of growth. Cout Up incl-enlarged (for patients with Class I by Angle)
The aesthetic plane behind Steiners (Pg-SN) is a retrusion, or norm	9	The aesthetic plane behind Steiners (Pg-SN) is a protrusion, or norm
WITS by Class I	10	WITS by Class I

With the use of removable orthodontic techniques, even in determining the clinical efficacy of the orthodontic treatment, there was no complete normalization of anthropometric-X-ray indicators.

**Conclusions.** Clinically proven and confirmed by the data of anthropometric and X-ray studies, the effectiveness of performed orthodontic measures allowed to create a diagnostic and therapeutic algorithm for providing orthodontic care in the complex rehabilitation of patients with congenital adentia of lateral incisors of the upper jaw:



1. For patients 12-16 years old with Class I occlusion relations, it is possible to carry out the treatment of the congenital adentia of vertebra lateral incisors as a method of discovery and closure of the defect zone CL, depending on the anthropometric and cefalometric indices:

- with the correlation of the apical bases for the Rees less, or within the lower boundary of the norm (up to 6.0 mm), the indicators of the angle Upper inc./ NA within the lower boundary of the norm (up to 22 °), reduced premolar, molar indexes and anterior length upper dental artery, retrusion aesthetic plane for Steiner ( $Pg-SN \leq 4$  mm) to open the zone of the defect of the tooth row;

- with the correlation of the apical bases by Rees within the upper boundary of the norm or more than the norm (over 6.0 mm), the indicators of the angle Upper inc./ NA within the upper boundary of the norm (more than 22 °), the indices of premolar, molar indexes and the anterior length of the upper dental arc within the normal range, protrusive aesthetic plane behind Steiner ( $Pg-SN \geq 4$  mm) to close the area of the defect of the tooth row.

2. Patients with II class, according to Angle, should only be treated with the method of closing the area of the defect in the dentition, and in the event of the need (the discrepancy between the color of the teeth on the Vita scale, the architectonics of the clear margin of the fangs relative to the central incisors, and their mesiodistal dimensions), to conduct further rehabilitation patients with the involvement of specialists (dentist and orthopaedist-dentist).

3. For Patients with the 3rd Class by Angle, therapy should conduct exclusively the procedure for opening the zone of the defect of the tooth line with the further complex rehabilitation - replacement of the defect of the dental series by the orthopedic design, including, under satisfactory conditions, based on dental implants from dental surgeons and orthopedists.

4. In the treatment of patients, we recommend the use of non-removable equipment, which provides the body movement of both the frontal and lateral groups of teeth, normalizes the angles of inclination of the central incisors and jaws to the median line, both using the method of opening and closing the gap for the patients of all the groups studied, which in the future provides the possibility of effective complex rehabilitation of patients.

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## HISTORY

### PERSONAL AND INDIVIDUAL WORLD OF YAROSLAV SICHINSKY

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**Annotation.** *The article deals with the life paths, activities and creative heritage of the well-known Ukrainian architect, cultural and public figure of the Ukrainian diaspora of the United States, a member of the famous Ukrainian family of Sitsinsky-Chekhov-Sichinsky-Shandorov, Yaroslav Sichynsky.*

**Key words:** *Yaroslav Sichinsky, Ukrainian, architect, cultural and public figure, USA, Ukraine.*

Creation of social portraits of prominent Ukrainian families is a very important part of the reproduction of the overall process of creating history and culture of Ukraine, in the history of which, as in "The history of each state, every nation has its own light and shadow, and the figures are clear and dark, there are knights and nobody" [1]. Among the genera of the Ukrainian elite, whose scientific, state-social, cultural-educational, religious-theological and other activities and creative heritage, requires detailed research and the establishment of objective historical truth in assessing their place in the history and culture of the Ukrainian people for several centuries - The prominent place belongs to the Ukrainian family of Sitsinsky-Chekhov-Sichinsky-Shandorov. From the knowledge of history, the further development of the nation and the state depends on the direction, because only those who know the history of their country, their family, their past, know the road to their future [2].

This family was rooted in the Ukrainian ethno-sociocultural environment, it included many well-known personalities who entered a bright page in the history and culture of Ukraine. Its history, or rather, the history of some of its most well-known representatives, has caused, causes and continues to cause considerable attention of foreign and Ukrainian researcher. Although recognition of the merits of the majority of members of the glorious family, which, as wrote by a well-known art critic prof. Demian Gornjatkevich "comes to us already to dynastic dignity, such as the well-deserved families of the Chykalenkov, Drahomanovs-Kosach, Krichevsky, Barvinsky and Nizhankivsky" (London, 1955) [5 p.46], before the Ukrainian society took place in historiography even at their life, but after a good memory of them there was a thorny path of affirmation in the coming generationP.

The main part of the study. Ukrainian architect, cultural and public figure, son of the famous art historian Volodymyr Sichynsky, grandson of the famous historian Yevfimiy

Sitsinsky, Yaroslav Sichinsky (\*02.08.1924 - †28.08.2015), born in Prague [24; 25, ark.1], where "idyllic times" of "childhood and happiness" were held, where he was "surrounded by beauty, creativity and prosperity". Becoming a senior Yaroslav liked to draw and had a "keen interest in technical disciplines", that is, "the choice was already made" in childhood [14]. He "went his father's path", becoming an architect [24]. Many nights he spent in his father's office, where friends and colleagues of his father, including the Minister for Development and Construction of Czechoslovakia, often discussed various architectural projects and plans for their implementation [14].

Yaroslav Sichinsky graduated from the Czech Real School in Prague [25, ark.2], and then studied for two more years in the Ukrainian Real Gymnasium (Modrzhaný) [19; 20], where, together with the son of Yefim Fil, nephew Polikarp Gerasimenko, Leonid Fil, made a matura [20]. However, already August 8, 1944 [25, ark.3] Yaroslav, as a Ukrainian, the German occupiers "took to forced labor" to the camp OST-arbeiter lager in Ravensburg, Germany [17], where he worked on factory until 1945 [4; 14; 24].

After the end of World War II, he sought fathers for long searches, and in October 1945 he met them in the commune of Burghoberbach near Ansbach (Bayern), and subsequently moved with them from one refugee camp "DPi" to another (Ashaffenburg, Frankfurt am Main-Mainie, Darmstadt, "Laharde", "Artlier", "IRO" (Schweinfurt city), Bremen Fegezak) [25, ark.3]. Together with his parents in one of the basement rooms of the camp he met at the meetings of the MUU (Art Ukrainian movement), where he listened to the reports of writers I. Bagryany, V. Domontovich, V. Samchuk [24]. Yaroslav Sichinsky "did not bother to start his life and did not want to waste time", he signed up for a studio of architecture at the Technical University of Darmstadt. However, after three years of university studies, he lacked only one semester to complete his studies, the family on April 15, 1949 [25, p.3] on an American military transport ship sail to the United StateP. On April 26, they met Oksana and Vikenty Shandora in the port of York City, and they were sheltered in their home in Elizabeth [25, ark.4].

Without knowledge of English, he "passed the path of difficulties inherent to every new immigrant" [4] and was forced to interrupt "casual earnings" [14], in particular, ironed man's shirts in a small enterprise [25, ark.4]. Six months later, he and his parents moved to Paterson, where he "found himself working at a factory producing various stainless steel accessories" [15]. It was not easy, during the day, hard work at the factory, "which reminded him of the war" [14], and in the evenings, along with his mother and older sister Oksana, went to school to teach English. After he was poisoned with carbon-tetra-chloride vapors and brought him to the chest, he, after a brief cure, left the factory and "found himself working as a draftsman in a bureau that was drafting a prison", where the sanitary engineering department designed "water supply and flood" [14; 15].

In personal life, too, there were changes, on July 7, 1951 he married the native of Kamyanets-Podilsky, Nina Nizhna [14; 15] (the second wife of Maria Kolenska-Baranska) [18] and left the family nest and moved to New York [15; 25, ark.4]. At the Family Council, it was decided to complete "architectural education" at the Columbia University's Columbia University School of Architecture (Columbia University), which

was chosen because of its reputation and, moreover, because the training was conducted in the evening. However, when entering the university did not take into account his studios at the University of Darmstadt and he had to learn "to start from the beginning". To be able to "find the right job", Yaroslav became a US citizen in 1954 [14].

March 15, 1957, "just on the eve of the final exam" and graduation from the diploma project on design, son Andrew was born [14]. Soon, Yaroslav graduated from the University [14; 24], his "diligence and perseverance paid off", on June 4, 1957 he received a diploma and "two medals for completed projects" [4], that is, "has achieved its goal". Volodymyr Sichynsky congratulated his son on obtaining a diploma and wished him "success as a new architect". However, Yaroslav, said that he still can not be called an architect, because "he did not pass a state examination" in the architectural council [14].

After graduating from university studies, he worked in various architectural bureaus on various projects (banks, public schools, housing, hospitals, shopping centers, department stores) [14], in particular, on the project of the car repair center at Hamilton City (1969) [20]. But, the greatest interest and love was shown to church design projects [14]. So, in 1956, he created the design of the "Inter-Confessional Chapel" [20], and, in collaboration with his father, performed in 1954 for the company "Rayleigh-Parry and Sons" in South Orange (New Jersey). The project of the interior of the Roman Catholic Cathedral of the Sacred Heart (Newark) in the style of the French Gothic [4; 14], the Ukrainian Orthodox Church of St. Sophia in Montreal (Canada) [4], and also independently implemented several projects of church interiors [24].

In May 1965, he made "state examinations" and received a diploma-license from an architect in the states of New York and New Jersey, but, unfortunately, in 1962, his father died and could not be a witness to this success of his son. He worked in a large architectural firm head of department [4] for the design of social and cultural facilities. He lived in Kergokson, New York. In the late 1960s, he participated and won the competition for the Ukrainian Orthodox Church in Clifton, New Jersey. Becoming the main architect of this project took an active part in its implementation in 1970 [14]. He won the competition for the project of the Ukrainian Great Holy Ascension Temple [20]. According to his project, Savut-Bavend-Brook's cemetery was erected on the cemetery of his father, Elena Chekhivska (1972), as well as a monument to parents Volodymyr and Mikhailin Sichinsky (1989) in the form of a stylized dome of the church, inside which "the Sun of Podillya", Bronze medallion. Arranged and handed over the manuscript inheritance of his father and a significant part of his library to the archive of the Institute of Ukrainian Studies at Harvard University [10; 24].

Yaroslav Sichinsky took an active part in public-public and professional societies. Thus, he, as a member of the initiative group of Kamyanets and Podolians, participated in the organizing committee on the celebration of the 900th anniversary of the city of Kamyanets-Podilsky, formed on May 28, 1966, which was soon transformed into the Yulia Sichinsky Department of the Podillya Studies. and on September 4, 1969, in the Podolyan Society at the Ukrainian Free Academy of Sciences in the USA, headed by

the architect, Podolyanin Mikhail Semenovich Kravchuk [12; 13; 35]. Together with his wife, Nina made donations to the "Fund to celebrate the 900th anniversary of Kamyanets Podilsky" [11]. Y. Sichinsky was a member of the Organizing Committee on the occasion of the 900th anniversary of the foundation of Kamyanets-Podilskyi, a scientific conference held on December 7-8, 1968 in New York, and at the historic section, delivered a speech entitled "Memoir of the Researcher Podilly Protopr. Y. Sitsinsky", which he prepared "on the basis of information obtained from his parents" [3; 28].

In addition, he was a member of the Society of Ukrainian Engineers in America [14], where on December 20, 1958, he was elected a member of the General Board of the Society [8], December 12, 1959 - Treasurer of the Main Board [9], January 29, 1960 - Member of the Comrades Court of the Society [6]. In 1979 he participated in the exhibitions of the Society, where he exhibited photographs of his architectural monuments [33].

He was a member of the Ukrainian People's Union [7], donated to the People's Fund [25], for the publication of the "Svoboda" public weekly of literature, art and culture [27].

Speaking in the diaspora press on artistic and ethnographic subjects, he promoted the work of his father V. Sichynsky, his grandfather E. Sitsinsky, and corresponded with many scholars of Ukraine [22; 24]. His first scientific article was "placed in a separate edition of the Congress of Architectural Students (Reich 1957)", where he described his way of "getting the title" an architect" [14]. He also participated in several exhibitions of the Association of Fine Artists of Ukraine in America, in particular, at the XIV Exhibition of the OMUA, which was opened on November 2, 1967 at the Literary and Arts Club in New York, where as a guest artist, a painter exhibited his works [32].

In the summer of 1991, Yaroslav Sichinsky visited Kamyanets-Podilsky for the first time [23; 24] and together with the master of archeology, director of the Kamyanets-Podilsky Foundation Andriy Mandzy, as part of the archaeological expedition, took an active part in the archaeological and architectural excavations of the Dominicans' Monastery (XV-XVIII centuries) - the Church of St. Mykola Mirensky in the Old City [29]. During his stay in Ukraine, he took part in the grand opening of a monument on the grave of his grandfather Yevfimiy Sitsinsky in Kamyanets-Podilsky, visited his fatherland in the village of. Mazniki of the Derazhny rayon [24]. He came back to Kamyanets-Podilsky in September 1994 and took part in an international scientific and practical conference "Spiritual Origins of Podillya: Creators of the History of the Territory" [23], in which he spoke with the report "The Word on the Father" [30]. At the same time, Yaroslav Vladimirovich transferred to Khmelnytsky Oblast Universal Scientific Library some works and memoirs of his father V. Sichynsky about famous people, including about M. Hrushevsky [23].

In spite of the fact that on his life there was "a lot of ups and downs" [14], which did not quite have a family life (twice married) [18], his "love for architecture was permanent" [14], because he realized that that by continuing the work of his father Volodymyr Sichynskyy, the famous architect, professor and scientist, and his grandfather

Eufemiy Sitsinsky, a well-known scholar of Ukrainian sacral architecture, he establishes and develops Ukrainian architectural styles [4] in Ukrainian immigrants' settlements, promotes and strengthens Ukrainian culture in the world.

He became ill from Kergoksson to Andrew's son in Georgia, near Atlanta, since 2001 he was often in hospitals, several times he was doing Anqinorlasty, constantly infuriated with arthritis [21]. A great lifestyle fan, he learned to work on a computer at the age of 85 when presented to his nephew, Bogdan Sandor (son of Oksana's sister), and on April 5, 2010 he published and sent his "first letter in Ukrainian" to Anatoly Trembitsky [19]. Yaroslav Sichinsky, a cultural figure, the glorious son of the Ukrainian people, although he was born in the Czech Republic and successfully "mastered" Czech, German, and later English [14], well-fluent in Ukrainian, "kept her treasures in a multi-ethnic environment, was interested in family roots, made up "Ancestral tree" [24] of Sichinsky and Chekhovsky, a biography of his mother Mikhailina Sichynska, a register of architectural projects of Volodymyr Sichynsky [31] and before the end of his days he lived in Ukraine and in Podillya, in particular.

A well-known Ukrainian architect and cultural public figure Yaroslav Sichynsky died on August 29, 2015 in Atlanta, USA [24; 34], having lived 91 yearP. Buried on September 8, 2015, near their parents at the cemetery at the Church of the Holy Monument. Andrew in the town of South Bound Brook. During the funeral, the family invited invitees who wished to honor the memory of the rest, donations to the Orphan's Foundation and the Museum Foundation at the Ukrainian Orthodox Church in the United States at the Ukrainian National Women's League of America War Victims Fund UNWLA [34].

The scientific novelty of the results obtained is that for the first time, the personality and individual potential of a member of the famous Ukrainian family of Sitsinsky-Chekhov-Sichinsky-Shandorov, a well-known architect and cultural and public figure of the Ukrainian diaspora of the United States, Yaroslav Sichynskyi, who created architectural monuments in the Ukrainian style, lived in Ukraine and believed in her better future.

The concrete theoretical and practical significance of the results obtained is that they are part of the dissertation research and enable the creation of a holistic social portrait of the glorious Ukrainian dynasty of the Sitsinsky-Chekhov-Sichinsky-Shandor dynasty, whose members, with their daily work, took care that Ukraine became a free and powerful state, devoting itself entirely to serving Ukraine and its people. Returning to Ukraine the names of members of this famous dynasty family is impossible without studying and analyzing the entire multi-faceted heritage of each individual member of the family, understanding his multidimensional activity and creative heritage.

**Approbation.** The article is submitted for the first time and has never been published anywhere.



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## **PHILOLOGY AND LINGUISTICS**

### **CONFLICT PECULIARITY IN LITERARY WORKS OF ELYSEY KARPENKO “THE AUTUMN NIGHT” AND “THE EARTH”**

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***Annotation.*** *The article is devoted to the elucidation of genre specificity of the literary works of Elysey Karpenko “The Autumn Night” and “The Earth”. The article defines the relationship between genre and content dimensions of literary works. Attention is paid to determining the characteristic features of dramatic conflict. The images of the characters in the literary works are explored.*

***Key words:*** *drama, tragedy, protagonist, conflict, development of action, Elysey Karpenko.*

The drama of Yelysei Karpenko became the subject of scientific research of literary critics L. Zaleska Onyshkevich [1; 2], T. Sverbilova [5], G. Semenyuk [6; 7; 8], L. Skoryna [9], S. Horob [10; 11]. The literary work of Yelysei Karpenko “Autumn Night” (1920) is devoted to the determining the problem of confrontation, which is shown in various aspects. Conflict of the tragedy is built on the opposition of the poor people and masters, which affects the outline of all the other peripeteias of the tragedy. The fundamental moment is the demonstration of a struggle between life and death: Mother dies, suffering from illness, and Father went to find the Savior with the healing water. However, Mother and Father die, but their children remain homeless. Social injustice is combined with existential hopelessness.

The playwright determines the causes of the tragic events in the fall night, which are associated with the main conflict. Mother suffered from illness and she died because of the dependent status of the poor, because of the use of all their vital strength by the masters. The author points to an unfair social system, built on oppression, which deprives the possibility of any development: the Mother dies because of overwork; the Father who protested was persecuted during all his life and eventually he was killed; their children also are under the serious threat.

Of great significance in the conflict formation in the literary work is the incriminating speech of the Grandfather: he emphasizes sharply the excessive suffering of the poor and the entertainment of the rich who use them. Grandfather emphasizes distorted relations in society and proclaims the inhuman nature of masters who, according to Grandfather’s statements, drink blood and eat the poor. At the same time, his ideas have further development. He reflects on fear, which is stronger than the hatred for oppressors. Fear causes a passive attitude, the separation of the poor and the immutability of social status.

Therefore, the strongest fighters, such as his son, die.

The image of Father in the tragedy is shown indirectly, because of the perception of other heroes, but this image occupies a central position in the literary work, because it embodies the idea of struggle for freedom. Elysey Karpenko emphasizes the tragicity of the image. The Father is the embodiment of selflessness and self-confidence in the struggle for the liberation of the oppressed people. The Father is shown as a fighter who had realized social injustice and also reinforced this understanding by active actions. However, his contemporaries were not ready to change the passive suffering for the liberation struggle. The playwright depicts a strong personality among the weak masses, personality, whose ability to decisive action does not correspond to social inertia.

The drama contrasts active and passive positions. A Father defended the interests of the poor, but none of the neighbors even wanted to borrow a horse to go for a doctor. The Grandfather after the persecutors' attack wants to warn his son with the help of the Neighbor, but the Neighbor finds excuses not to do that.

The tragedy shows hopeless situations: the Father was recently released from prison, and it is dangerous for him to go for a doctor. However, he deliberately goes to probable death for the sake of saving his wife. Elysei Karpenko shows the predominance of unfavorable circumstances: the Father is arrested while on a trip; the doctor comes, but he is late.

The images of nature reflect the sad feelings of the characters and emphasize the oppressive atmosphere. The black poplars even become the heroes of the literary work, so that the concept of grief becomes visible and has a horrific expression. The whole situation points to the gradual disappearance of life, the lack of opportunity for self-expression of the characters through the closure of consciousness in extremely depressing circumstances and negative experiences. For the sake of survival, the protagonists have to constantly fight the enemy forces embodied in the sinister images.

The playwright shows an alienated and dangerous world. The oppressors and the persecutors are depicted in the images of the ghosts who are waiting, sneaking and attacking the Grandfather, the Father, they ruled in their house. An armed Grey figure expects for a homeless boy who has lost his mother and father, the Girl cries because of losses, the Grandfather went to the place where his son was pulled. There is a depiction of a family in which the foundations have been destroyed. The impersonality and constant presence of persecutors underlines the state of total danger, in which the heroes remain, without prospects of dismissal.

The literary work of Elysei Karpenko, "The Earth" (1921), has genre signs of tragedy: the author reflects the state of the psychological illness of the peasants, which leads to significant personal deformations; the development of action is based on distorted beliefs of characters that lead to irreparable consequences; the conflict of the literary work is marked by intense confrontation, caused by various representations of life priorities.

In the play, the playwright defines different approaches to the problem of land ownership, which becomes the basis for the development of the conflict. Trohym performs

the role of a key figure in his family and leads the family to decline and destruction. In order to receive land, he becomes a destroyer. The development of action focuses around the image of Trohym, as other characters are forced to react to his actions or inaction. Due to Trohym's actions, the son Kharyton dies, Mariika loses his mind, the brother remains homeless, the grandfather sets off the village of Krasenko family, Ustyia turns into a dispossessed, frightened wife, the daughter Olena experiences the fierce hatred. In the end, Trohym finally destroys himself: in the final scene of the literary work he goes towards people who wanted to commit lynching over him.

His constant opponents, the Krasenko family, gain their strength due to their unity. Trohym tried to defeat them in pursuit of land allotments. However, he missed the most important part of their success and tried to recover the lack of family integrity by uncontrolled attempts to obtain land at any price. The playwright emphasizes the peculiar atrophy of Trohym's feelings to his relatives through the concentration of all aspirations on land owning. The increase in land holdings was considered by the hero as a way of solving and compensating for all family disputes.

Trohym creates an illusion, the core of which is the image of the earth. The illusion, which is based on the strong emotions of Trohym, becomes a peculiar alternative to reality. Trohym ignores the sharp differences between his fantasies about land ownership and the real situation, shown by Kharyton, Brother, Olena, Mariika, Ustyia. Trohym's sufferings are caused by the impossibility of adjusting reality to his imagination. He can not control his family so much to make them sacrifice everything for the sake of the earth. The irregular acts and crimes for the sake of his mania are considered by Trohym to be normal. Trohym hoped to build a dream-like future on destruction. The Brother points out to him the falsehood of such notions: "You look at the unknown. And the grief is sitting next to us" [3, p. 7].

Kharyton due to illness finds himself in a dependent position to his father. And for Trohym, the priority is the purchase of land, not the recovery of Kharyton. He gives his son meaningless advice or simulates an activity that in no way helps healing. Dramatic action becomes particularly tense, when, due to the inactivity of Trohym, his Brother assumes the function of Kharyton salvation. The Brother sacrifices his own courtyard and remains homeless. However, his victim proves to be vain, because Trohym takes his money for treatment to use it for the purchase of land. Trohym deprives his son of any opportunity to survive.

The playwright reflects the causes of Trohym's obsession. He estimates himself solely on external indicators. For this reason, Trohym considers himself worse than Krasenko. The accumulation of land for Trohym is associated with the proof of its own full value. In one of the episodes, the playwright emphasizes the childish, naive emotions of Trohym caused by the dreams of obtaining the land. With these emotions, he replaces the need for personal communication with members of his family. Relationships in the family, formed by Trohym, peculiarly reflect his immature personality. Ustyia deeply suffers from Trofym's gross attitude; Olena hates him for psychological coercion; Kharyton realizes his own powerlessness and unnecessary to his father; a Brother makes

a decisive act, but eventually obeys Trohym; Grandfather agrees with Trohym in every question.

The relationships of Trohym with his relatives are based on intimidation and psychological harassment. In this way, he tries to disguise his sense of worthlessness. Strong negative emotions of heroes play an important role in the development of action. Because Trohym has concentrated all the strength on accumulation and deprived all his relatives resources to satisfy his own obsession, at a turning point the situation turns against him.

Trohym's sense of futility is fully manifested when he is ultimately defeated, losing the opportunity to get land, and suffers a sense of guilt for the death of Kharyton. And his relations with his daughter Olena become extremely absurd, she frankly despises him.

Since his opponents, the Krasenkos got the land that for Trohym was the only symbol of his ability, Trohym got rid of any protective mechanisms to conceal his own grievances and impotence. And irreversible events in the family confirmed his personal collapse. What he denied is revealed in front of him in the most manifested and apparent form. Therefore, for further denial, he resorted to destructive behavior. In the final episode, Trohym is going to set fire to the Krasenkos' village. As Grandfather is ahead of him, he goes towards the crowd that is enraged by anger.

Trohym's obsessive idea is stronger than any of his human feelings, which are sometimes manifested. Trohym observes the catastrophic consequences of his hopeless struggle for the earth, but his glare becomes even more fierce. He imposes his obsessive ideas to his relatives who have suffered because of him: "I have to force them blind to their happiness" [3, p. 56-57]. The Brother points out for Trohym the way of salvation: "You need to restore everything you have unknowingly ruined in your life" [3, p. 57]. However, recovery requires a complete rejection of destructive fantasies, to which Trohym is not ready. He has put too much effort into his unrealizable illusion, linking to it the meaning of his existence.

Crisis phenomena that embraced the family of Trohym reflected the crisis of morality and social relations. The actions of Trohym show decay, turn out to be ineffective and devastating, and put him in a hopeless state. His children confirm other ideas. The playwright reflects the birth of the first principles of new ideological systems, distinguishing between two variants of the restructuring of society: radical and passive. The emergence of Olena's radical worldview is formed as a protest to social and family inhibition. Her hatred becomes unmanageable, she expresses the formation of an ideology of resistance to an inoperable social system. The protest of Kharyton becomes a kind of demonstration of borrowed ideas, his passive position is conditioned by the disease. At the same time, Kharyton reveals a profound understanding of the reasons for their situation, due to the lack of self-awareness: "We are very dark. Oh, how dark we are. And that is why our life is such ... Earth we only want, and not itself, life, light, peaceful, joyful" [3, p.17].

The main difference between Olena and Kharyton is the lack of recognition of any authorities. For an active position and active actions, she guided by her own convictions,

although they acquire a certain phantasmagoric forms and show destructiveness. The main motive of her activity is destruction. The fire in the final scene of the literary work becomes for Olena a peculiar symbol for the deployment of large-scale destructive changes.

Ustya, Brother and Fransfather have common sense of psychological dependence on Trohym. Brother's affiliation was formed due to material dependence. In the course of the development of the action, the reason of dependence turns out, it defined by Trohym's evil intention - he set fire to Brother's courtyard. The motives of this action are not explicitly disclosed, but are reconstructed through consequences. The image of the Brother is opposed to the image of Trohym. The reasoning and actions of the Brother have a humanistic orientation: at first, he persuades Trohym to give money to the treatment of Kharyton, then he himself gives his own property for this aim. But at the decisive moment, the Brother allows Trohym to take away his money. The pressure of selfish intentions is stronger than humanistic aspirations.

In relationships with Brother Trohym is shown not only as a manipulator - he takes money from his Brother because of his debts, but also as a criminal, because that was he who set the Brother's courtyard into fire and caused the death of his son Hvyton in a fire. The situation with the arson of the Brother's property is projected to arson Krasenkos' village. He wanted to burn Krasenkos' village because of envy and impotence, because he felt his failure. He morally destroyed Brother. Having ruined his Brother's life by causing his son death, Trohym reoriented himself as a philanthropist. In order not to feel his own grievances, Trohym needed to spoil Brother's life.

In the personality of Trohym, the playwright emphasizes his sense of inferiority, since it influences all his actions and deeds. Psychological violence to a certain point is a way of interacting with other actors in the literary work. Trohym arouses their a sense of fear, dependence, because in this state they are not able to really evaluate him.

In the relations with Ustya, there is a hint of the possibility of development, which Trohym has neglected. He gradually subjugated all his emotions to the sense of land possession. He did not recognize his psychological deformation, but rather presented it as his great achievement. The story of Trohym and Ustya, that began as a love story, ends with a slavery. Because of the fear, Ustya reconciled not only with disrespect, but also with the probable death of Kharyton, due to the affliction of Trohym. She suppresses her own emotions in order to continue living in self-deception. And self-deception of Ustya becomes a way of salvation from pain, but she realizes it: "It's better for me ... when I go numb. When I do not think about anything. When I do not look back at what was and do not look at what will be with all of us ... there, on it ..." [3, p. 33]. However, at the crucial moment, she makes an attempt to save her son. Despite the passive position, Ustya realized the destructiveness of Trohym's obsessive aspirations and tried to point them out.

The Grandfather reflects Trohym's desire to get land. The main attribute of his personality is the weak copy of Trohym's convictions. In the image of the Grandfather, the playwright emphasizes the absence of the inner core: "He looks more like the



scarecrow for sparrows, than like a man” [3, p. 7]. However, the Grandfather reveals a profound understanding of the causes of Trohym’s atrocities. He tries to reduce the great number of sins that he has committed for the sake of land possession.

In the tragedy “The Earth” Elysei Karpenko comprehends the problems of internal non-freedom, which is manifested in various aspects. The playwright explores artistically the factors that determine the formation of various psychological dependencies among the characters of a play: from material resources (Trohym), from negative emotions (Olena), from relationships (Ustya, Grandfather). The author showed a devastating influence of psychological dependencies, which stop and limit the personalities development and form the conditioned types of reactions in the process of interpersonal interaction.

In the image of Kharyton, the playwright emphasizes the objective physical dependence on others because of illness. With this image, Elysei Karpenko contrasts the physical reality and mental models of other heroes who hinder or do not contribute to the salvation of Kharyton.

The image of the earth in the literary work becomes a symbol of unfulfilled aspirations and illusions. Psychological misconceptions are primarily associated with the image of Trohym, since they determine the development of action in the tragedy. He uses his accumulated resources to the detriment of himself and his relatives. Therefore, the central image of the earth for which Trohym sacrifices its own interests and the interests of its relatives causes a feeling of anxiety and deep concern of Brother, Ustya, Kharyton, Mariika, and Olena. These protagonists recognized Trohym’s illusions. However, the alternative aspirations of some of them have the same deceptive character. Olena, who fiercely opposed to Trohym, actually unconsciously continues his actions in a slightly modified form. If Trohym carries out local crimes for the sake of obtaining land, then Olena aspires to massive destruction to ruin the social system. The fire, which starts with the initiative of Trohym, becomes a signal of global destruction for Olena.

The object of the tragedy “The Earth” is the collapse of the peasant family. The playwright traces this phenomenon through the destruction of personalities. The tragedy reveals the reasons for personal and family decline: the lack of a solid personal foundation; influence of destructive representations and aspirations; dependence on social stereotypes; the absence of a unifying humanistic idea.

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## ACTIVITIES APPROACH TO THE CHOICE AND ORGANIZATION OF MATERIALS INTO COMMUNICATIVE MINIMUM FOR TEACHING STUDENTS OF NON-HUMANITIES PROFILE TO COMMUNICATE

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**Annotation.** *The question of the activities approach to the choice and organization of materials into communicative minimum for textbooks for teaching students of non-humanities profile has been researched on three levels: macro, medium and micro. The history of the choice of contents of teaching and its organization into communicative minimum are described. The recommendations to take into consideration the results of research, when choosing materials to the communicative minimum for teaching students of non-humanities profile within the limits of training well-educated and well-mannered students of non-humanities profile have been worked out.*

**Key words:** *content of teaching, choice of materials, macro level of communication, medium level of communication, microlevel of communication, types and kinds of communication, forms and functions of communication, activities approach.*

The problem of the choice and organization of materials has a life-long history. In the post war times the choice of the vocabulary minimum for schoolchildren was realized in 1966 by V. D. Arakin, V. M. Lubimova, I. V. Rahmanov, G. M. Uizer, S. K. Folomkina, V. S. Tsetlyn. It was later on reedited and republished [27]. The ability of the chosen lexical units to provide the process of communication was defined indirectly via such peculiarities as “semantic value”, “combinability” and not delimited stylistically. Such peculiarities of lexemes as polysemy, word-forming value, ability to form other units and frequency were taken into account. It was scientifically thoroughly grounded and very carefully done. It still allows it to be used as the vocabulary basis for textbooks. But modern understanding of the tasks of teaching communication demands the correction of some principles such as 1) exclusion of synonyms, 2) obligatory stylistic neutrality of the units used in education.

Further development of the theory of the choice and organization of language materials is realized within the limits of the communicative approach to the teaching of foreign languages under the influence of the functional approach to the teaching of foreign language. For the German language this approach was realized by I. L. Bim [6] and for the English language by V. D. Arakin. Structural-functional models of the language were distinguished. The basis for it was the difference between sentence-language unit and phrase - a unit of speech. It was based on linguistic

theory in which the main (but not the only one) difference between a phrase and a sentence was variability, formally expressed with the help of intonation. Many other differences between a sentence and an utterance were not taken into account.

The development of structural - functional approach allowed to enter the level of supraphrasal unity and text. Structural-functional types of microdialogues and communicative types of monologues were singled out.

Modern understanding of the notion “function” as of not only function of the language unit but also as a function of the speaker, who is trying to express his thought more exactly, influence his partner in communication allows to realize communicative approach to the teaching of foreign languages more fully.

The realization of communicative approach to the choice and organization of materials slowly transfers this problem from the sphere of creation of vocabularies-minimums and grammar minimums to the theory of creation of programs and textbooks. Thus the subdivision between lexis and grammar is taken away, the connections between communicative tasks and material used to solve them are set, The necessity to correlate the language system with that of communication is created. But the system of teaching communication in Methods of Teaching Foreign Languages still needs improvement in the question of contents of teaching foreign languages. There are still a number of questions as to the choice and organization of materials left. They are connected with making more exact the general approach to this problem as well as finding out the peculiarities of the choice and organization of materials in textbooks for teaching students of non-humanities profile. The generalization and development of existing approaches in our research is connected with consistent taking into account of all system-forming characteristics of communication on the one hand, and the usage of research data in Pragmalinguistics on the other. It will help to make the results of teaching foreign language in higher school to students of non-humanities profile closer to the life needs and strengthen its upbringing effect. This problem is viewed from the point of view of activities approach. It will make the choice more concrete.

The improvement of the contents of teaching foreign languages in higher education is connected with more successive usage of activities approach in teaching. Students’ activities are much more variable now. After Ukraine entered the EU system of education and has been participating in Bologna process students were given an opportunity to study abroad, participate in international projects, conduct scientific research and report about its results at the international conferences and symposiums. But our analysis has shown that bachelors and masters have certain difficulties in communication in some spheres, including scientific one. So, one of the reasons is that the question of what to teach hasn’t been fully researched.

The aim of this article is to show successive steps in the choice and organization of materials into communicative minimum for textbooks for the students, who study in non-humanitarian universities. Let us first consider the notion “contents of teaching”. There is no unanimity in the definition of this notion. According to the

authors of the book "Contents of Teaching Foreign Languages at School" there is no unanimous answer to the question "What to teach?"[8]. Basing on pedagogical principles and communication theory Mironova T.Y. gave the following interpretation of the term: "construction of contents of teaching of foreign languages, which is aimed at peculiarities of communication surely corresponds to the demands of modern society. So it is necessary not only to investigate general problems of communication but also communication of every concrete group of communicating people" [9]. This understanding of the term was used in our research of the communication of students who study trade and finance. It demanded the selection a) of those parameters of communication that can be introduced into the process of teaching foreign languages; b) in what way they can be combined in this process; c) the correlation of superinduced parameters of real life communication with the principles of pedagogical activity. So it is necessary to look at the category "contents of teaching foreign languages" and the choice of its contents via the prism of communication activities and then work out the demands to the choice and organization of materials in textbooks. In connection with this we have set ourselves the following tasks:

- to consider factors, which characterize communication of BAs and Mas who study finance, and which are necessary to take into account to provide sufficient fullness of the choice of language materials and their efficacy;

- to find out the peculiarities of the language materials that provide the above mentioned characteristic features for classroom communication;

- work out the demands to the choice and organization of language materials into a communicative minimum, that will provide communication needs of this group of students.

Firstly, we will discuss the notion "communication". It also has a lot of meanings and interpretations used by scientists [2,8,1,24]. In the Russian and Ukrainian languages there are two synonyms. In some works it is used in the meaning of theory and in others as a synonym to communication, as a discipline, as a usage of language by the students, which is characterized by creativity, purposefulness, interconnection of communicators. The polysemy of meanings of the term is the reason of confusion. In many definitions the speaker himself, his motivation, aims, attitude is not taken into account. We join the definition of those scientists, who under communication mean such exchange and transfer of information that serves face-to-face communication and mediated communication of the speakers the result of which is the influence of one communicator on another one. It can be seen in communicator's language or other type of activity. "Thus, communication itself, the transfer of information and ways of conveying it, that is language and speech characteristics of the text were determined by the tasks of communication, - necessity to regulate the behavior of the object of communication. At the same time tasks of communication are determined by the aims of mutual activities, which are formed in the process of communication" [9].

The problem of the different types of communication is well discussed in

Psychology and Social Psychology, in the theory of interaction, so we will base our research on their results. The function of communication in social intercommunication of personalities is in the organization of this interaction, i.e. in such regulation of the activities of the participants that correspond to their mutual or individual plans. The role of speech in it is in mediation (alongside with other means) of efforts in its participants activity regulation. Partners exchange information with the help of speech in order to change the partners' activity. The interaction of partners with the help of speech is their speech influence on each other, mutual speech influence. In the act of interaction both communicators show their activeness in the same way, while in the act of influence only one is active. "If the need in communicatio is mainly realized in the process of intercommunication by the subject of communication, in the process of influence it is different. In the latter it is the need of self-establishment, self determination of the leader... The aim of the process of interference is such integration of partners' activities, that can be characterized as cooperation" [10]. Any interaction presupposes both reciprocity and counterwork, opposition.

Underlying that joint processes of communication are interaction and influence, we do not deny the informational character of communication process, but we consider it to be secondary in the process of serving mutual activity of people. The communication of students under study is connected with typical types of their activities, which are regulated by social demands and control on the part of their professors. These are:

- a) their work during future professional activities in a bank or financial institution outside university;
- b) productive mutual creative activities;
- c) their studies;
- d) their scientific work. Thus their mutual speech activities are also reduced.

The analysis of research papers and books in Psychology showed us that communication is a very complex phenomenon with a hierarchal structure and building. Psychologists analyze communication on three levels: highest (macro), medium (mezo) and lowest (micro). Such approach allowed us to consider students' activities on the level of activity, detailed actions and separate associated actions, to find out their immanent characteristics and advance to the selection requirements in a communicative minimum, which must be based on them. Under "communicative minimum" we mean a set of spheres, situations (acts of speech) and a set of language units that provide their realization. So we will start our analysis with macro level. Here we were mostly interested in communication of students with other people that can be characterized by most typical themes and spheres of communication. The notion "sphere of communication" is also understood differently. Psychology, Linguistics and Methods of Teaching Foreign Languages at Higher School look at this notion from their own professional point of view. We will base our research on the proposed definition by V. L. Skalkin [2] as it is defined on the basis of another notion

“situation”. Under sphere of communication he understands a whole set of situations. He distinguishes such spheres as: social and domestic sphere, family, professional, socio-cultural, sphere of social activity, law and administration sphere, spectacular-mass sphere. It is not explicitly expressed but we can implicitly correlate this nomenclature with practice and intellectual activity of communicators. That’s why it is possible to consider spheres of communication via students’ activities, in its wide sense we mean their leading type of activity - studying and scientific work. No matter which of the definitions we choose in the sphere of oral communication a student is the subject of activity, the center of this space. This peculiarity of the notion differs it from the notion ‘theme’, which characterizes line segment of reality without any dependence on the speaker [12]. That’s why if we want to provide active position of a student in speech activity we will proceed from the notion ‘sphere of communication’, but not theme. We consider theme as a structural element of the situation, defining the subject of conversation.

Because of great importance of the notion sphere we can propose the first demand to the choice and organization of materials into communicative minimum: representation of the spheres of communication, typical for student contingent it is meant for. In our research it is meant for MAs, studying finance. As nomenclature of spheres proposed by V. L. Skalkin [2] can be referred to any contingent of students, we have to specify them to concrete contingent of students, financiers in particular.

Another task is to choose situations within this sphere. As our analysis has shown situations proposed by the authors of textbooks stimulate only one or two types of activities: listening and speaking. But according to modern tendency it is necessary to take into account such didactic principle as integration. The realization of the integration principle and other modern didactic principles which prevents discrepancy between contents of education and pedagogical reality, demands a) singling out of those parameters of communication that can be introduced into the teaching process, b) defining in what way this or that parameter can be combined and integrated into simulated classroom communication; c) correlation of the introduced parameters with the principles of practical pedagogical activity.

We will continue our analysis on the medium (mezo) level of analysis. We have to research typical students’ contacts within the chosen spheres. To solve the problem we have to consider typological characteristics of communication. They are: types, functions and forms of communication. In real life communication all of them are represented. In classroom communication we can plan one of them as the leading one, also taking into account the stage of education. Let us consider each of the typological characteristics separately, but in interaction with each other. It will make our analysis integrative.

It is well known in modern Psychology that there are different types of communication: socially - oriented, subject-oriented and interpersonal [12]. All of them are typical for the students of non-humanities universities. For socially-oriented communication the most typical activities are making speeches in front of the public, delivering

reports and short speeches, which can be made both in native and in foreign language. But mostly people use foreign language for establishing business and scientific contacts with foreigners. So during classroom activities students have to be involved in such kind of activities. If we want to bring the process of education closer to the needs of real life communication we should involve students in such situations, where they must act as a subject of communication, be its initiators and organizers in the process of interaction with other participants of activities. So we have to consider the choice of materials taking into account socially - oriented and group- oriented types of communication, their functions, forms and types.

Group - oriented communication is communication in the process of joint activities, which caters for its needs, helps to organize them and solves the aims set. For MAs participation in joint activities is connected with their studies, participation in joint projects and scientific seminars, webinars, conferences and symposiums.

In psychological papers and articles it is stated that subject-oriented communication is not well researched. But we can ground our research on such characteristics as:

- 1) joint aim, which unites efforts of participants of joint subject-oriented activity;
- 2) the existence of common goal defines and differentiates concrete tasks of each of its participants. It is made concrete in certain tasks entrusted on each participant, and can be realized only in line with joint actions;

- 3) speech acts (SA) which are realized by the participants of joint activities are different from individual SA because they are all interconnected, each of them is based not only on individual acts, but necessarily takes into account the supposed future acts of all other participants of activity (assistance or counteraction). “In the process of mutual activity realization the acts of its individual participant is regulated both by the reflection of the object it is aimed at but also the actions performed by other participants, and those changes in the object which are the result of it. The acts of an individual are thus built not only in accordance with the correspondence to the task and object. Private party “adapts” the action performed by other people. The regulation of an individual act includes the moment of “adaptation”. It increases such characteristics of action as “dynamics”. Finally, the evaluation of result comply with the demands that are determined by agreement of “mutuality” of joint activities [11].

Another aspect of our research is the study of functions of communication. It will help to present the planned result of schooling as an ability to realize the main functions of communication. In communication theory the following functions are distinguished: informational-communicative, regulatory-communicative, affective-communicative. In Methods of Teaching Foreign languages these functions were defined by I. L. Bim as cognitive, regulative, value-orientation, conventional [6]. We will base our research on this classification as it gives the possibility to present the planned results of training. This distinction is purely theoretical, as all these functions are interconnected with each other in real-life communication. Under cognitive function we mean the processes of transfer and accept of information.



It is in this or that way connected with people's activities oriented in conditions and means of its realization. Even thinking processes proceed faster under condition of constant informational communication.

For students the realization of their cognitive function is correlated with their studies and can be successful if they pass credits, examinations, defend course and diploma papers. Another function is regulatory-communicative. It is realized in the process of students own behavior and the other people's behavior. "In the process of communication. In the process of communication an individual can influence the motive, aim, program, decision-taking, execution of several acts and their control, i.e. on all components of his partner's activities. In this process mutual stimulation and correction of behavior is realized. This influence can be very deep and influence a personality as a whole [12]. Regulative function can perform in the form of call to action or end of action. The example of it is recommendation, appeal, order, motto. Their meaning is known to everyone since childhood. Another realization of the function is interdiction. The first thing a small child understands is impossible and possible. Interdictions play an important role during the life of people. Much in their future life will depend upon how well students have understood social interdictions. Very special is the third realization of regulative function - destabilization. It was created in the history of civilization. Man was doing his work in favor or against people. This function is now realized in everyday life in the form of reproach, threat and damnation.

The third function is value-orientation one. It is connected with the desire to communicate with friends, maintain friendly relationship, based on mutual interests, joint activities.

The fourth function is conventional. It is realized according to the norms of behavior, accepted in society a student lives in and those in the English speaking countries.

Under certain conditions one of the functions can become the leading one. For example, in conditions of joint activity regulative function is the leading one. It reflects the active position of communicators, their intention to influence others with the aim of changing their actions, plans and can be realized in the form of call to actions, interdiction of actions, organization of joint actions and correction of actions of other participants and so on. Exchange of information in the process of joint activities directly or via social nets, evaluation of its results is finally oriented on getting regulatory effect.

The syntactic peculiarities of informational descriptive monologues are the usage of: homogeneous parts of the sentence, sentences with compound nominal predicates. Verbs of being, existence and presence of something are used as predicates. The most typical grammar structure is the usage of introduction - a phrase introducing the subject, event, phenomenon on the whole, the statement of the presence of it. Next comes giving details, characteristics of a given person, subject or phenomenon of reality. It includes words and phrases that limit, clarify the volume of notions in the introductory part. The end of the monologue can again inform about the presence of a person, subject or phenomenon or the selected symptoms or characteristics or end the monologue with information about the exhaustion of the selected symptoms or

characteristics, all descriptive informative dialogues should be viewed as a structural whole, consisting of such elements as:

1. introduction of a phenomenon, persons, events and subjects;
2. characteristics of this phenomenon, person, event or subject;
3. generalization or concretization of the introduced characteristics.

For narrative monologues the usage of sentences with predicates expressed by verbs of action is most typical, Informative monologue – narration (information, story) is organized like transfer of successive actions. Predicates in them are expressed with the help of verbs of action, which change each other in turn, and subordinate modifiers are the words which show the time and place of action. The beginning in narrative monologue is expressed with a phrase, introducing event or subject of the action, or place and time of action. Developing events phrases contain predicates, expressed by verbs reflecting certain segment of actions not accompanied by speech in time and space. The final phrase of a monologue shows either finality of these actions with the help of predicate, expressed by the verb with the meaning of the result of action or change in the place and time of subjects of action with the help of subordinate modifiers of time and place, expressed by words with space semantics.

Thus as factors, characterizing the communicative activity, which must be taken into account when evaluating communicative minimum for students of non-humanities, we have to consider:

-representation of the spheres and situations of communication, typical for student contingent it is meant for. In our research it is meant for MAs, studying finance.

- the ability to provide all four functions of communication;
- presence of access to three types of communication;
- representation in the minimum of speech units, connecting elementary units of the text into detailed text.

We evaluate the ability of this or that unit to correspond to the above mentioned demands with the help of its effective force potential.

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